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RECOLLECTIONS OF JUDGE GILES S. RICH

By Paul R. Michel[†]

It is fashionable to talk about the legacy left by a departed person, particularly someone well-known, such as our late colleague—Judge Rich. In many contexts, the term "legacy" is a little pretentious and inflated. In reference to Judge Giles S. Rich, however, it is a most apt expression, and the legacy he left was as invaluable as it was long.

The most obvious and concrete example of Judge Rich's contributions to the evolution and improvement of patent law, putting aside his large contributions to the drafting of the 1952 Patent Act, is found in upwards of one thousand volumes of the Federal Reporter containing his opinions, issued between February 1957 and the summer of 1999. Even in the final months of his forty-two year tenure as the oldest judge in full-time active service—not only as of the time of his death but *ever* in the history of the Republic—he never stopped contributing. In his last two years, landmark opinions authored by Judge Rich included *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*[1]

In my own view, however, an even greater legacy, though one harder to trace, can be found in the approach of innumerable judges and legal practitioners who were affected by his preaching clear thinking, clear expression and clear logic. Dozens of former Judge Rich law clerks went on to become leading intellectual property lawyers. Innumerable judicial colleagues learned the intricacies of patent law through his patient teaching. From reading his opinions, untold numbers of district judges have a clearer sense of the thrust and logic, embedded like the famous DNA code, in the patent law. Certainly, his teachings in the form of speeches, for example to the international judges' conferences in the 1990's and at the Giles S. Rich American Inn of Court, also embodied his approach to the law and influenced many more practitioners. Indeed, the passing on of his wisdom from one practitioner to another means that it continues to multiply.

What many in the intellectual property community do not know is how generous Judge Rich was with his time and thought. It was routine for him to write detailed memoranda commenting on opinions by other Federal Circuit judges. These memos would cover every kind of matter—from the

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† Circuit Judge, Court of Appeals for the Federal Circuit.

1. 149 F.3d 1368 (Fed. Cir. 1998).

most sublime, usually unarticulated, notions of jurisprudence and legal logic all the way down to the proper placement of commas and everything in between.

When I first came on the court, Judge Rich typed these memoranda himself on an old electric typewriter. More recently, he was producing much fancier-looking text on the computer with the assistance of high-speed laser printers. But whatever the appearance and source of his memoranda, they represented his love of the law and willingness to try to assist and teach colleagues all that he knew and had learned over more than forty years as a federal appellate judge.

Appointed to the Court of Customs and Patent Appeals in 1956 by President Eisenhower, Judge Rich witnessed many waves of development in American innovative technology, including the development of telecommunications, computers, and biotechnology. In all that time, he never lost his enthusiasm for understanding even the simplest mechanical devices whose technological genesis went back centuries. In fact, he took extraordinary delight in understanding how things work, how anything that one might use actually performs, as well as how it could be repaired when necessary.

His chambers contained innumerable working models of patented devices of many different kinds. In appeals in which apparatus was at the center of the dispute and copies of the devices were provided to the court, he invariably examined them not only in the courtroom but more carefully later in chambers. He would tinker with such devices until he understood exactly how they worked, and then he would eagerly explain what he had learned to not only his own law clerks but also to other law clerks and, indeed, to other members of the panel.

He was a person of uncommon curiosity who took delight in discovering what things were, how they were made, and how they worked. He was famous for his ability to fix friends' clocks, as well as to repair electrical devices, plumbing, and other household items in his long-time residence on Linnean Avenue in Northwest Washington and in his country home in Connecticut. In fact, according to the lore, the country home was largely constructed by Judge Rich, whose skills at carpentry, painting, and glazing were as extensive and confidently applied as his skills with the electrical and plumbing arts.

Perhaps, then, it is of little surprise that he also was extraordinarily expert in the construction and operation of all manner of photographic equipment. He had cameras going back to pre-World War II days. He was not only fascinated by the details of the photographic arts—as befitted the son of George Eastman's patent lawyer—but he was also an extraordinar-

ily gifted photographer himself. His photographs, both of friends and scenes of natural beauty, are well-known to all of his large circle of friends and colleagues. In fact, every year he insisted on taking photographs of each and every arriving law clerk. He also was fond of giving framed copies of some of his nature photography to particularly esteemed friends.

Studying some of his nature photography demonstrates not only his skill at composition, contrast, focus and juxtaposition, but also his fascination with the details of nature itself. One particular photograph—which, once having been viewed, does not leave the mind—captures a scene of snow-covered Lafayette Park in pristine wintry conditions marked only by the footsteps of a single passerby in the newly fallen snow. In this photograph, in addition to the eerie statue of a famous general partly encrusted in snow, one sees every tree trunk, branch and twig of the minor forest viewable from our chambers high in the Howard T. Markey National Courts Building at the eastern end of Lafayette Park.

To study even this one photograph is to begin to understand how intensely focused Giles Rich was on whatever he was contemplating, whether with his eye or his mind. Indeed, the connection between eye and mind was more direct and vital in him than in anyone I have ever known.

Another expression of his wisdom and teachings came at our monthly administrative conferences, held the Thursday afternoon of each argument week, normally the first full week of each month. At such occasions, he insisted on reminding us of the way things had evolved and why they had turned out as they had. Whether it was a court practice, a fundamental feature of the Patent Act, or anything else, he would explain how the particular object of his concern arose, its function, and how it related to everything else. For him, an idea was no different from a clock. It was something to be understood in terms of how it was put together and how it operated. It was to be understood in relation to other related objects and functions. And it was something to be preserved, repaired, and, indeed improved. These mini-lectures were, at times, greeted with wry amusement by some colleagues with less patience than he. Yet of all the things said at all those meetings I have attended now for more than a decade, his statements remain vivid in my memory, whereas the words of the rest of us have long since been forgotten by one and all.

To me, the center of gravity of his wisdom actually did not concern the fine points of the patent statute, the case law construing it, or the world of technological artifacts. Rather, the core of his wisdom, in my view, was his insistence on two intellectual qualities that are all the more vital despite their invisibility. First, he was a stickler for precision of language. For example, he constantly urged us to stop referring to the "specification"

as a source of claim construction, because the claims were themselves a part of the specification. He urged us instead to use the far more precise term "written description." That is, the specification consists of the written description, the title, the abstract of the invention, and the claims. Of these, aside from the claims, certainly the most important were the written description and accompanying drawings. Innumerable examples of other points of precise terminology would come to the mind of each and every judge of our court, but the details of these examples are not nearly so important as his absolute uncompromising insistence that we get the terminology right and use it consistently.

The second core tenet of the judicial persona of Judge Rich was that things should be logical. Decisions should be predictable, which requires that they be logical. Opinions should be internally consistent and, in that sense, logical. The relationship among the statute, the case law, the guidelines and manuals of the Patent and Trademark Office, and the decisional writings of officials at all levels had to relate logically, one to another. He frequently exposed in discussion with fellow judges "illogics" in our thinking or opinions, which, lying just beneath the surface, had not been seen until he spoke.

In all the above respects, Judge Rich showed curiosity, enthusiasm and intelligence in his intense desire to understand everything he encountered, both legal and physical. He would sometimes raise his voice or repeat things, much as a schoolmaster might for young students who had not been paying adequate attention to the instruction. The very vehemence of these statements, of course, prompted our attention, sometimes our amusement, and always our respect.

One of my favorite qualities in conversing with Judge Rich, or listening to him speak, was that, like a great musical composer, he used silence as well as sound to convey his message and to create emphasis. Put differently, he thought carefully before he spoke, and if that meant that there would be a long silence between when he had secured the attention of the group and when the first word emerged from his mouth, it troubled him not at all. What he then would say would be so clear and useful that even our most impatient colleague would wait happily while he gathered his thoughts and recollections.

Although one should take care not to seem to make fun of so minor a detail of daily life as eating habits, I think it instructive to describe those of my late colleague. In eating, he exhibited two qualities that permeated his life and his approach to every activity of life. First, he concentrated utterly on what he was doing at the moment. I never saw a man so immune from distractions, interruptions and diffusion of attention. So even while

eating a sandwich, he would concentrate on what he was doing and the pleasures and delights of the activity. Secondly, he would proceed with the most carefully modulated, slow, steady pace. As in all activities, he refused to be rushed or flustered. He was, therefore, able to function more effectively and efficiently as well as to draw greater joy from the fascinations of life in matters both monumental and minuscule.

The suppleness of his mind was apparently without limit. Although in his mid-nineties he was no longer quite so erect, sturdy, or steady on his feet as he had been just a year or two earlier, his mind seemed not to stiffen or harden with advancing age. Not only did he master computer technology and become one of the court's premier e-mailers, but he delighted in being able to produce music and extraordinarily clever spreadsheets and diagrams on his computer. He kept up. It seemed that no breakthrough, whether it concerned gene expression, DNA sequences, advanced inner workings of computers, or the chips at their core, was beyond his understanding. He seemed able to master new devices and new concepts as if they sprang from some old familiar language and logic that he had lived with forever. Perhaps he understood the basics of science and technology so well that what might have appeared to the rest of us as entirely novel appeared to him merely what he might have called, with a twinkle in his eye, an "obvious" variation of the earlier art.

Indeed, if assessment had to be made of his greatest single contribution to the development of patent law, I myself would be inclined to nominate his great innovation of the concept of obviousness. He is credited with having introduced this notion and term into the 1952 draft Act to replace the many prior formulations, all of which had been glaringly inadequate and had included things like "flash of genius," "synergism," and "creative invention." He abandoned the hopeless quest for clear, objective definitions of those attempts that concentrate on the claimed invention and try to discern something from within its own language and content. Instead, he related the claimed invention to the prior art—what was routinely known by the ordinary artisan—by the concept of whether the alteration in the prior art, in order to achieve the claimed invention, would or would not have been apparent, that is, "obvious," to the ordinary artisan in the field.

The contributions of individual judges are difficult to measure because each judge on a court of appeals is normally writing for a panel of three in approximately one-third of the cases he helps decide, and is providing a vote and advice on the opinion-drafting in the other two-thirds. Thus, to a greater or lesser degree, every opinion is a collaborative effort among the author and the other two judges. Moreover, on our court a great deal of commentary is provided by nonpanel judges who review, or at least have

the opportunity to review, every precedential decision before it issues publicly. These nonpanel colleagues frequently comment, sometimes in great detail, on the panel's proposed opinion; frequently, significant changes are made as a result. Thus, the final opinion often represents considerable input not only from the three panelists but from several other colleagues on the court. Indeed, further changes still are sometimes made at the behest of our Central Legal Office staff, a core of technically-trained, long-term "super law clerks" who help us try to stay wholly consistent with all prior opinions expressing views on a particular issue. Therefore, in addition to the imprint of constitutional, statutory, regulatory and case law authority, all judicial writing has a certain communal aspect to it, which is both its strength and, to some extent, may inhibit innovation or limit glamour and glory.

But the opinions of Giles Rich were always so fresh and vital and advanced the state of the law like a moving frontier that they make fine reading, even long after their issuance.

Therefore, much of the mind and spirit of Giles Rich is indeed still available in every single one of his opinions, not to mention the full body, which must run to the thousands.

It is simply extraordinary what effect he had on colleagues, both in agreement and in disagreement. If we had much effect on him, it may have been simply to redouble his determination to stay alive and alert as he did to the age of ninety-five in order to continue to teach us about what he loved so much. We shall miss him.

A RICH LEGACY

By Janice M. Mueller[†]

It was not unlike many other memorable afternoons spent in Judge Rich's company. One of several former law clerks who had come to visit the judge in Washington, I'd arrived that morning from Boston while others had traveled from as far as California. The judge seemed quite cheered by the law clerk mini-reunion gathered in a semi-circle around him and in a mood for talking and reminiscing. We chatted about recent developments at the Federal Circuit, the news in that morning's *Washington Post*, and updates on our respective lives—upcoming travel, new work responsibilities, spouses, friends, children, even pets. Always the center of attention, Judge Rich held forth for several hours, interspersing the talk with stories of drafting the 1952 Patent Act and tales of the Judge Worley days on the Court of Customs and Patent Appeals. When it was time to say our goodbyes I slipped out quickly, trying hard not to let myself believe that it could be the last time. I left the judge that day in his room at Sibley Hospital where he was undergoing cancer treatment, and departed for a two-week trip. The night I returned to Boston, Judge Rich passed away. The memory of that last magical afternoon in his hospital room is a gift that I and the others present will always cherish. I share here some other special remembrances of Judge Rich, many expressed in his own words.

I did not meet Judge Rich in person until 1990, but like many others in the intellectual property law community I had learned the better part of what I knew of patent law through his over fifty-year wealth of writings. Although numbered twenty-seventh in the judge's roster of law clerks, I had the fortuitous honor of being the first woman. I was initially taken aback when he introduced me to others as his "first girl clerk." At least, that is, until the day I heard Judge Rich refer to then-Chief Judge Helen Nies and Judge Pauline Newman as "the girl judges" of the Federal Circuit. From that moment on, being the "girl clerk" was a badge I wore with the greatest pride! I never learned why it was that Judge Rich had not hired other "girl clerks" before I came on the scene, but I'm delighted that following my departure he went on to hire six more.

Characterizing Judge Rich as a "mentor" or "father figure" hardly seems sufficient to describe the profound impact he had on his law clerks' lives. He entrusted us with a great deal of responsibility and was always

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open to our thinking about particular cases. Having the father of modern patent law ask a twenty-something law clerk what she thought about a pending case was, needless to say, a heady experience. Our thoughts (and drafts) were always considered and examined by Judge Rich with the greatest respect and interest, although he did not, of course, always agree with them. Ultimately, his word ruled the day, and in time (if not immediately) we came to see the flaws in our former thinking. Judge Rich delighted in his clerks' achievements, and considered them part of his extended family:

> [May 19, 1998, on receiving an honorary degree:] I view the event, which, as you know, I have been through before, as [a former Rich law clerk's] great day. He has been working on this for several years and this was his big success.... As you well know, without these loyal law clerks I am nothing. Is it not clear why I love them?[1]

Judge Rich's passion for technology is well-known. In any given patent case, he wanted to know how the claimed invention operated (and often asked counsel to leave their exhibits and samples with the court clerk—who later sent them up to chambers for further examination). As a young person, he dreamed of a career in the burgeoning field of aviation, but was prevented from achieving that goal due to his less-than-perfect vision (how fortunate for patent law)! Appointed to the bench in the 1950s, when draft opinions of the CCPA had to be laboriously typed up with five carbon copies, Judge Rich in recent years welcomed personal computers and the efficiencies they brought. In 1996, at the adventuresome age of ninety-two, he learned how to use electronic mail and became an America On-Line subscriber. In his first e-mail message to me, Judge Rich wrote:

> [July 17, 1996:] I have had a hard time getting this marvelous machine to accept my password, after it had asked for [it] several times with an "!" in that humiliating triangle.... Tomorrow I have to go to my second training class on computers. Yesterday it was on Windows 95. Tomorrow it is on Word. I am the only male and the only judge.... P.S. This is great fun. Even easier than my Smith-Corona.

Some of my favorite memories of Judge Rich involve lunches. The judge liked to brown-bag it, so if there were no other more formal en-

1. E-mail communication from Judge Rich to the author. All correspondence quoted herein is on file with the author.

gagements on his calendar, we cleared the briefs from the conference table and gathered round to eat in chambers. The topics of conversation ranged from pending cases to courthouse gossip to politics to religion to pop culture—Judge Rich was fascinated by it all and viewed his clerks as windows into the thinking of the younger generation. Guests were always welcome at these in-chambers lunches and ranged from the Federal Circuit's Chief Judge to the newest law clerks from other chambers. The only criteria were a bag lunch and a willingness to share in the conversation. After leaving Judge Rich and going into teaching, I sometimes asked if a former student of mine could come by chambers to meet him. Here is a typical response from Judge Rich:

> [July 6, 1998:] Of course I'd like to meet her and give her a look around and maybe plant the seed of clerking. Fix it so she's not scared. You know the scene! What do you mean, "if it wouldn't be too much"? We all love to have people like that to eat in our chambers. Most every day somebody comes. You know there's no formality—they just have to bring their own food.... Tell her what we're all like. No telling what she'll hear. Today we got into a discussion of adoption, genetic defects, pregnancy, premature birth, and whatnot. We wouldn't mind doing 337 [19 U.S.C. § 1337] and we do know a bit of customs law. We also know a lot about relationships and other miscellany.

For all his remarkable achievements, Judge Rich was an approachable, humble man who remained quizzical throughout his career about why so many in the intellectual property community considered him a living legend. "What's all the fuss about?" he'd often ask. Whatever the reasons for the attention he received, he did not take the responsibilities of his position lightly:

> [February 14, 1997, regarding an upcoming speaking engagement:] Have I ever thought about "remarks"! That's the trouble with agreeing to say something. You have to think about what you'll say, day and night, until it's over or at least until it's "fixed" on paper. I have some tentative ideas and a few nothings by way of a starter which could become scrap on a pad. I really want to say a little something significant, to the bar and particularly the dozen or two judges who will be there. This is an opportunity. Hundreds will be there. And it has to be concise and understandable without too much talk because there is also a "speaker."

He rarely missed a chance to "get the message out" to the patent bar, even when the occasion was his own birthday celebration:

> [May 22, 1997:] The Inn [of Court] meeting was, I thought, one of the best. Dinner turned into a real birthday party. They wheeled the cake table up beside me and lit a bunch of candles and insisted I blow them out. Which I did after spreading a napkin over the cake. The meal had been great. I had asked for shrimp and we had shrimp. And perfectly cooked salmon. I sat there thinking, "this is the perfect audience on which to launch my campaign to change 'specification' over to 'written description' and I'll ask them to give me a birthday present by thinking about it."

Adaptability in all life's facets was a favorite Judge Rich theme. On the professional front he ardently believed in "progress in legal thinking," and would be the first to admit—sometimes in precedential opinions[2]—when his own thinking about a legal issue had changed over time. During the course of his career he enthusiastically (and sometimes not so subtly!) encouraged the patent bar and the judiciary to analyze and communicate the law with greater clarity and precision. At age ninety-three, he wrote:

> [July 17, 1997:] Yes, I do proselytize like mad, especially recently. I am on a binge of proselytizing: converting patent lawyers and judges from "specification" to "written description"; claims from "defining invention" to "defining scope of right to exclude," etc. I have completed "invention" to "nonobviousness"; "fraud on the Patent Office" to "inequitable conduct";

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2. *See, e.g.*, Kimberly-Clark Corp. v. Johnson & Johnson, 745 F.2d 1437, 1453-54 (Fed. Cir. 1984) (Rich, J.):

> [T]he courts, including our predecessor court as in Winslow, mentioned above, [*In re Winslow*, 365 F.2d 1017 (CCPA 1966) (Rich, J.)] decided cases on the basis of the axiom—the applicant (or patentee) is presumed to have knowledge of all material prior art—without giving the situation further thought. But a bad axiom is like a noxious weed, a thriving plant in the wrong place interfering with the growth of more desirable plants....
>
> Since we believe that progress in legal thinking is not only possible but highly desirable when it simplifies such thinking, we believe the time has come to discontinue this particular fiction of the patent law. Congress has given us in § 103 a substitute for the former "requirement for invention," which gave rise to the presumption, and that substitute, being statutory, should be used exclusively. We hereby declare the presumption that the inventor has knowledge of all material prior art to be dead.

> "undue breadth" to "lack of support under section 112, 1"; aggregations aren't patentable, only combinations; synergism is not necessary for a combination to be patentable. I have been having a great time proselytizing for a long time. Did you, perchance, mean to say "pontificating"?

Judge Rich was pragmatic about the role of the judiciary, holding a firm conviction that legal rules were rarely "bright line" and never "one size fits all":

> [July 21, 1998:] What is said in opinions depends a lot on what defendants argue to support invalidity defenses to charges of infringement. We discuss what's argued. We can't switch [public] use to [on] sale and vice versa.... Be not perplexed, and do not expect "precision." Cases' facts vary too greatly. We decide cases. The rules are in the statutes. Statutes are the skeletons onto which we try to apply the living flesh like anthropologists. Legislators can't foresee all fact situations so the rules are made general and some just evolve through time. You know [35 U.S.C. §] 102(b) goes back to 1836 and we didn't change it in 1952.

His enthusiasm for the law he was so instrumental in creating never waned, and his resolve that it be kept "on the right track" was steadfast. Judge Rich encouraged his law clerks to spread his message of clear thinking about the law:

> [January 25, 1997:] I'm pleased to hear that [your Trademark Law course] is going well. Did I ever tell you one of my favorite puzzlers: What is an invalid trademark? The answer is, of course, there is no such thing.... And here's a pet axiom of mine: It is not a question of whether people will confuse the marks but of whether the marks will confuse people.

He challenged us to think more clearly about the true function and purpose of patent claims:

> [June 14, 1998:] Yes, there's always something new to say about claims. You can push one of my current thoughts that I pushed at Fordham [Law School] which seems to take a lot of people by surprise because they are so used to hearing that the function of claims is to define the invention. What do we construe claims for, anyway? To find out what the inventor(s) invented? Hardly! Claims are frequently a far cry from what the inventor invented. In a suit, claims are construed to find out what the patentee can exclude the defendant from doing. CLAIMS ARE CON-

> STRUED TO DETERMINE THE SCOPE OF THE RIGHT TO EXCLUDE, regardless of what the inventor invented. I submit that that is the sole function of patent claims. I think this truism ought to be promoted in every seminar on the subject of claims.... Tell them to stop talking about claims defining the invention. It's a bad habit. And it seems to be almost universal.

Sometimes even the Supreme Court failed to learn Judge Rich's lessons:

> [August 16, 1997:] Reviewing a court opinion which cited *Bonito Boats v. Thundercraft*,[3] I read it again and it gave me ideas about the patent right which I pass on before teaching starts. (Not that I agree with the *Bonito* reasoning which is terrible in spots.) Of course the patent grants the right to exclude others from making, using or selling for the term of the patent (which is God only knows what at the moment). But my new idea is that you can also explain it as a temporary right to prevent the invention from going into the public domain notwithstanding its public disclosure and even commercialization, for the term of the patent. *Bonito* has a lot to say about the public domain and, erroneously I think, that it is due to "the federal patent laws."[4] The Court couldn't understand my statement in *Interpart Corp. v. Italia*[5] that "the 'patent laws' say nothing about the right to copy or use, they speak only in terms of the right to exclude," which happens to be true. [Justice] O'Connor seems to think the public's right to copy, use, etc. comes from patent law. It's there, however, from common law, unless interfered with by patent law. It would be there if there were no patent law. So how can it come from patent law? Another aspect of what we think of as "the patent" which should not be forgotten is that it is not only a grant of a right to exclude from the government; simultaneously, it is a publication, making (in principle at least) a full public disclosure of the invention due to section 112-1. So even if it does not go into the public domain during the patent term, the public gets the advantage of knowing what the invention is and how to practice it. ("*Literae patentes*" = "open letters," in short form, "patents.") That's my Saturday night lecture.

Judge Rich instinctively grasped the role of patents in our market economy:

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3. 489 U.S. 141(1989).

4. *Id.* at 151.

5. 777 F.2d 678, 685 (Fed. Cir. 1985) (overruled in part on other grounds by Midwest Indus., Inc. v. Karavan Trailers, Inc., 175 F.3d 1356, 1358-59 (Fed. Cir. 1999)).

> [September 6, 1998:] I was thinking yesterday that there is a point to be made on the basis of the *Chakrabarty*[6] case which the [Supreme] Court probably remembers. Even if they don't, it's their own case.... [The petition for *certiorari* is] talking about the "economic development of the Nation," the Constitution, and valid patents stimulating progress. Then they say: "Just as surely ... when improperly issued [patents] retard that progress, stifle technological and economic competition ...," which isn't quite so. Remember how the board [of Patent Appeals and Interferences] thought it was saving the world by refusing to patent microorganisms in both *Bergy* and *Chakrabarty* because they were alive, and fought patenting all the way to the Supreme Court on the [35 U.S.C. §] 101 issue? Would the world be better off today if the Judiciary had had to defer to the PTO "expertise" on that point... ? The weird fact is that invalid patents have the same effect as valid patents, while they last. And why not? They encourage their owners to invest risk capital, start businesses, and get products on the market. They also disclose the subject matter to the public. Nobody knows they are invalid until some court says so or some attorney faced with unpleasant facts realizes it and foregoes enforcement. Tell that to your class!

He was the consummate crusader for clear and concise language:

> [October 30, 1998:] Here is my latest thought for you to purvey to your students some day: With respect to the type of "invention" which is really a discovery, i.e., come upon by accident or unexpectedly. It is inappropriate to talk of its "conception" in the patent profession's common lingo, referring to its earliest date. The term "discovery" presumes preexistence—it was there before it was found. Discoveries, therefore, are not CONCEIVED, they are PERCEIVED and we should talk about their PERCEPTION, not their conception. My dictionary research of last evening confirms this and I am on my way to reforming the patent bar on this and I give it to you in advance for free. Pass it on. Launch a new generation of clear-speaking patent lawyers.... This points up another puzzle about the Constitution. What were the founding fathers thinking when they authorized giving "exclusive rights" to INVENTORS, for their DISCOVERIES? I think it never dawned on them that there is a difference between devising and discovering. They were just thinking about literary style.

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6. Diamond v. Chakrabarty, 447 U.S. 303 (1980).

A co-author of the 1952 Patent Act with his good friend Pasquale J. ("Pat") Federico, Judge Rich often shared candid first-person accounts of its drafting like this one:

> [August 8, 1997:] There is an interesting thing about the introductory clause of [35 U.S.C. §] 102. Pat originally wrote "An invention shall not be considered new or capable of being patented if...." As the drafting progressed, taking a tip from the Lanham Act, section 2, we turned it into the positive statement "A person shall be entitled to a patent unless..." as it reads today. We just felt like slapping down the detractors of the patent system, many of whom were in the judiciary.

All advocates appearing before the Federal Circuit will surely benefit from this practical advice:

> [April 11, 1998:] I'm just up. Just had a thought. (Shows mind is working.) This is a coaching tip in case you are still rehearsing your [moot court] team. It's something I noticed last week during hearings. Preliminarily, these young moot court arguers are generally so intense and intent on winning that they take themselves too seriously and tend to look pretty deadpan—a little bit "scared rabbit" if you know what I mean. This creates a sort of psychological barrier between them and the court. What I observed in a real argument the other day was that the first attorney was very intense and sort of combative in pushing his client's cause and rubbed me the wrong way. I felt as though he was fighting ME. The second attorney, on the other hand, was affable and had a slight smile on his face as though he knew he was on the right side and exuded an air of confidence, as though he were amused at his opponent's over-assertiveness. I empathized with him. You have probably guessed it already. The TIP is: kick your team in the pants and tell them to RELAX, that this is not a life and death matter, that they know they are on the right side and are really amused that the other side is so intense; anything to get a slight smile on their faces and keep it there during their arguments.

"Adaptability" was also Judge Rich's watchword in his daily life and interactions with others. He had an inspirational sense of equanimity and balance, rarely taking professional disagreements personally and accepting life's challenges and tribulations with an ever-optimistic world view. The work of judging buoyed and energized him. Years after he could have retired, the judge continued on full-time "active" judicial status, driving himself to court and carting home briefs for after-dinner reading almost

every night. These excerpts from our correspondence give some sense of his "miraculous vitality," a wonderfully apt descriptor borrowed from the Oxford philosopher whom Judge Rich quotes below:

> [August 21, 1996:] Had a big success today. A few weeks ago I wrote a trademark PTO opinion from which my good friend [ ] dissented with opinion. I let it cool for a good long time and then added an answer to the dissent and recirculated. Result: dissent replaced with concurrence plus thanks for putting him on the right track.

The judge took a flexible approach to all that life brought him:

> [August 22, 1996:] Tomorrow morning I get my new tooth which will be a removable accessory so that I won't swallow it in my sleep, like some others I know ... LIFE, it seems, consists of adjustments.

He was never one to be flustered by life's unexpected events:

> [July 11, 1997:] I've learned for the nth time that editing patent opinions and cooking are incompatible. Last evening I thought I'd hard-boil a couple of eggs for Helen [Judge Rich's wife, Helen Rich] and then settled down on the back porch to edit a draft. Some time later I heard a sound in the study like a block of wood falling on my desk. Then some time later I went to the front of the house and smelled something funny so I looked in the kitchen. Do you know that eggs explode like firecrackers? One blew all over the top of the stove and the other sizzled off quietly. Oh well! There is one left that I can watch. Grocery shopping tonight....

Even in his nineties, Judge Rich was relentless about keeping his backlog at bay:

> [August 10, 1997:] Saw the Post article about the [Kurt] Vonnegut [Internet] hoax published yesterday titled "A WEB OF LIES."[7] I'm glad we were in on the whole deception. It was good reading. Never trust anything you read. Was in [Politics and Prose Bookstore, Washington, D.C.] last night ordering the last two Fulghum books for Helen. Saw an interesting book on the "new books" table titled "A CIVIL ACTION,"[8] said to be non-

7. David Streitfeld & Michael Colton, *A Web of Lies; Vonnegut Hoax Shows E-Mail Must be Handled With Care*, WASHINGTON POST, Aug. 9, 1997, at B1, *available in* 1997 WL 12880503.

8. JONATHAN HARR, A CIVIL ACTION (1996).

> fiction and so exciting you can't put it down. Paperback. But I put it down because I don't have time to read opinions by others to say nothing of my own. After a non-hearing month of working down my backlog, the list came out longer than ever. Even when you get things done it takes forever to get them out....

He taught us that life's successes are often unpredictable:

> [February 17, 1997:] For your information, some guy I never met in Albany, New York once decided I was a "Republican." And so I am a judge. How does one get to be what one supposedly "is"? And who decides? It matters sometimes. Yet it is a lot of nonsense.

Judge Rich's historical perspective made even dentistry seem palatable:

> [July 31, 1998:] Unlike you, I really don't mind dentistry much. At times I have even found it relaxing compared to working. You see I got acclimated to it at an early age getting my teeth straightened when I was young. I used to spend whole days in the dentist's office where he let me play in his lab while he was building bands and stuff. Besides, pain is relative and something you don't relive in remembering it. Modern dentistry is comfortable compared to what it used to be, what with water-cooled high-speed drills, ultrasound, and reclining chairs. GO GET YOUR TEETH TAKEN CARE OF. Life gives you only two sets.

And finally:

> [February 7, 1999:] Here's something to add to my conclusion that "life consists of a series of episodes, mostly unpredictable, to which we adapt as they occur." (Rich) It was written at age 34 by a female Oxford philosophy don in 1954 in her first novel, "Under the Net":
>
> > What is urgent is not urgent forever but only ephemerally. All work and all love, the search for wealth and fame, the search for truth, life itself, are made up of moments which pass and become nothing. Yet through this shaft of nothings we drive onwards with that miraculous vitality that creates our precarious habitations in the past and the future.[9]

Although he probably considered Rochester, New York, his true home, and spent most summers in his Newtown, Connecticut retreat, Judge Rich

9. IRIS MURDOCH, UNDER THE NET 275 (1954).

thoroughly enjoyed life in Washington, D.C. Lafayette Park, home of the Federal Circuit's courthouse, was especially dear to him. During the holidays, every new Rich law clerk received a copy—custom-framed by the judge—of what came to be known simply as "the snow picture," a pastoral scene of a freshly snow-blanketed Lafayette Park photographed by the judge from his chambers window in 1967.[10] With a telescope he later set up at that same window, we were treated to a bird's-eye view across the park of the White House reviewing stand for the 1992 Presidential inaugural parade. Judge Rich was proud to have played a role in the preservation of the architecture surrounding Lafayette Park:

> [August 19, 1997, in response to a description of the JFK Museum in Boston:] I'm very glad to know about the preservation of [Jacqueline Kennedy's] part in the saving of Lafayette Park and the designing of our courthouse and its twin, the New Executive Office Building. I was right in the middle of the whole thing. There was a guy in GSA named Knott who seemed to be in charge and the whole business was started by a guy named William Walton, I think, on the Fine Arts Commission who knew Jackie. Were they mentioned? Who lost out were two architect firms in Boston who had the courthouse job in the beginning and wanted to tear down Dolley [the Dolley Madison House] and Tayloe [the Benjamin Tayloe House] and even the State, War and Navy Building (Old Executive Office Building to you). That's who took me to the [Boston] Athenaeum and home to dinner in some suburb back when Vee [Judge Rich's daughter] was in Radcliffe. Nice people but confirmed modernists. The Park would have looked like 18th and K streets.

Those who did not know him personally may not be familiar with Judge Rich's marvelous sense of humor. Visitors to his chambers were likely to be shown the "obviousness detector," a spinning doorknob harkening back to the old "invention" standard of *Hotchkiss v. Greenwood*,[11] and "Yorrick," a human skull Judge Rich collected when he worked as a boy at a Rochester medical supply company. He frequently reminded us that "judges are people, too," and found joy in the small and simple events of daily life as much as in the many honors and accolades he attained:

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10. After Judge Rich's death, his colleague Judge Raymond Clevenger presented the last "snow picture" to Jacqueline Wright, the young woman lawyer who had been slated to clerk for Judge Rich beginning in the fall of 1999.

11. 52 U.S. 248 (1850).

> [August 20, 1997:] About cats: I had a beaut for 9 years. Name was just Puss. Great friend but could be quite annoying. Helen has a picture of Puss smiling at me in her room right now. In Newtown Puss used to chase the neighbor's boxer away! Dominant female.... Most of the cats I have known sleep on people's beds and the people in them. Puss liked to sleep on the thermostat of my electric blanket, which turned it off of course. We had a nightly routine. When I pulled down the counterpane Puss would fight my doing so by sitting on it until I covered her with it and then jump out and sit on it again. As I said, tried to dominate. Now I will go dorminate.

> [October 4, 1997:] Oh yes, the Promise Keepers. No, I have not joined. Personally, I have always done my share of the housework, without any promise.... I am not surprised to learn that the PK movement ... was founded by a former football coach, which would account for his fondness for stadiums. It's a men's' group and an interesting development [in that] a "support group" has been organized for the assistance of women married to men who have gone off to Washington to hug each other and lay their hands on one another's heads....

Consistent with his natural curiosity and love of learning, Judge Rich was a seasoned traveler and adventurer. At the age of ninety-four, he flew to Italy as the guest of honor at an intellectual property law conference in Florence. Upon return he wrote:

> [July 19, 1998:] I'll accept [a fellow conference participant's] appraisal of my "form" in Italy as "vintage," though the word has so many meanings and innuendoes when not applied to grapes and their products that it is not clear to me what he may have meant. Nevertheless, it is bound to evoke the image of a wine cellar and I'll take it at that; I have seen a few. Reasonably good wine, maybe even of a particularly good year (like 1952, the only one I had anything to say something about) and in a very old bottle, dust-covered, moldy and covered with cobwebs and certainly no longer attractive. That's just how I feel. Vintage!

As these excerpts from our correspondence show, the judge was a gifted writer with a felicitous skill for cutting through gobbledy-gook. He expressed himself with brevity, never using two words when one would do. Many were the times that a draft opinion was returned to me with what had previously been two or three rather plump sentences succinctly transformed into a single tight, crisp thought. He taught us the value of preci-

sion in writing and thinking, and the risk of saying more than was necessary to resolve any given issue. In an interview Judge Rich gave to the *ABA/IPL Section Newsletter* just a few months before his death, he commented that

> [t]he patent bar, unfortunately, has been talking a certain amount of thoughtless nonsense for generations. Words are tricky things. Habits are hard to break. Error gets passed on. Due to unapparent ambiguities, words are misunderstood by users. Often the meaning the user is thinking of is not conveyed to the listener, who assigns a different meaning.[12]

Much has been made of Judge Rich's legacy of over one thousand authored opinions.[13] But perhaps an equally important, if not even greater, contribution was his behind-the-scenes input. Precedential opinions of the Federal Circuit are circulated to all judges prior to issuance. Judge Rich's comments on the opinions authored by his colleagues, circulated in the pre-computer years via memos he personally typed in red ribbon on yellow paper, are legendary for their often razor-sharp critiques. Though always written in the spirit of constructive criticism, these "Rich-grams" must have struck fear (among other emotions) in the hearts of their recipients. He minced no words; viz.: "If there is anything to support the reversal here other than the *ipse dixit* of the panel, the opinion had better say what it is...." In a different case:

> The majority seems to have been led into this anomalous position of both not reaching a question and then proceeding to discuss the same question by a desire to answer the dissenting opinion. It should either stick to the proposition it is not reaching by keeping quiet, or give the issue full discussion. It did neither....

In the end, I believe Judge Rich's greatest legacy is that of teacher—of his judicial colleagues, his law clerks, the patent bar, and the technology community at large. In everything he wrote, spoke, and did, his ultimate love for and devotion to this law he helped create—the incentive system we call patent law—was his guiding force and spirit. It kept him on the court, never taking senior status and never missing oral argument, for over

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12. Janice M. Mueller, *An Interview with Judge Giles S. Rich, U.S. Court of Appeals for the Federal Circuit*, 17 ABA INTELLECTUAL PROPERTY LAW SECTION NEWSLETTER 1, 1 (Spring 1999).

13. *See generally* Nadine Cohodas, *The Founding Father of Patent Law*, LEGAL TIMES, July 10, 1995, at 1.

forty years. At the 1990 presentation of his portrait to the Federal Circuit, Judge Rich told his audience that "I don't suppose you'd be surprised that it's the pure enjoyment of being out here on the frontier with all these inventions all the time that has kept me going all these years in this chosen field of mine—patent law." He liked to show D.C. visitors the inscription over the door to the Department of Commerce: Abraham Lincoln's remark that "[t]he Patent System added the fuel of interest to the fire of genius." That fire burned bright in Judge Rich, and our world is now darker for his departure. Ninety-five years were not nearly enough.

The judge departed as he had lived—alert and focused and at the top of his game until the very end. In a note he wrote to me following the untimely death of his dear friend Judge Helen Nies in 1996, Judge Rich remarked that "I am really happy that Helen's wonderful life ended abruptly in full swing without any of the so common varieties of slow disintegration." When I read those words again in preparing these thoughts, it struck me that that is exactly how Judge Rich left us, and that that's exactly how he wanted to go. In this we can take some small comfort.

No legacy as unique and wonderful as Judge Rich's could ever be reduced to a single epitaph, but I offer this final thought. One day during my clerkship I needed to retrieve some papers from Judge Rich's desk. He had stepped away but left one of the desk's writing slides pulled out. There I saw that he had taped a copy of the following inscription:

> The purpose of life is to spend it at something that outlives you.

I quickly copied those words on a scrap of paper and filed them away for safekeeping. They sum up Judge Rich to me. His life's work has firmly set the foundations of modern patent law, and his boundless legacy of optimism, encouragement, and love for family, friends, and all those who make their life in this law is a timeless gift in which we all share.

Thank you, Judge Rich, our teacher.

REMEMBRANCES AND MEMORIAL: JUDGE GILES S. RICH, 1904 - 1999

By Neil A. Smith †

Twenty-eight years ago, when I was beginning my career in patent law, I applied for a job as a law clerk to Judge Giles S. Rich of the United States Court of Customs and Patent Appeals. Now, when I could be retiring, I have the opportunity and pleasure to share with others some of my remembrances in tribute to Judge Giles S. Rich.

My memories of Judge Rich begin with my interview. I was inspired by the Judge, even then an elder statesman of the judiciary and patent law, and I knew immediately that I wanted the law clerk position, despite the cut in pay I would take to get it.

At my interview, Judge Rich gave me copies of the brief in a pending CCPA case, and asked me to write a "draft" opinion as a writing sample. Apparently I qualified, since I shortly received a letter from Judge Rich in July of 1971, offering me the job. He wrote that he "found [my] draft opinion quite acceptable, except for a few little technicalities and reserving the right to disagree with the result."[1] Darn right! The case was *In re* Oda.[2] I wrote a draft opinion, affirming. Judge Rich authored the opinion for the court, reversing.[3] This was the man for whom I was going to help draft opinions?

Judge Rich went on to state:

> I have concluded that I would like to have you for a law clerk, commencing in the late summer of 1972, but, speaking as an older to a younger man, I feel obliged to mention some of life's uncertainties.... Appointment would, of course, depend on my continuing existence and sufficiently good health to work full time.[4]

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† J.D., 1969, Columbia Law School. L.L.M., 1972, George Washington Law School. Neil Smith is a partner with the San Francisco Firm of Limbach & Limbach which he joined in 1974 following his two-year clerkship with Judge Giles Sutherland Rich.

1. Letter from Giles S. Rich, Associate Judge, Court of Customs and Patent Appeals, to Neil Smith (July 1971) (on file with the author).
2. *In re* Oda, 443 F.2d. 1200 (CCPA 1971).
3. *See id.* at 1207.
4. Rich, *supra* note 2.

At the end of my clerkship, two years later, when I headed out to California, Judge Rich had already left Washington for his summer home in Connecticut where he pounded out opinions on his Smith Corona. He wrote again to say, "I am sorry not to be on hand as you leave my chambers for an entirely new way of life in San Francisco to commute across the Bay and worry about billable hours."[5] Complimenting me on my insights in the law and innovations, he said, "I hope you will feel the experience on the [c]ourt has been worth the financial sacrifice. My only advice to you is to urge on you the necessity, in private practice, of replacing me in becoming the critic of your own work and to see to it that it is in the best possible shape before it leaves your hands."[6] That was Judge Rich's legacy. In the opinions he wrote, the articles he authored, he was, as he taught me to be, the critic of his own work, and made sure each was in the best possible shape before publication.

As I set out for California, Judge Rich wished me and my then young family well, ending his letter with the words "While there is life, there is never a goodbye...."[7] Now at the end of his long and fruitful life it is my honor and privilege to say "goodbye" to my friend and colleague through this Memorial.

Judge Rich's Sense of Humor

Judge Rich's wit and humor distinguished him on the court. He was a tough cross-examiner, not only of his own work, but of winning and losing litigators before him; you had to be prepared—whether your case was good or bad—for tough questioning about the law and the facts of your case. In my thirty years of practice, few of the judges I have appeared before knew their law and facts as well as Judge Rich.

Interestingly, you could rarely tell from Judge Rich's questions from the bench which side he would determine would prevail. It was Judge Rich's opinion expressed at the First Court of Customs and Patent Appeals Judicial Conference in '74, when I served as his law clerk, that "[t]he most obvious thing to me as a Judge for 18 years on the CCPA is that if you expect to win in this court you had better be on the right side of the case. If you are not, about all you can do is make the best and most honest presentation you can and learn to live with the idea, as my first employer taught me, that losing cases is all part of the job, albeit a somewhat un-

5. Letter from Giles S. Rich, Associate Circuit Judge, Court of Appeals for the Federal Circuit, to Neil Smith (August 1974) (on file with the author).

6. *Id.*

7. *Id.*

pleasant way of making a living."[8] Twenty-five years later at this year's Federal Circuit Judicial Conference, Judge Rich's final Judicial Conference, the same comment to a packed audience drew laughs from the crowd.[9]

As a product of the Sixties, having been at Columbia Law School (forty years after Judge Rich) during the riots over the Vietnam War, my long hair (Yes, I had hair in those days) may have been a source of embarrassment and displeasure to Judge Rich and the closely cropped court. But while I clerked for Judge Rich, he never said a word about it, and of course, I did not cut it. Only years later, when looking at some old pictures of his law clerks in the "rogues gallery" where he kept pictures he had taken of his law clerks over the years, did he comment on my long hair. He never commented on my liberal thinking either.

By the way, as another illustration of his wonderful sense of humor: in that gallery of pictures of former law clerks, he put one of himself at age thirty, under the heading, "The First Law Clerk!"

Columbia Law School in the late 1920s had no course in patent law. Judge Rich learned patent law there anyway. Knowing that he would practice patent law, student Rich asked Professor Maggs, who taught administrative law, whether the course included patent law. He said that it did not. When Rich then said he would not take the course, Prof. Maggs proposed that if he would write an extensive paper on patent law, he would grade it, and if it was worthy, he would give him credit for the course.

He wrote the paper. A few years ago, Judge Rich gave a copy of it to a fellow judge on the bench, who suggested that he publish it. Judge Rich responded, "Not in my lifetime." Judge Lourie asked him if he would allow its publication after his death, and Judge Rich agreed.

I hope it will be published shortly. The paper was written in 1929, the year of Judge Rich's graduation, and includes a reference to the new Court of Customs and Patent Appeals, created that same year, on which Judge Rich was destined to sit.

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8. Giles S. Rich, *Address at the First Judicial Conference of the U.S. C.C.P.A.*, 65 F.R.D. 171, 194 (1974).

9. *See Federal Circuit Judicial Conference Looks at Court Procedures and Markman Issues*, 57 PTCJ 495 (1999).

Judge Rich's Insight into the History of the Patent Act

When the New Jersey Patent Law Association presented him with the Jefferson Medal of Honor in 1957, Judge Rich modestly accepted the medal, reminiscing on his and his father's patent careers. He said of the medal,

> It will be a vicarious reward for my mother. She endured forty-five years of marriage to a patent lawyer who worked nights and weekends and could never settle on a vacation. (How well I have come to understand my father's behavior!) [Speaking of the medal Judge Rich continued] My wife will like it. (Before we were married, she heard so much about section 271, that she used to call herself 'Misuse of 1953').[10]

In accepting the Jefferson Medal, Judge Rich explained how the Patent Act, which he and Pat Federico had drafted in 1952, came into being. The Codification Counsel to the Coordination Subcommittee of the Judiciary Committee of the House, Charlie Zinn, "had worked on several codifications for the Judiciary Committee."[11] As Judge Rich said of the Committee: "When it got a law all written up and approved, it liked to see it enacted, and Charlie knew how you got it done. You got it on a Consent Calendar at the appropriate moment, and that meant no floor debate. It was because of this little technique that you got a new patent statute when you did."[12]

As Judge Rich put it: "And that is the way you got a lot of your laws. It is a great way of conserving hot air. Can you imagine what debates on the floor of the House or Senate about most of the cardinal points of patent law would sound like?"[13]

Judge Rich continued, "[t]he New Patent Act went through both houses on consent calendars, and those houses relied on the unanimous recommendations of their respective committees, and when Truman signed the bill, we got the new law."[14]

Legislative intent was supplied later, as Judge Rich explained, in the form of the Reviser's Notes,[15] included with the Bill, which were written by Pat Federico in consultation with Giles Rich. Years later Judge Rich

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10. Giles S. Rich, Speech to the New Jersey Patent Law Association, Jefferson Medal Dinner (May 18, 1955).

11. *Id.*

12. *Id.*

13. *Id.*

14. *Id.*

15. P.J. Federico, *Commentary on the New Patent Act*, 35 U.S.C.A. 1 (West 1954).

wrote a memorial article to Pat Federico after his death in 1982, just as I write this memorial today.[16]

Judge Rich and the Standard of Invention in the Patent Law

In illustrating the definition of the standard of invention, Judge Rich noted in his Jefferson Medal Speech: "If you look long enough in the patent law, you can find a case to support any kind of proposition, like the one recently put forth that a patent is not in effect until the day *after* it is granted, because by law it runs for only 17 years, and in computing the time you don't count the first day!"[17]

By far Judge Rich's greatest accomplishment, and there were many, in which he took the most pride, was drafting Section 103 of the new Patent Act,[18] which defined the standard of non-obviousness in the patent law. In the past, the law and language had always been confused by the use of multiple meanings of the word "invention." The new Patent Act acknowledged a difference between "inventions" and "patentable inventions." The old cases, which, as Judge Rich said, could support any proposition, looked at the "invention" made by the inventor to see if it was "an invention" since the law required "invention for patentability." As Judge Rich explained, "By completely eliminating the term 'invention' the drafters [of the Patent Act] hoped to release the courts from all the metaphysical law of the cases about this concept of 'invention' and to make it clear that not all inventions, only *unobvious* inventions, are patentable."[19]

Judge Rich's Sense of History

Judge Rich loved history, particularly reminiscing about growing up in the teens (both his and the century's "teens") in Rochester, New York. The first U.S. patentee, Samuel Hopkins, who received his patent July 31, 1790, is allegedly buried in Rochester. In my folder of the things Judge Rich gave me is a picture of Samuel Hopkins's grave he took—and developed and printed himself in his darkroom—when he gave a speech in Rochester during the early 70's when I clerked for him.

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16. Giles S. Rich, *P.J. (Pat) Federico and His Works*, 64 J. PAT. OFF. SOC'Y. 1 (1982).
17. Rich, *supra* note 11.
18. 35 U.S.C. § 103 (1994).
19. Rich, *supra* note 11.

For his speech, entitled "Change,"[20] given in Rochester in 1974, Judge Rich reminisced about all the "changes" that took place in his then lifetime—twenty-five years ago, when I clerked for him. Speaking of his heritage, he noted that his father, who was a patent attorney there, was one of the draftsmen of the patent applications and/or patent drawings for the first "Brownie Camera" of the company which came to be known as Kodak. Judge Rich loved to tell the story of his father doing patent work for George Eastman, the founder of Eastman Kodak's little company, and not wanting to be paid in stock because he felt the company was too risky!

Giles Rich and Science

Perhaps one could say that Judge Rich's acceptance of new technologies and inventions as being patentable subject matter, and his constant battle to permit the patenting of newly-developed technologies resulted from his having seen so many technological changes in his lifetime. From having lived through a century with so many technological revolutions and changes in our society and economy, he knew that the patent system must evolve to protect the new technologies of computers, biological modifications, plants, and now, with Judge Rich's decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*[21], financial and business methods. Judge Rich understood, perhaps better than most of us who are here on this Earth for such a short period of its cosmic time, that if the patent system is to survive and fulfill its Constitutional purpose, it has to keep up with and allow for protection for all the new types of inventions made as society changes.

Judge Rich was always the first to embrace and enjoy new technological change. He is reported to be the first judge on the court to have e-mail. While the other judges were concerned about technology security, at age 92 Judge Rich ordered his own electronic mail account and began corresponding with his law clerks and others around the world.

When technology moved to the development of computers and computer programs, where scientists and inventors were putting their energy, Judge Rich argued for the patentability of computer programs.[22] His opinion for the court in *In re Benson* in 1971 reversed the decision of the then Patent Office Board of Appeals that the invention, "a method for

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20. Giles S. Rich, Speech to the Rochester Patent Law Ass'n (Oct 15, 1974). *See also* Giles S. Rich, *Change*, 2 APLA Q. J., 214 (1974) (an article by Judge Rich based upon this speech).

21. 149 F.3d 1368 (Fed. Cir. 1998), *cert denied*, 119 S. Ct. 851 (1999).

22. *See In re* Benson, 441 F.2d 682, 688 (C.C.P.A. 1971).

converting binary coded decimal number representations into binary number representations," was not patentable because it constituted "mental processes" and "mathematic steps," neither of which was "an art" in the Board's view.[23] Judge Rich explained the history he knew so well of 35 U.S.C. § 101: That "art" was the term used prior to his drafting the Patent Act in 1951; the term now being "process", which is defined to include an "art or method."[24]

Judge Rich wrote:

> It seems beyond question that the machines—the computers—are in the technological field, are a part of one of out best-known technologies, and are in the "useful arts" rather than the "liberal arts," as are all other types of "business machines," regardless of the uses to which their users may put them. How can it be said that a process having no practical value other than enhancing the internal operation of those machines is not likewise in the technological or useful arts?[25]

In 1972, just after I began my clerkship, the Supreme Court decided *Gottschalk v. Benson*,[26] reversing the CCPA. The decision by Mr. Justice Douglas, never a fan of the patent system, angered Judge Rich because he knew that computers were where the technological "action" was. He knew that for the patent system to continue to encourage invention and the investment of resources in technological innovation, it must keep up with protecting inventions in all the new fields in which they were being made.

Two days after the Supreme Court opinion by Justice Douglas, Judge Rich quietly circulated to his fellow Judges and law clerks on the court a quotation from a then-current book,[27] which quoted Justice Fortas describing Justice Douglas. Speaking of Douglas, Fortas said:

> His mind is a cutting instrument of fabulous sharpness. His intellect is a well-ordered, highly organized machine. For this man of intense sentiment, sentiment which cannot be sharply and effectively deployed is slop. To himself, to friend and foe alike, Mr. Justice Douglas is a harsh critic who lies in wait for the slothful, the untidy, the drooling, the soft and sappy. The unerr-

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23. *Id.* at 685.
24. *Id.* at 685 n.4.
25. *Id.* at 688.
26. Gottschalk v. Benson, 409 U.S. 63 (1972).
27. ROBERT SHOGAN, A QUESTION OF JUDGEMENT, THE FORTAS CASE AND THE STRUGGLE FOR THE SUPREME COURT (1972).

> ing leap to the jugular, the fantastic speed, the cleanliness of the kill—these are the marks of Douglas's mind.[28]

Although Judge Rich was personally stung by the Douglas opinion in *Benson*, the courts eventually adopted his position. Computer hardware, software, and even business methods may be patentable as long as they are useful and nonobvious.[29]

Much later in *In re Alappat*,[30] Judge Rich, writing for the majority, was able to limit Justice Douglas' *Benson* opinion to its proper scope, as he wrote"[i]n this way, the door remains open to the advancement of technologies by the incorporation of digital electronics."[31]

Judge Rich and the Trademark Law

As a practitioner in trademark as well as patent law, I would be neglectful if I did not mention some of Judge Rich's many contributions to trademark law. When I clerked for Judge Rich, the court considered *In re Honeywell*,[32] which dealt with the protectability of the shape and appearance of an article, as a trademark, in this case a "round" thermostat. What I began to appreciate at the time was the importance of this law, and Judge Rich's mammoth contribution to it, through a concurring opinion he authored in *In re Mogen David Wines Corp.*,[33] and his prior opinion in *In re Deister Concentrator Co.*[34] While another judge authored the opinion of the court in *Honeywell*, Judge Rich wrote another concurring opinion, as he had done in *Mogen David*, averting to his opinion in *Deister*, and noting the important distinction between "de facto secondary meaning" and not giving protection to functional designs under the law.[35] I commend you to this wonderful line of concurring opinions, and particularly Judge Rich's later 1982 opinion for the court in *In re Morton Norwich Products, Inc.*,[36] which outlined in simple terms the way to distinguish and analyze functionality under the law.[37] I venture to say that this line of cases may well be responsible for the development of trade dress law today that recognizes protection for product configurations.

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28. *Id.* at 131.
29. *See State Street Bank*, 149 F.3d at 1373-75.
30. 33 F.3d 1526 (Fed. Cir. 1994).
31. *Id.* at 1557.
32. 497 F.2d 1344 (C.C.P.A. 1974).
33. 328 F.2d 925 (C.C.P.A. 1964).
34. 289 F.2d 496 (C.C.P.A. 1961).
35. *See Honeywell*, 497 F.2d at 1350.
36. 671 F.2d 1332 (C.C.P.A. 1982).
37. *See id.* at 1337-40.

Years later in my practice, when I was litigating in the California District Court, and then in the Ninth Circuit, I came to appreciate the valuable and important contribution of Judge Rich and his "thinking outside the box" regarding the protectability of the shape and appearance of articles as trademarks. He believed they could be protected as trademarks if recognized by the public, just as traditional trademarked words and designs, as long as they were non-functional and identified source or product origin. The principles of law for words and logo trademarks applied equally to product designs and configurations.[38]

Early in my career, when I went to San Francisco, as Judge Rich put it in the language quoted above, to "commute across the Bay and worry about billable hours," I represented Levi Strauss, in an attempt to protect that little folded cloth ribbon "tab" which sticks out of the side of Levi's' patch pocket on the rear of its jeans. I used much of Judge Rich's writing and philosophy regarding the protectability of the shape and appearance of articles and things that function as trademarks to identify products in the real world marketplace, just like that small "tab" on Levi's jeans.

The "wheel came full circle" when, after winning in the district court, I appeared as a young lawyer before the bench in the Ninth Circuit, only to find Chief Judge Markey, from the CCPA, "sitting by designation" on the Ninth Circuit! Howard Markey was appointed to the CCPA as its Chief Judge just at the time that I had begun my clerkship. As luck (or fate) would have it, Judge Markey wrote the decision of the Ninth Circuit affirming the district court,[39] relying on all those principles of protecting product trade dress as trademarks I had learned from Judge Rich.

Memories

It is difficult for me to draw to a close this rambling memorial of my thoughts and appreciation of Giles Sutherland Rich, my tutor, teacher, mentor, critic, and supporter. Perhaps I have written so much, not because I have so much to say, but because as long as the article doesn't end, neither does the memory; as Judge Rich wrote me in 1974, "While there is life, there is never a goodbye ...."

Goodbye Judge Rich. With your foresight, intellect, and ability to draft statutes and opinions so clearly, you have been able, better than anyone else, to guide and direct the law governing the protection of inventions and

38. The Supreme Court has granted certiorari recently in a product configuration case. *See* Samara Bros., Inc. v. Wal-Mart Stores, Inc. 165 F.3d 120 (2nd Cir. 1998), *cert. granted in part*, 120 S.Ct. 308 (1999).

39. *See* Levi Strauss & Co. v. Blue Bell, Inc., 632 F.2d 817 (9th Cir. 1980).

discoveries embodied in our Constitution. I was fortunate to have had the privilege to work for and with you. But more fortunately for all, your work is written in our patent laws and in your opinions, which, under our system of laws and stare decisis, will live on forever. For this we thank you.

ARTICLE

CONTROLLING MARKET POWER IN TELECOMMUNICATIONS: ANTITRUST VS. SECTOR-SPECIFIC REGULATION

An Assessment of the United States, New Zealand and Australian Experiences

By Michel Kerf[†] and Damien Geradin[‡]

ABSTRACT

The authors set out a framework for evaluating different approaches to the economic regulation of telecommunications. They then evaluate the United States, New Zealand, and Australian experiences with telecommunications regulation through this framework. The United States uses a sector-specific approach to telecommunications regulation, while New Zealand uses a general antitrust approach. Australia melds these two contrasting approaches together, complementing general antitrust rules with telecommunications-specific rules within the same antitrust legislation. The authors conclude that, on balance, the Australian approach provides many features desirable in the economic regulation of telecommunications.

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I. INTRODUCTION

Over the last two decades, and with rapid acceleration in recent years, a large number of countries have undertaken reforms aimed at establishing competitive telecommunications markets. One key component of such reforms is the removal of barriers to entry into the telecommunications sector, accompanied by supplementary mechanisms to ensure that telecommunications markets effectively become, and remain, competitive. Such mechanisms must, for example, prevent powerful incumbent telecommunications operators from abusing their market power to the detriment of their competitors and consumers. As competition develops, these mechanisms must also prevent collusion between telecommunications operators, as well as excessive market consolidation through mergers and acquisitions.

For several decades, most industrialized countries have employed antitrust rules and institutions to promote competition and to control market power across sectors. In addition, a growing number of countries have established infrastructure or sector-specific rules and institutions to promote competition and control market power in telecommunications. In this context, the relationship between the two sets of rules and institutions be-

comes an issue of growing importance. This Article seeks to shed light on how economy-wide and sector-specific components of the regulatory framework should be designed and on how the respective roles of such components should be defined to maximize the efficiency of economic regulation in telecommunications.

The approach chosen here is to rely on comparative analysis. We will seek to derive some lessons from the experiences of three countries—the United States, New Zealand and Australia—which have established very distinct models of economic regulation for telecommunications. The United States and New Zealand constitute opposite models. While the American model relies on detailed sector-specific regulatory requirements largely implemented by a sector-specific institution, the New Zealand model attempts to promote competition and control market power in telecommunications through the application of general antitrust laws by the courts. As will be seen, the Australian model achieves a form of compromise between the two previous models by incorporating some sector-specific rules within economy-wide antitrust legislation and by conferring responsibility for implementing such rules on the economy-wide antitrust authority.

This Article is divided into seven parts. Following this introduction, Part II presents a conceptual framework of the respective features of the various rules and institutions which can be relied upon to promote competition and control market power in telecommunications. It also lays out a series of criteria that will be used to assess the efficiency of the regulatory framework put in place in the United States, New Zealand, and Australia. Parts III, IV and V successively review the American, New Zealand and Australian regulatory models and evaluate them in light of the criteria developed in Part II. Part VI contains a comparative analysis of the three models. Finally, Part VII presents our conclusions. Of the three models, we believe that the Australian "compromise," while far from being perfect in all respects, probably goes furthest in satisfying the efficiency criteria laid out in Part II.

II. CONCEPTUAL FRAMEWORK

A. Market Power and Telecommunications

In many countries, telecommunications sectors have until recently been organized around a dominant, or even a monopolistic, operator. This market organization was justified on the basis of four main rationales. First, it was argued that some segments of the sector, such as the fixed line local network—or "local loop"—constituted natural monopolies and that a

single enterprise would therefore be able to provide service in a given market at lower costs than would two or more different enterprises.[1] Second, some argued that network externalities justified organizing the telecommunications sector on a monopoly basis.[2] Third, monopolistic structures were deemed necessary to enable cross-subsidies between different services or users—i.e., to enable an enterprise to compensate for losses incurred with some activities or users (such as rural telephony for example) with the excess profits gained with some other activities or users (such as urban telephony or international services).[3] Opening the market to competition would prompt entry into the segments where excess profits are made (the "cream-skimming" effect), therefore wiping out the revenues required to operate the cross-subsidies.[4] A fourth argument was that strategic or security concerns dictated that the provision of telecommunications services be reserved to a particular enterprise often controlled by the state.

In many countries, those arguments justified the award of exclusive rights to dominant telecommunications operators. It was clear, however, that if those operators were left free to exploit their market power, well-

1. In the area of telecommunications, the fixed costs of establishing a fixed line local network are such that a single enterprise will generally be able to provide services to all users in a given area at lower costs than would two or more enterprises, each with its own network. For a discussion of the concept of natural monopoly, see generally WILLIAM W. SHARKEY, THE THEORY OF NATURAL MONOPOLY (1982).

2. A network externality is said to exist for a service if users of the service benefit when more people use it. Network externalities are present in the area of telecommunications since the value of a network increases, for each user, with the number of network subscribers. *See* Mark Amstrong, *Competition in Telecommunications*, 13 OXFORD REV. ECON. POL'Y 64-65, 67 (1997). As a result, for a given total number of subscribers, the value of a single network is much greater than the total value of several smaller unconnected networks. For a good discussion of the concept of network externalities, see Nicholas Economides, *The Economics of Networks*, 14 INT'L J. INDUS. ORG. 673 (1996) and Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985). A large list of published articles on network externalities can be found at <http://raven.stern.nyu.edu/networks/bibiof.html>.

3. *See* Alberto Heimler & Paolo Saba, *Role and Enforcement of Competition Policy in Regulated Sectors*, 1995 PROC. OF OECD/WORLD BANK CONF. ON COMPETITION & REG. IN NETWORK INDUS. (OECD 1995), 75, 78, *available at* <http://www.oecd.org/daf/clp/non-member_activities/bdpt102.htm>.

4. On the issue of cream-skimming, see Peter Smith, *Subscribing to Monopoly: The Telecom Monopolist's Lexicon—Revisited*, PUBLIC POL'Y FOR THE PRIVATE SECTOR, Note No. 53 (Sept. 1995), *available at* <http://www.worldbank.org/html/fpd/notes/53/53smith.html>.

known negative consequences would be likely to ensue.[5] First, a monopolist can impose quality and price levels which deprive the users from much of the welfare gains associated with the provision of the goods or services. Those gains can be captured or transferred, in totality or in part, by the monopolist to others in exchange for obtaining the monopoly position. Second, if a monopolist does not have the ability to discriminate perfectly between users, it can also limit the amount of goods or services provided below socially optimal levels. Finally, the absence of competition can reduce the incentives of a monopolist to innovate and to operate efficiently. Consequently, regulatory controls were imposed upon the operators in an attempt to keep the volume, quality, and price of services at welfare-maximizing levels and to promote efficiency and innovation.[6] Such controls often were imposed through direct ownership of telecommunications enterprises by the state.

In the last two decades, however, the wisdom of relying on public monopolies for the provision of telecommunications services was increasingly put into question.[7] The first and arguably most important reason is that the performance of those operators proved disappointing. Various studies demonstrated that publicly-owned enterprises, in general, tended to be less efficient than private ones, and that telecommunications markets open to competition tended to perform much better than those which were not.[8]

In parallel, the arguments which had been advanced to justify the creation of telecommunications monopolies appeared relatively weak in the first place. Technological evolution, for example, reduces the scope of telecommunications activities which present natural monopoly features.[9] For instance, as the price of mobile communications decreases, mobile

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5. *See* N. GREGORY MANKIW, PRINCIPLES OF ECONOMICS 308 (1998); RICHARD A. POSNER, ANTITRUST LAW : AN ECONOMIC PERSPECTIVE 8 (1976).

6. *See* ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS Vol. I, at 3 (1971).

7. *See* Colin Scott, *Institutional Competition and Coordination in the Process of Telecommunications Liberalization* in JOSEPH MCCAHERY ET AL., INTERNATIONAL REGULATORY COMPETITION AND COORDINATION: PERSPECTIVES ON ECONOMIC REGULATION IN EUROPE AND THE UNITED STATES 383-84 (1996).

8. *See, e.g.*, AHMED GALAL ET AL., WELFARE CONSEQUENCES OF SELLING PUBLIC ENTERPRISES—AN EMPIRICAL ANALYSIS (1994); IMPLEMENTING REFORMS IN THE TELECOMMUNICATIONS SECTOR—LESSONS FROM EXPERIENCE (Bjorn Wellenius & Peter A. Stern eds., 1994).

9. *See* James Bond, *Telecommunications is Dead, Long Live Networking*, PUBLIC POL'Y FOR THE PRIVATE SECTOR, Note No. 119 (July 1997), *available at* <http://www.worldbank.org/html/fpd/notes/119/119summary.html>.

networks, which present few if any natural monopoly features, become cheaper to deploy than fixed networks in regions which are not very densely populated.[10] In addition, a convergence process is progressively blurring the boundaries between telecommunications and other industries, such as computing, which do not present natural monopoly features.[11] Finally, while some telecommunications activities do retain natural monopoly characteristics, exclusive rights need not necessarily be granted for this reason. If a segment of the sector does indeed constitute a natural monopoly, a single provider should emerge in that sector whether it enjoys a legal monopoly or not. Only when the competitive process leading to the eventual selection of the single service provider would be considered too disruptive does a real rationale emerge for granting exclusive rights to a single firm from the start.[12] Even then, potential advantages must be weighed against the risk of selecting a monopoly provider which has not been tested by competition and might therefore not be the most efficient. If exclusive rights are granted, there are also serious risks that they might encompass some potentially competitive activities, thereby eliminating competition where it could have taken place. Relying on market forces rather than on administrative decisions to determine which activities constitute natural monopolies presents distinct advantages in a sector like the rapidly changing telecommunications sector.

Network externalities can be preserved in a market open to competition, provided that various networks can be interconnected. The social objectives pursued through cross-subsidy schemes can be achieved by means which do not require that a monopoly be maintained in the sector. For example, a fund can be set up through general taxation or through fees levied on all telecommunications operators, and can be used to subsidize

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10. As mentioned above, it is the fixed line local network which presents natural monopoly features because of the high fixed costs of setting up the network and the low marginal cost of adding an extra consumer, which together entail decreasing average costs. Thus, a single firm will have lower unit costs than two or more smaller firms. *See supra* note 1.

11. *See* Benjamin Lipschitz, *Regulatory Treatment of Network Convergence: Opportunities and Challenges in the Digital Era,* 7 MEDIA & POL'Y L. 14 (1998).

12. Competition between different providers of infrastructure services, such as telecommunications, might, for example, lead to wide price fluctuations which could be seen as disruptive. In activities such as the provision of local loop services, which are characterized by high fixed costs and low marginal costs, prices might be driven down to marginal costs during periods of intense competition between different network operators and might rise above total average costs when a firm is able to exercise some degree of market power.

some particular services or users.[13] Finally, a range of technical solutions exist to adequately address strategic or security concerns without having to rely on public ownership and to restrict market entry.

For these reasons, a large number of countries have now totally or partially privatized their dominant telecommunications operator, and have taken a wide range of measures to promote competition.[14] Such measures seek to remove exclusive rights for the provision of telecommunications services, to facilitate interconnection between different networks, to prevent cross-subsidies which would distort competition in some market segments, to insure a pro-competition allocation of frequencies, and to prevent agreements or mergers which would stifle competition.

In spite of such measures, some segments of the telecommunications sector might remain, at least for some time, dominated by an operator with substantial market power. This will be the case in market segments which present natural monopoly characteristics and which are also non-contestable.[15] Once again, the local loop is often mentioned as an example. Because establishing a fixed local network entails high sunk costs, while operating an existing network entails only relatively low operational costs, competitors might refrain from attempting to replace an incumbent. Thus, an incumbent has substantial market power as long as alternative modes of communications remain more expensive. Therefore, since effective competition cannot be relied upon to put competitive pressure on operators in all segments of the telecommunications sector, governments might still have to take adequate measures to control the price, quality, and volume of services provided by monopolistic operators to prevent those operators from abusing their market power.[16]

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13. *See* Helmut Cox, *Problèmes du financement des services publics universels dans l'Union Européenne*, SERVICES PUBLICS ET POLITIQUE INDUSTRIELLE EN EUROPE - NOUVEAUX DÉFIS ET NOUVELLE MISSIONS D'INTÉRÊT PUBLIC 83 (1996); Werner Neu & Ulrich Stumpf, *Evaluating Compensation Requirements by Telecommunications Universal Service Providers: A New Challenge to Regulators*, 26 COMM. & STRATEGIES 165 (1997).

14. *See generally* LAURENCE BANCEL-CHARENSOL, LA DÉRÉGLEMENTATION DES TÉLÉCOMMUNICATIONS DANS LES GRANDS PAYS INDUSTRIELS (1996).

15. A market is perfectly contestable when entry into the market and exit from it, involves no cost (for example because the facilities which need to be deployed to operate in the market can be sold easily or transferred to other markets). In such a case, the incumbent—even if it is in a monopolistic situation—is unable to exercise market power because of the threat of entry by potential competitors. For an exposition of the contestability theory, see generally WILLIAM J. BAUMOL ET AL., CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE (1982).

16. *See* W. KIP VISCUSI ET AL., ECONOMICS OF REGULATION AND ANTITRUST 377 (2d ed. 1998).

Below we summarize the rules and institutions which can be used to facilitate competition and to control the behavior of operators where competition proves insufficient.

B. Rules

The rules which can be used to facilitate or maintain competition in the telecommunications sector or to prevent telecommunications operators from abusing their market power fall broadly into two categories: antitrust rules and telecommunications-specific rules.[17]

1. Antitrust Rules

A very large number of countries have adopted a set of rules which are applicable to most economic activities (including telecommunications) and are designed to prevent anti-competitive behavior.[18] Given their wide scope of application, such rules tend to prohibit relatively broad categories of behavior and to leave a relatively wide range of discretion to enforcing authorities.

Three main types of antitrust rules can be identified.[19] The first type prevents anti-competitive agreements between operators. Prohibited behavior usually includes agreements aimed at fixing prices, limiting production, or dividing up markets. Such rules usually recognize, however, that some agreements between operators might benefit consumers. This might be the case, for example, for agreements on industry-wide standards or on cost sharing for research and development activities. In some legal systems, a mechanism has been set up to enable operators to obtain authorizations from the antitrust authorities prior to concluding an agreement. In others, controls are only exercised a posteriori.

The second type deals with firms which enjoy substantial market power. The objective is to prevent those firms from abusing their dominant or monopoly position by restricting competition from other operators. Examples of prohibited behavior might include refusing to deal with particular buyers, imposing predatory prices, imposing discriminatory prices on different buyers for the provision of similar services under similar con-

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17. For a discussion of the roles played by antitrust and telecommunications-specific rules in the telecommunications market, see Paul Nihoul, *Convergence in European Telecommunications — A Case Study on the Relationship Between Regulation and Competition (Law)*, 2 INT'L J. COMM. L. & POL'Y 1 (1998/99).

18. For a discussion of antitrust laws in the United States and other industrialized nations, see FREDERIC M. SCHERER, COMPETITION POLICIES FOR AN INTEGRATED WORLD ECONOMY 17-42 (1994). *See also* G. BRUCE DOERN & STEPHEN WILLIS, COMPARATIVE COMPETITION POLICY: NATIONAL INSTITUTIONS IN A GLOBAL MARKET (1996).

19. *See* SCHERER, *supra* note 18, at 43-88.

ditions, and conditioning the sale of a product on the purchase of another, unrelated one.

Lastly, the third type prohibits mergers and acquisitions which have a strong negative impact on competition. Most legal systems which contain rules in this regard provide for ex ante controls of proposed agreements.

2. Telecommunications-Specific Rules

In addition to general antitrust rules, most countries have also adopted laws or regulations dealing with market power in the telecommunications sector. Typically, such rules are relatively precise; they tend to leave less discretion to enforcing authorities than antitrust rules.

Some of these telecommunications-specific rules seek primarily to promote or preserve competition. Those rules might, for example: (i) identify the segments of the telecommunications sector where the entry of new operators is permitted; (ii) define the entry process to be followed by those new operators; (iii) set technical, procedural, and pricing conditions pertaining to interconnection agreements; (iv) determine conditions for number allocation and portability; and (v) determine how frequencies are to be allocated.

Other rules are aimed primarily at preventing abuses of market power by firms which possess a dominant position in some segments of the market. Some of those rules are designed to prevent abuses vis-à-vis operators which compete for activities with a firm which is dominant in other activities. The interconnection rules previously mentioned fall within this category because they can enable a long distance company to interconnect with the local network and thus compete in the long distance market against the incumbent who owns the local network and also provides long distance services. Rules which require accounting separation or creation of separate subsidiaries for different activities, in order to prevent cross-subsidies between monopolized and competitive markets, also fall within this category. Other rules are designed to prevent abuses vis-à-vis end-users. Such rules include for example: (i) tariff regulations; (ii) quality and technical requirements for various types of telecommunications services; and (iii) public service obligations (e.g., minimum coverage requirements, access to free emergency numbers and directory services).

C. Institutions

Institutions are needed to interpret, apply, and enforce the rules described above. Given the complexity of the issues to be addressed, an increasing number of countries have opted to establish specialized institutions to perform some or all of those functions. Such specialized institu-

tions come in two varieties: antitrust authorities[20] and telecommunications regulatory agencies.[21] This Part presents a brief description of the main features of those institutions.

One should emphasize, however, that even when antitrust authorities or telecommunications regulators have been set up, other entities do generally retain important functions regarding the promotion of competition or the prevention of market power abuses in the telecommunications sector. Political authorities, for example, might retain final decision-making powers on some important matters, such the award and withdrawal of licenses, and the establishment of the price regime. The courts also will retain an important role. In some systems, for example, antitrust authorities gather evidence and present cases to the courts, and it is the courts which decide upon the merits of those cases.[22] The courts will also usually be the final arbiters when parties contest the decisions taken by antitrust authorities or telecommunications regulators. In such cases, courts might retain the authority to judge both substantive and legal aspects of the issues, or they might be empowered to review decisions on legal grounds only and examine, for example, whether procedural requirements have been met or whether the institutions have exceeded their powers.

1. Antitrust Authorities

Antitrust authorities are generally entrusted with the task of promoting competition or controlling the use of monopoly power in all or most sectors of the economy. Given the number of firms which fall within their sphere of competency, antitrust authorities tend to act on a case-by-case basis when needed, rather than to closely regulate enterprises on a permanent basis.

Antitrust authorities tend to focus on implementing general antitrust rules presented in Part B.1 above, but they may also be in charge of implementing sector-specific rules, such as the telecommunications laws or regulations discussed in Part B.2.[23] They can be entrusted with various types of responsibilities including: (i) initiating investigations of potentially anti-competitive behaviors; (ii) prosecuting such behaviors; and (iii)

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20. A list of the national antitrust authorities can be found on the OECD competition policy homepage. *See* Organization for Economic Co-operation and Development, *Links to Other Sites* (visited Oct. 13, 1999) <http://www.oecd.org/daf/clp/LINKS.HTM>.

21. A list of the national telecommunications regulatory authorities can be found on the OFTEL website. *See* Office of Telecommunications, *International Links Page* (visited Oct. 13, 1999) <http://www.oftel.gov.uk/internat/links.htm>.

22. *See infra* Part III (United States) and Part IV (New Zealand).

23. This is true of Australia, as discussed *infra* in Part V.

in some cases, passing judgment and imposing sanctions upon parties convicted of having committed anti-competitive actions.

Because institutions must decide complex technical matters in the field of competition, antitrust authorities will usually seek to attract highly qualified professionals in the legal and economic spheres. In addition, antitrust authorities are often granted some degree of protection from political interventions in their day to day activities: they are usually set up by law as autonomous or independent entities; appointment processes might be designed to prevent partisan nominations at the top echelons of the entity; and measures may be adopted to prevent arbitrary removals. In addition, some measures are usually adopted to ensure the independence of the antitrust authority from the enterprises which come under its scrutiny. The most common measure requires antitrust regulators to refrain from intervening where intervention would raise a conflict of interest.

2. *Telecommunications Regulatory Agencies*

Whereas antitrust authorities have competence across different market sectors, telecommunications regulatory agencies are generally competent only in the telecommunications sector. In some cases, utility regulatory agencies might be set up with expertise across several infrastructure sectors, including telecommunications.[24] However, telecommunications regulatory agencies tend to regulate a small number of enterprises closely, on a quasi-permanent basis.

Implementing the types of telecommunications-specific rules discussed above typically constitutes a core part of the responsibilities of telecommunications regulatory agencies. Their functions might include: (i) selecting new operators; (ii) preparing and granting operating licenses; (iii) regulating tariffs; (iv) administering quality and technical standards; (v) administering the rules applicable to number portability and to the allocation of frequency; (vi) administering the interconnection regime; (vii) resolving disputes between operators and between operators and users; (viii) monitoring the activities of the operators to ensure that they comply with their obligations, including accounting separation requirements, price and quality requirements, and universal service obligations; and in some cases, (viii) imposing sanctions upon the operators when necessary. They might, in some cases, also have a role in implementing antitrust rules in the telecommunications sector.

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24. This is, for instance, the case of state utility commissions in the United States which oversee several industries. *See infra* text accompanying notes 120-121.

As is the case for antitrust authorities, the objective of ensuring that an entity possesses the technical capacity necessary to perform complex regulatory tasks helps explain why many countries have now established telecommunications regulatory agencies. Some argue that a sector-specific regulator is better able to develop the expertise required to tackle difficult telecommunications issues than infrastructure-wide regulators and, a fortiori, than economy-wide bodies such as antitrust authorities. On the other hand, a cross-sector agency might benefit from the experience gained in a plurality of sectors, and could, for example, establish a telecommunications-specific department to give some staff the possibility to specialize in telecommunications-specific issues.[25]

Telecommunications regulatory agencies, like antitrust authorities, will often enjoy some degree of autonomy from political authorities and are independent from the enterprises they regulate.[26] Those features tend, in fact, to be even more apparent for telecommunications regulatory agencies than for antitrust authorities. Telecommunications regulators will often benefit from strong legal protections against arbitrary removal; it is not rare to see telecommunications regulatory boards or commissions whose members have staggered terms in order to prevent a single government from presiding over the renewal of the whole regulatory body. In addition, telecommunications regulators are usually required to sever all their links to regulated enterprises, rather than simply refrain from intervening when a conflict of interest arises.

These greater efforts at protecting telecommunications regulators from undue pressure reflect the greater risks of capture they face.[27] Telecommunications is a public service, and the conditions under which telecommunications services are provided remain politically sensitive in many countries. This increases the temptation for governments to intervene with respect to tariffs or other aspects of the service.[28] In addition, a telecommunications regulatory agency often has a stronger impact than an antitrust authority on the profitability of the operators it regulates. Exiting the telecommunications market might be costly, as some important invest-

25. *See* Warrick Smith, *Viewpoint 128: Utility Regulators—Roles and Responsibilities,* PUB. POL'Y FOR THE PRIVATE SECTOR (Oct. 1997), *available at* <http://www.worldbank.org/html/fpd/notes/notelist.html>.

26. *See* Warrick Smith, *Viewpoint 127: Utility Regulators—The Independence Debate,* PUB. POL'Y FOR THE PRIVATE SECTOR (Oct. 1997), *available at* <http://www.worldbank.org/html/fpd/notes/notelist.html>.

27. *See* WARRICK SMITH, PRIVATE SECTOR DEVELOPMENT, THE WORLD BANK, REGULATORY INSTITUTIONS FOR UTILITIES AND COMPETITION 3 (1998).

28. *See* OECD, *Relationship Between Regulators and Competition Authorities,* (June 1999), *available at* <http://www.oecd.org//daf/clp/Roundtables/relations.pdf>.

ments are sunk. Close regulation of tariffs or quality standards are therefore likely to have a substantial impact on the profitability of telecommunications operators and those operators are likely to put pressure on regulators.[29] Furthermore, sector-specific entities are likely to maintain closer contacts with the sector Ministry and a very small group of enterprises, as opposed to the contacts that infrastructure or economy-wide bodies would have.[30] Thus, telecommunications-specific regulators are arguably more at risk from industry or government capture.[31] In those conditions, in order to attract private investment in the sector, it is extremely important to protect the regulator—particularly if it is sector-specific—from undue industry or government interventions.

D. Six Criteria to Evaluate Different Frameworks for the Economic Regulation of Telecommunications

Given the existence of these different types of rules and institutions, governments which seek to control market power in telecommunications have a range of options. They can choose to rely completely or mainly on general antitrust rules, or they may put a greater emphasis on more detailed sector-specific rules. They can entrust antitrust authorities with the task of administering all the rules controlling market power in telecommunications, they can entrust such responsibility exclusively to one or several telecommunications regulators, or they can split responsibilities between the two types of institutions. As discussed below, the United States, New Zealand, and Australia have each chosen very different options.

The relative efficiency of the various regulatory models can be evaluated with respect to many different possible criteria. We chose six of them, against which we will attempt to judge the relative performances of the U.S., New Zealand, and Australian regulatory models. These criteria cannot constitute an exhaustive list, but we believe they canvass what are, arguably, six of the most important features which regulatory models in telecommunications should present.

The first criterion is *whether the regulatory framework is adequately designed to promote a competitive market structure.* This would require the elimination of legal barriers to entry, such as exclusive rights or strict

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29. *See* Antony Dnes, *Post-Privatization Performance—Regulating Telecommunications in the UK* (Oct. 1995), *available at* <http://www.worldbank.org/html/fpd/notes/60/60dnes.html>.

30. *See* OECD, *supra* note 28.

31. On the theory of regulatory capture, see Georges Stigler, *The Theory of Economic Regulation,* 2 BELL J. ECON. REG. 3 (1971), and Sam Peltzman, *Toward a More General Theory of Regulation,* 19 J. LAW & ECON. 211 (1976).

limits on the number of available licenses, into potentially competitive telecommunications markets. In some cases, imposing accounting separation, or even the establishment of separate companies, for the pursuit of different activities might be required to prevent various anti-competitive practices. Ensuring interconnection under reasonable conditions, number portability,[32] dialing parity,[33] and an allocation of frequencies that puts competing mobile operators on a level playing field also contribute to the emergence of a competitive market structure. Finally, mechanisms to ensure that certain universal service obligations are designed and met in a manner that does not hinder competition are also important.

The second criterion is *whether the regulatory framework strikes the right balance between recognizing the specificity of the telecommunications sector and promoting the coherence of regulatory decisions across sectors*. The telecommunications sector exhibits certain characteristics that tend to differentiate it from other industries. For example, it exhibits both natural monopoly features for some activities and network externalities. It also presents some technical issues, such as numbering for example, which do not have an exact equivalent in other sectors. Such characteristics could arguably justify the adoption of telecommunications-specific rules and the establishment of telecommunications-specific regulatory authorities. However, ensuring that cross-sector rules and institutions are used to regulate telecommunications would also bring benefits, such as greater regulatory certainty (as operators could better forecast what to expect by observing how the regulatory framework is applied in other sectors) and lower risks of distortion between different activities.[34] Using cross-sector rules and institutions to regulate telecommunications is justified in light of the growing convergence between telecommunications and other sectors.[35] Once again, an adequate balance must be struck, and a number of choices are possible, including economy-wide, infrastructure-wide, communication-wide or purely telecommunications-specific rules and institutions. The choice will depend in part on the extent to which the telecommunications sector is similar to, or different from, other sectors of the economy in a particular country. For example, the greater the degree of openness and liberalization of the telecommunications sector, the larger the scope for the

32. Number portability means ensuring that users are able to keep the same telephone number when switching telecommunications operators.

33. Dialing parity means ensuring that users do not have to dial additional numbers when they choose certain telecommunications operators rather than others.

34. *See* Henry Ergas, *Competition Policy in Deregulated Industries*, INT'L BUS. LAW, Jul.-Aug. 1995, at 305.

35. *See* Lipschitz, *supra* note 11; *see also* OECD, *supra* note 28, at 32.

application of cross-sector rules that are applicable to competitive activities in general.

The third criterion is *whether the regulatory framework strikes the right balance between flexibility and certainty.* As mentioned above, antitrust rules tend to be relatively general while telecommunications-specific rules tend to be more precise. The former therefore grant implementing authorities a wider degree of discretion, giving them more room to tailor individual decisions to particular circumstances. In a sector which evolves as fast as the telecommunications sector, this flexibility undoubtedly has some advantages. On the other hand, more precise rules provide for greater regulatory certainty; such certainty may be an advantage, for example, when it comes to convincing private operators to sink large investments in a politically-sensitive sector. Trade-offs between flexibility and certainty also exist at the institutional level. Thus, the type of authority which is competent and the processes for rule adoption will determine the ease with which the rule can be changed. An adequate balance must be struck between the need for flexibility and for certainty with respect to both rule adoption and implementation. The right balance will depend upon the confidence which the adopting and the implementing authorities enjoy. For example, authorities will have more discretion if they are trusted by stakeholders, and vice versa.

The fourth criterion is *whether the regulatory framework ensures a sufficient degree of autonomy for those in charge of applying the rules, promotes technical competence, and provides for adequate stakeholder participation in the regulatory process.* Given the technical complexity of regulatory issues in telecommunications and the scope of political as well as industry pressure on regulatory matters, adequate measures of the kind mentioned above in Part C are of the utmost importance. Sector-specific regulatory agencies for telecommunications may be subject to stronger pressures from politicians and operators, particularly when they operate in a single sector, rather than in infrastructure in general. In addition, in order to strengthen the legitimacy of the regulatory process and to ensure that regulatory authorities have access to as much information as possible, consumers and other stakeholders in the regulatory process should have the opportunity to present their views before important decisions are taken.

The fifth criterion is *whether the regulatory framework limits the costs of regulation.* The costs of regulation include, first and foremost, the costs of setting up regulatory agencies. Setting up a single cross-sector agency is usually more cost-effective than setting up several distinct sector-specific agencies, since it avoids duplication of a certain number of administrative

departments. In addition, there are compliance costs imposed upon industry participants. These costs tend to increase with the complexity of the rules. Finally, there are costs associated with potential inefficiencies of the regulatory regime. For example, when disputes are frequent and time-consuming, procedural costs might be high for the parties, and beneficial reforms might be postponed. Very important costs might also be incurred when regulatory mistakes are made. In telecommunications, where the costs of such mistakes can be very important for both investors and users, the stakes are particularly high. As regulation is imperfect and the risk of costly mistakes can never be completely eliminated, it is crucial to weigh the potential benefits of regulation against its potential costs. This trade-off needs to be fully taken into account, particularly when discussing the merits of establishing detailed regulatory rules and specialized regulatory institutions in the telecommunications sector.

The sixth criterion is *whether the regulatory framework provides for an efficient allocation of responsibilities*. Some pitfalls need to be avoided. When several institutions intervene in telecommunications regulation, their respective competencies should be defined clearly to avoid creating uncertainty. In order to avoid inconsistent decisions, different institutions should not be designed to tackle the same issues. It is also important to assess the respective capacities of these institutions so as to entrust each one with the functions which it is most apt to perform. Finally, one should not lose sight of the inter-relations which exist between different regulatory issues when allocating regulatory responsibilities. Setting performance standards for telecommunications operators, for example, will have a direct impact on their costs and will therefore determine the price at which operators expect to earn an adequate return. Failing to entrust a single entity with the task of administering performance and pricing rules, or at the least to provide for close coordination between the institutions in charge of those matters, would substantially increase uncertainty for investors.

III. THE UNITED STATES EXPERIENCE

A. Origins of the Present Regulatory Framework

In February 1996, Congress adopted the Telecommunications Act of 1996.[36] This Act provided the first major overhaul of the 1934 Communi-

36. Telecommunications Act of 1996, Pub. L. No 104-104, 110 Stat. 56, (codified as amended in scattered sections of 47 U.S.C.). Several books and a great number of articles detail the content of this law. *See, e.g.*, PETER W. HUBER ET AL., THE TELECOMMUNICATIONS ACT OF 1996: SPECIAL REPORT (1996); TELECOMMUNICATIONS ACT HANDBOOK: A COMPLETE REFERENCE FOR BUSINESS (Leon T. Knauer et al. eds., 1996);

cations Act, which regulated the telecommunications industry for more than 60 years.[37] During these 60 years, changes in the political climate and the telecommunications industry necessitated a revision of the regulatory framework.

The Communications Act of 1934 ("1934 Act") was adopted during the great depression to protect American consumers against AT&T which, through an aggressive policy of consolidation, had gained a virtual monopoly over all segments of the telecommunications industry.[38] Telephone service as a whole was viewed as a natural monopoly which needed to be regulated for the benefit of all users.

With this objective in mind, the 1934 Act provided for the creation of the Federal Communications Commission ("FCC") whose mission was to regulate interstate telephone service. Specifically, the Commission controlled entry, regulated prices (through a system of "rate-of-return" regulation), and made other regulatory decisions that it considered in the public's interest. Pursuant to the 1934 Act, the FCC had sole authority to review mergers and acquisitions between telephone companies.[39] While the

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Thomas G. Krattenmaker, *The Telecommunications Act of 1996*, 29 CONN. L. REV. 123 (1996); Michael I. Meyerson, *Ideas of the Marketplace: A Guide to The 1996 Telecommunications Act*, 49 FED. COMM. L. J. 251 (1997).

37. *See generally* Communications Act of 1934, ch. 652, 48 Stat. 1064 (amended 1996).

38. In the late part of the 19th century and the early part of the 20th century, competition between local exchange operators flourished. Many cities were served by two or more operators, usually a Bell company and one or several independent companies. However, many companies did not interconnect with each other. This gave an advantage to the local Bell companies, which usually had a larger customer base. In addition, AT&T, the company created by the Bell Company to connect local exchanges, used its control over the inter-city network as leverage to gain control over independent companies, by denying them the right to interconnect with that network for long-distance calls. *See* Jeffrey Blumenfeld & Christy C. Kunin, *United States*, *in* TELECOMMUNICATIONS LAW AND PRACTICE (Colin D. Long ed., 1995), at 649, 652. AT&T's consolidation policy based on leveraging market power led the Department of Justice to file a suit against the Bell system to prevent it from acquiring additional independent companies. This suit was settled in 1913 by a written commitment of AT&T Vice-President Nathan Kingsbury (known as the "Kingsbury Commitment") in which AT&T agreed to stop acquiring independent companies, as well as to offer interconnection with its inter city network to the remaining independent local operators. However, AT&T convinced Congress to override part of the Kingsbury commitment by adopting the Willis-Graham Act, which exempted AT&T from the antitrust laws when acquiring additional companies. *See* Willis-Graham Act of 1921, ch. 20, 42 Stat. 27 (repealed by the Communications Act of 1934, ch. 652, 48 Stat. 1064, 1102).

39. *See* Communications Act of 1934, ch. 652, 48 Stat. 1064, § 221(a) (amended 1996).

FCC had jurisdiction to regulate interstate services, intrastate telephone services continued to be regulated by the state utility commissions created at the turn of the century.[40] In many instances, states granted franchised monopolies to local exchange companies, most of them Bell Operating Companies ("BOCs").

As the telephone industry developed in the 1950s and 1960s, many began to challenge the basic premise that telephone service was a natural monopoly. Potential competitors sued the FCC and AT&T in order to loosen AT&T's monopoly grasp on the manufacture and distribution of telecommunications equipment[41] and the provision of long-distance services.[42] These competitors alleged unfair competition because AT&T was leveraging its monopoly power over local exchanges to maintain its market share in services that were increasingly open to competition.

In 1974, the Department of Justice ("DOJ") started an antitrust suit against AT&T. The core of the DOJ's case was that AT&T was granting competitors interconnection to its local exchange network only on discriminatory terms, and that AT&T was cross-subsidizing its own inter-city services with revenues from the monopoly local exchange services. In 1982, AT&T and the DOJ announced they had entered into a consent decree designed to end the litigation.[43] This consent decree, also known as

40. Section 1 of the 1934 Act gives the FCC authority over "interstate and foreign commerce by wire and radio." Section 2(b) limits the scope of FCC power by explicitly denying the FCC jurisdiction "with respect to (i) charges, classifications, practices, services, facilities, or regulation for or in connection with intrastate communication service of any carrier." Taken together, these provisions give the FCC authority over all interstate communications but reserve authority over intrastate communications to the states.

41. In 1956, the D.C. Circuit reversed an FCC decision prohibiting customers from attaching a "Hush-a-Phone" to their handset for increased privacy. *See* Hush-a-Phone Corp., 20 F.C.C. 391 (1955), *rev'd*, 238 F.2d 266 (D.C. Cir. 1956). A decade later, the FCC ruled that a "Carterfone," a device permitting direct communication between a mobile radio and a landline network, would be permitted because the Bell System had failed to demonstrate "harm to the network." *See* Use of the Carterfone Device in Message Toll Telephone Service, 13 F.C.C.2d 420, 423 (1968).

42. *See In re* Applications of Microwave Communications, Inc., 18 F.C.C.2d 953 (1969) (allowing, despite AT&T's protestations, MCI to provide microwave service in St. Louis, Chicago, and nine intermediate locations).

43. *See* United States v. AT&T Co., 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983). *See also* Timothy J. Brennan, *Regulated Firms in Unregulated Markets: Understanding the Divestiture in US v. AT&T*, 32 ANTITRUST BULL. 741 (1987).

the Modified Final Judgment ("MFJ"),[44] was approved by Judge Harold Greene of the U.S. District Court for the District of Columbia.

Pursuant to the MFJ, AT&T agreed to divest its twenty-two BOCs into seven independent local exchange carriers,[45] in exchange for permission to enter into other lines of business and to compete with virtually no restrictions in long-distance services. The BOCs were restricted to provide only local telephone services. They were specifically prohibited from entering into certain lines of business, including long-distance services, information services and telecommunications equipment manufacturing.[46] In addition, they were bound to provide all competing long-distance carriers nondiscriminatory access to their local exchange network.[47] A cumbersome waiver and triennial review process was set up, giving Judge Greene decision-making responsibility over whether or not to let the BOCs enter into new lines of business in the future.

By the 1990s, the burdensome character of the review process, as well as major shifts in technology and outlook,[48] forced Congress to reconsider the basic premises of the telecommunications regulatory framework.[49] First, the legally-sanctioned market division between the BOCs and long-distance operators was no longer tenable. On the one hand, the BOCs wanted to enter into the lucrative long-distance market, but they were prevented from doing so by the MFJ.[50] On the other hand, Congress consid-

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44. This decree is known as the Modified Final Judgment because it modifies a previous decree, known as the Final Judgment, which settled an antitrust suit brought by the DOJ in 1949 against AT&T for an alleged conspiracy between AT&T and Western Electric to monopolize the manufacture and distribution of telecommunications equipment. Pursuant to the MFJ, AT&T continued ownership of Western Electric, in return for agreeing to grant nonexclusive licenses for all existing and future patents and to stay out of any business other than the furnishing of common carrier communications services.

45. These included Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, SBC Communications, and US West. In recent years, some of these companies have merged. *See infra* text accompanying note 165.

46. *See* United States v. AT&T, 552 F. Supp. at 186-94; *see also* Mark C. Rosenblum, *The Antitrust Rationale for the MFJ's Line-of-Business Restrictions and a Policy Proposal for Removing Them,* 25 SW. U. L. REV. 605 (1996).

47. *See* United States v. AT&T, 552 F. Supp at 197-200.

48. *See* Joseph A. Klein, *Antitrust Law as a Regulator of the Rapidly Transforming Telecommunications Market,* 23 COMM. & STRATEGIES 209, 212 (1998) (arguing that "the MFJ's key premise of divisible local exchange monopoly and competitive markets was being overtaken by technological, regulatory, and market developments").

49. *See* Daniel F. Spulber, *Deregulating Telecommunications,* 12 YALE J. ON REG. 25 (1995).

50. *See* ROBERT E. LITAN & ROGER G. NOLL, UNLEASHING TELECOMMUNICATIONS: THE CASE FOR TRUE COMPETITION 1 (The Brookings Institute Policy Brief No. 39, Nov. 1998) ("despite their state-regulated monopolies, the RBOCs were unhappy with the line-

ered that competition in local exchange services was largely insufficient. Moreover, the growing convergence between different segments of the communications sector rendered other forms of legally-imposed entry barriers[51] increasingly unacceptable.

In that context, the main objective of the Telecommunications Act of 1996 ("1996 Act") was to bring down all barriers to competition in the telecommunications sector.[52] Indeed, the 1996 Act was adopted to provide for "a competitive, deregulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition."[53]

B. Main Rules

In this Part, we will successively review (1) the main aspects of the Telecommunications Act of 1996, which constitutes the bulk of the sector-specific framework for the economic regulation of telecommunications, and (2) general U.S. antitrust regulations.

1. Telecommunications-Specific Rules

Four aspects of the Telecommunications Act of 1996 will be examined hereafter: (a) the removal of all legal, economic and operational barriers to entry into the local telephone market; (b) the authorization granted to the BOCs to enter into the long-distance telephone market upon certain conditions; (c) the elimination of the ban imposed upon cable and telephone operators to enter each other's market; and (d) the new regime of universal service obligations.

a) Local Competition Provisions

Section 253 of the 1996 Act removes all legal and regulatory barriers to entry on the local markets by prohibiting all state statutes or regulations impeding the ability of "any entity to provide any interstate or intrastate

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of-business restrictions, and persistently pushed courts, regulators, and elected officials to enter competitive markets").

51. Such as, for instance, the prohibition imposed upon cable television operators and local telephone companies from entering into each other's markets. *See* 47 U.S.C. § 533(b) (repealed 1996).

52. *See An Interview with William E. Kennard,* GLOBAL COMPETITION REV., Oct. 1998, at 11 ("The theory of the [1996] Act was that local companies would compete in long distance, long distance companies would compete in the local market, cable television would get into the telephone business, and there would be much more competitive activity on the part of existing players.").

53. *Id.* at 1.

telecommunications service."[54] This provision strikes down all franchised monopolies that were given by the states to local exchange companies.

Congress considered, however, that competition could still be impeded by significant economic and operational barriers, such as refusal to interconnect or discriminatory interconnection conditions. In order to overcome such obstacles, section 251 of the 1996 Act imposes a series of duties on telecommunications carriers involved in local exchange. Section 251 requires each "telecommunications carrier" to interconnect with other carriers.[55] All Local Exchange Carriers ("LECs") are barred from either prohibiting or imposing discriminatory conditions on the resale of telecommunications services.[56] They are also required to provide number portability and dialing parity,[57] as well as access to their poles, conduits and other rights of way to competing providers of telecommunications services.[58]

Further obligations are imposed on Incumbent Local Exchange Carriers ("ILECs").[59] In addition to the duties imposed upon all LECs, the ILECs are required to provide, at just and reasonable rates, interconnection "at any technically feasible point with the carrier's network."[60] They must also provide competitors unbundled network elements upon request.[61] The 1996 Act requires ILECs to offer for resale "at wholesale rates any telecommunications service that the carrier provides at retail to subscribers."[62] Finally, the ILECs must permit firms seeking interconnection to locate their equipment on the ILEC's premises.[63]

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54. 47 U.S.C. § 253(a) (Supp. II 1997).

55. Section 251 broadly defines "telecommunications carriers" to include incumbents and new local exchange carriers. *Id.* § 251(a)(1).

56. *See id.* § 251(b)(1).

57. *See id.* § 251(b)(2)-(3).

58. *See id.* § 251(b)(4).

59. "Incumbent local exchange carriers" denote the local carriers in existence when the 1996 Act was adopted.

60. 47 U.S.C. § 251(c)(2)(B) (Supp. II 1997). In practice, this means that incumbents must interconnect with all carriers upon request, at the locations they specify, while other carriers may interconnect with each other indirectly, i.e., by each carrier connecting to the incumbent. *See* Jeffrey S. Bork, *Telephony*, *in* BEYOND THE TELECOMMUNICATIONS ACT 11, 36 (Leon T. Knauer et al. eds. 1998).

61. *See* 47 U.S.C. § 251(c)(3) (Supp. II 1997). "Unbundled access" means the availability of access to distinct parts of the incumbent's network, at an appropriately lower cost than access to all elements of the network. *See id.* Thus, a competitor can purchase only those network components and functions that it needs to offer its services.

62. *Id.* § 251(c)(4)(a).

63. *See id.* § 251(c)(6).

Section 252 of the Act establishes a three-step procedure for completing or litigating interconnection agreements.[64] Under this section, an ILEC receiving a request for interconnection, services, or network elements may negotiate and enter into a binding agreement with the requesting carrier without regard to the statutory duties assigned to it by section 251.[65] This agreement must be approved by the state utility commission. If the parties are unable to come to an agreement on their own, either party may request that the state utility commission participate in the negotiation and mediate any differences.[66] If an agreement has not been completed on the 135th day after the initial interconnection request, either party may ask the state commission to arbitrate any open issue.[67] If a state commission does not perform its responsibilities under section 252, the FCC may take over and preempt the state commission's powers under that section.[68] Finally, a carrier unhappy with the state commission's arbitration decision may appeal it, but only to a local federal district court, which will determine whether the decision meets the requirements of the 1996 Act.[69]

b) BOCs Entry Into the Long-Distance Market

Sections 271 and 272 of the 1996 Act deal with the issue of the BOCs' entry into the long-distance market.[70] Section 271 allows the BOCs to provide long-distance services to their own customers provided three conditions are met.[71] First, the BOC must have negotiated with one or more competitors interconnection agreements that satisfy the requirements of section 271(c)(2)(B), the so-called "competition checklist."[72] The re-

64. *See id.* § 252. For a discussion of the practical implementation of this procedure see H.I.M. DE VLAAM ET AL., INVENTORY OF PROCEDURES FOR INTERCONNECTION DISPUTES 70 (1997).

65. The minimum requirements for the agreement are that it includes a "detailed schedule of itemized charges for interconnection and each service or network element included in the agreement." 47 U.S.C. § 252(a)(1) (Supp. II 1997).

66. *See id.* § 252(a)(2).

67. *See id.* § 252(b)(1).

68. *See id.* § 252(e)(5).

69. *See id.* § 252(e)(6).

70. For a discussion of this provision, see generally Tim Sloan, *Creating Better Incentives through Regulation: Section 271 of the Communications Act of 1934 and the Promotion of Local Exchange Competition*, 50 FED. COM. L.J. 312 (1998).

71. Because of the lack of a similar danger of unfair competition, BOCs are free to offer long-distance services to those customers not immediately within their local service areas. *See* 47 U.S.C. § 271(b)(2) (Supp. II 1997).

72. *Id.* § 271(c)(2)(B). The BOC can also satisfy this requirement by providing a statement of generally-available terms and conditions that complies with the competition checklist and that "has been approved or permitted to take effect by the (relevant) state commission." *Id.*

quirements contained in this list essentially relate to the interconnection obligations imposed in section 251. The BOCs' ability to offer long-distance services is thus conditioned on meeting its interconnection obligations, thereby giving them an incentive to open their local service areas to competitors. Second, section 271(d)(3)(C) states that the FCC may not approve a BOC's application unless it determines that "the requested authorization is consistent with the public interest, commerce, and necessity."[73] Third, even with the competitive checklist in place, section 272 requires that a BOC create a separate affiliate to provide long-distance services, which must operate independently from its BOC parent,[74] keeping separate books and records and having separate offices, directors and employees.[75] In order to prevent illegitimate subsidies, all transactions between an affiliate and its BOC parent must be "on an arm's length basis."[76]

c) End of the Ban on Competition Between Cable Television and Local Telephone Services Providers

The 1996 Act also eliminates the regulatory barriers preventing cable television operators and local telephone companies from entering each other's markets. The 1996 Act repeals a 1984 statute prohibiting telephone companies from offering cable television services directly to subscribers in their service areas.[77] The 1996 Act provides for a system where telephone companies (or anyone else) are authorized to offer cable television and may choose from a menu of options as to how they will be regulated.[78] Likewise, the 1996 Act clears away the rules which kept cable operators from providing local telephone service.[79]

The only major restriction maintained by the 1996 Act is the limitation on mergers and buy-outs between cable companies and local telephone companies within their respective areas. The 1996 Act contains parallel prohibitions: a local telephone company cannot acquire more than 10% of

73. *Id.* § 271(d)(3)(C). For a discussion of this relatively obscure standard, see David Turestky, Bell Operating Company Interlata Entry Under Section 271 of the Telecommunications Act 1996: Some Thoughts, Remarks before the Communications Committee NARUC Summer Meeting (July 22, 1996), *available at* <http://www.usdoj.gov/atr/public speeches/turetsky796.h>.

74. *See* 47 U.S.C. § 272(a)(1) (Supp. II 1997).

75. *See id.* § 272(b)(2)-(3).

76. *Id.* § 272(b)(5).

77. *See id.* § 533(b) (repealed 1996).

78. *See id.* § 571(a)(2)-(4).

79. *See id.* § 253(a).

a cable company offering services in its local area and vice versa.[80] Not only are direct mergers prohibited, but joint ventures between cable operators and telephone companies in the same market are also proscribed by the 1996 Act.[81]

d) Universal Service Obligations

Finally, section 254 of the 1996 Act provides for a new regime of universal service. Before the Act's passage, universal service was promoted through a patchwork quilt of indirect and hidden subsidies at both the state and federal level.[82] Recognizing the vulnerability of these implicit subsidies,[83] the 1996 Act directs the FCC and the states to restructure their universal support mechanisms to ensure delivery of affordable telecommunications in an increasingly competitive marketplace.

Pursuant to the 1996 Act, universal service obligations are defined by a Federal-State Joint Board set up by the FCC.[84] The Joint Board must take into account a number of principles, including that rates be "just, reasonable, and affordable," that access to advanced telecommunications and information services be provided in all regions of the nation, and that such services be available to all consumers including low-income consumers and those in rural, insular, and high-cost areas.[85]

The FCC decides the actual mechanism for ensuring the funding of universal service. However, the Act indicates that universal service support should be "explicit," and that all telecommunications carriers must contribute to this mechanism on an equitable and non-discriminatory basis.[86] These contributions will then go to "eligible telecommunications carrier[s]"—those carriers that offer and advertise the components of universal service throughout a designated area.[87] In order to encourage competition in non-rural areas state commissions must designate more than one

80. *See* 47 U.S.C. § 572(a)-(b) (Supp. II 1997).

81. *See id.* § 572(c).

82. *See* Eli M. Noam, *Will Universal Service and Common Carriage Survive the Telecommunications Act of 1996,* 97 COLUM. L. REV. 955, 960 (1997).

83. Because the most profitable services, such as business service, attract the most new entrants, competition decreases the profit margin on services typically used to subsidize universal service. As incumbents are forced to sell their previously profitable services at more competitive prices, their ability to cross-subsidize diminishes.

84. *See* 47 U.S.C. § 254(a)(1) (Supp. II 1997).

85. *Id.* § 254(b).

86. *Id.* § 254(d).

87. *Id.* § 254(e).

eligible carrier if multiple carriers request the designation and meet the statutory requirements.[88]

In order to prevent anti-competitive forms of cross-subsidization, the 1996 Act states that eligible carriers may only use universal service support for the provision, maintenance, and upgrading of facilities and services related to the provision of universal service.[89] For interstate services, the FCC must establish whatever cost allocation rules and accounting safeguards are necessary to ensure that universal services bear no more than a reasonable share of the costs of the facilities providing all services.[90] The states have the same responsibility for intrastate services.[91]

2. *Antitrust Rules*

In addition to the above regulatory requirements, antitrust laws remain applicable to telecommunications operators.[92] The two major federal antitrust laws in the United States are the Sherman Act[93] and the Clayton Act,[94] adopted in 1890 and 1914 respectively.[95]

Section 1 of the Sherman Act outlaws all contracts, combinations, and conspiracies that unreasonably restrain interstate commerce.[96] Section 2 outlaws any attempt to monopolize or conspire to monopolize any part of interstate commerce. Pursuant to section 2, monopolies are not *per se* illegal. Unlawful monopolization exists when a firm has become the only supplier not because its product or service is superior to others, but by

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88. *See id.* § 254(e)(2). For rural areas, the decision whether to designate more than one carrier is left to the discretion of the state utility commission. *See id.*

89. *See id.* § 254(e).

90. *See id.* § 254(k).

91. *See id.*

92. *See* Georges J. Alexander, *Antitrust and the Telephone Industry after the Telecommunications Act of 1996*, 12 SANTA CLARA COMPUTER & HIGH TECH. L.J. 227, 244 (1996) (arguing that the 1996 Act does not provide for antitrust immunity).

93. 15 U.S.C. §§ 1-2 (1994).

94. *Id.* § 12.

95. For a general discussion of U.S. antitrust law and policy, see generally HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITON AND ITS PRACTICE (1994).

96. 15 U.S.C. § 1 (1994). Section 1 therefore prevents all forms of collusion between telecommunications operators. Agreements to set prices or divide markets or anti-competitive group boycotts are *per se* violations of section 1. Antitrust enforcers may also decide to examine under section 1 the numerous joint ventures or strategic alliances that are concluded on an almost daily basis between telecommunications operators. *See generally* Thomas A. Piraino, *A Proposed Antitrust Analysis of Telecommunications Joint Ventures*, 1997 WISCONSIN L. REV. 639 (1997). The examination would aim at ensuring that such ventures or alliances bring efficiency gains that exceed their restrictive impact on competition and are therefore in the interests of the consumers. *See id.*

suppressing competition through anti-competitive conduct. Similarly, the Clayton Act outlaws a number of business practices where the effect of the practice might be to reduce competition substantially or to create a monopoly.[97]

The prohibitions contained in these statutes, as interpreted by federal courts,[98] are of central relevance in the telecommunications field. Section 2 of the Sherman Act can be used by the DOJ or private litigants to prevent dominant undertakings, typically ILECs, from adopting abusive behaviors vis-à-vis new entrants. Pursuant to the so-called "essential facilities" doctrine,[99] a dominant undertaking that controls an essential element of infrastructure must grant its competitors access to it under non-discriminatory terms.[100] The essential facilities doctrine could thus provide an alternative avenue for new entrants that seek to obtain access to the incumbents' networks and facilities.[101]

Finally, antitrust rules apply to mergers and acquisitions between telecommunications operators. Under section 221(a) of the 1934 Act, mergers and acquisitions between telephone companies were immune from the full application of antitrust laws if approved by the FCC. However, under section 601(b) of the 1996 Act, mergers and acquisitions are now subject to the full scope of section 7 of the Clayton Act, which prohibits the acquisition of stock or assets by any "person" where "the effect of such acquisi-

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97. The most important sections of the Clayton Act are section 2, which deals with price discrimination (as amended by the Robinson-Patman Act of 1936); section 3, which deals with tying and exclusive dealing contracts; and section 7, which deals with mergers and joint ventures (as amended by the Celler-Kefauver Act of 1950).

98. One of the central characteristics of these statutes is that they are crafted in very broad terms, thereby giving federal judges a pivotal role in defining the scope of the statutes' prohibitions. *See* ERNEST GELLHORN & WILLIAM E. KOVACIC, ANTITRUST LAW AND ECONOMICS 31 (1994) (arguing that "[n]o scheme of federal economic regulation grants judges comparable discretion to determine litigation outcomes through their interpretations of legislative commands").

99. On this doctrine see, for example, Phillip E. Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 ANTITRUST 841, 851 (1990), and Allen Kezsbom & Alan Goldman, *No Shortcut to Antitrust Analysis: The Twisted Journey of the "Essential Facilities" Doctrine*, 1996 COLUM. BUS. L. REV. 1 (1996).

100. In MCI Communications v. AT&T, the Seventh Circuit found that AT&T's refusal to grant MCI access to its local telecommunications network constituted an "act of monopolization." The Seventh Circuit set the essential facilities test as follows: A plaintiff seeking access to a facility must establish: "(1) control of the essential facility by a monopolist; (2) a competitor's inability practicably or reasonably to duplicate the facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility." MCI Communications v. AT&T, 708 F. 2d 1081, 1132 (7th Cir. 1982).

101. *See* Klein, *supra* note 48.

tion may be to substantially lessen competition, or to create a monopoly."[102]

C. Main Institutions

The above regulatory framework is implemented by four separate bodies: the FCC, the various state utility commissions, the DOJ, and the federal courts.[103]

1. Federal Communications Commission

The FCC, a large bureaucracy comprised of more than 2,100 employees,[104] is divided into several operational bureaus and offices organized by substantive areas.[105] The FCC is an "independent agency," meaning that it is not an executive branch agency headed by a cabinet officer but is rather a creation of Congress and is responsible to Congress.[106] Congress decides the size of the FCC budget each year. Decisions are made through the fiscal appropriation process and after hearings are held. The total budget for 1998 amounted to $186,514,000.[107] The FCC is governed by five commissioners, no more than three of the same political party, nominated by the President and confirmed by the Senate.[108] The commissioners serve a five-year term, which is subject to renewal at the discretion of the President. The terms are staggered so that no more than one commissioner's term expires each year. The commissioners are usually highly qualified professionals, and none of the commissioners can have a financial interest in any Commission-related business.[109]

The 1996 Act vests a significant amount of implementing authority upon the FCC. As we have seen, the 1996 Act calls upon the FCC to adopt the detailed rules and standards necessary to implement section 251,[110] and to ensure compliance thereafter with the requirements of that provi-

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102. 15 U.S.C. § 18 (1994).

103. *See generally* Blumenfeld & Kunin, *supra* note 38.

104. *See FCC Budget of $212,977,000 Proposed for Fiscal Year 1999*, FEDERAL COMMUNICATIONS COMMISSION NEWS, (Feb. 6, 1998) <http://www.fcc.gov/Bureaus/Miscellaneous/News_Releases/1998/nrmc8011.html>.

105. A list of FCC bureaus and offices, as well as a description of their functions can be found at *FCC Bureaus & Offices* (visited Nov. 15, 1999) <http://www.fcc.gov./bureaus.hmtl>.

106. *See* THOMAS G. KRATTENMAKER, TELECOMMUNICATIONS LAW AND POLICY 20 (2d ed. 1998).

107. *See FCC Budget*, *supra* note 104.

108. *See* 47 U.S.C. § 154(a) and 154(b)(5) (1994).

109. *See id.* § 154(b)(2)(A)(i)-(iv).

110. *See* 47 U.S.C § 251(d) (Supp. II 1997).

sion.[111] In addition, the FCC has the final authority to rule on BOCs' section 271 applications.[112] Together with the DOJ, the FCC has the authority to review mergers and acquisitions between telecommunications operators pursuant to a "public interest" standard.[113] Finally, it plays a key role in the implementation of the Act's new universal service provisions.[114]

The FCC is required to act in accordance with an elaborate process that ensures public participation in decision-making.[115] The Administrative Procedures Act ("APA"),[116] which governs this process, requires the FCC and other federal agencies to give the public notice of pending matters and an opportunity to comment. It also requires agencies to make reasoned decisions, explained in writing, based upon the evidence submitted to them.[117] All final FCC actions are subject to review by the federal courts, which have jurisdiction to reverse FCC decisions that do not comply with the requirements of the APA.[118] When reviewing FCC decisions, courts are not free to substitute their own judgment on substantive matters, but can overturn FCC actions that fail to meet the standards and practices of federal administrative law.[119]

2. *State Utility Commissions*

State utility commissions also play an important role in the implementation of the 1996 Act. These commissions are usually comprised of several commissioners appointed by the governor and confirmed by the state legislature.[120] Contrary to the FCC, which only deals with telecommunications, the state commissions commonly oversee other industries including the energy utilities and transport companies, and thus have cross-sector responsibilities. In the telecommunications field, state com-

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111. *See id.* § 251(g).

112. *See supra* text accompanying note 73.

113. *See supra* Part III.B.

114. *See supra* text accompanying notes 82-91.

115. *See generally* Mark D. Director, The Annenberg Washington Program, *Restructuring and Expanding National Telecommunications Markets: A Primer on Competition, Regulation and Development for East and Central European Regulators* (visited Dec. 2, 1999) *available at* <http://www.annenberg.nwu.edu/pubs/telmar/telmar02.htm>.

116. 5 U.S.C. §§ 551-59 (1994).

117. *See id.* § 552(a) (1994).

118. *See* 47 U.S.C. § 402(b) (1994).

119. *See* KRATTENMAKER, *supra* note 106, at 20.

120. These commissioners are often state politicians who are influenced by local political considerations. State utility commissions offer thus less guarantee of independence than the FCC. *See* John A. K. Huntley, *Competition and the Provision of a Universal Telecommunications Service,* 17 WORLD COMPETITION 5, 7, 14 (1994).

missions have traditionally concentrated their efforts on rate regulation and consumer protection.[121]

While the 1996 Act requires state commissions to carry out various functions,[122] they have particularly important duties in the area of interconnection. Under section 252, state commissions approve the interconnection agreements negotiated between ILECs and new entrants.[123] They also play the role of mediator and arbitrator when the operators are unable to reach an agreement.[124] Once a dispute reaches arbitration, state commissions may set the prices at which interconnection must be granted to the new entrants.[125]

One of the most obscure parts of the 1996 Act relates to the division of responsibilities between the FCC and the state utility commissions with respect to the implementation of the local competition provisions.[126] To some extent, the 1996 Act alters the traditional jurisdictional separation between regulation of interstate and intrastate services by allowing the FCC to issue regulations designed to encourage competition in the *local* exchange market.[127] However, the 1996 Act does not clearly indicate whether the FCC has authority to mandate state commissions to follow its pricing guidelines when it arbitrates interconnection disputes. As will be seen below, this issue was litigated before the federal courts.[128]

3. *The Department of Justice, Antitrust Division*

The third key institutional player with respect to the economic regulation of telecommunications is the Antitrust Division of the DOJ.[129] This Division is charged with implementing the antitrust laws.[130] As it is

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121. *See* Blumenfeld & Kunin, *supra* note 38.

122. *See, e.g.*, 47 U.S.C. §§ 214, 254 (universal service), § 271 (review of BOCs application to enter the long-distance market) (Supp. II 1997).

123. *See id.* § 252(a)(1).

124. *See id.* § 252(a)(2) & (b).

125. *See id.* § 252(c)(2).

126. *See generally* Duane McLaughlin, *FCC Jurisdiction Over Local Telephone Under the 1996 Act: Fenced Off?*, 97 COLUM. L. REV. 2210 (1997).

127. *See id.* at 2229.

128. *See infra* text accompanying notes 144-146.

129. For a description of the Division's structure, see ANTITRUST DIVISION MANUAL, CHAPTER I (B) (visited Nov. 29, 1999) *available at* <http://www.usdoj.gov/atr/foia/divisionmanual/ch1.htm>.

130. Antitrust laws are also implemented by the Federal Trade Commission ("FTC"), a body that was established in 1914 as a result of the passage of the Clayton Antitrust Act and its companion Federal Trade Commission Act. Since the FTC has played a less important role than the DOJ in the area of telecommunications, we will not discuss it in this Part.

headed by a politically-appointed Assistant Attorney General, the Antitrust Division of the DOJ is an integral part of the legal arm of the federal government, and does not, therefore, have the same degree of independence vis-à-vis the Executive as does the FCC. The Antitrust Division prosecutes antitrust law violations, such as restrictive practices between competitors or abuses of a dominant position, and it frequently files both civil and criminal actions simultaneously. Most civil antitrust actions initiated by the Division terminate in a settlement that is filed with the court and incorporated in a judicial order known as a "consent decree."[131] Successful criminal actions may, on the other hand, lead to severe penalties such as substantial fines or imprisonment.[132]

The Antitrust Division of the DOJ also investigates mergers and acquisitions for compliance with federal antitrust laws and has the authority to file suits to prevent a transaction. As we have seen, the 1996 Act repeals the FCC's authority to immunize telecommunications company mergers from antitrust scrutiny.[133] In practice, the FCC and the DOJ thus have concurrent jurisdiction to review mergers between carriers, but under different statutory provisions. While the FCC's jurisdiction is based on sections 214 and 310(d) of the 1934 Act (unamended by the 1996 Act), which grants the FCC authority to review mergers under a "public interest" standard, the DOJ's statutory authority is found in section 7 of the Clayton Act, which prohibits transactions which may "substantially lessen competition."[134]

In addition to the above enforcement duties, there are also areas where the DOJ plays an important advisory role. As we have seen, section 271 gives ultimate authority for a BOC's application approval to the FCC.[135] As part of the approval process, the FCC, however, must consult with the DOJ and give the DOJ evaluation "substantial weight,"[136] even though the FCC is not actually bound by the DOJ assessment. Likewise, the DOJ is not bound to an evaluation of the competition checklist of section 271(c)(2)(B). Instead, the Act states that the DOJ may use any standard

131. *See* PHILLIP AREEDA, ANTITRUST ANALYSIS PROBLEMS, TEXT AND CASES 64 (1981).

132. The Sherman Act sets a maximum fine of $10 million for corporate defendants, and antitrust felonies also can result in corporate fines equal to twice the company's pecuniary gain or twice the pecuniary loss by victims, whichever is the greatest. *See* 15 U.S.C. § 1 (1994). Individuals may be punished by fines of up to $350,000 and by jail sentences as long as three years. *See id.*

133. *See supra* Part III.B.

134. 15 U.S.C. § 18 (1994).

135. *See supra* text accompanying note 73.

136. 47 U.S.C. § 271(d)(2)(A) (Supp. II 1997).

that it determines appropriate. The general standard that the DOJ actually uses to determine whether section 271 approval should be granted is whether the relevant local exchange market is "fully and irremediably open to competition."[137]

4. Federal Courts

Finally, federal courts are expected and empowered to review the constitutionality of the telecommunications legislation. This review is crucial given the conflicts of competence that may occur between institutions. Courts routinely hear and decide antitrust cases brought by the DOJ or individuals, including those involving telecommunications carriers. Federal courts also enforce compliance with the terms of consent decrees adopted to settle civil antitrust actions.[138]

Prior to the adoption of the 1996 Act, the degree to which federal courts should use their powers to influence national telecommunications policy was in controversy.[139] Some observers denounced the fact that Judge Greene had used his powers to administer the MFJ to shape U.S. telecommunications policy. According to these critics, it should not be the task of a federal judge to decide, for example, whether to prohibit RBOCs from entering various businesses.[140] Such a decision, which has a profound impact on the U.S. telecommunications market, should be made by the FCC and the Congress. More fundamentally, it is not clear that a federal judge will have the technical competence to deal with complex and fast evolving telecommunications issues.[141] By striking down the MFJ and adopting regulatory requirements to be implemented by the FCC, the 1996 Act aimed at decreasing the influence played by the judiciary on telecommunications policy issues.

D. Implementation of the Regulatory Framework

The main developments which took place during the period which followed the adoption of the 1996 Act relate to the following: (1) the legal battles fought to determine whether the FCC was competent to adopt the regulations intended to facilitate competition in the local markets, (2) the

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137. *The State of Competition in the Telecommunications Marketplace Three Years after Enactment of the Telecommunications Act of 1996: Before the Subcomm. on Antitrust, Business Rights, and Competition of the Senate Judiciary Comm.*, 106th Cong. (Feb. 25, 1999) (statement of Joel I. Klein, Asst. Attn'y Gen., U.S. Dept. of Just.), *available at* <http://www.usdoj.gov/atr/public/testimony/2264.htm>.

138. *See supra* text accompanying note 131.

139. *See* Director, *supra* note 115.

140. *See supra* text accompanying notes 70-76.

141. *See infra* text accompanying note 200.

completion by the FCC of the USO regime, (3) the BOC's applications to enter the long-distance market, and (4) the numerous mergers which took place between telecommunications operators.

1. Adoption of the Local Competition Order

The 1996 Act mandated the FCC to establish, within six months, the regulations necessary to implement section 251.[142] On August 6, 1996, the FCC released the "First Report and Order" containing its findings with regard to the implementation of the policy principles contained in section 251.[143] This 600-page document addresses three paths of entry into the local telephone market: full facilities-based entry, purchase of unbundled network elements from the incumbent local exchange carriers, and resale of the incumbent's retail services. The FCC prescribed certain rules to permit competing carriers to choose efficient points at which to interconnect with the ILEC's network. In addition, the FCC set forth a methodology to be used by state utility commissions in establishing rates for interconnection and purchase of unbundled elements. The Order concludes that this pricing methodology must be based on the incumbent's Total Element Long-Run Incremental Cost ("TELRIC").

However, the FCC's First Report and Order was immediately challenged by a group of ILECs and state regulators. The plaintiffs' core argument was jurisdictional. They insisted that primary authority to implement the local competition provisions belonged to the states rather than the FCC. They argued that many of the local competition rules were invalid, most notably the one requiring that prices for interconnection and unbundled access be based on the TELRIC formula. In October 1996, the Court of Appeals for the Eighth Circuit granted a motion to stay the FCC's pricing rules for local competition, holding that there was sufficient likelihood that the FCC lacked authority to determine "just and reasonable fees for local services," including the prices for the use of elements of the incumbents' local exchange networks.[144] Later, the Eighth Circuit confirmed that the FCC lacked jurisdiction to issue pricing rules.[145] The FCC appealed, and on January 25, 1999, the Supreme Court overturned this judgment, ruling that the FCC had general jurisdiction to implement the

142. *See* 47 U.S.C. § 251(d)(1) (Supp. II 1997).

143. *See In re* Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, 11 F.C.C.R. 15,499 (1996).

144. Iowa Utils. Bd. v. FCC, 109 F.3d 418, 425 (8th Cir. 1996).

145. *See* Iowa Utils. Bd. v. FCC, 120 F.3d 753 (8th Cir. 1997). On this case, see generally Jim Chen, *TELRIC in Turmoil, Telecommunications in Transition: A Note on The Iowa Board Litigation,* 33 WAKE FOREST L. REV. 51 (1998).

1996 Act's local competition provisions and that the FCC's rules governing unbundled access were consistent with the Act as well.[146]

The Supreme Court ruling was generally perceived as a victory for the FCC because it confirmed the latter's broad authority to implement the 1996 Act's local competition provisions.[147] This three-year legal battle between the FCC, the state regulators, and the ILECs has nevertheless given rise to extremely costly judicial proceedings. In addition, it has seriously impeded the implementation of the 1996 Act during its first few years of existence. Some observers have traced the current lack of entry into the local exchange market—which is still largely dominated by ILECs[148]—to the uncertainty created by the legal challenge mounted against the FCC's First Report and Order.[149]

2. *Adoption of the Universal Service and Access Charge Reform Orders*

On May 7, 1997, the FCC adopted two additional orders designed to implement the 1996 Act's provisions.[150] The first order, called the "Universal Service Order," deals with a host of issues critical to the implementation of the new universal service provisions of the 1996 Act.[151] This Order defines the services that will be supported by federal universal service support mechanisms.[152] It also defines who contributes to such mechanisms, as well as the methodology for assessing the contributions.[153] Consistent with the principle that universal service must be competitively neutral, the FCC emphasized that all carriers—including, for instance,

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146. *See* AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366 (1999).

147. *See* Seth Schiesel, *High Court Says Local Phone Giants Don't Have to Sell Access,* N.Y. TIMES, Jan. 26, 1999, at C1.

148. For some recent figures, see The Council of Economic Advisers, *Progress Report: Growth and Competition in US Telecommunications 1993-98* (Feb. 8, 1999) <http://www.ntia.doc.gov/ntiahome/press/ceafinalrpt.htm>.

149. *See* ROBERT W. CRANDALL, ARE WE DEREGULATING TELEPHONE SERVICES? THINK AGAIN (The Brookings Institution Policy Brief No. 13, Mar. 1997). *See also* J. Gregory Sidak and Daniel F. Spulber, *Deregulation and Managed Competition in Network Industries*, 15 YALE J. ON REG. 117, 146 (1998).

150. In conformity with the 1996 Act, these orders seek to adapt existing universal service and access charges mechanisms to a competitive marketplace.

151. *In re* Federal-State Joint Bd. on Universal Serv., 12 F.C.C.R. 8776 (1997). This report only provides for a federal universal service plan. States may also establish their own universal service support mechanisms. *See* Mark P. Trinchero and Holly Rachel Smith, *Federal Preemption of State Universal Service Regulations Under the Telecommunications Act of 1996,* 51 FED. COMM. L.J. 303 (1998).

152. *See In re* Federal-State Joint Bd. on Universal Serv., 12 F.C.C.R. 8776, para. 61.

153. Contributions are to be made by all telecommunications providers. They are to be based on retail, end-user telecommunications revenue. *See id.* para. 843.

wireless providers—are entitled to universal service support irrespective of the specific technology used to serve end customers.[154] Finally, the Order sets a benchmark for determining the amount of universal service support needed, based on "forward-looking costs" as opposed to "historical" or "embedded" costs.[155]

The second order, called the "Access Charge Reform Order," seeks to adapt the existing system of access charges—the fees that LECs charge long distance carriers and end customers to recover the costs involved in using the local exchange network for long distance calling—to the new pro-competition philosophy of the 1996 Act.[156] The system put in place prior to the 1996 Act embodied implicit subsidies and support flows that are not sustainable in a competitive environment.[157] In response, the Order reforms the current rate structure to bring it into line with cost-causation principles, phasing out significant implicit subsidies.[158]

3. *Rejection of BOCs' Section 271 Applications*

Since the adoption of the 1996 Act, the BOCs have submitted several section 271 applications to the FCC.[159] So far, the FCC has rejected all these applications as failing to comply with section 271 requirements. In each of these cases, the DOJ had also rendered a negative opinion. Despite the fact that the DOJ is free to base its opinion on standards other than those comprised in section 271, the two bodies have adopted fairly similar criteria to review BOC applications, such as whether all entry strategies contemplated in the 1996 Act are available in the state.[160]

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154. *See id.* para 134.

155. *Id.* para. 222.

156. *See In re* Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers; Transport Rate Structure and Pricing End User Common Line Charges, 12 F.C.C.R. 15,982.

157. *See id.* para. 32.

158. *Id.* para. 35.

159. So far, five petitions have been filed: one by SBC to provide in-region, interexchange services in Oklahoma, another by Ameritech to market such services in Michigan, two more by BellSouth to commence long-distance operations in Louisiana and State Carolina, and one by Bell Atlantic to provide services in New York. The text of these applications is available on the FCC website: <http://www.fcc.gov/Bureaus/Common_Carrier/in-region_applications>.

160. *See* James F. Rill, Institutional Responsibilities Affecting Competition in the Telecommunications Industry (1998) (unpublished paper, on file with the authors). It should be noted that the legality of section 271 has been challenged in court by SBC Communications, one of the BOCs. On December 31, 1997, a federal district court in Wichita Falls, Texas, ruled that section 271's restrictions over BOCs' access to the long-distance market were unconstitutional. *See* SBC Communications, Inc. v. FCC, 981 F.

As the result, compliance with section 271 remains the necessary condition for BOCs wishing to access the long-distance market. The question of *when* BOCs should be given the green light to enter the long-distance market is still hotly debated among experts.[161]

4. Mergers Between Operators

Perhaps the most spectacular development that occurred during the period following the adoption of the 1996 Act relates to the flurry of mergers between telecommunications operators.[162] These mergers are encouraged not only by changes in the regulatory framework, but also by the advent of new technologies and other dramatic developments—e.g., increased globalization—taking place in the telecommunications market.[163]

Though a series of these transactions has already been cleared, much difficult work remains to be done by the FCC and the DOJ. In the near future, these bodies will have to take position on a number of important issues. These issues include the following: (i) whether the FCC and the DOJ are prepared to accept further consolidation between local exchange carriers in accepting the SBC/Ameritech and Bell Atlantic/GTE merg-

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Supp. 996 (N.D. Tex. 1997). Specifically, the court found that these restrictions, insofar as they apply only to certain named operators—the BOCs—constituted a "bill of attainder" prohibited by the U.S. Constitution. This judgment was, however, subsequently overturned by the Court of Appeals for the Fifth Circuit. *See* SBC Communications v. FCC, 154 F.3d 226 (5th Cir. 1998), *cert. denied*, 119 S. Ct. 889 (1999).

161. *Compare* Robert Litan, Remarks in the Panel "Unleashing True Competition in Telecommunications," at the Brookings Institution's National Issues Forum (Nov. 23, 1998), *with* Roger Noll, Remarks in the Panel "Unleashing True Competition in Telecommunications," at the Brookings Institution's National Issues Forum (Nov. 23, 1998), *available at* <http://www.brook.edu/comm/transcripts/19981120.htm>.

162. Joseph I. Klein, Statements before the House Committee on the Judiciary Concerning Consolidation in the Telecommunications Industry (June 24, 1998), *available at* <http://www.usdoj.gov/atr/public/testimony/1806.htm>.

163. They include mergers between: (i) BOCs (e.g., the mergers between Bell Atlantic and NYNEX, SBC and Pacific Telesis, and the proposed merger between SBC and Ameritech); (ii) BOCs and non-BOC local exchange carriers (e.g., the merger between SBC and SNET and the proposed merger between Bell Atlantic and GTE); (iii) long-distance and/or international operators (e.g., the mergers between Worldcom and MCI, AT&T and BT, and the proposed merger between MCI Worldcom and Sprint); (iv) long-distance operators and cable companies (e.g., the merger between AT&T and TCI, and the proposed merger between AT&T and MediaOne); (v) wireless carriers (e.g., the merger between AirTouch and Vodafone); and (vi) a BOC and a long-distance operator (e.g., the proposed merger between US West and Global Crossing). For a list of these mergers, see *No Sign of Let-up as Wannabes Follow in Worldcom's Wake*, FINANCIAL TIMES, May 17, 1999, at 17.

ers,[164] (ii) whether the pro-competitive aspects of the acquisition of a further cable operator (MediaOne) by AT&T outweigh its anti-competitive effects, and (iii) whether they accept a merger between a BOC (US West) and a long-distance operator (Global Crossing).[165]

E. Critical Appraisal of the United States's Regulatory Framework

The central feature of the American model for the economic regulation of telecommunications is that it relies, to an unusually high degree, upon the implementation of detailed regulatory requirements,[166] rather than general antitrust rules, to prevent incumbents from abusing their dominant position.[167] The American regulatory model thus offers a good benchmark of how the six criteria identified in Part II.D above can be met through the application of detailed, pro-competition regulatory requirements.

1. Promotion of a Competitive Market Structure

In order to achieve the objective of creating competition in the local market, the 1996 Act removed all legal and regulatory barriers preventing entry into the local exchange markets. The regulatory framework was also designed to remove all economic and operational obstacles to entry into these markets. Section 251, for instance, recognizes the right for new entrants to interconnect with the facilities of local incumbent providers, as well as the right to purchase unbundled network elements from them.[168] As we have seen, section 252 also contains a procedural mechanism designed to facilitate interconnection agreements.[169]

Some commentators have argued, however, that it is wrong, in certain cases, to "mandate" that incumbents automatically grant interconnection to new entrants.[170] Their arguments are based on two main rationales. The

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164. Thereby, the agencies would take the risk of creating a narrow oligopolistic market for local exchange.

165. Thus taking the risk of recreating a vertically integrated telecommunications operator.

166. As pointed out by Roger Noll, the 1996 Act, which forms the basis of the American model, is the "single most regulatory statute about an economic regulatory regime that has ever been passed." Noll, *supra* note 161.

167. It is also a major regulatory effort to promote the entry of new competitors in the local exchange market.

168. *See supra* text accompanying notes 55-61.

169. *See supra* text accompanying notes 64-69.

170. *See, e.g.*, Elizabeth A. Nowicki, *Competition in the Local Telecommunications Market: Legislate or Litigate?*, 9 HARV. J.L. & TECH. 353 (1996); John T. Soma et al., *The Essential Facilities Doctrine in the Deregulated Telecommunications Industry*, 13

first is that competition will be more intense if competitors are forced to build their own facilities. However, this argument incorrectly suggests that the government would know what makes an operator more competitive (vis-à-vis the incumbent) better than the operator itself. In reality, if building its own facilities does indeed make the new entrant more competitive than using the incumbent's facilities, one would expect the new entrant to choose the former solution on its own accord.

The second rationale is that it is necessary to protect incumbents' incentives to invest by preventing new entrants from "free-riding" on their facilities.[171] However, it seems that the problem here is not that of granting access per se, but that of determining at what price access should be granted.[172] This pricing problem can be difficult, and the risk that one might be unable to determine accurately what a "fair" price is cannot be discarded lightly.[173] In addition, the risk that regulatory capture might distort pricing decisions is real as well. Nevertheless, these risks must be weighed against the risk of hindering competition by enabling owners of bottleneck facilities to eliminate competition in downstream markets. Given the importance of competition to promote efficiency in telecommunications, and given the power with which incumbents usually have to thwart such competition, mandating interconnection might well be justified for some categories of facilities.

A clear weakness of the 1996 Act's local competition provisions, however, relates to the incentives devised to ensure the effective implementation of those provisions. The 1996 Act fails to contain any real penalties for a BOC's non-compliance with local competition provisions; it relies instead on the lure of long distance entry as the primary means of

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BERKELEY TECH. L.J. 566 (1998). Note that a similar criticism has been made with respect to the 1996 Act's provisions mandating that ILECs provide new entrants with unbundled network elements upon request.

171. *See id.* at 354 ("By requiring local exchange powers to negotiate in good faith with those desiring interconnection, Congress is guaranteeing that the faster and cheaper route for potential local carriers is to free ride on the investment of established carriers.").

172. On the issue of access pricing, see Gene Cally, Mark Amstrong & Chris Doyle, *The Economics of Access Pricing*, *in* OECD, OECD CONFERENCE ON COMPETITION AND REGULATION IN NETWORK INFRASTRUCTURE INDUSTRIES 43 (1995), *available at* <http://www.oecd.org/daf/clp/non-member_activities/BDPT205.htm>.

173. For some illustrations of the debate, see William J. Baumol & Thomas W. Merrill, *Does the Constitution Require that We Kill the Competitive Goose? Pricing Local Phone Services to Rivals*, 73 N.Y.U. L. REV. 1122 (1998); J. Gregory Sidak & Daniel F. Spulber, *Givings, Takings, and the Fallacy of Forward-Looking Costs*, 72 N.Y.U. L. REV. 1068 (1997).

ensuring compliance.[174] Section 271 conditions the BOCs' ability to offer long-distance services on meeting their interconnection duties under section 251,[175] which was based on the prospect that entering the long-distance market was sufficient enticement for BOCs to open their local networks. Conversely, it was assumed that long distance companies would strive to enter the local market even if by doing so, they would effectively be helping the BOCs establish that competition had been introduced in their markets, and that the BOCs should therefore be authorized to provide long-distance services.

Some authors have argued that these assumptions were in fact mistaken.[176] On the one hand, despite several section 271 applications, it seems that generally the BOCs have chosen to forego long-distance entry in order to continue enjoying local monopoly profits.[177] On the other hand, it has been suggested that the long-distance providers have been reluctant to enter the local exchange market for fear that this may allow, in turn, the BOCs to enter the core of their business.[178] Linking BOC's entry to the long-distance market with compliance with the 1996 Act's market opening provisions was thus a risky strategy that might eventually have led telecommunications carriers to adopt a behavior which is the opposite of the one that was initially sought by Congress.

A less severe assessment should be made of the universal service and access charges reforms undertaken by the FCC under the 1996 Act. Al-

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174. *See* Joel I. Klein, *The Race for Local Competition: A Long Distance Run, Not a Sprint*, address before the American Enterprise Institute, Washington D.C., November 5, 1997, *available at* <http://www.usdoj.gov/atr/public/speeches/1268.htm>.

175. *See supra* Part III.B.1.b.

176. *See* Trevor R. Roycroft, *Ma Bell's Legacy—Time for a Second Divestiture*, PUB. UTIL. FORTNIGHTLY, June 15, 1998, at 30.

177. *See* Nicholas Economides, *The Telecommunications Act of 1996 and its Impact*, Sept. 1998, *available at* <http://www.stern.nyu.edu/networks/telco96.html>. Commentators have argued that a key factor driving the recent mergers between BOCs was their desire to consolidate their position on the local market. *See, e.g.*, Catherine Curran Butcher, *The Road Ahead: The Next Decade*, *in* TELECOMMUNICATIONS ACT HANDBOOK, *supra* note 36; Richard Waters, *SURVEY—FT TELECOMMUNICATIONS REVIEW: New Communications Industry Takes Shape*, FIN. TIMES, June 9, 1999, at C11 (arguing that few RBOCs were prepared to take the risk of opening their local market to gain access to the long-distance market, and that they chose instead "to extend their 'footprint' through merger, turning themselves into formidable giants"). Another factor may well have been to gain larger size to be competitive globally. These factors are not mutually exclusive.

178. *See* Catherine Curran Butcher, *The Road Ahead: The Next Decade*, *in* TELECOMMUNICATIONS ACT HANDBOOK, *supra* note 35, at 361.

though such reforms will not end all distortions of competition,[179] they will help to render subsidies more explicit, which is a first step toward a more competition-friendly regime. Some other pro-competitive measures have also been adopted. For instance, the FCC's Universal Service Order contributes to level the playing field between ILECs and new competitors by affirming that non-transitional providers of local exchange services are entitled to universal service funding.[180] The FCC's access charges reform should also encourage local exchange competition. By moving access charges toward costs, the access charge reform should trigger a general increase in the rates (previously heavily subsidized) ILECs charge to end users, thereby creating opportunities for new competitors using new technologies to price services below the levels imposed by the ILECs.

2. *Specificity vs. Coherence*

The 1996 Telecommunications Act contains a set of telecommunications-specific requirements that are to be implemented, for the most part, by a telecommunications-specific regulator. This regulatory model is clearly based on the view that the application of economy-wide antitrust principles may not be sufficient to control market power in telecommunications.

Sector-specific rules and institutions do have some advantages.[181] However, in a market such as the American telecommunications market where the pace of evolution is particularly rapid and where the technological and operational barriers between telecommunications and other sectors tend to be disappearing faster than anywhere else,[182] a particularly strong case can be made for rules and institutions designed to operate in more than one sector. There would thus seem to be good reasons for giving serious consideration to the possibility of replicating, at the federal level, the cross-utility regulatory agencies that exist at the state level.[183]

To outline the advantages of economy-wide rules and regulatory institutions does not amount to deny, however, the importance of at least some specific rules to adequately tackle particular telecommunications

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179. *See* ALFRED E. KAHN, LETTING GO: DEREGULATING THE PROCESS OF DEREGULATION, OR TEMPTATION OF THE KLEPTOCRATS AND THE POLITICAL ECONOMY OF REGULATORY DISINGENUOUSNESS 119 (1998).

180. *See supra* text accompanying note 154.

181. *See supra* Part II.B.2.

182. For instance, gas and electric utilities are installing fiber optic lines within their controlled public-rights-of-way (known as "teletric" companies), and then use or lease these fiber lines to provide competitive long-distance, high-speed data, and video services. *See* Lipschitz, *supra* note 11, at 18.

183. *See supra* text accompanying note 120-121.

issues. Paradoxically, it can be argued that while too many detailed regulations have been adopted in the U.S. telecommunications sector, there are instances where additional telecommunications or infrastructure-specific rules do in fact appear to be needed. For instance, the general antitrust rules under which the DOJ assesses mergers mandate the DOJ to base its decision on a criterion—whether or not the transaction lessens competition[184]—that is inadequate in industry sectors that are suddenly opened to competition after having been dominated by monopolies.[185] Indeed, the merger between two BOCs does not lessen competition in either company's market because none existed in the first place. This problem could be solved, however, by authorizing the DOJ to use, in its review of telecommunications mergers, a more flexible criterion than the "impact on competition" standard it is currently bound to use.

3. Flexibility vs. Certainty

One clear advantage of the detailed regulatory framework put in place by the 1996 Act is that it clarifies the respective rights and duties of telecommunications operators, and thus tends to reduce uncertainty in the marketplace. For instance, the 1996 Act requires telecommunications carriers to provide number portability and dialing parity to new entrants.[186] This sends a positive signal to potential new entrants and reduces the risks of litigation between carriers over number portability and dialing parity questions.

Unfortunately, while the 1996 Act contains precise rules on some of the issues, it is extremely vague on some other key aspects. For instance, the 1996 Act fails to draw a clear line between the respective competencies of the FCC and the state utility commissions with respect to the implementation of the latter's local competition provisions.[187] As we have seen, this led to a three-year legal battle that considerably delayed the implementation of the 1996 Act.[188] Arguably, in a complex institutional system such as the one in the United States, a key component of any legislative scheme should be to delimit clearly the competencies of the institutions that will contribute to the implementation of its own provisions.[189]

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184. *See* 15 U.S.C. § 18; *see also* U.S. Department of Justice & Federal Trade Commission, Horizontal Merger Guidelines 0.1 (Apr. 8, 1997), *available at* <http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html>.

185. *See William Kennard's Colosseum,* ECONOMIST, May 15, 1999, at 75.

186. *See supra* text accompanying note 55.

187. *See* AT&T Corp. v. Iowa Util. Bd., 119 S. Ct. 721, *supra* note 145.

188. *See supra* text accompanying notes 144-146.

189. This is particularly true considering that constitutional challenges to regulation may be the most effective form of action for those wishing to contest the validity of a

The 1996 Act's detailed regulatory requirements over issues such as interconnection or the purchase of unbundled network elements may be excessively rigid and leave too little discretion to tailor appropriate solutions in a constantly evolving market place. This problem of rigidity is, however, mitigated in two ways. First, there remains a series of matters for which the FCC retains large discretionary powers through the application of the broad "public interest" criterion.[190] Second, section 160 of the 1996 Act, entitled "regulatory flexibility," enables the FCC to forbear from applying provisions of this Act if it determines that forbearance "will promote competitive market conditions."[191] Application of section 160 is, however, restricted with respect to some of the provisions of the Act[192] and it also requires that a series of strict conditions be met.[193]

4. *Autonomy, Technical Competence, and Stakeholder Participation*

Although the 1996 Act imposes a number of duties on the state utility commissions and the DOJ, the FCC is the major institutional player as far as implementation of the Act is concerned.[194]

The 1934 Act, which created the FCC, contains a series of requirements designed to ensure the independence of the commissioners vis-à-vis political authorities and market players.[195] For instance, no more than three of the five commissioners can belong to the same political party, none of the commissioners can have financial interests in any Commission-related business, and commissioners can only be removed for cause.

Another factor that reduces the risks of "agency capture" is the presence of detailed regulatory requirements in the 1996 Act. Indeed, the lower the discretion of the regulator, the less industry and political authorities may hope to influence the regulatory process. This line of reasoning is, however, subject to two caveats. First, as noted above, there are

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regulatory act. *See* Joseph D. Kearney & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 COLUM. L. REV. 1323, 1373 (1998).

190. For a critique of this criterion, see William H. Read & Ronald Alan Weiner, *FCC Reform: Governing Requires a New Standard,* 49 FED. COM. L.J. 293 (1998).

191. 47 U.S.C. § 160(b) (Supp. II 1997). For a general discussion of section 160, see Thomas J. Hall, *The FCC and the Telecom Act of 1996: Necessary Steps to Achieve Substantial Deregulation*, 11 HARV. J.L. & TECH. 797 (1998).

192. The FCC may not forbear from applying the requirements of section 251(c) or 271(a) until it determines that those requirements have been fully implemented. *See* 47 U.S.C. § 160(d) (Supp. II 1997).

193. *See id.* § 160(a)-(c).

194. *See supra* text accompanying notes 110-114.

195. *See supra* text accompanying notes 108-109.

certain areas where the FCC does enjoy large discretionary powers.[196] Second, while the adoption of detailed regulatory requirements may contribute to reduce the risks of "agency capture,"[197] it may also contribute to "legislative capture." Indeed, there is little doubt that armies of lobbyists funded by telecommunications operators influence Congressional debates over extremely complex and detailed provisions.[198] To some extent, legislative capture may succeed more easily than regulatory capture because politicians offer fewer guarantees of independence than regulators. Of course, this is not to say that regulatory agencies should be given a blank check, but one should be aware that the more detailed the legislative provisions, the greater the scope for influence of the legislative process.

During the period preceding the adoption of the 1996 Act, major regulatory duties were carried out by Judge Greene who was in charge of managing the MFJ.[199] In fact, this consent decree had stripped the FCC of most of its regulatory authority under the 1934 Act. Though Judge Greene was known to exercise these duties with care, relying on a single judge to regulate the telecommunications market was not an ideal solution.[200] Subsequently, the 1996 Act gives the main responsibility for the economic regulation of telecommunications back to a specialized regulator responsible to Congress, and relegates to the federal courts the limited role of reviewing the legality of FCC decisions. To say that a specialized regulator should preferably make regulatory choices does not mean, however, that the FCC is the ideal regulator. As already indicated above, a solid argument can be made for entrusting regulatory responsibilities to a single cross-sector regulatory body rather than to several sector-specific regulators (such as the FCC or the Federal Energy Rate Commission, for example).

One should note that one of the advantages of relying on FCC proceedings is that they offer more room for public intervention than do antitrust proceedings because the FCC has to give public notice of and op-

196. *See supra* text accompanying note 190.

197. *See supra* text accompanying note 31.

198. *See* Kearney & Merrill, *supra* note 189, at 1394.

199. *See* Fred H. Cate, *The National Information Infrastructure: Policymaking and Policymakers*, 6 STAN. L. & POL'Y REV. 43, 50 (1994) (noting that, although "Judge Greene rendered his decision approving the Modified Final Judgment in 1982," he "retained jurisdiction under the consent decree to control the operations of both AT&T and the RBOCs" and "the breadth of that decree and the substantial discretion given judges to interpret antitrust laws, 'probably makes him the single most powerful decision-maker in U.S. communications policy today,'" a veritable "'telecom czar'")

200. *See infra* text accompanying notes 355-358.

portunity to comment on matters to be acted upon.[201] Further, FCC decisions cannot be arbitrary and are subject to review by the federal courts. A clear downside of some of these processes, however, is that they tend to be extremely burdensome; there is also the danger that certain actors will use the processes to slow down the implementation of reforms that go against their interests.[202]

5. Limitation of Regulatory Costs

One clear drawback of the American regulatory model is that it involves huge regulatory costs. The 1996 Act directs the FCC, with a budget that exceeds $200 million,[203] to make an impressive series of rulings, the elaboration and implementation of which absorb large administrative resources.[204] Telecommunications carriers will also need to invest massive internal and external legal resources to ensure that their operations comply with the 1996 Act. In this regard, it seems obvious that law firms and telecommunications consultants have greatly benefited from the adoption of the 1996 Act.

Finally, one should not overlook the costs of regulatory inefficiencies. As mentioned above, uncertainty regarding the respective responsibilities of the FCC and state commissions has led to costly judicial proceedings,[205] and has resulted in delaying the reform process. Another cause for concern is that the scope for regulatory mistakes tends to increase with the number and complexity of the rules. For instance, it could be argued that section 271 might constitute one such mistake, this provision has so far failed to achieve its intended objective and it even may have delayed the arrival of competition in the local exchange markets.[206]

6. Efficiency of the Allocation of Responsibilities

Besides the lack of clarity in the allocation of responsibilities between the FCC and the state utility commissions,[207] other issues stem from the

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201. *See supra* text accompanying notes 115-119.

202. For instance, by filing large comments or by systematically challenging FCC decisions.

203. *See supra* text accompanying note 104.

204. As pointed out by Thomas Krattenmaker, the Act's local competition provisions "impose so many restrictions, and direct the Commission to write so many rules, that one must fear that the regulatory costs of this open access regime will exceed its payoff in reduced rates or improved service quality." *See* Krattenmaker, *supra* note 36, at 159 (citation omitted).

205. *See supra* text accompanying notes 143-185.

206. *See supra* text accompanying notes 176.

207. *See supra* text accompanying note 126.

peculiar relationship between the FCC and the DOJ.[208] Section 271 of the 1996 Act gives final authority to the FCC to rule on BOCs' applications to enter the long-distance market but, before making a decision, the Commission must consult with the DOJ and give "substantial weight" to the latter's evaluation.[209] By contrast, in the area of mergers and acquisitions, both agencies have concurrent jurisdiction to review transactions between telecommunications operators where their review process is entirely separate and based on distinct statutory authority.[210]

The above interactions between the FCC and the DOJ have been praised by a number of authors as a source of synergy between these institutions.[211] It has been argued, for instance, that in the context of the application of section 271, the FCC has much to gain by taking into account the DOJ's opinion over whether a specific BOC has sufficiently opened its market to competition to be entitled to provide long distance services.[212] Similarly, it has been observed that the FCC-DOJ's dual merger review process can yield some real benefits. Because of their different statutory authority, these institutions can examine transactions from different yet complementary angles. While the DOJ considers whether the effect of the acquisition may "substantially lessen competition," the FCC's test is much broader and includes "the effect on competition as well as other factors derived from the FCC's public interest obligations under the Communications Act."[213]

However, the above assessment may be too enthusiastic. There are a number of good reasons to give the FCC final decision-making powers with respect to section 271. For instance, section 271 requires the BOCs to comply with their interconnection duties under section 251, a provision that the FCC is charged with implementing.[214] One could also argue that

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208. Both are requested to cooperate in some areas and have concurrent jurisdiction in others.

209. *See supra* text accompanying note 136.

210. *See supra* text accompanying note 133.

211. *See, e.g.*, Rill, *supra* note 160.

212. Determining whether a given market is (sufficiently) competitive is indeed one of the core competencies of the Antitrust Division.

213. *See* Gloria Tristani, Mergers, Consumers, and the FCC, Remarks before the National Association of Regulatory Utility Commissioners (Nov. 8, 1998), *available at* <http://www.fcc.gov/Speeches/Tristani/spgt813.html>. This view is not necessarily shared by all FCC commissioners. For instance, Commissioner Furchtgott-Roth has expressed the view that "for the FCC to conduct antitrust review is to duplicate the efforts of the Antitrust Division." Harold W. Furchgott-Roth, Remarks before the National Association of Broadcasters (Oct. 15, 1998), *available at* <http://www.fcc.gov/Speeches/Furchtgott_Roth/sphfr815.html>.

214. *See supra* text accompanying notes 70-76.

section 271 review requires the making of policy choices which go beyond the traditional sphere of an enforcement agency, such as the DOJ.[215] On the other hand, it could be argued that in principle, it is a competition authority such as the DOJ, that should be entrusted with the task of determining whether the local competition market is sufficiently open to competition.[216]

The FCC-DOJ's dual jurisdiction over mergers between telecommunications operators also presents a series of difficulties. An obvious problem is that the two bodies may adopt inconsistent positions. In the Bell Atlantic/NYNEX merger, for instance, the DOJ did not raise any objections,[217] while the FCC only allowed the merger after imposing several conditions.[218] This inconsistency raises uncertainty in the marketplace. Moreover, this dual review process is extremely slow (with parties having to wait sometimes for more than a year to have a transaction cleared by the two reviewing bodies),[219] and involves a great deal of duplication (with similar documents having to be sent to two different institutions). As such, the dual review process is unnecessarily costly.[220]

Some observers have suggested that a good way to overcome the above difficulties would be to set up a new merger procedure patterned on section 271.[221] Pursuant to that new system, the FCC would lead the inquiry and the DOJ would file comments on the merger. According to the authors of that proposal, this new system "would consolidate decision

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215. *See* James R. Weiss & Martin L. Stern, *Serving Two Masters: The Dual Jurisdiction of the FCC and the Justice Department Over Telecommunications Transactions*, 6 COMMLAW CONSPECTUS (1998), at 198 ("In contrast to the FCC, the Justice Department generally acts as an enforcement agency rather than a policy-making body.").

216. That the DOJ has experience in assessing the degree of competitiveness of different markets across the economy was the position taken by the DOJ during the congressional debate over the 1996 Act. *See Hearing on Telecommunications Policy Reform Before the Senate Committee On Commerce, Science and Transportation*, S. REP. NO. 104-218, at 25 (1995) (statement of Anne K. Bingaman, Assistant Attorney General, Antitrust Division).

217. *See* U.S. Dep't of Justice, Antitrust Div. Statement Regarding Bell Atlantic/NYNEX Merger (1997).

218. *See* Federal Communications Comm'n, FCC Approves Bell Atlantic/NYNEX Merger Subject to Market Opening Conditions (1997).

219. Note, however, that some legislation has been proposed in the Senate that would place limits on the time taken by the FCC in reviewing mergers. *See* Antitrust Merger Review Act, S. 467, 106th Cong. (1999).

220. *See Hearings on S. 467 Before the Subcommittee on Antitrust, Bus. Rights And Competition of the Senate Committee On Judiciary*, 106th Cong. (1999) (Testimony of Roy Neel, President and CEO, U.S. Tel. Ass'n), *available at* <http://www.usta.org/neelmergtest.html>.

221. *See* Weiss & Stern, *supra* note 215, at 210.

making, allow the industry to reap the efficiency benefits of single rather than dual agency review, and promote consistency in merger evaluation."[222]

In our opinion, it would be preferable to concentrate merger review in the hands of the DOJ, which has the advantage of reviewing mergers across different fields of activity. As previously mentioned however, the DOJ would need authorization to assess mergers in telecommunications according to a criterion different from the present one, which focuses only upon whether or not the transaction "lessens competition."[223]

IV. THE NEW ZEALAND EXPERIENCE

A. Origins of the Present Regulatory Framework

During most of the 20th century, telecommunications services were provided in New Zealand by the Post Office. The Post Office operated as a government department with a single, centralized decisionmaking structure that oversaw all activities concerning postal and banking services, as well as telecommunications services.[224]

In the 1970s, the need for reform in the telecommunications sector started to be felt, as economic reverses prompted a questioning of the basic tenets of the New Zealand model.[225] By the early 1980s, failed attempts by the government to alleviate difficulties prompted the need for widespread economic reform. A new Labour government ascended to power in 1984 and rapidly implemented new policies aimed at reducing the scope of government intervention in the economy.[226]

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222. *Id.*

223. *See supra* text accompanying note 185.

224. *See* David Boles de Boer & Lewis Evans, *The Economic Efficiency of Telecommunications in a Deregulated Market: The Case of New Zealand*, 72 THE ECONOMIC RECORD, Mar. 1, 1996, at 24.

225. Following Britain's entry into the European Community in 1973 (which limited the access of New Zealand's agricultural products to the British market) and the two oil crisis of 1973-74 and 1979, the New Zealand authorities decided to increase the level of industry protection against international pressure, to launch ambitious public projects aimed at reducing the country's dependence on imported oil, to extend an already generous welfare system, and to combine lax monetary policy with direct controls on prices and wages. *See* Allan Bollard & Michael Pickford, Utility Regulation in New Zealand, Institute of Economic Affairs 4-7 (unpublished lectures, London, 1996, on file with authors).

226. The underlying rationale for the new policies was very much influenced by new microeconomic thinking derived in part from the work of the Chicago School. *See id.* at 7-10.

Following a review of the Post Office structure, on April 1, 1987, the Post Office was split into three autonomous state-owned enterprises: Telecom (in charge of telecommunications); New Zealand Post (in charge of postal services); and Postbank (in charge of banking services). The telecommunications sector was then quickly liberalized. The Telecommunications Act 1987 phased out all exclusive rights pertaining to users' equipment. The Telecommunications Amendment Act 1988 imposed a complete opening to competition of all segments of the market beginning April 1, 1989.[227] Finally, in September 1990, Telecom was sold to a joint-venture between local investors and two large United States telecommunications companies, Bell Atlantic and Ameritech.[228]

B. Regulatory Framework: Main Rules

The government's position was that, in a completely liberalized telecommunications market, the general antitrust rules contained in the Commerce Act 1986 ("Commerce Act") should constitute the main form of economic regulation of the telecommunications industry. As such, Part II of the Commerce Act prohibits a range of restrictive trade practices which hinder competition.[229] Part III of the Commerce Act prevents any business from becoming dominant in a market or from strengthening an existing dominant position through the acquisition of the shares or assets of another business.[230] Finally, Part IV of the Commerce Act provides for the introduction of price controls by the government when competition is limited and when consumers' interests mandate the imposition of such controls,[231] up to now, though, these provisions have never been used.

In addition, the government has adopted a few telecommunications-specific regulations. The government retained a so-called Kiwi Share in

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227. For an analysis of the liberalization process in New Zealand telecommunications from 1987 to 1989, see Richard A. Joseph, *The Politics of Telecommunications Reform: A Comparative Study of Australia and New Zealand* 20-27 (University of Wollongong, Science and Technology Analysis Research Program, Working Paper No. 12, 1993); Patrick G. McCabe, *Telecommunications in the Pacific Basin: an Evolutionary Approach*, *in* COMPETITION REGULATION IN THE PACIFIC RIM (Carl J. Green & Douglas E. Rosenthal eds.,1996).

228. On the privatization of Telecom, see Rex J. Ahdar, *Battles in New Zealand's Deregulated Telecommunications Industry*, 23 AUS. BUS. L. REV. 78 (1995).

229. Such practices include contracts, arrangements, and understandings between operators, such as price fixing arrangements for example, which substantially lessen competition in a market. They also include the use by a company of the dominant position which it possesses in a market for the purpose of restricting competition either in that market or in another one. *See* Commerce Act, 1986, §§ 27-36 (N.Z.).

230. *See id.* §§ 47-48.

231. *See id.* §§ 52-55.

Telecom in order to impose universal service obligations upon the company.[232] The Telecommunications Disclosure Regulations 1990, amended in 1993, requires Telecom to publish information on the prices, terms and conditions under which certain services are supplied.[233] Under the terms of the Radio-Communications Act 1989, the Ministry of Commerce governs management of the radio spectrum, but the acquisition of frequencies is also subject to the provisions of Part III of the Commerce Act concerning the acquisition or strengthening of a dominant position.[234]

In New Zealand, telecommunications operators do not need to be licensed. The operators themselves decide numbering issues and set the standards for equipment that is connected to telecommunications networks.[235] While Telecom has offered certain pro-competitive assurances to the government in two letters of undertakings in 1988 and 1989,[236] the government retains the right to impose further telecommunications-specific regulations if existing rules prove insufficient. Threats to expand

232. Such obligations require Telecom to maintain a local free-calling option for all residential customers, to keep the price of a residential line rental at or below its November 1, 1989 level in real terms, to ensure that the line rental for residential users in rural areas is no higher than the standard residential line rental, and to continue to make ordinary residential telephone service as widely available as at the date of Telecom's privatization. *See* Colleen Flood, *Regulation of Telecommunications in New Zealand—Faith in Competition Law and the Kiwi Share*, 3 COMPETITION & CONSUMER L.J. (1995).

233. Telecom must, for example, disclose all interconnection agreements with other parties, including its own subsidiaries. *See* Ministry of Commerce and Communications, *Discussion Paper: Telecommunications Information Disclosure* (Nov. 1998), *available at* <http://www.moc.govt.nz/pbt/telecom/teleinfodisc/index.html>.

234. *See* RESOURCES AND NETWORKS BRANCH, MINISTRY OF COMMERCE AND COMMUNICATIONS, NEW ZEALAND TELECOM. INFO. PUBLICATION NO. 6, NEW ZEALAND TELECOMMUNICATIONS 1987-1998 § 1.4.5, at 7 (1998).

235. *See id.* at 6-7.

236. In a letter dated June 8, 1988, Telecom indicated its intention to restructure the company into a holding company, a finance company, and an operating company with distinct subsidiary companies including five separate local telephone companies, a long distance company and a company operating mobile services. Telecom stated that the subsidiary companies would not be permitted to offer preferential treatment to other Telecom companies and would deal with each other and with competitors on a total arms-length basis. Letter from Telecom to the Minister of State Owned Enterprises, (June, 8 1988) (on file with authors). In a second letter of July 6, 1989, Telecom committed, inter alia, to provide interconnection on a fair and reasonable basis, to avoid any discrimination against competitors, and to co-operate fully with the Commerce Commission to assist with the prompt resolution of any complaints. Letter from Telecom to the Minister of Commerce (July 6, 1989) (on file with authors).

governmental regulation thus constitute an additional element to the New Zealand regulatory framework.[237]

C. Regulatory Framework: Main Institutions

Under the Commerce Act, the Commerce Commission ("Commission") is the main body responsible for ensuring that competition is preserved in the New Zealand economy. The Commission must have three to five members appointed by the Governor General on the recommendation of the Minister of Commerce. The Commission has an annual budget of about NZ$6.5 million[238] and a staff of about 70.[239]

The Commission is formally independent from the legislative and executive branches, and enjoys some protection against undue pressure from the government. Thus, for example, the Commission's budget is directly determined by Parliament.[240] The causes for which the appointment of a Commission member can be terminated are enumerated in the Commerce Act.[241] Also, the risk that the government might designate purely political appointees to the Commission is somewhat limited by the fact that Commission members must be chosen on the basis of their knowledge of, or experience in, industry, commerce, economics, law, accountancy, public administration, or consumer affairs.[242] The Commission must, however, "have regards to the economic policies of the government as transmitted in writing from time to time to the Commission by the Minister [of Commerce]."[243] In practice, however, the government has communicated few statements of economic policies to the Commission. The process is also relatively transparent as such communications must be published and

237. For example, in a statement made December 9, 1991 regarding its policy toward the development of competition in telecommunications markets, the government indicated that if it proved necessary to bolster competition, it would consider the introduction of other statutory measures or regulations. The government issued further threats of that kind, indicating in particular, that it would consider adopting specific rules if operators were unable to conclude agreements with respect to interconnection or numbering issues. *See* Ministry of Commerce, *Regulation of Access to Vertically-Integrated Natural Monopolies,* (Aug. 1995), *available at* <http://www.moc.govt.nz/pbt/telecom/vertical/dispap6c_03.html>.

238. *See* ANNUAL PLAN 31, COMMERCE COMMISSION (Mar. 1999), *available at* <http://www.comcom.govt.nz/about/annual.cfm>.

239. *See id.* at 9.

240. *See* Commerce Act, 1986, § 20 (N.Z.).

241. *See id.* § 13.

242. *See* Commerce Act, 1986, § 9(4) (N.Z.).

243. *Id.* § 26(1).

communicated to Parliament.[244] In addition, section 14 of the Commerce Act guarantees that the Commission be independent from industry.[245]

The Commission determines issues covered by the Commerce Act, which range from authorizing or restricting contracts and business acquisitions depending on their contribution to competition and benefit to the public to determining the prices for goods or services identified by the government as requiring price controls under Part IV of the Commerce Act.[246] For enforcement purposes, the Commission takes a prosecuting role before the courts when it believes that some provisions of the Commerce Act have been violated.

Only the courts have the power to impose pecuniary penalties.[247] Actions introduced on the basis of the Commerce Act are presented before the High Court. Decisions of the High Court can then be appealed before the Court of Appeal, and finally before the Privy Council in Britain, which is the court of last resort in New Zealand. The determinations made by the Commission can be appealed first before the High Court and then before the Court of Appeal.[248] The Commerce Act provides for an expert lay member to sit in the High Court on antitrust matters.[249]

The last main regulatory institution is the New Zealand Telecommunications Numbering Advisory Group ("NZTNAG"), which discusses numbering issues and advises the Minister of Communications on those issues. All significant carriers and representatives from the New Zealand Consumers' Institute and from the Telecommunications Users Association of New Zealand are entitled to join the NZTNAG, which operates by way of consensus.[250]

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244. *See* Kerrin M. Vautier & Allan E. Bollard, *Competition Policy in New Zealand, in* COMPETITION REGULATION IN THE PACIFIC RIM 390, *supra* note 227.

245. Section 14 of the Commerce Act requires Commission members to disclose their financial interests in businesses which are the objects of regulatory proceedings before the Commission and to discontinue their participation in such proceedings. *See* Commerce Act, 1986, § 14 (N.Z.).

246. *See id* §§ 58, 66-67, 70. For a fuller discussion of the role of the Commerce Commission, see Peter Allport, Natural Monopoly Regulation in New Zealand, (July 24, 1998) (unpublished manuscript from the Institute of Public Affairs Deregulation Conference in Melbourne, on file with authors).

247. *See* Commerce Act, 1986, §§ 80-87 (N.Z.).

248. *See id.* §§ 91-97.

249. *See id.* §§ 77-78.

250. *See* Ministry of Commerce, *supra* note 234, at 6-7; Malcolm Webb & Martyn Taylor, *Light-Handed Regulation of Telecommunications in New Zealand: Is Generic Competition Law Sufficient?*, 2 INT'L J. OF COMM. L. AND POL'Y 11 (Winter 1998/99).

D. Implementation of the Regulatory Framework

Numerous developments have taken place in New Zealand telecommunications over the last ten years. Many of the most important developments concerned interconnection issues, as described in detail below.

1. Telecom's Standard Interconnection Offer

In July 1989, Telecom published a standardized interconnection offer[251] which contained a range of conditions that were unfavorable to new entrants. The proposed regime required Telecom's competitors to pay an interconnection price equivalent to the price paid by Telecom's regular business users. Telecom charged new operators for access to information such as the Automatic Number Identification ("ANI"), which enables operators to bill their subscribers. Telecom's interconnection offer also required customers of the new telecommunications operators to dial a three- or four-digit access code.[252]

2. Clear-Telecom Long Distance Interconnection Agreement

In March 1991, Clear Communications,[253] whose negotiating position was probably somewhat strengthened by the government's indication that it would not approve Telecom's privatization until an interconnection agreement had been reached,[254] signed a final interconnection agreement with Telecom. The agreement constituted an improvement over Telecom's standard offer. For example, interconnection charges were six percent lower than standard business rates; Clear was not required to pay for ANI; and Telecom agreed to eliminate the access code once Clear's share of the long distance market exceeded nine percent.[255]

However, in 1993, disputes over several interconnection issues brought the parties to arbitration before a retired Court of Appeal judge.[256] Clear's main arguments were that Telecom had been late in providing

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251. *See* TELECOM CORP. OF NEW ZEALAND LTD., INTERCONNECTION GUIDEBOOK, (1989).

252. *See* Milton Mueller, *On the Frontier of Deregulation: New Zealand Telecommunications and the Problem of Interconnecting Competing Networks, in* OPENING NETWORKS TO COMPETITION—THE REGULATION AND PRICING OF ACCESS 114 (David Gabel & David F. Weiman eds., 1998).

253. Clear Communications Ltd. is a telecommunications consortium made up of Bell Canada, Television New Zealand, MCI, Todd Corporation, and New Zealand Rail Group.

254. *See* Mueller, *supra* note 252, at 115.

255. *See id.* at 115-16.

256. *See* Clear Comm. Ltd. v. Telecom Corp. of New Zealand Ltd. [1992] 5 T.C.L.R. 166 (N.Z.).

non-code access after the nine-percent threshold had been reached, and that Telecom had charged an unreasonable price for granting non-code access. With respect to the last point, Clear sought an order from the arbitrator setting a fair price. After a protracted hearing, Clear obtained satisfaction on both counts:[257] the arbitrator ruled that Telecom had been four months late in granting Clear non-code access,[258] and he set Clear's charges for non-code access at a level much lower than that originally fixed by Telecom.[259]

3. *Cases on the Scope of the Commerce Commission's Competency*

As a result of challenges to the Commerce Commission's authority, the Commission's role has been limited to enforcing specific provisions of the Commerce Act and adjudicating authorization applications. In June 1992, the Commission issued a report on the telecommunications sector which analyzed the obstacles to competition in telecommunications and determined the effectiveness of the disclosure regime in removing those obstacles.[260] Following publication of the report, Telecom challenged before the High Court the Commission's authority to conduct such a broad inquiry.[261] The High Court concluded that the Commission's role was limited to functions specified in the Commerce Act. The Commission did not have authority to conduct a formal inquiry and publish a public report unless there were particular complaints or transactions related to the Commission's functions under the Commerce Act.[262] In dismissing the Commission's appeal, the Court of Appeal added that the government, and not the Commission, had authority to decide whether there should be a review of the telecommunications regulatory regime and what form it should take.[263]

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257. *See* Ahdar, *supra* note 228, at 110-11.

258. *See* Clear Comm. Ltd. v. Telecom Corp. of New Zealand Ltd. [1992] 5 T.C.L.R. 166 (N.Z.).

259. *See id.*

260. *See* COMMERCE COMM'N, TELECOMMUNICATIONS INDUSTRY INQUIRY REPORT, (1992).

261. *See* Telecom Corp. of New Zealand Ltd. v. Commerce Comm'n [1991] 4 N.Z.B.L.C. 103,057.

262. *See id.* at 103,067.

263. *See* Commerce Comm'n v. Telecom Corp. of New Zealand Ltd. [1994] 2 N.Z.L.R. 421, 437 (N.Z.).

4. Cellular Frequencies Cases

In 1990, the government put up for tender three radio frequency bands suitable for cellular telephony: AMPS-A, TACS-A and TACS-B. Telecom won AMPS-A and TACS-B, while BellSouth won TACS-A. At that time, however, Telecom already provided cellular services on AMPS-B bands and owned the public network. Thus, in order to acquire both bands, Telecom needed to convince the Commerce Commission that the acquisitions would not enable the company either to become dominant in the relevant market or to strengthen a dominant position. Failing that, Telecom had to convince the Commission that it should nonetheless be allowed to acquire the two frequencies because public benefits resulting from the acquisitions outweighed the risks created by the creation or strengthening of a dominant position.[264]

The acquisition of the AMPS-A band proved most controversial. The Commission concluded that Telecom's ownership of the fixed network and its de facto monopoly of mobile service provision gave it a dominant position in the mobile telephony market and that acquisition of the AMPS-A band would strengthen that position. The Commission also rejected Telecom's argument that public benefits resulting from Telecom's acquisition would outweigh the risks generated by strengthened dominance. Rather, the Commission concluded that strengthened dominance might actually increase Telecom's internal inefficiency, and thus have a negative impact on the public's benefit.[265] Following an appeal by Telecom, the Commission's decision was confirmed by the High Court on similar grounds.[266]

Telecom then lodged an appeal before the Court of Appeal.[267] However, by the time the Court rendered its judgment, two years had elapsed since the original bidding, and the passage of time proved beneficial to Telecom. The Court of Appeal also concluded that Telecom's acquisition of the AMPS-A band would enable it to strengthen its dominant position in the mobile market. Yet BellSouth's entry into the mobile market was by then imminent. The Court of Appeal found that the risk that Telecom's increased dominance would lead to internal efficiency would be minimized by competition, and that efficiency gains resulting from acquisition

264. *See* Ahdar, *supra* note 228, at 86.

265. *See* Telecom Corp. of New Zealand Ltd./The Crown, Commerce Comm'n Decision No. 254, (Oct. 17, 1990) (N.Z.).

266. *See* Telecom Corp. of New Zealand Ltd. v. Commerce Comm'n [1991] 3 N.Z.B.L.C. 102, 340 (N.Z.).

267. *See* Telecom Corp. of New Zealand Ltd. v. Commerce Comm'n [1992] 3 N.Z.L.R. 429 (N.Z.).

of the AMPS-A band could enable Telecom to pass on substantial cost savings to its customers.[268] Consequently, the Court of Appeal authorized Telecom's acquisition of the AMPS-A band.[269]

5. BellSouth-Telecom Mobile Interconnection Agreement

BellSouth intended to use the cellular frequencies that it had obtained to provide GSM services. In 1993, BellSouth and Telecom entered into an interconnection agreement. However, the agreement was less advantageous for BellSouth than the one that Clear had previously secured for long distance services. Although some provisions of the agreement were later dropped because of their obviously anti-competitive nature,[270] the agreement still required BellSouth to pay slightly more than the standard charge for business users, as well as to pay for ANI information. BellSouth has indicated that it was dissatisfied with the agreement.[271]

6. Access to the Local Loop Cases

Thus far, the cases which have constituted the main test of New Zealand's regulatory model are the cases that opposed Clear Communications and Telecom between 1991 and 1995.[272] Clear, already competing with

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268. *See* Ahdar, *supra* note 228, at 89-92.

269. *See* Telecom Corp. of New Zealand Ltd. v. Commerce Comm'n, [1992] 3 N.Z.L.R. 429, 439 (N.Z.).

270. Examples of their anti-competitive nature are the provisions requiring that BellSouth obtain Telecom's authorization prior to concluding interconnection agreements with third parties. *See* Mueller, *supra* note 252, at 118-19.

271. BellSouth's Managing Director wrote "(the government) believed that monopoly minus regulation would equal competition. In fact, monopoly minus regulation equals regulation by monopoly." Carl Blanchard, *Telecommunications Regulation in New Zealand—How Effective is Light-Handed Regulation?*, 18 TELECOM. POL'Y 154, 159 (1994).

272. Numerous articles have been devoted to the analysis of these cases. *See, e.g.*, Flood, *supra* note 232; Adhar, *supra* note 228; Mueller, *supra* note 252; William B. Tye and Carlos Lapuerta, *The Economics of Pricing Network Interconnection: Theory and Application to the Market for Telecommunications in New Zealand*, 13 YALE J. ON REG. 419 (1996); Carl Blanchard, *Telecommunications Regulation in New Zealand—The Court of Appeal's Decision in Clear Communications v. Telecom Corporation*, 18 TELECOM. POL'Y 725 (1994); Carl Blanchard, *Telecommunications Regulation in New Zealand—Light-Handed Regulation and the Privy Council's Judgment*, 19 TELECOM. POL'Y 465 (1995); Valentine Korah, *Charges for Inter-Connection to a Telecommunications Network*, 2 COMPETITION & CONSUMER L.J. 213 (1995); George A. Hay, *Reflections on Clear*, 3 COMPETITION & CONSUMER L.J. 231 (1995); Warren Pengilley, *The Privy Council Speaks on Essential Facilities Access in New Zealand: What are the Australasian Lessons?*, 3 COMPETITION & CONSUMER L.J. 28 (1995); Michael Carter and Julian Wright, *Bargaining over Interconnection: The Clear-Telecom Dispute*, Center for Research in Network Economics and Communications, University of Auckland, Working

Telecom in the long distance market, also wished to compete with Telecom in the local services market. The two companies failed to reach an agreement regarding the conditions of Clear's access to the local market, and Clear went before the courts in order to secure satisfactory conditions.

Two issues did not raise much controversy. The judges unanimously agreed that Telecom was in breach of section 36 of the Commerce Act in so far as it sought to impose upon Clear restrictions requiring its customers to dial an access code.[273] Telecom's initial position that Clear should pay the same interconnection charges as any of Telecom's large customers with their own switchboards was also considered clearly anticompetitive.[274] The most controversial issue emerged during the course of the proceedings before the High Court when Telecom, having modified its position on interconnection, argued that the Efficient Component Pricing Rule (ECPR), better known in New Zealand as the Baumol-Willig rule, should be used to determine the interconnection price.[275] In opposition, Clear argued that the ECPR was contrary to section 36 of the Commerce Act because it would force Clear to underwrite Telecom's monopoly profits.

The ECPR states that an incumbent may charge competitors a price that includes not only the costs of providing a particular service to those competitors,[276] but also the profits—possibly including monopoly profits—which the incumbent would forgo by doing so.[277]

The High Court recognized that application of the ECPR would enable Telecom to recover its economic costs as well as monopoly profits.[278] However, the Court indicated that the rule would compensate Telecom for having to meet its universal service obligations, while still enabling Clear

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Paper 13, 1997; Dr. Ross Patterson, *Light-Handed Regulation in New Zealand Ten Years On*, 6 COMPETITION & CONSUMER L.J. (1998).

273. *See* Clear Comm. Ltd. v. Telecom Corp. of New Zealand Ltd, [1992] 5 T.C.L.R. 166 (N.Z.).

274. *See id.* at 188.

275. On the ECPR, see the seminal article of William J. Baumol & J. Gregory Sidak, *The Pricing of Inputs Sold To Competitors*, 11 YALE J. ON REG. 171, 189 (1994), and Alfred E. Kahn and William E. Taylor, *The Pricing of Inputs Sold To Competitors: A Comment*, 11 YALE J. ON REG. 225 (1994). *See also* Mark Armstrong, Chris Doyle & John Vickers, *The Access Pricing Problem: A Synthesis*, 44 J. OF INDUST. ECON. 131-50 (1996).

276. For example, the costs of completing a call which originates on a competitor's network and ends on the incumbent's network.

277. For example, the profits the incumbent made by providing telephone services to users who were connected to its network and who are now being served by a competitor benefiting from the interconnection.

278. *See Clear*, 5 T.C.L.R. at 212.

to enter the market if it were more efficient than Telecom.[279] According to the court, Clear would be able to attract users by charging them less than Telecom; Telecom in turn would need to lower its prices, and as a result, the profits for which it would have to be compensated under the ECPR would decrease. Applying the rule would thus result in the progressive disappearance of monopoly profits if they existed.[280] In those conditions, application of the rule would not reveal an anti-competitive purpose and would therefore not violate section 36 of the Commerce Act.[281] In its conclusions, the High Court did not impose any specific interconnection price to the parties but urged them to resume negotiations and to resolve their differences within the framework provided by the court.[282]

Clear then lodged an appeal against the decision of the High Court.[283] Overturning the High Court's ruling, the Court of Appeal concluded that application of the ECPR would amount to requiring a new entrant to indemnify the monopolist for any loss of profits.[284] As such a requirement would put the new entrant at a competitive disadvantage, an anti-

279. *See id.* at 217. To understand why application of the ECPR would enable more efficient competitors to enter the market, consider the following highly simplified example. Assume that, for each call: (i) the cost for the incumbent of enabling a call (originating on a competitor's network) to terminate on its own network is $2, the cost of enabling a call (ending on its own network or on a competitor's network) to originate on its own network is $3, the cost of providing telecommunications services to callers who are both connected to its network is $5, and the price charged to its subscribers is $10 (thereby yielding a monopoly profit of $5 to the incumbent when the call is between two of its own subscribers). Assume further that granting interconnection to the new entrant turns a call which would—or could—otherwise have taken place between two of the incumbent's subscribers into a call originating on the new entrant's network and terminating on the incumbent's network. The ECPR would require that a new entrant be charged $2 (cost for the incumbent of terminating a call) + $5 (foregone profits) for interconnection = $7. With a final price of $10, the new entrant would find it profitable to enter the telecommunications market only if it can enable a call to originate on its network for a cost lower than $3, i.e., if it is more efficient than the incumbent.

280. *See id.* at 253. The reasoning of the High Court can be illustrated by going back to the example of note 279 above. Imagine that the cost for Clear of enabling a call to originate on its network is $2. Clear could charge its subscribers $9 ($7 for interconnection + $2 to cover the cost of enabling a call to originate on its network). If Telecom then matches Clear's price of $9 by reducing its profits from $5 to $4, interconnection charges can be re-calculated as $2 (to cover Telecom's costs of enabling a call to terminate on its network) + $4 (foregone profits) = $6 (instead of $7), thus opening the possibility of a further round of price reductions.

281. *See Clear*, 5 T.C.L.R. at 255.

282. *See id.* at 220.

283. *See* Clear Comm. Ltd. v. Telecom Corp. of New Zealand Ltd. [1993] 4 N.Z.B.L.C. 103,340 (N.Z.).

284. *Id.* at 103,343.

competitive purpose could be assumed.[285] The court added that the regular reviews, which would be required to re-assess the value of the interconnection charge under the ECPR in order to enable the progressive disappearance of monopoly profits would give rise to continual disputes between the parties and would be incompatible with the Commerce Act.[286] The court indicated that the interconnection price should be based on the incremental costs involved in providing interconnection services and a reasonable return on capital.[287] It stated, however, that it could not go so far as to determine a specific interconnection price, as it was not a price-fixing authority.[288]

Telecom then contested the judgment of the Court of Appeal before the Privy Council.[289] The Privy Council, in turn, rejected the decision of the Court of Appeal and ruled, as the High Court had originally done, that application of the ECPR would not violate section 36 of the Commerce Act. However, while the High Court had focused on Telecom's purported purpose, the Privy Council focused instead on the concept of use of a dominant position. It considered that by charging Clear its opportunity cost for interconnection with the local loop, Telecom would not be abusing its dominant position. The Privy Council reasoned that in doing so, Telecom would be acting the same way that firms do in a competitive market, where they also seek to recover the opportunity costs of providing goods or services to competitors.[290] The Privy Council rejected the Court of Appeal's argument that the need for continuing price reviews would infringe the Commerce Act.[291] The Privy Council added that, in any case, section 36 could only deal with monopoly pricing in an indirect way, by ensuring that competition was introduced in the market. Other provisions existed within the Commerce Act, such as those on price control in Part IV, which the government could use if it wanted to control pricing directly.[292]

In the end, the parties were once again left with the task of trying to reach a specific agreement that would conform to the court's judgment. Various offers and counter-offers were made by Clear and Telecom in the

285. *See id.* at 103,360-61.
286. *See id.* at 103,343.
287. *See id.* at 103,363-64.
288. *See id.* at 103,364.
289. *See* Telecom Corp. of New Zealand Ltd. v. Clear Comm. Ltd. [1994] 4 T.C.L.R. 138 (N.Z.).
290. *See id.* at 159.
291. *See id.* at 160.
292. *See id.* at 160-61.

following months. In July 1995, the government indicated to the parties that it would consider intervening directly if an agreement was not reached within a limited period of time.[293] An agreement was finally signed in March 1996, with interconnection prices well below ECPR levels.[294]

7. Recent Developments

The Privy Council decision led the government to undertake an analysis of the issues associated with access to vertically-integrated natural monopolies. In an Officials' Report published in 1996, the government stated that it would continue for the time being with the present regulatory regime based on the Commerce Act, coupled with the threat of imposing further regulation.[295] The government also issued a press release that stated that in its view, the ECPR had the potential to restrict competition and that the government would be concerned to see the rule being applied in the future.[296] The government did not, however, translate that statement into law.

In the last two years, various potential improvements of the regulatory regime have been considered by the Ministry of Commerce. The options envisaged include developing arbitration and other disputes resolution mechanisms as well as adopting specific rules on interconnection.[297] In January 1998, the Ministry also issued a discussion paper on how to strengthen enforcement of the Commerce Act.[298] The paper, which received favorable reviews from the Commerce Commission[299] and the Telecommunications Users Associations of New Zealand,[300] recommended that tougher penalties be imposed to punish violations of the Commerce Act.[301] The paper also casts doubt about whether more than

293. *See* Webb & Taylor, *supra* note 250, at 3.

294. *See* OECD, *supra* note 28, at 214.

295. *See* OFFICE OF THE MINISTERS OF COMMERCE AND COMMUNICATIONS, REGULATION OF ACCESS TO NATURAL MONOPOLIES—OFFICIALS' REPORT, (1996).

296. *See government signals future directions for regulation of telecommunications, electricity and gas*, Press Release, June 26, 1996 (on file with authors).

297. *See* Webb & Taylor, *supra* note 250, at 14.

298. MINISTRY OF COMMERCE AND COMMUNICATIONS, PENALTIES, REMEDIES AND COURT PROCESSES UNDER THE COMMERCE ACT 1986: A DISCUSSION DOCUMENT (1998).

299. *See* Commerce Commission, *Commission Welcomes Further Strengthening of Commerce Act* (visited Oct. 1, 1999) *available at* <http://www.comcom.govt.nz/publications/display_mr.cfm?mr_id=492>.

300. *See* TUANZ, Penalties, Remedies & Court Processes—Ministry of Commerce Discussion Document (Mar. 18, 1998) (unpublished manuscript submitted to Ministry of Commerce Discussion Document regarding the 1986 Commerce Act, on file with authors).

301. *See* MINISTRY OF COMMERCE AND COMMUNICATIONS, *supra* note 298, at 31.

one level of appeal was justified.[302] To date, however, no decision has been made concerning the implementation of any of the proposed changes.

One issue that has resurfaced recently concerns Telecom's undertakings. The company has, in fact, proceeded to amalgamate its different businesses—the regional local telephone companies and the long distance and mobile companies—contrary to the commitments it had made in its 1988 letter. Telecom argues that its 1988 letter provided information on intended restructuring and other matters relating to Telecom's shareholders, but did not, and was not intended to constitute legally enforceable commitments.[303]

Number portability has also come to the fore recently as an important competition issue. The NZTNAG has agreed that commercial and technical terms relating to number portability are to be determined through negotiated agreements between operators.[304] The Commerce Commission has warned that adopting "unreasonable positions" on number portability might be in violation of section 36 of the Commerce Act.[305] In August 1998, as little progress had been made, the Minister of Communications set a deadline of November 30 for the industry to reach agreement on number administration and portability issues.[306] In May 1999, the Commission finally authorized an agreement among five operators, which sets out principles for the independent administration of numbers and a process to determine the preferred number portability solution.[307]

E. A Critical Appraisal of the New Zealand Regulatory Framework

Unlike in the United States, economic regulation of telecommunications in New Zealand relies to an unusually high degree upon the enforcement of general antitrust law by antitrust authorities, rather than on

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302. *See id.* at 51.

303. *See* Ross Patterson, Light-Handed Regulation in New Zealand Ten Years On: Stimulus to Competition or Monopolist's Charter 27 (Apr. 7-8, 1998) (unpublished manuscript distributed at the TUANZ Competition Symposium, Wellington, New Zealand, on file with authors).

304. *See* Webb & Taylor, *supra* note 250, at 11.

305. *See* Dr. Alan Bollard & Rae Ellingham, Regulation in New Zealand Telecommunications: The Regulatory Body's Perspective 8 (unpublished manuscript from the AIC Conference, Competition, Customer Care and Retention in New Zealand Telecommunications, Stamford Plaza, Auckland, Oct. 28, 1997, on file with authors).

306. *See* RESOURCES & NETWORK BRANCH, *supra* note 234, at 10.

307. The five companies which signed the agreement are Newcall Communications Ltd., Teamtalk Ltd., Telecom New Zealand Ltd., Telstra New Zealand Ltd., and Vodafone New Zealand Ltd. Other companies will be able to become signatories under the same terms and conditions. *See* Commerce Commission, Media Release 1999/64, *available at* <http://www.comcom.govt.nz/publications/display_mr.cfm?mr_id=544>.

telecommunications-specific rules and institutions. This is why the term "light-handed regulation" has been used to designate the New Zealand regulatory model.[308] As the main features of the New Zealand model presented above have been in existence for the past ten years, observers may derive some useful lessons of experience. As such, the New Zealand model provides a particularly valuable test of the extent to which the six criterions identified in Part II.D can be met through an application of general rather than sector-specific rules and institutions.

1. Promotion of a Competitive Market Structure

As explained in Parts A and B above, formal legal barriers to entry have been removed in all segments of the telecommunications sector in New Zealand. In fact, New Zealand is one of the rare countries that enables telecommunications operators to provide any types of services without having to obtain licenses.[309]

It is also noteworthy that a number of issues concerning the promotion of a competitive market structure seem to have been dealt with relatively easily in New Zealand. For example, even in the difficult local access cases, the courts unanimously pronounced that Telecom's attempts to impose an access code upon Clear's customers were anti-competitive.[310]

Interconnection issues, however, proved extremely hard to solve in New Zealand. Although the Commerce Act was seen as the main instrument to maintain competition in the telecommunications sector, additional elements of the regulatory framework were intended to facilitate freely-negotiated commercial agreements between parties, particularly with respect to interconnection. The 1990 Disclosure Regulations aimed to help Telecom's competitors negotiate more effectively with the incumbent by forcing Telecom to publish certain information.[311] Telecom's undertakings to deal with its own subsidiaries and with competitors on an arms-length basis and to provide interconnection on fair and reasonable terms were also supposed to help new operators reach satisfactory agreements with Telecom.[312] Finally, the government's threat to adopt additional regulation if the operators failed to reach pro-competitive agreements pursued the same objective.[313]

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308. *See, e.g.*, Patterson, *supra* note 272; Webb & Taylor, *supra* note 250.
309. *See supra* text accompanying note 235.
310. *See supra* text accompanying notes 273-274.
311. *See supra* text accompanying note 233.
312. *See supra* text accompanying note 236.
313. *See supra* text accompanying note 237.

Experience has revealed, however, that parties remained unable to agree on particularly contentious issues such as conditions of interconnection. In many cases, the parties were unable to come to an agreement without first going to court.[314] In other situations, agreements previously made were later contested and modified.[315] Even where parties did reach agreements, it was only after lengthy, time-consuming negotiations, and Telecom's competitors often expressed dissatisfaction with the results.[316]

In fact, the Commerce Commission's inquiry about the telecommunications sector in 1991-92 concluded that the Disclosure Regulations "did not provide significant assistance in removing any of the obstacles to the development of competition."[317] Telecom failed to implement the restructuring measures to which it had subscribed, and as a result, the usefulness of the Disclosure Regulations was reduced.[318] Furthermore, the regulations failed to prevent Telecom from trying to impose anti-competitive conditions of interconnection on its competitors.[319]

In the absence of negotiated agreements, interconnection disputes went to court, and the judicial proceedings were both lengthy and costly.[320] Furthermore, the judicial decisions failed to be specific enough to put an end to the disputes. For example, none of the three courts that decided the local access cases succeeded in imposing a specific interconnection

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314. *See, e.g.*, discussion *supra* Part IV.D.6.

315. This was the case in the Clear-Telecom long distance interconnection agreement, where an agreement over interconnection charges was reached between Clear and Telecom in 1990, but subsequently modified in 1993 after new disputes were settled before a retired Court of Appeal judge. *See* Mueller, *supra* note 252 at 114-16; Clear Comm. Ltd. v. Telecom Corp. of New Zealand Ltd., interim award, at 76, 107 (Mar. 26, 1994).

316. For example, the BellSouth-Telecom mobile interconnection agreement, which required that BellSouth pay higher-than-standard charges for long-distance services and that BellSouth pay for ANI services. *See* Blanchard, *supra* note 271, at 159; Mueller, *supra* note 252, at 118-19.

317. NEW ZEALAND COMMERCE COMM'N, *supra* note 260, at 83.

318. For example, the interconnection agreement between Telecom and its mobile subsidiary originally was a public document. However, since the amalgamation of Telecom's various businesses, it is no longer publicly disclosed. *See* Patterson, *supra* note 303, at 27.

319. This is evidenced by Telecom's attempt to impose a dial access code on Clear's subscribers and to treat Clear as just another one of Telecom's large customers. *See supra* text accompanying notes 273-274.

320. *See* Darryl Biggar, Legislative Principles Governing Access to Vertically Integrated Natural Monopolies in New Zealand 20 (Apr. 7-8, 1998) (unpublished manuscript distributed at the TUANZ Competition Symposium, Wellington, New Zealand).

price.[321] Many observers argue that these situations create uncertainty. This uncertainty, in turn, constitutes a barrier to entry and further hinders negotiated agreements, as the parties lack the judicial benchmarks which would focus negotiations upon a narrow set of possible outcomes.[322]

Number portability issues also proved very difficult to tackle in New Zealand. Although an agreement has finally been reached between some operators, it was only after government intervention. In addition, the agreement does not set specific number portability rules, but only a process to eventually determine such rules.[323]

Another criticism of the New Zealand model is that the system adopted to ensure that universal service obligations are met is arguably inefficient and anti-competitive. Through the Kiwi Share, Telecom is chosen, a priori, as the party responsible for meeting universal service obligations.[324] Yet no market mechanisms are used to determine the true costs of universal service obligations,[325] or to identify the service providers best able to meet those obligations. Therefore, there is no guarantee that the compensation Telecom receives exactly covers its costs, or that Telecom is the party able to perform that task most efficiently. To the extent that Telecom's competitors contribute to the cost of universal service obligations (through the access price), there is a risk that they might be overcharged and thus be put at a competitive disadvantage vis-à-vis Telecom.

Finally, some authors consider another flaw of the New Zealand model to be the lack of structural reforms in the telecommunications sector, with the result that Telecom has not been subjected to sufficient competitive pressures. These authors recognize that telecommunications performance has markedly improved over the past decade in New Zealand. However, they conclude that such results are not that impressive when compared with those of other OECD countries. For example, in a study comparing the prices of business telephone services and of cellular services, New Zealand ranked twelfth most expensive (out of 26) in business telephone

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321. The High Court expressly stated that it was not a regulatory agency and that it could not pursue investigations as to whether Telecom earned monopoly rents, possessed excess capacity, or was inefficient. *See* Clear Comm. Ltd v. Telecom Corp. of New Zealand Ltd. [1992] 5 T.C.L.R. 166, 217 (N.Z.).

322. *See* Biggar, *supra* note 320, at 9.

323. *See supra* text accompanying notes 307-310.

324. *See supra* text accompanying note 231.

325. Todd Telecommunications Consortium argues that, in fact, the provision of residential local services is not a loss-making activity in New Zealand and that, on the contrary, it generates monopoly profits. *See generally* TODD TELECOMMUNICATIONS CONSORTIUM, NEW ZEALAND TELECOMMUNICATIONS: THE STATE OF COMPETITION 46 (1998).

services, and only eighth most expensive (out of 24) in cellular services.[326] Todd Telecommunications Consortium estimated that Telecom was earning substantial monopoly profits, on the order of NZ$382 million per year.[327]

Commentators argue that in order to accelerate the introduction of competition in the New Zealand telecommunications market, structural reforms need to be imposed on Telecom.[328] Separating cellular from wireline operations, for example, would increase the number of interconnection agreements. A separation would yield information on interconnection costs, and thus facilitate negotiations between access seekers and access providers. It would also give new entrants a wider choice of companies with which to pursue interconnection agreements, thereby raising the likelihood that they could negotiate acceptable conditions. Appropriate disclosure requirements, combined with such strictly enforced structural solutions, would further increase the information available to new operators to conduct the negotiations. Such measures could be complemented by adoption of a non-discrimination rule, whereby conditions offered to one operator would have to be made available to others.[329] This would not only facilitate agreements between parties, it would also help judges by enabling them to apply existing specific solutions to new cases. Indeed, the essential facilities doctrine developed in the United States[330] has shown that judges applying general antitrust rules to solve issues of access are able to devise specific solutions only in three circumstances: when the remedy is to grant access under the same conditions as those already granted to others, to grant access to the plaintiff under conditions that the plaintiff itself has already enjoyed before, or to refer to conditions established by a specialized regulator.[331] Judges are unable to come up with specific solutions when access has to be granted for the first time in the absence of a specialized regulator.

Some structural reforms of this type have in fact been recently adopted in the New Zealand electricity sector.[332] Any decision regarding imple-

326. The study was conducted in 1997, and used OECD power purchasing parity methodology. *See* RESOURCES AND NETWORKS BRANCH, *supra* note 234, at 32.

327. *See id.* at 44.

328. *See, e.g.*, Mueller, *supra* note 252, at 126-129.

329. *See id.* at 129.

330. *See supra* notes 99-100.

331. *See* Hay, *supra* note 272, at 240; Pengilley, *supra* note 272, at 29.

332. In order to promote effective competition in the sector, the Electricity Industry Reform Act adopted in July 1998 mandates, inter alia, structural reforms such as a separation of natural monopoly components from competitive activities (transmission and distribution on the one hand and generation and trading on the other), as well as substan-

mentation of structural reforms should, however, only be taken after careful analysis. The telecommunications market is indeed in a state of very rapid evolution, and the progressive erosion of the technical and operational differences which exist between different telecommunications services might weigh against decisions to impose separation between some activities.

2. Specificity vs. Coherence

The New Zealand model of economic regulation in the telecommunications industry is clearly forward-looking. Reliance on economy-wide rules and institutions to regulate the sector certainly promotes a coherent treatment between telecommunications and other sectors, and reflects the growing similarities progressively emerging between the telecommunications sector and other parts of the economy.

On the other hand it could be argued that the absence of specific rules on interconnection is the main reason for the long delays accompanying the resolution of many interconnection disputes in New Zealand. As mentioned above, the uncertainty generated by the absence of more specific rules on this topic hindered the conclusion of agreements between parties as well as the adoption of precise solutions by the judges.[333] More specific provisions on number portability issues might also have facilitated and accelerated the conclusion of agreements between operators.[334]

In addition, antitrust rules such as section 36, pertaining to the use of a dominant position, are generally designed to prevent restrictions on competition.[335] As mentioned with respect to the United States, they might therefore be ill-adapted when it comes to introducing competition in markets which were previously monopolized.[336] They might also lead to economically inefficient results when applied to vertically integrated industries. For example, under section 36, a monopolist operating a bottleneck facility might be forced to lower its prices when it competes in a downstream market. However, when it does not compete in that market, it might be free to price as it wishes. Indeed, in the latter case, when it imposes high prices, there is a risk that the monopolist distorts competition in the downstream market in its favor. By contrast, in the former case, all competitors in the downstream market are treated in the same way. As a

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tially increased information disclosure requirements. *See generally* Electricity Industry Reform Act, 1998, pts. 2-5 (N.Z.).

333. *See supra* text accompanying notes 320-322.

334. *See supra* text accompanying note 323.

335. *See supra* text accompanying note 19.

336. *See supra* text accompanying note 185.

result of the application of section 36, in order to be able to keep charging high prices, the monopolist might decide to operate only in the bottleneck market and not in the downstream competitive market even if economies of scales or scope would dictate vertical integration.[337]

Finally, antitrust law does not adequately distinguish between rules which are easy to apply and rules which are very difficult to apply in practice. For example, as explained above, the ECPR can lead to the progressive elimination of monopoly profits only if regular reviews are performed to re-assess the value of the interconnection price.[338] However, assessing the value of the interconnection price under the ECPR is likely to be very difficult in practice as it would require very detailed information on the incumbent's costs.[339] And yet the Privy Council nevertheless considered such practical difficulties irrelevant to a determination of the legality of an ECPR-based interconnection price under section 36.[340] Ensuring adoption of a more practical rule—based, for example, on international benchmarks derived from the observation of interconnection prices in countries with competitive telecommunications sectors—would have required more specific regulations than section 36.

3. Flexibility vs. Certainty

The New Zealand model, with its heavy reliance on general antitrust rules, leaves a wide degree of discretion to judges in charge of applying the rules. Given the length of time necessary to establish precedents and the variation among cases, the scope of judicial discretion is likely to remain for a long period of time. Moreover, even when a precedent has been set, it can be changed by the court which set it or by another court of equal or superior rank. As mentioned above, this has the advantage of allowing for a high degree of flexibility in tailoring appropriate solutions.[341] However, it introduces a high degree of uncertainty for operators and subscribers alike.[342] For example, two concepts mentioned in section 36—the concepts of use of a dominant position and use of a purpose—have been the objects of conflicting court decisions. More generally, uncertainty is well

337. *See* Hay, *supra* note 272, at 242-43.
338. *See supra* note 283.
339. *See* Mueller, *supra* note 252, at 124-25.
340. *See supra* text accompanying notes 290 and 291.
341. *See supra* text accompanying note 18.
342. *See* discussion *supra* Part II.D.3.

illustrated by the several instances where courts have ruled differently on the same facts.[343]

In addition, although the price control regime envisaged under Part IV of the Commerce Act has never been used up to now, it nevertheless leaves a large degree of discretion to political authorities and the Commerce Commission.[344] The criteria used by the government to identify the goods or services subject to price controls are vague. As mentioned in Part IV.B, price controls can be imposed when competition is limited and when such controls would be in the interest of users or consumers.[345] In addition, no guidance is provided to the Commission as to how such price controls should be designed and administered.[346] Investors may thus have legitimate concerns that such broad powers could be misused, thereby preventing them from receiving adequate returns on their investments.

As for the government's threat of imposing more regulations upon the industry, it does appear to have facilitated the conclusion of some agreements. Government intervention might have had such an effect, for example, with respect to the interconnection agreements concluded between Clear and Telecom for both long distance and local services,[347] and with respect to the agreement concluded by some operators on number portability.[348] In many cases, however, such agreements were reached only after a great length of time, and in some instances only after conclusion of a difficult judicial process.[349] Perhaps more importantly, the government's threats constitute a very informal and rather uncertain regulatory instrument. The willingness of the government to act upon such threats is difficult to estimate and is likely to differ from one government to the next.

4. *Autonomy, Technical Competence, and Stakeholder Participation*

The Commerce Act designates the Commerce Commission as the main body responsible for maintaining competition. However, the Com-

343. This was the case in the "Cellular Frequency Cases." *See* Ahdar, *supra* note 228, at 86; Telecom Corp. of New Zealand Ltd./The Crown, Commerce Comm'n Decision No. 254 (Oct. 17, 1990); Telecom Corp. of New Zealand Ltd. v. Commerce Comm'n [1991] 3 N.Z.B.L.C. 102, 340 (N.Z.); Telecom Corp. of New Zealand Ltd. v. Commerce Comm'n [1992] 3 N.Z.L.R. 429 (N.Z.). This was also the case in the "Access to local loop cases" described in Part IV.D, *supra*.

344. *See supra* Part IV.B.

345. *See supra* text accompanying note 231.

346. *See* Commerce Act, § 70.

347. *See supra* text accompanying notes 273 and 304.

348. *See supra* text accompanying note 316.

349. *See, e.g., supra* text accompanying notes 294 and 307.

mission lacks the power to set conditions of interconnection or to impose penalties. It operates on a limited budget and with very few analysts specialized in network industries.[350] Furthermore, the Commission's competency has been interpreted very narrowly by the courts,[351] and its decisions can be overturned by the courts on a legal as well as factual basis. In New Zealand, it is the judges who are ultimately in charge of enforcing economic regulation in the telecommunications sector.

This scheme offers strong guarantees regarding the autonomy of the regulatory process. Indeed, judges enjoy protection against undue pressures from the government and are independent from industry, so that the risks of regulatory capture are limited. Members of the Commission also enjoy protection against government pressure, albeit to a more limited extent,[352] and they are independent from industry as well.[353] Both the Commission and the courts are competent across the whole economy and intervene on a case-by-case basis without getting involved in constant regulatory oversight. Such a system limits the contacts which those institutions have with any particular sector minister or operator, and thus further reduces the risks of regulatory capture by the government or by the industry.[354] However, there remains some risk of politically-motivated intervention under Part IV of the Commerce Act.

Serious doubts have also been raised about the capacity of non-specialized judges to fully understand complex technical and regulatory matters in spite of the presence of an expert lay member in the High

350. *See* John P. Small, Light Handed Regulation of Network Industries in New Zealand 9 (Apr. 7-8, 1998) (unpublished manuscript distributed at the TUANZ Competition Symposium, Wellington, New Zealand, on file with authors).

351. *See supra* text accompanying notes 260-263.

352. The Commission's budget is determined by Parliament, its members must possess minimum competencies and experience, and they can only be dismissed on grounds restrictively enumerated in the Commerce Act, three elements which somewhat protect the Commission's autonomy vis-à-vis the Executive. On the other hand, other factors might, at times, constitute a threat to the Commission's autonomy: for example, the Executive alone is responsible for designating the commissioners and the Commission must have regards to the economic policies of the government.

353. *See supra* note 246.

354. *See* Roger Kerr and Bryce Wilkinson, The Regulation of Monopoly in New Zealand 36-39 (Apr. 7-8, 1998) (unpublished manuscript distributed at the TUANZ Competition Symposium, Wellington, New Zealand, on file with authors); *see also* John Belgrave, The Regulatory Environment 8 (Mar. 14, 1965) (unpublished manuscript distributed at the Economist Conference, on file with authors).

Court.[355] A review of the case law of the courts does indeed provide some examples of insufficient economic analysis. One example is the Privy Council's statement in the local loop cases, explaining that when Telecom charges Clear according to the ECPR, Telecom does not use its dominant position because it acts in the same way that firms do in a competitive markets since they also seek to recover the opportunity costs of providing goods or services to competitors.[356] The Privy Council apparently failed to realize that the comparison was invalid: the opportunity costs of a firm in a dominant position that enjoys monopoly profits would be much higher than the opportunity costs of a firm forced to price at marginal cost because it is operating in a competitive environment.[357] Another example is found in the level of penalties imposed by the courts for violations of the Commerce Act. In some cases, those penalties are insufficient to compensate for the unlawful gains by the violators, and therefore fail to deliver the intended deterrence effect.[358]

Courts are also ill-equipped to provide the continuous oversight which certain regulatory mechanisms require. Once again, the access to the local loop cases provide much insight. In those cases, the High Court and the Privy Council were probably correct to maintain that application of the ECPR could result in the progressive elimination of Telecom's monopoly profits, if such profits existed.[359] However, in order to eliminate monopoly profits completely, the interconnection charge would have to be revised at regular intervals,[360] and courts appear to lack the capacity to proceed with these regular reviews.

Finally, several commentators have argued that users' opinions on issues of telecommunications regulation have not been sufficiently heard in New Zealand.[361] Both the Commerce Commission and private parties may

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355. *See* SUSAN LOJKINE, COMPETITION LAW AND POLICY INSTITUTE OF NEW ZEALAND, COMPETITION LITIGATION IN THE HIGH COURT, VOL. II, 10 (1991). *See also* Webb & Taylor, *supra* note 250, at 6-7.

356. *See* Telecom Corp. of New Zealand Ltd. v. Commerce Comm'n, [1992] 3 N.Z.L.R. 429, 439.

357. *See* Ahdar, *supra* note 272, at 102; Hay, *supra* note 272, at 243-44, .

358. *See* Bollard & Pickford, Institute of Economic Affairs, Utility Regulation in New Zealand 52 (unpublished lectures, London, 1996, on file with authors); *see also* David Harmer & Grant Hannis, The Commerce Act—What Must Change? 3 (Apr. 7-8, 1998) (unpublished manuscript distributed at the TUANZ Competition Symposium, Wellington, New Zealand, on file with authors).

359. *See supra* text accompanying notes 280 and 290.

360. *See supra* note 283.

361. *See* MINISTRY OF COMMERCE AND COMMUNICATIONS, *supra* note 298, at 44; *see also* Joseph, *supra* note 227, at 32.

bring actions before the courts for breaches of the Commerce Act, but no mechanisms are provided to ensure that consumer representatives, if they are not parties to the dispute, can intervene in the proceedings to present their views.

5. *Limitation of Regulatory Costs*

One obvious benefit of the New Zealand regulatory model is that its regulatory institutions are not expensive to establish and maintain. The budget of the Commission, which enforces the Commerce Act across the whole economy, is very modest.[362] In addition, as there are few sector-specific rules, compliance costs for the industry remain low,[363] and incentives to spend large sums on lobbying activity are reduced.[364]

However, parties incur substantial legal expenses during protracted litigation.[365] Although difficult to estimate, other costs are likely to be substantial in New Zealand. First, there are the costs that result from delays incurred in reaching final decisions, particularly with respect to interconnection issues. For example, the Clear-Telecom access dispute in the local loop cases postponed competition in the local markets by several years, undoubtedly imposing a cost on the New Zealand economy. Second, costs will also be incurred if, as argued above, there is insufficient protection against regulatory mistakes in New Zealand.

6. *Efficiency of Allocation of Regulatory Responsibilities*

In comparison to other countries, New Zealand's economic regulation of the telecommunications sector is relatively simple, and its allocation of regulatory responsibilities appears to be quite clear. The main criticism of the New Zealand model is that it does not allocate regulatory responsibilities to the institutions best equipped to handle them. It is somewhat paradoxical that decisions taken by the Commerce Commission—a body comprised of experts on telecommunications regulatory matters—can be appealed before the High Court, where there is only one economic expert, while decisions of the High Court can then be appealed before the Court of Appeal, where there are no economic experts at all.[366]

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362. *See supra* text accompanying note 239.

363. *See* Belgrave, *supra* note 354, at 6.

364. *See* Biggar, *supra* note 320, at 20.

365. Clear estimated that it had spent $NZ 8 to 10 million for the High Court trial alone of the Clear v. Telecom local access case. *See* Ahdar, *supra* note 272, at 106.

366. *See supra* text accompanying notes 248 and 249.

V. THE AUSTRALIAN EXPERIENCE

A. Origins of the Present Regulatory Framework

Prior to 1975, in Australia, as in many other OECD countries, infrastructure industries were in public hands. In the telecommunications sector, the Post-Master General's Department provided domestic services, while the Overseas Telecommunications Commission ("OTC") provided international services.

In 1975, however, the government separated domestic telecommunications from postal services and set up Telecom Australia as a distinct entity. In 1984, the government established a new publicly-owned operator, Aussat, to operate a domestic satellite system. During the 1980s, the three telecommunications operators—Telecom Australia, OTC, and Aussat—were progressively run in a manner more similar to that of private firms. However, there was almost no competition in the telecommunications sector. Telecom Australia continued to assume important regulatory duties in addition to operational responsibilities, and users—particularly business users—were dissatisfied with the speed at which new services were being introduced.[367]

Following a review of the telecommunications sector, the Minister for Transport and Communications issued a statement in May 1988 recognizing the need to separate regulatory and operational functions and to introduce additional competition in the sector.[368] Shortly thereafter, Australia adopted the Telecommunications Act 1989, which liberalized the markets for value-added services and established a new sector-specific agency—AUSTEL—to implement the regulatory aspects of the new regime.[369]

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367. The only market segments open to competition were the marketing of some terminal equipment and the provision of some services, such as radio paging, unrelated to traditional voice telephony. In addition, the scope for effective competition was limited by Telecom's regulatory functions which gave it the right to approve all equipment attaching to the network. *See* Department for Communications and the Arts, *Liberalization of the Telecommunications Sector: Australia's Experience* 3-4 (1997), *available at* <http://www.dca.gov.au/nsapi-graphics/?MIval=dca_dispdo>.

368. *See* STEPHEN KING & RODNEY MADDOCK, UNLOCKING THE INFRASTRUCTURE—THE REFORM OF PUBLIC UTILITIES IN AUSTRALIA 137 (1996).

369. *See* Henry Ergas, Telecommunications Across the Tasman: A Comparison of Economic Approaches and Economic Outcomes in Australia and New Zealand 4 (unpublished manuscript prepared for the International Institute of Communications, May 1996, on file with authors).

Financial problems with Aussat led to a second wave of telecommunications reforms implemented shortly thereafter.[370] Australia Telecom and OTC merged to form the Australian and Overseas Telecommunications Corporation ("AOTC") which was later renamed Telstra Corporation Ltd. Telstra was a 100 percent public operator which provided the whole range of telecommunications services. A second general license was awarded to a private competitor, Optus,[371] which provided fixed as well as mobile services. A third mobile license was issued to Arena GSM (now Vodafone) in 1992.[372] The basic policy premise underlying the reforms was that competition for the provision of fixed infrastructure should be limited to a duopoly until June 30, 1997, in order for Optus to develop into an effective rival for Telstra.[373] For similar reasons, the government limited, over the same period, the number of competing mobile services providers to three firms including Telstra.[374] The provision of other telecommunications services was fully opened to competition. The Telecommunications Act 1991 contained the regulatory principles applicable to the new regime. A telecommunications-specific access regime was established whereby conditions of access to another operator's network were to be determined either through negotiation or through arbitration by AUSTEL.[375]

From 1991 to 1997, a certain number of factors helped shape the government's views about the form that the post-1997 telecommunications sector should take. First, there was a gradual realization that the duopoly regime might not be the most effective vehicle to induce vigorous competition because it facilitated coordination between the two competitors.[376]

Second, at the request of the Prime Minister, the government conducted an independent inquiry on competition policy issues. Published in 1993, the Himler Report recommended that the government promote competition and remove existing barriers to entry in infrastructure sectors.[377]

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370. Marina C. van der Vlies, *The Transition from Monopoly to Competition in Australian Telecommunications*, 20 TELECOM. POL'Y 323 (1996).

371. Optus also bought Aussat.

372. *See* OECD, *supra* note 28, at 7.

373. *See* Peter G. Leonard, *Australia*, *in* TELECOMMUNICATIONS LAW AND PRACTICE 300 (Colin D. Long ed., 1995).

374. *See id.*

375. *See* Telecommunications Act, 1991, § 137(3)(b) (Austl.).

376. *See* Ergas, *supra* note 369, at 6, 23. Some argued that a regime of administered competition such as the one established in 1991 carried the risk that regulatory authorities would focus too much on the protection of competitors rather than on the promotion of competition itself. *See* van der Vlies, *supra* note 370, at 323.

377. *See* FREDERICK G. HIMLER ET AL., NATIONAL COMPETITION POLICY—REPORT BY THE INDEPENDENT COMMITTEE ON INQUIRY (1993).

Specifically, the report proposed that an economy-wide regulator should regulate infrastructure sectors rather than various sector-specific agencies such as AUSTEL.[378] Additionally, the report recommended the adoption of a cross-sector access regime enabling firms to gain access to certain essential facilities on fair and reasonable terms.[379] Such a regime was adopted in 1995, basically along the lines of what was proposed in the Himler Report.

The third major influence on the post-1997 regime stems from the New Zealand experience in telecommunications, which was closely studied in Australia.[380] An analysis of the dispute between Clear and Telecom on conditions of interconnection convinced most Australian observers that courts applying general antitrust rules were unable to come to specific decisions on technically complex telecommunications matters, and that courts were ill-suited to exercise the continual supervision of regulatory arrangements.[381]

One third of Telstra's capital was privatized in 1997,[382] and that same year, full competition was introduced in the provision of all telecommunications infrastructure and services.

B. Regulatory Framework: Main Rules

The main antitrust rules, applicable to the Australian economy as a whole, are included in Part IV of the Trade Practices Act.[383] Part IV prohibits contracts, arrangements or undertakings that have the purpose or the effect of substantially lessening competition.[384] Part IV also prohibits ex-

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378. *See id.* at 325-28.

379. *See id.* at 242-49. For a description of the access regime proposed in the Himler Report, see Warren Pengilley, *Himler and Essential Facilities*, 17 UNIV. NEW S. WALES L.J. 1 (1994).

380. The Himler Report, for example, bases its recommendations for the regulation of infrastructure sectors partly on an analysis of the New Zealand experience in telecommunications. *See* HIMLER ET AL., *supra* note 377, at 245.

381. *See* Pengilley, *supra* note 379, at 525.

382. The privatization took place in accordance with the Telstra (Dilution of Public Ownership) Act 1996 which allowed for the sale of one third of the State's equity in Telstra in 1997. *See* OECD, COMMUNICATIONS OUTLOOK 1999—TELECOMMUNICATIONS REGULATORY ISSUES: AUSTRALIA (1998).

383. DEPARTMENT OF COMMUNICATIONS AND THE ARTS, AUSTRALIA'S OPEN TELECOMMUNICATIONS MARKET: THE NEW FRAMEWORK 25 (1998). *See also* Trade Practices Act, 1974, Part IV (Austl.).

384. Such arrangements include contracts which contain exclusionary provisions, fix price, or limit the supply or acquisition of goods or services. *See* Trade Practices Act, 1974, § 45(1)(b) (Austl.).

clusive dealings,[385] retail price maintenance,[386] and price discrimination.[387] Additional provisions prohibit a corporation which has a substantial degree of market power from taking advantage of that power for the purpose of eliminating a competitor or preventing the emergence of a competitor.[388] Finally, other provisions prohibit a corporation from purchasing shares or assets of another business if, as a result, the corporation would be in a position to dominate a market for goods or services, or to substantially strengthen its power to dominate a market.[389]

The cross-sector access regime adopted in 1995 is contained in Part IIIA of the Trade Practices Act. Under Part IIIA, the relevant minister may mandate access to bottleneck facilities required to provide a service deemed to be of national significance.[390] Terms of access are determined either through commercial agreement between access provider and access seeker or through arbitration by the antitrust regulator, the Australian Competition and Consumer Commission ("ACCC").[391]

The authorities believed that Parts IV and IIIA of the Trade Practices Act would be insufficient alone to foster competition in the telecommunications market. Therefore, telecommunications-specific provisions were introduced in the Trade Practices Act to regulate anti-competitive conduct in the telecommunications industry (Part XIB), as well as to provide access to bottleneck facilities in the telecommunications sector (Part XIC).[392]

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385. *See id.* § 47. Exclusive dealing is defined by reference to specific vertical restraint practices such as supplying goods or services on condition that the purchaser does not acquire goods or services from a competitor of the supplier. *See* RUSSELL V. MILLER, ANNOTATED TRADE PRACTICES ACT 141 (13th ed. 1992).

386. *See* Trade Practices Act, 1974, § 48 (Austl.). Retail price maintenance refers to practices such as attempting to induce a person not to sell a supplier's products at less than a price specified by the supplier. *See* MILLER, *supra* note 385, at 150.

387. *See* Trade Practices Act, 1974, § 49 (Austl.).

388. *See id.* § 46.

389. *See id.* § 50.

390. *See id.* §§ 44G(2)(c) and 44H(4)(c).

391. For an excellent description of the workings of Part IIIA provisions, see Warren Pengilley, *Access to Essential Facilities: A Unique Antitrust Experiment in Australia*, 43 ANTITRUST BULL. 528-36 (1998).

392. *See* Trade Practices Amendment (Telecommunications) Act, 1997, Part XIB & XIC (Austl.). The explanatory memorandum to the draft text states:

> Telecommunications is an extremely complex, horizontally and vertically integrated industry and competition is not established in some telecommunications markets. There is considerable scope for incumbents to engage in anti-competitive conduct because competitors in downstream markets depend on access to network facilities controlled by the incumbent. ... Anti-competitive behavior in telecommunications could cause particularly rapid damage to competition because of the

Two types of behavior are deemed anti-competitive under Part XIB. First, section 151AJ(2) prohibits a telecommunications operator which holds a substantial degree of power in a telecommunications market from taking advantage of that power with the effect, or likely effect, of substantially lessening competition in that or any other telecommunications market. Second, section 151AJ(3) prohibits a telecommunications operator from engaging in conduct which violates some of the provisions of Part IV, such as: concluding contracts, arrangements or understandings that affect competition;[393] misusing market power;[394] engaging in exclusive dealings;[395] or engaging into resale price maintenance.[396]

Section 151AJ provides for a stricter antitrust regime in the telecommunications sector than would be possible under Part IV. For example, misusing market power is prohibited under Part IV only when an anti-competitive purpose can be established.[397] However, section 151AJ(2) prohibits conduct irrespective of purpose, so long as it has the effect, or likely effect, of substantially lessening competition in telecommunications.[398] The Minister for Communications and the Arts must arrange for a review of the operation of Part XIB of the Trade Practices Act before July 1, 2000. The objective of the review is to determine whether any or all of the provisions of Part XIB should be repealed or amended.[399]

Part XIC establishes a regulatory regime derived from Part IIIA of the Trade Practices Act. It is aimed at facilitating the access of all competitors to bottleneck facilities in the telecommunications sector. Its primary object is to promote the long-term interests of end-users as defined in section 152AB. Section 152AL states that the ACCC can "declare" certain telecommunications services which constitute bottlenecks, meaning that the

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> volatile state of the industry during the early stages of competition. Against this background, Part IV alone may prove insufficient to deal with anti-competitive behavior in telecommunications at this time.

Trade Practices Amendment (Telecommunications) Bill, 1996, memo. at 6.

393. *See* Trade Practices Act, 1974 § 151AJ(3) (Austl.) (citing § 45).

394. *See id.* (citing § 46).

395. *See id.* (citing § 47).

396. *See id.* (citing § 48).

397. *See id.* § 46(1) (a)-(c).

398. *See id. §* 151AJ(2). In addition, under Part XIB, the onus of proof might in some cases be reversed with the telecommunications operator having to prove that it did not engage in an anti-competitive conduct. Finally, the penalties which can be imposed for violations of Part XIB provisions are more severe than those which can be imposed for violations of Part IV provisions. *See* Stephen Corones, *Anti-competitive Conduct in Telecommunications*, 26 AUSTL. BUS. L. REV. 151, 153 (1998).

399. *See* Trade Practices Act, 1974, § 151CN (Austl.).

ACCC can mandate access to those services.[400] Providers of such services are then subjected to standard access obligations.[401] Such obligations include the following: the obligation to supply the declared services and permit interconnection of their facilities under conditions equivalent to those which they reserve for themselves, to provide billing information associated with the declared services, and to supply the services which might be required to enable an access seeker to use the customer equipment necessary to use the bottleneck facilities (such equipment could, for example, be the set-top boxes used for the supply of pay television).[402]

The specific terms and conditions under which access providers must comply with standard access obligations may be determined in three ways: (i) through commercial agreements between access providers and access seekers; (ii) through arbitration if the parties cannot agree; and (iii) through implementation of "access undertakings," which constitute commitments on the part of access providers regarding the conditions under which they are to provide access.[403]

Following a request from the Treasurer in early 1997, the antitrust regulator developed access pricing principles. Those principles are used when deciding to approve or reject access undertakings or when arbitrating access disputes.[404] Access prices are supposed to embody four main characteristics: (i) they should be cost based; (ii) they should be non-discriminatory; (iii) they should not be inflated to reduce competition in dependent markets; and (iv) they should not be predatory (i.e. they should cover at least incremental costs). The model used to calculate access prices is the total service long run incremental cost model ("TSLRIC").[405]

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400. *See id.* § 152AL(2)-(3).

401. *See id.* § 152AR.

402. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 37.

403. *See* Trade Practices Act, 1974, § 152AY (Austl.). Access undertakings themselves are of two types: code undertakings, which adopt model terms and conditions, and individual undertakings, in which individual access providers specify particular terms and conditions applying to one or more declared services. *See id.* § 152BV. Undertakings need not address all the terms and conditions of access. It is possible to combine up to one code undertaking and one individual undertaking in relation to any declared services and, in practice, it is expected that in some cases a combination of commercial agreement, arbitration, and undertakings might be used to determine the conditions of access to a particular declared service. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 38.

404. *See* AUSTRALIAN COMPETITION AND CONSUMER COMMISSION, ACCESS PRICING PRINCIPLES—TELECOMMUNICATIONS (1997).

405. For a discussion of the access pricing principles, see Peter Waters, *LRICal Access: The ACCC's Pricing Principles* (Oct. 1997) *available at* <http://www.gtlaw.com.au/gt/pricingprinciples.html>.

Licenses are required from persons wishing to use telecommunications infrastructures to provide services to the public.[406] Licenses are available on application with no technical or financial entry hurdles, and no limit on the number of infrastructure providers.[407] Standard license conditions with which licensed operators must comply include an obligation for these operators to comply with the Act,[408] to publish a development plan,[409] and to enable other infrastructure providers to gain access to their facilities and to obtain information on their networks.[410] These access rights and obligations complement the access regime set out in Part XIC of the Trade Practices Act.[411]

The Telecommunications (Consumer Protection and Service Standards) Act 1999 defines the concept of universal service obligation.[412] It requires that standard telephone services and payphones as well as digital data services be reasonably accessible to all people in Australia on an equitable basis.[413] Different universal service providers can be designated in different areas or for the provision of different services in the same area[414] and competitive tendering processes can be used to select universal services providers.[415] Telecommunications operators must contribute to the cost of universal service in proportion to their share of total telecommunications revenues.[416]

The Telecommunications (Consumer Protection and Service Standards) Act 1999 also enables performance standards to be designed and made compulsory in relation to the connection of customers, rectification of service faults, and keeping of appointment.[417] Damages, which would be paid to individual customers, can be set for violation of the standards.[418] Technical standards are established by the industry itself.[419]

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406. *See* Telecommunications Act, 1997, § 42 (Austl.).
407. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 12.
408. *See* Telecommunications Act, 1997, sched. 1 pt. 1 (Austl.)
409. *See id.* pt. 2.
410. *See id.* pts. 3-4.
411. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383.
412. *See* Telecommunications (Consumer Protection and Service Standards) Act, 1999, § 19 (Austl.).
413. *See id.* §§ 19(1)(a)-(b), 19A(1).
414. *See id.* §§ 25-26A.
415. *See id.* §§ 22, 23, 26C, 26D.
416. *See id.* § 67.
417. *See id.* § 115.
418. *See id.* § 116.
419. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 82.

However, regulatory intervention by the authorities remains possible where self-regulation is inappropriate.[420]

Telecommunications-specific rules have also been adopted with respect to numbering and to international activities in the telecommunications industry. The Telecommunications Act 1997 provides for the preparation of a numbering plan which may set out rules on the portability of numbers.[421] The Act also provides for the elaboration of Rules of Conduct to govern dealings between telecommunications operators providing international services in Australia and their partners outside Australia.[422] These Rules of Conduct would address concerns that foreign operators, with monopoly positions in their home countries, might distort the Australian telecommunications market either through direct intervention in that market or through alliances with Australian operators, who would then derive an unfair advantage from such alliances.[423]

Lastly, the Prices Surveillance Act 1983 provides for the monitoring of the prices of selected goods and services in the Australian economy. The government has indicated that price surveillance would be applied in markets where competitive pressures fail to achieve efficient prices and fail to protect consumers.[424]

C. Regulatory Framework: Main Institutions

As telecommunications-specific rules were adopted, the institutional regulatory framework for telecommunications was streamlined. The main industry-specific regulator—AUSTEL—was eliminated.[425] In line with the recommendations of the Himler Report, an economy-wide antitrust authority, the ACCC, took over the former AUSTEL's competition policy function.[426] A new regulatory body, the Australian Communications Authority ("ACA") assumed AUSTEL's technical functions.[427] The ACA

420. *See* Telecommunications Act, 1997, §§ 376-79 (Austl.).

421. *See id.* § 455.

422. *See id.* § 367.

423. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 80.

424. *See* Australian Competition and Consumer Commission, *Telecommunications Industry—ACCC Role: An Outline* 51, 56 (1997), *available at* <http://www.accc.gov.au/telco/fs-telecom.htm>.

425. *See* Department of Communication and the Arts, *Overview of Australia's Open Telecommunications Market* 11 (1997), *available at* <http://www.dca.gov.au/nsapi-text/?MIval=dca_ftp&path=%2fpub%2fpolicy%2fnewframe%2edoc>.

426. *See id.*

427. *See id.*

also took over the responsibilities of the Spectrum Management Agency, which was eliminated as well.[428]

The ACCC was formed in 1995 by a merger of the Trade Practices Commission and the Price Surveillance Authority.[429] In addition to administering the antitrust and consumer protection provisions of the Trade Practices Act, in 1997 it assumed responsibility for administering the new telecommunications-specific antitrust rules introduced under Parts XIB and XIC of the Act by the Trade Practices Amendment (Telecommunications) Act 1997.[430]

The ACCC is currently comprised of seven commissioners. They are appointed by the Governor-General. They must be chosen among people whom the minister responsible for trade practices recognizes as being qualified by virtue of their knowledge of industry, commerce, economics, law, public administration, or consumer protection.[431] The ACCC has recently established a Telecommunications Group comprising around 30 staff and one of the commissioners has been appointed to assist in managing the ACCC's telecommunications responsibilities.

Grounds for terminating the appointment of a commissioner are precisely specified and enumerated.[432] Conflicts of interest rules are in place to force commissioners to disclose interests which could conflict with the proper performance of their functions and to prevent commissioners from participating in the determination of specific cases when such conflicts arise.[433] As in New Zealand, the government may give directions to the Commission; however, the government may not direct the Commission on any issues related to Parts IIIA, IV, XIB, or XIC of the Trade Practices Act.[434]

The ACCC may authorize contracts, arrangements, and understandings, as well as acquisition of shares or assets, which fall within the scope of restrictive trade practices (Part IV of the Trade Practices Act, or section 151AJ(3) of Part XIB) or when the ACCC considers that they would be beneficial to the public.[435] Businesses engaging or proposing to engage in exclusive dealing conducts which would otherwise breach Part IV of the

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428. *See id.*

429. *See* Australian Competition and Consumer Commission, *About the ACCC*, *available at* <http://www.accc.gov.au/about/fs-about.htm>.

430. *See* DEPARTMENT FOR COMMUNICATION AND THE ARTS, *supra* note 383, at 10.

431. *See* Trade Practices Act, 1974, § 7 (Austl.).

432. *See id.* § 13.

433. *See id.* § 17.

434. *See id.* § 29.

435. *See id.* §§ 88-91.

Act (or section 151AJ(3)) can also notify the ACCC, which then determines whether they are entitled to benefit from statutory protection.[436]

In addition, the new telecommunications-specific provisions of the Trade Practices Act give supplementary powers to the ACCC. When it believes that a telecommunications operator is engaging in anti-competitive conduct, the Commission can issue a competition notice setting out the particulars of the violation.[437] Telecommunications operators proposing to engage in a given conduct can also apply to the ACCC to obtain an order exempting that conduct from the prohibitions of the Trade Practices Act.[438] The ACCC may grant an exemption order once it is satisfied that the conduct is not anti-competitive or that it will result in a net benefit to the public.[439] The ACCC is also in charge of administering the price control regime which can be imposed upon universal service providers[440] and of monitoring prices under the Price Surveillance Act 1983.[441]

The ACCC also plays a major role with respect to the access regime established under Part XIC. For example, it is the ACCC which "declares" the services to which standard access obligations apply.[442] When access terms and conditions are determined through arbitration, it is the ACCC which is the arbitrator.[443] Finally, when access terms and conditions are determined through implementation of an "access undertaking," the ACCC is called upon to determine whether the undertaking is acceptable.[444] The ACCC also developed the access pricing principles mentioned in Part V.B. above, and it produced a discussion paper on the way it would assess the long-term interests of end users.[445]

A certain number of the ACCC's decisions can be appealed to the Australian Competition Tribunal ("ACT"), which is a non-judicial body presided by a Federal Court judge and comprised of two other members, an economist and a business person.[446] The ACT "stands in the shoes of

436. *See id.* § 93.
437. *See id.* § 151AL.
438. *See* Trade Practices Act, 1974, § 151AJ (Austl.).
439. *See id.* § 151BC.
440. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 61.
441. *See* Australian Competition and Consumer Commission, *supra* note 424, at 56.
442. *See* Trade Practices Act, 1974, § 152AL (Austl.)
443. *See id.* Part XIC, Div. 8.
444. *See id.* Part XIC, Div. 5.
445. *See* Ann Peters, *Competition in Telecommunications: Promoting the Long-term Interests of End-users*, 5 COMPETITION & CONSUMER L.J. 272-92 (1998).
446. *See* Trade Practices Act, 1974, Parts III & IX (Austl.). *See also* Pengilley, *supra* note 379, at 523.

the ACCC" and can review all aspects of the ACCC's decisions.[447] Decisions of the ACT can be appealed to the Federal Court but only on questions of law.[448] The ACCC or ACT's decisions are enforced by the Federal Court through injunctions to stop anticompetitive conducts or through substantial pecuniary penalties of up to AU$10 million plus AU$1 million for each day during which the contravention continues.[449]

The Australian Communications Authority ("ACA") was established in 1997 by the Australian Telecommunications Authority Act.[450] The ACA has around 470 staff and a budget of about AU$50 million, covered for the most part by license fees and other charges.[451] It is responsible for technical aspects of telecommunications regulation. Under the Telecommunications Act 1997, the ACA is responsible for issuing licenses.[452] Once directed to do so by the Minister for Communications and the Arts, the ACA must develop and monitor performance standards for telecommunications operators,[453] and must design a schedule of damages for operators who fail to meet those standards.[454] The ACA is also responsible for registering codes of technical standards developed by associations of telecommunications industry representatives.[455] The ACA may request an association to develop such a code,[456] and if the industry fails to develop a code, it can make standards itself.[457] The ACA also prepares the numbering plan.[458]

Because of the close links which exist between antitrust and technical regulations, the Australian legislation provides for a degree of coordination between the ACCC and the ACA. For example, the ACCC may direct the ACA to make technical standards for interconnection[459] and to include rules for number portability in its numbering plan.[460] The ACA must also consult the ACCC on a number of matters including variations of techni-

447. DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 35.
448. *See* Trade Practices Act, 1974, § 152DQ (Austl.).
449. *See id.* Part VI.
450. *See* Australian Telecommunications Authority Act (1997), § 14 (Austl.).
451. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 9.
452. *See* Telecommunications Act, 1997, § 56 (Austl.).
453. *See* Telecommunications (Consumer Protection and Service Standards) Act, 1999, § 115(3) (Austl.).
454. *See id.* § 117.
455. *See* Telecommunications Act, 1997, § 117 (Austl.).
456. *See id.* § 118.
457. *See id.* §§ 123-25.
458. *See id.* § 455.
459. *See id.* § 384.
460. *See id.* §§ 460-61.

cal standards,[461] pre-selection of long distance or international operators, and override dial codes.[462] In addition, to further reduce the risks of conflicts between the two institutions, the Chairperson of the ACA is currently an associate member of the ACCC, while a member of the ACCC is an associate member of the ACA.[463]

The Minister for Communications and the Arts is responsible for selecting universal providers, determining the method of selection, and for approving the universal service plans that are developed by universal service providers.[464] It is also responsible for identifying the universal service charges subject to price controls,[465] determining the type of controls to be applied and the prices at which particular services are to be supplied.[466] The Minister can also set out principles regarding the pricing of standard access obligations.[467] The Minister has the power to issue the Rules of Conduct which are supposed to protect the Australian telecommunications market from distortions caused by international operators.[468] Finally, the Treasurer can direct the ACCC to monitor prices, costs, and profits relating to the supply of goods or services in a specified industry or by a specified person.[469]

Lastly, there are also several industry-based regulatory bodies in Australia. Three of the most important are the Telecommunications Access Forum ("TAF"), the Australian Communications Industry Forum ("ACIF"), and the Telecommunications Industry Ombudsman ("TIO"). The TAF is an association designated by the ACCC which must be open to all telecommunications infrastructure providers.[470] It has two main roles under the access regime of Part XIC. First, it recommends to the ACCC

461. *See* Australian Competition and Consumer Commission, *supra* note 383, at 46.

462. *See id.* at 48.

463. *See* OECD, *supra* note 28, at 110.

464. *See* Telecommunications (Consumer Protection and Service Standards) Act, 1999, Div. 3, 3A, 4, and 4A (Austl.).

465. *See id.* § 42.

466. *See id.* §§ 43-44.

467. *See* Australian Competition and Consumer Commission, *supra* note 383, at 35.

468. *See* Telecommunications Act, 1997, pt. 20 (Austl.).

469. *See* Australian Competition and Consumer Commission, *supra* note 383, at 56.

470. The ACCC designated the Australian Communications Access Forum, Inc., an association of telecommunications operators, as the TAF in May 1997 in accordance with section 152AI of the Trade Practices Act 1974. *See* Australian Competition and Consumer Commission, *The Telecommunications Access Forum* (visited Oct. 30, 1999) <http://www.accc.gov.au/telco/teleinf/telewo19.htm.>

the declaration of services.[471] Second, it may submit an access code to be approved as a code undertaking by the ACCC.[472]

The ACIF is the main communications industry body. It has primary responsibility for developing technical and operational standards. Any organization or individual can become a member of the ACIF, including telecommunications operators, equipment vendors, industry associations and consumer groups.[473]

The TIO is an industry-funded body set up to settle unresolved complaints made by residential and small business customers about telecommunications services. All telecommunications operators who provide telephone services or Internet access to residential and small business users must be registered as members of the TIO scheme and they must comply with any TIO determinations or directions. The TIO scheme is comprised of a Council, a Board of Directors, and the Ombudsman. The Council, which is responsible, inter alia, for maintaining the independence of the Ombudsman, is composed of equal representation of industry representatives and of consumer and community interests. The Board of Directors, composed of industry representatives, is responsible for the formal administration of the scheme and supervises its financial affairs. The Ombudsman, who must be an independent personality not associated with the industry, is appointed by the Board upon recommendation of the Council.[474]

D. Implementation of the Regulatory Framework

Since July 1997, the main developments which have taken place in Australia concern the following: (i) decisions by the ACCC on whether or not to declare certain services; (ii) attempts by the ACCC to prevent Telstra from abusing its market power; and (iii) miscellaneous recent decisions relating in particular to technical issues.

1. Declarations of Services

From July 1, 1997, the ACCC declared the services previously supplied under an AUSTEL-registered inter-operator access agreement. Be-

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471. *See* Trade Practices Act, 1974, § 152AL(2) (Austl.). The ACCC may also declare a service on its own initiative after having held a public inquiry on the matter. *See id.* § 152AL(3).

472. *See id.* §§ 152BH and 152BF. The ACCC is also empowered to design an access code if the TAF fails to deliver. *See id.* § 152BJ.

473. *See* Australian Communications Authority, *The Australian Telecommunications Regulatory Environment*, at 7, *available at* <http://www.aca.gov.au/authority/overview.htm>.

474. *See* Australian Competition and Consumer Commission, *supra* note 424, at 39.

cause the TAF was not able to reach a consensus on which additional services it should recommend the ACCC to declare, the ACCC held a series of public inquiries. The first inquiry was on roaming services. Given the fact that new entrants can enter into negotiations with any one of the three incumbents (Telstra, Optus, and Vodafone), the ACCC decided not to declare roaming.[475] In July 1999, however, the ACCC decided to declare fixed local services, thereby mandating access to Telstra's fixed local network.[476] The ACCC is currently debating whether to declare Integrated Services Digital Network ("ISDN")[477] services.[478]

2. *Controlling Telstra's Market Power*

The ACCC has initiated or completed arbitration processes with respect to a number of access disputes, mainly between new entrants and Telstra. They relate, for example, to the price of access to Telstra's fixed long-distance network as well as to the price and conditions for access to Telstra's GSM mobile network.[479] In the first half of 1999, the ACCC rejected Telstra's undertakings for interconnection with its fixed long-distance as well as with its mobile network.[480] The ACCC also issued several competition notices against Telstra on the grounds that Telstra was too slow in complying with consumers' requests to select a new long distance operator. The ACCC initiated proceedings in the Federal Court with respect to some of these notices.[481]

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475. *See* Rod Shogren, How Light-Handed Can You Get?—A Report on Telecommunications Regulation in Australia (Apr. 7-8, 1998) (unpublished manuscript distributed at the TUANZ Competition Symposium, Wellington, New Zealand, at 10).

476. *See* Australian Competition and Consumer Commission, *ACCC Opens Up Telstra's Local Network: Lower Prices and New High-Speed Services* (visited Dec. 10, 1999) <http://www.accc.gov.au/media/mediar.htm>.

477. Integrated Services Digital Network is a switched network providing digital connectivity for simultaneous transmission of voice and/or data.

478. *See* OECD, *supra* note 28, at 110.

479. *See, e.g.*, Australian Competition and Consumer Commission, *Telecommunications Access Disputes* (Feb. 22, 1999) <http://www.accc.goc.au/media/mr015-99.html>.

480. The ACCC concluded that proposed non-price conditions for both fixed and mobile interconnection were unacceptable and that the proposed interconnection prices for fixed services should be halved. *See* Australian Competition and Consumer Commission, *ACCC Rejects Telstra's Interconnect Proposal: Concludes Prices Should be Halved* (Jan. 19, 1999) <http://www.accc.gov.au/media/mr4-99.html>; *ACCC Rejects Telstra's Undertakings For Mobile Service* (Feb. 22, 1999) <http://www.accc.gov.au/media/mr016-99.html>.

481. *See* Australian Competition and Consumer Commission, *More Action on Telstra Commercial Churn* (visited Dec. 1, 1999) <http://www.accc.gov.au/media/mr-037-99.html>.

3. *Recent Developments*

The ACCC is currently working with industry on the development of a model for vertical accounting separation.[482] It has directed the ACA to develop rules and provide technical advice on number portability.[483] The ACCC has also launched a series of inquiries on topics including the state of competition in the mobile and local call markets,[484] and comparisons between telecommunications prices in Australia and in other countries.[485] Finally, the government has announced in 1998 that it proposed to sell its remaining two-third stake in Telstra.[486]

E. A Critical Appraisal of the Australian Regulatory Framework

The interesting aspect of the new Australian framework is that it applies solutions which constitute compromises between the more "radical" and sharply contrasted approaches of the United States and New Zealand. While the United States relies on highly sector-specific rules and New Zealand on economy-wide antitrust law to regulate economic issues in telecommunications, Australia relies on general antitrust rules complemented by telecommunications-specific rules integrated within the same antitrust legislation. Also, while the United States relies to a large extent on a sector-specific regulator and New Zealand mainly on non-specialized judges to administer the telecommunications regulatory framework, Australia confers that responsibility to a specialized body responsible for administering economic regulation in the whole economy. However, as the Australian framework has only been in place for a very limited period, the following discussion of how well the Australian model is designed to meet our six criteria has to be based more on a study of how the model is likely to work than on how it has actually worked in practice.

1. *Promotion of a Competitive Market Structure*

As mentioned in Part V.A, the government decided to open all segments of the telecommunications sector to full competition in 1997. Licenses, for example, are supposed to be available without restrictions (and in fact, it is not clear in that context why new entrants should be forced to

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482. *See* OECD, *supra* note 382, at 10.

483. *See id.* at 9.

484. Australian Competition and Consumer Commission, *Telecommunications Charges in Australia* 1 (1999), *available at* <http://www.accc.gov.au/media/mr-030-99.html>.

485. *See id.*

486. *See* OECD, *supra* note 28, at 4.

publish a development plan in order to obtain a license).[487] To complement the removal of barriers to entry, a sophisticated set of access rules was adopted. Those rules, contained in Part XIC of the Trade Practices Act, mandate access to some facilities,[488] give priority to negotiated solutions,[489] and provide for regulatory intervention when such solutions cannot be found.[490] This should facilitate the resolution of interconnection issues which are typically among the most frequent and difficult regulatory problems in telecommunications. The number of disputes which have required ACCC's intervention in this area since July 1997 clearly indicates that Australia is no exception in that regard.

As is the case in the United States, some commentators have argued that mandating access for whole categories of services—even only when negotiated solutions seem very unlikely—is a mistake because it would reduce facilities-based competition.[491] The arguments presented on this issue under Part III.E above apply here as well. As mentioned above, specific rules on number portability are also being developed.[492]

The Telecommunications Act 1997 also provides for mechanisms which should make it possible to meet universal service obligations efficiently and to avoid distorting competition in the sector. Competitive selection of universal service providers on the basis of the lowest subsidies required to provide universal service can be used to determine whether subsidies are truly required to ensure that universal service obligations are met, and at the lowest possible cost.[493] In addition, Australian legislation provides for entrusting different providers with the task of providing various services in various areas.[494] Such legislation also helps to ensure that universal services are provided at the lowest possible costs, as it creates the possibility of yardstick competition—i.e., competition through comparison of performances—between the different operators.[495] The obligation imposed upon all telecommunications operators to contribute to those costs in proportion to their share of total telecommunications revenues

487. *See supra text* accompanying note 407.
488. *See supra text* accompanying note 402.
489. *See supra text* accompanying note 403.
490. *See id.*
491. *See, e.g.*, Rodney Maddock & Anthony Marshall, *Access Regulation: The New Australian Model*, 6 UTIL. POL'Y 67, 73 (1997).
492. *See supra* text accompanying note 483.
493. *See supra* text accompanying note 415.
494. *See supra* text accompanying note 413.
495. DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 59.

should avoid distortions of competition between those who take on responsibility for universal services and those who do not.[496]

Finally, some authors also argue that insufficient attention was paid to the need for structural reforms, as was the case in New Zealand.[497] Some of them consider that the merger of Australia Telecom and OTC reinforced the market power of the dominant player, thus making the telecommunications market less competitive and complicating the task of the regulator.[498] International comparisons would in fact tend to indicate that the performance of the incumbent could be further improved.[499] In that context, as discussed in Part IV.E, it might be advisable to consider whether some structural reforms of the telecommunications sector could help introduce more competition and generate more information.

2. Specificity vs. Coherence

While establishing some telecommunications-specific rules, the Australian government has tried to take into account the growing similarities between telecommunications and other economic activities. Thus, in Australia, general antitrust rules (such as Part IV of the Trade Practices Act on anti-competitive conduct) are applicable in telecommunications.[500] In addition, many sector-specific rules have been integrated in the Trade Practices Act to reflect a general policy of bringing the regulation of competition in telecommunications more closely in line with the general antitrust regime.[501] Some telecommunications-specific rules must also be reviewed at regular intervals to determine whether they are still justified.[502] Finally, telecommunications-specific antitrust rules are administered by an econ-

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496. *See supra* text accompanying note 415.

497. *See, e.g.*, Peter Waters, *The Mystery of the Missing Ring Fence—Regulation of Vertically Integrated Telecommunications Operators* (Apr. 1998) <http://www.gtlaw.com.au/gt/pubs/missingringfence.html>; *see also* Ergas, *supra* note 369, at 3.

498. Ergas, *supra* note 369, at 5.

499. For example, in early 1999, the ACCC benchmarked Australian telecommunications charges against those of other industrial countries. Telstra ranked in general in the middle of the sample. Fixed international telephone service was however among the most expensive, as well as national cellular long distance services during peak periods. *See* Australian Competition and Consumer Commission, *supra* note 402. Also, it has apparently been difficult, for the regulator, to obtain accurate information on Telstra's costs. *See* Peter Leonard, *Footprints Down a Narrow Path #2: Lessons of Australian Telecommunications Regulation, 1991 to 1997* (Jul. 1997) <http://www.gtlaw.com.au/gt/pubs/footprints.html>.

500. *See supra* text accompanying note 383.

501. *See* Trade Practices Act, 1974, § 5.2 (Austl.).

502. *See supra* text accompanying note 399.

omy-wide regulator to ensure a consistency of approach to the administration of antitrust laws across all industry sectors.[503]

In spite of the government's efforts to align the antitrust regime applicable in telecommunications with the regime applicable to the rest of the economy, one could argue that there are still too many telecommunications-specific rules. The existence of those rules creates uncertainty when both telecommunications-specific rules and other rules are applicable to the same issues. Problems of interconnection could be tackled through an application of section 46, of the cross-sector access rules of Part IIIA, or of the telecommunications-specific access regime of Part XIC. This could potentially lead to incompatible decisions being rendered on interconnection, thereby introducing uncertainty which would hinder the entry of new operators into some segments of the market.[504]

The need for some of these sector-specific rules appears to have been exaggerated in Australia.[505] For example, it is not clear why there should be two slightly different definitions of the concept of misuse of market power, one for telecommunications under section 151AJ(2) and one for all other economic activities under section 46.[506] Similar arguments could be made with respect to Part IIIA and Part XIC. If the access regime under Part XIC improves upon the one established under Part IIIA—for example because services are declared by a specialized entity rather than by a minister, or because it leaves a larger role for the industry through the possibility of presenting code undertakings—why not adopt a unique access regime for all sectors based upon Part XIC rules?

3. *Flexibility vs. Certainty*

The Australian approach constitutes an interesting attempt to combine flexibility and certainty. Flexibility is pursued by leaving the ACCC broad discretionary powers when assessing access matters on the basis of the rather vague long-term interest of end users test.[507] On the other hand, the existence of telecommunications-specific rules on anti-competitive con-

503. DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 10.

504. *See* Warren Pengilley, *The National Competition Policy Draft Legislative Package: The Proposed Access Regime*, 2 COMPETITION & CONSUMER L. J. 251 (1995) (arguing that increased access would promote competition and be in the public interest).

505. *See generally* G. Q. Taperell & R. J. E. Dammery, *Anti-Competitive Conduct in Telecommunications: Are Supplementary Rules Required ?*, 4 COMPETITION & CONSUMER L. J. (1996).

506. The need for two definitions is questionable especially given that section 46 also applies to telecommunications since Part XIB rules do not replace Part IV rules, and when section 151AJ(3) refers explicitly to section 46.

507. *See supra* note 468.

duct and on access is aimed at increasing certainty. The guidelines which the ACCC has issued on competition notices and on access pricing also increase certainty,[508] as does the Commission's discussion paper on its general approach to the long-term interest of end users test.[509]

However, one aspect of the Australian regime is likely to draw criticism. The Minister for Communications and the Arts can exercise broad powers particularly with respect to the pricing of universal service,[510] the pricing of standard access obligations,[511] the design of rules aimed at preventing market distortions caused by international operators,[512] and the adoption of performance standards in telecommunications.[513] Such rules permit a political authority to have considerable discretionary power on issues which can have an enormous impact on the profitability of telecommunications operators, and are likely to raise private investors' concerns. To the extent that the government remains one of Telstra's shareholders, these concerns will be even greater as there are clear conflicts of interests between the ownership and the regulatory functions exercised by the government.[514]

4. *Autonomy, Technical Competence, and Stakeholder Participation*

In the telecommunications sector Australia has adopted an administrative, rather than a judicial, regime.[515] The ACCC, and to some extent the ACT, makes many of the important regulatory decisions, while the Federal Court is limited to a reviewing those decisions on legal, rather than on substantive grounds.[516] As mentioned above, certain measures have been taken to ensure the independence of the ACCC from industry players and to ensure some degree of autonomy vis-à-vis political authorities. In addition, as the ACCC operates across all sectors of the economy, commissioners are therefore likely to have only limited contacts with particular operators or sector ministries, which decreases the risks of regulatory capture. However, as it leaves some important powers to a minister, the regulatory model therefore allows some room for political intervention in the design and administration of some regulations.

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508. *See* DEPARTMENT OF COMMUNICATIONS AND THE ARTS, *supra* note 383, at 29.
509. *See* Peters, *supra* note 445, at 292.
510. *See supra* text accompanying note 465.
511. *See supra* text accompanying note 467.
512. *See supra* text accompanying note 468.
513. *See supra* text accompanying note 452.
514. *See generally* Leonard, *supra* note 499.
515. *See* Pengilley, *supra* note 379.
516. *See supra* text accompanying note 448.

Some commentators also recommend that particular characteristics of the TIO scheme should be modified to strengthen its independence vis-à-vis the industry. Some have argued that because several members of the Council are industry representatives, it is in fact unable to ensure the independence of the Ombudsman.[517] Another problem in that respect is that the TIO scheme is funded by the industry that it monitors.[518]

The ACCC and the ACT are staffed with specialists in matters of economic regulation.[519] In addition, the cross-sector nature of these two institutions enables their staff to gain expertise from their work in other sectors, while the establishment of a Telecommunications Group within the ACCC should help to ensure that in-depth knowledge of the telecommunications sector is developed within the institution.[520]

The Australian regulatory model is also characterized by the scope which it leaves for stakeholder consultation. The industry plays a large role in shaping regulations. Thus, the TAF can recommend services that the ACCC may declare[521] as well as develop access codes specifying terms and conditions of access;[522] the ACIF is responsible for developing codes of technical standards to be registered by the ACA.[523] Individual operators have an important role as well, as they can submit individual access undertakings[524] while regulatory intervention in interconnection disputes takes place only when the parties are unable to come to an agreement on their own.[525] In addition, unlike the New Zealand Commerce Commission, the ACCC is free to launch public inquiries or reviews aimed at facilitating the exercise of its regulatory functions in telecommunications. In fact, it must hold public inquiries before it can declare a service on its own initiative, and it must also invite public submissions before it can accept an individual undertaking on access terms and conditions.[526] Finally, the existence of the TIO scheme—whatever its possible

517. *See* Anita Stuhmcke, *The Corporatisation and Privatisation of the Australian Telecommunications Industry: The Role of the Telecommunications Industry Ombudsman*, UNIV. NEW S. WALES L.J. 807, 823-825 (1998).

518. *See id.*

519. *See supra* text accompanying notes 431 and 446.

520. *See* Peter Leonard, *Australian Communications after 1997* (Feb. 1996) <http://www.gtlaw.com.au/gt/pubs>.

521. *See supra* text accompanying note 455.

522. *See supra* text accompanying note 472.

523. *See supra* text accompanying note 473.

524. *See supra* text accompanying note 403.

525. *See supra* note 403.

526. *See* Trade Practices Act, 1974, § 152AH (Austl.).

flaws—should also help to ensure that users' complaints are heard and taken into account.[527]

While giving industry or individual operators a role in designing regulations certainly has its advantages, some backstop measures must also be taken to ensure that the required set of rules will be adopted, even if operators are unable to come to an agreement. For example, the ACCC has the mandate to intervene to ensure that access codes will be developed even if industry does not develop such codes and that interconnection disputes will be arbitrated if parties fail to come to a negotiated solution.[528]

5. Limitation of Regulatory Costs

In Australia, efforts have been deployed to limit regulatory costs in telecommunications. For example, conferring the main regulatory responsibilities to an economy-wide body such as the ACCC is generally more cost-efficient than setting up a variety of distinct sector-specific regulatory agencies.[529] Measures have also been adopted to avoid long and costly litigation on interconnection issues by promoting industry-designed solutions (e.g. possibility to present code or individual undertakings)[530] and by granting the ACCC the power to arbitrate when a negotiated agreement cannot be reached.[531]

On the other hand, the financial resources allocated for the technical regulation of telecommunications appear relatively high. As mentioned above, the ACA has about 470 staff and a budget of about AU$50 million, far more resources than those spent on economic regulation of telecommunications by the ACCC.

6. Efficiency of Allocation of Regulatory Responsibilities

As in New Zealand, the allocation of responsibilities in the Australian telecommunications regulatory regime appears clear. One source of concern, however, stems from the way responsibilities are shared between the ACCC and the ACA. For example, the ACCC administers the price control regime which applies to the provision of universal service[532] or to access charges,[533] while the ACA, on the other hand, is in charge of developing performance standards and monitoring the performance of tele-

527. *See supra* text accompanying note 474.
528. *See supra* text accompanying note 403.
529. *See* discussion *supra* Part II.D.5.
530. *See supra* note 403.
531. *See supra* text accompanying note 403.
532. *See* Department of Communication and the Arts, *supra* note 425, at 58.
533. *See supra* text accompanying notes 444 and 445.

communications operators.[534] The ACCC's and ACA's responsibilities are closely interrelated, since a modification of performance standards will affect the operators' costs and therefore the prices at which they can maintain the same level of profitability. The close links between the ACCC's and the ACA's responsibilities with respect to interconnection standards and number portability raise similar issues. It remains to be seen whether the coordination mechanisms which exist between the ACCC and the ACA as well as cross-membership of some staff between the two institutions will be sufficient to prevent slow or incoherent decision-making processes.

VI. COMPARATIVE ANALYSIS

Parts III, IV, and V describe three very different types of frameworks for economic regulation in the telecommunications sector. The objective of this Part is to compare the experiences of the United States, New Zealand, and Australia in an attempt to shed some light on how general antitrust and telecommunications-specific rules and institutions can be designed and on what role they can play to ensure that the six criteria identified in Part II.D are met to the largest possible extent.

A. Promotion of a Competitive Market Structure

All three countries have now established what are some of the most competitive telecommunications markets in the world. In each case, all explicit legal barriers to entry into any segment of the telecommunications market have been removed. In addition, general antitrust rules are fully applicable to the telecommunications sector. Beyond that, the options chosen to ensure the emergence of a competitive telecommunications sector differ in substantial ways among the three countries.

New Zealand constitutes a good benchmark of what can be achieved with few additional rules. In New Zealand, general antitrust rules constitute the main component of the framework for the economic regulation of telecommunications. Implementation of those rules has yielded satisfactory results with respect to some issues such as the imposition of dial parity for example.[535] The New Zealand authorities' objective to impose as light a regulatory burden as possible upon operators appears well-founded as it has lead to the elimination of licensing requirements.[536] However, with respect to interconnection and number portability, New Zealand's

534. *See supra* text accompanying notes 453 and 454.
535. *See supra* text accompanying note 310.
536. *See supra* text accompanying note 309.

light-handed approach has left much to be desired. Particularly with respect to interconnection issues, disclosure regulations, Telecom's undertakings, and the government's threats proved insufficient to complement antitrust law and to ensure the conclusion of negotiated agreements or the speedy resolution of disputes by the courts.[537]

Interconnection with local networks has also proven to be a particularly contentious issue in the United States and Australia. The options adopted in these two countries—rules aimed at ensuring number portability and at imposing specific terms and conditions of interconnection for certain categories of services upon incumbent operators, and rules which confer responsibility for dispute resolution to specialized regulatory entities—appears to be justified in light of the New Zealand experience. Yet in the United States, the incentives given to operators to open local markets to competition might not be the most optimal: by conditioning the entry of the ILECs into the long distance market to the effective opening of local markets to competition, the 1996 Act might have delayed, rather than accelerated, competition in local services.[538] On the whole, relying on tough penalties to impose precise terms and conditions of interconnection for certain pre-specified bottleneck facilities, as the Australians have done, might well yield the best results.

All three countries have imposed universal service obligations on telecommunications operators. In the United States and in Australia, mechanisms to ensure that universal service obligations are met are established by law, while in New Zealand, such obligations are imposed through the Kiwi Share. In each case, the cost of universal service obligations is supposed to be covered through fees levied on all operators. Such a system eliminates the need for cross-subsidies among the activities of a single operator and for the exclusive rights required to maintain such cross-subsidies; it is therefore fully compatible with the introduction of competition on all market segments. However, distortions of competition remain possible in New Zealand, since a single operator is chosen, ex ante, to provide universal service and there does not seem to be any guarantee that the fees levied upon all operators are adequately calibrated to cover the true costs of the service.[539] Once again, the Australian model seems better designed, as it provides for a more precise estimate of the costs of universal service by providing for the competitive selection of universal service providers on the basis of the level of subsidies required, and by enabling

537. *See supra* text accompanying notes 311-324.
538. *See supra* text accompanying notes 176-181.
539. *See supra* text accompanying notes 334-335.

comparisons of performance between different providers operating in different geographic or service markets.[540] The U.S. system, for its part, appears to be superior to the New Zealand system because it leaves open the possibility of having several universal service providers within a designated area and also because it provides for mechanisms designed to tailor universal service support to the real costs of providing the service. However, the U.S. system is inferior to the Australian system since it contains no mechanism for the competitive selection of universal service providers on the basis of the level of subsidies required.[541]

Both in New Zealand and Australia, the authors have argued that structural reforms of the telecommunications market should have been implemented to ensure the emergence of a more competitive market structure.[542] The objective of such structural reforms is to multiply the number of competitors and therefore facilitate negotiated agreements—since there are more operators with which to negotiate—and regulation—since more information is generated thanks to the multiplication of transactions between different operators. In those authors' view, structural measures are necessary because of the strength of the incumbent (in New Zealand and in Australia), the lack of detailed rules—(on interconnection, for example) to ensure that the incumbent does not misuse its market power (in New Zealand), and the lack of specialized regulatory bodies (in New Zealand). However, in the United States, the same conditions do not exist,—e.g., there is no operator which dominates both the local and long distance markets—and this probably explains why relatively few commentators seem alarmed by the possibility for BOCs and long distance operators to vertically re-integrate under the 1996 Act.[543] As mentioned in Part IV.E above, the strength of the arguments in favor of structural reforms in a particular market must be weighed against the risks that an imposed separation between different types of services might become artificial and unduly costly because of rapid technical evolution.[544]

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540. *See supra* text accompanying notes 493-496.

541. *See supra* text accompanying notes 86-88.

542. *See supra* notes 328 and 497.

543. In fact, some commentators consider that integration of local and long-distance service provision should have been allowed much earlier in the United States and should not be subjected to the conditions imposed by section 251. Arguments in favor of imposing some structural separation measures could be heard, even in the U.S. however, if the number of major telecommunications operators drastically decreased in the future following a wave of mergers and acquisitions among BOCs, long distance operators and cable TV companies.

544. *See supra* text accompanying notes 182-183.

B. Specificity vs. Coherence

The United States model, with its emphasis on detailed sector-specific rules applied by a sector-specific regulator, could be criticized for losing sight of the growing similarities which are developing between telecommunications and other sectors of the economy, especially in a market as liberalized and evolving as the American telecommunications market. The New Zealand model, on the other hand, with its heavy reliance on general antitrust rules implemented by judges, seems to be lacking some telecommunications-specific rules—on interconnection and number portability for example—and specialized institutions to implement them.

However, both the United States and the New Zealand experiences point to similar conclusions with respect to the shortcomings of general antitrust law to solve some specific telecommunications issues. First, economy-wide antitrust rules are too general to provide specific solutions to access disputes when access has to be granted to a particular facility for the first time.[545] Second, to the extent that they are aimed at preventing restrictions of competition, antitrust rules—such as section 7 of the U.S.'s Clayton Act on mergers, and section 36 of New Zealand's Commerce Act on the use of a dominant position—are ill-suited to introduce competition in markets where none existed before.[546] Third, for the same reason, they might also induce incumbents to restrict themselves to the operation of bottleneck facilities where no competition exists in the first place, rather than also to provide services in downstream competitive markets where they would be subjected to the application of antitrust law, even where vertical integration would be economically justified.[547] Fourth, antitrust law might not be specific enough in some cases to ensure that regulations not only do not have clear anti-competitive effects, but that they can also be effectively applied in practice.[548]

The Australian model attempts to strike a balance between the more extreme approaches adopted in the United States and in New Zealand. Efforts have been deployed to ensure the overall coherence of the regulatory framework by incorporating sector-specific rules within the economy-wide antitrust legislation, and by conferring responsibility for implementing those rules to a single economy-wide antitrust authority. Another particularly interesting feature of the Australian model is that the need for some sector-specific rules is to be reassessed at regular intervals. How-

545. *See supra* text accompanying note 331.
546. *See supra* text accompanying notes 184 and 336.
547. *See supra* text accompanying note 337.
548. *See supra* text accompanying notes 338-340.

ever, arguably still more could be done to align the regime applicable to the economic regulation of telecommunications with the one adopted in other sectors of the economy. Some sector-specific rules (such as section 151AJ(2) on the misuse of market power, or Part XIC rules) either do not seem to add much to economy-wide or infrastructure-wide rules, or could be used as the basis for establishing a single set of rules better designed to apply to the whole economy, or at least to multiple sectors.[549]

C. Flexibility vs. Certainty

The United States has established what is probably the most detailed regulatory framework of the three countries. Risks of excess rigidity are reduced, however, through the use of a broad public interest test which leaves relatively wide discretion to the FCC,[550] and through the power which is given to the FCC not to apply some provisions of the 1996 Act when certain conditions are met.[551] In fact, implementation of the 1996 Act has so far been hindered less by the rigidity normally associated with detailed regulations than by the uncertainty created by the absence of clear rules on some issues, such as the allocation of competencies between federal and state regulators.[552]

New Zealand, on the other hand, has opted for the most flexible of the three regulatory models, and has arguably introduced too much uncertainty in the regulatory process. For example, different courts have rendered contradictory decisions on the same issues.[553] Also, reliance on government intervention to secure certain agreements between operators and on a price-control regime which—although it has not been used so far—gives broad powers to the government could certainly cause concern among investors as it opens the door to politically-motivated and unstable regulatory decisions.[554]

As mentioned above, the Australian model constitutes an interesting attempt at combining flexibility and certainty of the regulatory process. As in the United States, the flexibility comes from the discretion which is given to the ACCC through the application of the broad long-term interest of end users test.[555] Yet a range of measures have been adopted to maintain a sufficient degree of certainty thanks to the guidelines and discussion

549. *See supra* text accompanying notes 504-525.
550. *See supra* text accompanying note 190.
551. *See supra* text accompanying notes 191-193.
552. *See supra* text accompanying notes 187-189.
553. *See, e.g.*, discussion *supra* Part IV.D (local loop cases).
554. *See supra* text accompanying notes 344-358.
555. *See supra* text accompanying note 507.

papers published by the ACCC on the way it would perform its functions.[556] However, as in New Zealand, it can be argued that too much discretion has been left to the Executive in certain areas.[557]

D. Autonomy, Technical Competence, and Stakeholder Participation

In all three countries, the importance of striving to ensure a sufficient degree of autonomy for those entrusted with the task of implementing economic regulation in telecommunications has been clearly recognized. While ministers might retain too much power on some issues in New Zealand and Australia, measures have been taken in all three countries to protect the regulators themselves against undue pressures, both from political authorities and from the regulated industry.

With respect to competence, the picture is slightly different. All three specialized regulatory bodies (the FCC, the Commerce Commission, and the ACCC) strive to recruit high-caliber specialists and are generally recognized as very competent institutions. The ACCC, in particular, has both economy-wide competencies, which favor cross-fertilization of experiences across sectors, and a department specializing in telecommunications, which should facilitate the acquisition of in-depth sector-specific knowledge. This combination appears well suited to provide a high level of expertise.[558] However, judges, who play an important regulatory role in New Zealand, appear to be lacking in regulatory expertise, and the presence of a single expert lay member in the High Court is insufficient to correct the problem.[559]

Finally, a series of measures—such as the promotion of industry-designed rules, the launch of public inquiries on a variety of regulatory topics, and the establishment of the TIO scheme—have been adopted in Australia to promote stakeholder participation in the regulatory process.[560] In the United States, stakeholder participation is also ensured in FCC proceedings through the application of the APA requirements.[561] In New Zealand, on the other hand, reliance on traditional court proceedings to solve regulatory disputes in telecommunications might not provide the best vehicle to ensure that the opinions of stakeholders such as end-users for example are heard and taken into account.[562]

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556. *See supra* text accompanying notes 508-529.
557. *See supra* text accompanying notes 510-514.
558. *See supra* text accompanying notes 515-536.
559. *See supra* text accompanying notes 355-370.
560. *See supra* text accompanying notes 521-528.
561. *See supra* text accompanying notes 115-119.
562. *See supra* text accompanying note 361.

E. Limitation of Regulatory Costs

Given the existence of a large sector-specific regulatory institution and the very detailed nature of the regulations themselves, the direct costs of establishing the regulator and compliance costs for operators are much higher in the United States than in New Zealand or Australia. With very few telecommunications specialists within the economy-wide Commerce Commission and very few detailed rules, New Zealand has kept such costs to a minimum. In Australia, which has an economy-wide regulator with much more responsibility and more detailed rules than in New Zealand, regulatory costs remain limited (except with respect to technical regulation), at a level higher than New Zealand, but much lower than in the United States.

Yet when the costs of judicial proceedings, delays, and possible regulatory mistakes are taken into account, comparisons between the three models might yield different results. The United States model certainly remains by far the most expensive, in part because of the long and costly judicial procedures which were necessary to define the roles of the FCC and state utility commissions. Because of the costly judicial processes and risks of regulatory mistakes associated with the New Zealand model, the costs in New Zealand might rise in relative terms with respect to those of the Australian model. However, because the Australian model is still at the early stages of implementation, more time is needed to determine which model is, on the whole, more economical.

F. Efficiency of the Allocation of Responsibilities

Potential problems appear to exist in each of the three countries with respect to the allocation of responsibilities for economic regulation in the telecommunications sector. In the United States and Australia, where different regulatory institutions have been entrusted with important responsibilities, the way those responsibilities are shared raises some issues. This is particularly true in the United States where the allocation of responsibilities between the FCC and the state utility commissions is unclear, and where the allocation of concurrent responsibilities to the FCC and the DOJ with respect to mergers increases costs, delays, and uncertainty.[563] Under section 271, the allocation of responsibilities between the FCC and DOJ has positive features since one institution (the FCC) is clearly in charge but can benefit from the expertise of the other (the DOJ). However, one can wonder whether in principle the DOJ should have been given the lead role, since section 271 calls for an assessment of the degree of openness of

563. *See supra* text accompanying notes 219-220.

the market, a task which an economy-wide competition regulator should be well-equipped to perform.[564]

In Australia, problems might arise because two different bodies have been given primary responsibility on closely interrelated topics, such as price and performance regulation, or interconnection and number portability regulation. The different measures put in place to ensure coordination between the activities of the ACCC and ACA constitute a positive element of the arrangement, but it is not clear whether this will be enough to prevent inconsistent decisions or delays, or whether it would not in fact have been wiser to confer such responsibilities to a single entity.

In New Zealand, where ultimate regulatory responsibility lies with the courts, the issue is whether the respective strength of the various institutions which could have been conferred regulatory responsibilities have been properly assessed before choosing the arrangements currently in place. Indeed, it could be argued that the technical competence of the specialized regulator (the Commerce Commission)—which could have been further strengthened through the hiring of additional specialists in the economic regulation of network industries in general or of telecommunications in particular—would have been put to better use if the Commerce Commission had been granted more regulatory responsibilities.

VII. CONCLUSION

Analysis of the United States, New Zealand, and Australian experiences with respect to the economic regulation of telecommunications yield some tentative lessons on how to design the regulatory framework—in particular, how to design the sector-specific, infrastructure-wide, or economy-wide components of that framework and how to organize the relationships between these components—in order to obtain the most efficient system possible.

In all three countries, strong emphasis has been put on fully liberalizing the telecommunications market. While the elimination of legal barriers to entry and application of antitrust law to all telecommunications activities have helped improve the performance of the sector, as demonstrated in New Zealand, the New Zealand experience also demonstrates that additional rules are required—on interconnection and number portability issues, for example—to maximize the benefits to be derived from competition. In particular, the policies adopted in the United States and in Australia—of mandating access to some facilities, such as the local loop—appear

564. *See supra* text accompanying note 216.

justified given the power that incumbents have to thwart competition in some segments of the market. On the whole, simply imposing precise terms and conditions for access to those facilities, as the Australians have done, appears to be a safer strategy than the one adopted in the United States to achieve the same objective, as that strategy presupposes that the legislator be able to assess correctly the way in which telecommunications operators will react to the complex set of incentives presented to them. As discussed above, the Australian model also appears to be the best designed to ensure that universal service requirements will not introduce distortions of competition into the telecommunications market. Finally, of the three countries discussed here, New Zealand, with its dominant incumbent operator, its lack of specific pro-competition rules, and its absence of specialized regulator, is the country in which the strongest case could be made that a need exists for some pro-competition structural reforms.

The above conclusions point to the need for some telecommunications-specific rules, for example, to eliminate sector-specific barriers to entry, to solve interconnection or number portability issues, to impose specific universal service obligations, and to implement structural reforms in the sector when they are deemed necessary. The Australian decision to incorporate the main telecommunications-specific rules within the general antitrust law, and to entrust a single economy-wide antitrust body with the task of implementing those rules, seems to reconcile the need to take the particular features of the telecommunications sector into account and to ensure the coherence of regulatory decisions across sectors. Mandating a regular review of the need for sector-specific rules in economic regulation is positive, since many of these rules are likely to be needed only during a transition period. Indeed, while general antitrust rules might be ill-suited to deal with markets where no competition exists or to provide specific solutions to new technical issues, they might suffice when competition has developed in all market segments and when a track record has been established on how to tackle such technical issues. In countries which have chosen to set up both a telecommunications-specific regulator and an economy-wide competition regulator, the task of reviewing whether telecommunications-specific rules are still needed might be entrusted to the economy-wide regulator. An economy-wide regulator can bring its cross-sector expertise to bear on determining the extent to which competitive pressures already exist in the sector. Also, unlike sector-specific regulators, competition regulators can decide whether specific rules are no longer required, without putting their own jobs at risk.

An adequate balance must be struck between flexibility and certainty both with respect to the content of the rules and with respect to the proc-

esses devised to modify the rules. As for the content of the rules, the Australian approach is interesting, as it leaves relatively broad discretion to a competent regulator, while mandating that the regulator publish guidelines and discussion papers on the way it will exercise this discretion. Perhaps an even better solution would have been to give less discretion to the regulator at the beginning, but allow additional discretionary powers to the regulator after it exercises its functions during a period sufficient to fully establish its credibility. As for modifying rules, it is indispensable to reassure private investors that rules which directly impact upon their profitability will be stable, and that they will be administered by entities protected from undue political pressures. In both New Zealand and Australia, individual ministers seem to retain too much power to modify or administer directly some rules in that respect.

The importance of protecting the regulatory process from undue political and industry pressures cannot be over-emphasized. Many appropriate measures have been taken in all three countries in that domain. In addition, economy-wide regulators, such as the Commerce Commission or the ACCC, would tend to have an advantage over sector-specific entities such as the FCC in that respect. Given the technical difficulty of the regulatory issues which need to be tackled, specialized regulators seem necessary. Cross-sector agencies with a specialized department focussing on telecommunications, such as the ACCC, constitute an attractive formula. Finally, the measures adopted in Australia—such as the promotion of industry-designed rules and the conduct of public inquiries for example—combined with appropriate backstops to ensure that the required decisions are taken even when operators fail to come up with adequate proposals, would seem to go some way in meeting the objective of fostering stakeholder participation in the regulatory process.

With respect to the objective of limiting regulatory costs, the Australian model once again presents some attractive features. The combination of an economy-wide regulator, of detailed rules to reduce uncertainty on some contentious issues, and of mandatory arbitration by the regulator to resolve unavoidable disputes on topics such as interconnection, offers good prospects of limiting not only the direct costs of establishing and maintaining regulatory institutions, but also compliance costs for operators, as well as the costs of delays and regulatory mistakes.

Finally, in order to prevent overlaps or gaps in the allocation of regulatory responsibilities, and in order to ensure that regulatory responsibilities are entrusted to those best able to carry them out, an attractive option is to confer the power to exercise economic regulation in the telecommunications sector to a single, specialized cross-sector institution in charge of

ensuring the application of competition rules in the whole economy. This is the option chosen in Australia. However, it might have been more rational to give to the ACCC a lead role in administering performance standards and in devising number portability rules (with the support of a specialist, technical, body such as the ACA), due to the impact that such issues have on pricing and interconnection issues for which the ACCC is already primarily responsible.

In conclusion, one word of caution: while the United States, New Zealand, and Australia have chosen very different models of economic regulation in telecommunications, the three countries are broadly similar in a number of ways, including institutional endowments and level of economic development for example. Therefore, great care should be taken when attempting to transpose some of the lessons derived here to other country settings.

ARTICLE

THE INTERNET GAMBLING FALLACY CRAPS OUT

By Joel Michael Schwarz[†]

ABSTRACT

Despite the tremendous amount of media attention and the growing body of academic literature on the legality of Internet gambling, several issues remain contentious. Many groups continue to argue that Internet gambling takes place offshore, outside of United States jurisdiction, and is therefore not subject to United States law. These groups also argue that Internet gambling is legal in numerous states around the country. Finally, many Internet gambling proponents argue that even if Internet gambling were found to be illegal within the United States, and even if it were deemed to be subject to our laws, these laws are nonetheless impossible to enforce because of the boundless nature of the Internet. The author first considers current anti-gambling laws and applies them to the Internet, concluding that gambling activity is illegal under federal law, as well as under state law absent explicit state authorization. Next, the author examines the locus of the gambling activity and determines that the gambling occurs where the gambler is located, regardless of where the servers are located. The author finally addresses various methods for enforcing a judgment against an Internet gambling business. By concentrating on cutting off access to the Internet gambling website and rendering the Internet gambling operators unable to secure funds from United States citizens, the author argues that law enforcement can in fact stem the offering of illegal Internet gambling within the United States.

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I. RULES OF THE GAME: AN INTRODUCTION

> Gambling is inevitable. No matter what is said or done by advocates or opponents of gambling in all its various forms, it is an activity that is practiced, or tacitly endorsed by a substantial majority of Americans.[1]

The foregoing statement was issued in 1976 as part of the opening remarks of the Commission on the Review of National Policy Toward Gam-

1. COMMISSION ON THE REVIEW OF NATIONAL POLICY TOWARD GAMBLING, FINAL REPORT 1 (1976).

bling. Although these words were written almost a quarter of a century ago, long before the Internet was used as a commercial communications medium, they could just as easily have been written today about Internet gambling. Akin to the concerns with which the Commission was faced in 1976, many state and federal law enforcement agencies currently wrestle with the difficulty of prosecuting crime that utilizes a borderless and boundless medium such as the Internet.[2]

The advent of the Internet presents a new and unique challenge for regulators. Unlike traditional casinos, Internet gambling sites cannot be shut down by merely chaining the doors. Nor can we emulate Fiorello LaGuardia's famous crusade against gambling by taking a sledgehammer to the gambling machines and pushing them onto the New York City barge.[3] In fact, unlike gaming of the past, Internet gambling does not even need to be hosted in the state or the country where the player logs in. The fact that Internet gambling knows no boundaries adds an additional layer of complexity that distinguishes it from its predecessors.

Some of the oft-cited reasons for prohibiting land-based gambling have been: (1) a fear of encouraging addicted gamblers who may squander their limited family resources in furtherance of their addiction;[4] (2) a concern about the ability of regulators to oversee gambling activity so as to ensure honest practices and prevent rigged gaming and other fraudulent gaming enterprises;[5] (3) a need to prevent the operation of gambling en-

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2. *See* Kenneth A. Freeling & Ronald E. Wiggins, *Despite Tough Talk From Prosecutors, and Despite Indictments of Those Charged With Internet Gambling, No Court Has Held That U.S. Law Prohibits Such Betting*, NAT'L L.J., Mar. 30, 1998, at B7; *see also* Elliott Almond, *Borderless Betting*, SAN JOSE MERCURY NEWS, Jan. 24, 1999, at D1; Ian Plumley, *Visions of New Gaming*, LA FLEUR'S LOTTERY WORLD, May 1998, at 15.

3. *See* Roger Dunstan, *Gambling in California*, CALIFORNIA RESEARCH BUREAU ch. II (Jan. 1997) <http://www.library.ca.gov/CRB/97/03/crb97003.html>.

4. *See, e.g.*, Intercontinental Hotels Corp. v. Golden, 203 N.E.2d 210, 213 (N.Y. 1964) ("The New York constitutional provisions were adopted with a view toward protecting the family man of meager resources from his own imprudence at the gaming tables."); Roland v. United States, 838 F.2d 1400, 1402 (5th Cir. 1988); United States v. Martinez, 978 F. Supp. 1442, 1447-48 (D. N.M. 1997); *see also* Davan Maharaj, *Web Bettors Push Odds With Credit Card Debt*, L.A. TIMES, November 22, 1999, at A1, A7 (Fred Marino, a California man who has more than $100,000 in credit card gambling bills, said that he felt he "had to gamble to make [his] losses back up" and that he "ended up maxing out all [his] cards and losing [his] home.").

5. *See, e.g., Intercontinental Hotels*, 203 N.E.2d at 213 (noting that unsupervised, unregulated gambling "affords no protection to customers and no assurance of fairness or honesty in the operation of the gambling devices"); DeMarco v. Colorado Ltd. Gaming Control Comm., 855 P.2d 23, 26 (Colo. Ct. App. 1993) (explaining that the Gaming Act provides detailed regulation of those involved in the legalized gambling industry, in order

terprises by criminals and organized crime;[6] and (4) a concern that legalized gambling may encourage gambling by minors.[7]

The very same public policy concerns that have led many states to prohibit land-based gambling are even more cogent when viewed in light of the increased freedom, anonymity and ease of access offered by the Internet. For example, evidence suggests that the problem of addictive gambling grows even greater as access to gambling devices increases.[8] Additionally, honesty and fairness in the gaming venture become even more elusive when gambling is offered over the Internet, since there is a distinctive "lack of consumer protection" in Internet gambling, as well as an inability to ensure that consumers who choose to gamble actually get paid for their winnings.[9] Moving gambling onto the Internet may also open up a whole new world for criminals and organized crime, since the initial investment required for setting up a cyber-gambling operation is

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"to assure that honest wagering actually takes place and to maintain public confidence that such is the case"); People v. Busco, 46 N.Y.S.2d 859, 871 (Ct. Spec. Sess. 1942) (holding that the Penal Law prohibition against gambling was enacted to completely eliminate professional gambling which is "injurious to the morals and welfare of the people").

6. *See, e.g.*, Greater New Orleans Broadcasting Ass'n v. United States, 149 F.3d 334, 338 n.9 (5th Cir. 1998) ("The social problems encompass rises in organized crime, violence, embezzlement, fraud ... theft...."); Romualdo P. Eclavea, Annotation, *Validity, Construction & Application of 18 U.S.C.A § 1955 Prohibiting Illegal Gambling Businesses*, 21 A.L.R. FED. 708 §1[c] (1974) (setting forth the Congressional findings which led to passage of the Organized Crime Control Act of 1970, 18 U.S.C. § 1955); Meg Vaillancourt, *Cellucci Cool to Expansion of Gaming, But Gambling Issue May Heat Up Again*, BOSTON GLOBE, Jan. 30, 1999, at E2 ("Reilly also expressed concerns that expanded gambling could lead to an influx of organized crime in the state.").

7. *See, e.g.*, Carver, Inc. v. State, 672 So.2d 1141, 1143-44 (La. Ct. App. 1996) (affirming administrative revocation of a video gaming license based upon its finding that a young child was allowed to play or operate a video gaming device in violation of a statute prohibiting minors from playing such devices); Pando *ex rel.* Pando v. Fernandez, 485 N.Y.S.2d 162, 165 (Sup. Ct. 1984). *See generally Greater New Orleans Broadcasting*, 149 F.3d 334.

8. *See* Anthony Cabot, *A Primer on the Legality of Gambling on the Internet*, ANDREWS GAMING INDUSTRY LITIG. REP. 3, 4 (Sept. 1997) (noting that online gambling "is the equivalent to placing slot machines in millions of homes"); *see also* Stevie A. Kish, *Betting on the Net: An Analysis of the Government's Role in Addressing Internet Gambling*, 51 FED. COMM. L.J. 449, 453 (1999); John T. Fojut, *Ace in the Hole: Regulation of Internet Service Providers Saves the Internet Gambling Prohibition Act of 1997*, 8 DEPAUL-LCA J. ART & ENT. L. 155, 161-62 (1997).

9. *See generally* Wendy R. Leibowitz, *Senate Bans Most 'Net Gambling; Many Bet on Poor Enforcement*, NAT'L L.J., Aug. 10, 1998, at B6. *See also* Anthony Cabot, *Internet Gambling in the Information Age*, 7 NEV. LAW. 20, 21 (1999).

significantly lower than the cost of establishing a real-world casino.[10] Finally, one of the largest potential problems with Internet gambling is the inability of Internet gambling operators to prevent minors from logging in to a website and placing wagers.[11]

Because of its borderless nature, Internet gaming also allows the gambling enterprise to completely shift the costs of gambling-related remedial measures. In states where land-based gambling is permitted, the licensed gambling entities presumably pay taxes and licensing fees; at least some of these revenues aid the states in dealing with gambling's social ills, as well as fund various state enforcement mechanisms. By contrast, Internet gambling operators do not pay a dime to the state.[12] In fact, they do not even need to set foot into the state, or anywhere in the United States. Yet, it is the state in which the gambler resides that will have to contend with the fallout from unlawful gambling, including treatment and care of addicted gamblers, enforcement initiatives to enjoin fraudulent gambling businesses, criminal prosecutions to terminate criminal ventures, and the expenditure of state funds to help protect underage gamblers.

This new advance in technology requires a change in resources and a new application of the existing arsenal of enforcement mechanisms, which will require forward thinking by prosecutors.[13] It also requires a fresh look at anti-gambling laws in order to apply them to the new challenges at hand. Just as changing jurisdictional boundaries have presented new but surmountable challenges for courts, obstacles created by Internet gambling are likewise surmountable. Current anti-gambling laws need only be adapted to a new perspective. By applying to the Internet the enforcement mechanisms already available under various federal and state gambling statutes, in conjunction with a concerted effort to enact new legislation specifically directed to the online world, regulators can gain significant control over Internet gambling operations within their borders. As such, the primary purpose of this article is to gain a better understanding of

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10. *See* Cabot, *supra* note 8, at 3 (noting that with the advent of Internet gambling, "the gambling industry is [essentially] left in the hands of every shyster or con artist who can afford a computer and a programmer").

11. *See* Brad Knickerbocker, *For Many Teens, Gambling Starts at Home. First It's a Scratch of a Lotto Ticket. Eventually It Could be Stealing to Support An Addiction*, CHRISTIAN SCI. MONITOR, Jan. 7, 1999, at 3; *see also* Fojut, *supra* note 8, at 161-62; Kish, *supra* note 8, at 451.

12. *See* Mark G. Tratos, *Gaming on the Internet*, 3 STAN. J.L. BUS. & FIN. 101, 114 (1997).

13. *See, e.g.*, Jack Goldsmith, *What Internet Gambling Legislation Teaches About Internet Regulation*, 32 INT'L LAW. 1115, 1118-20 (1998).

these federal and state gambling statutes, the various enforcement options currently available, and the options that may be available in the future.

Part II of this Article briefly describes how the Internet works and how individuals actually log in to an Internet gambling website and place bets. After highlighting the federal statutes that were designed to prohibit illegal interstate and international gambling activity, Part III reviews various state constitutions and gambling statutes, and concludes that gambling must be explicitly authorized by a state in order to be legal. Part IV begins with an examination of case law pertaining to the assertion of personal and subject matter jurisdiction over an Internet gambling business. Part IV then examines the notion that Internet gambling is beyond the reach of United States law enforcement because it occurs offshore where the gambling servers are located and licensed. Part IV concludes that regardless of where the gambling servers are located and licensed, the gambling is deemed to occur in the United States, in violation of United States law. Proceeding from the presumption that an offshore Internet gambling enterprise will refuse to comply with a court order prohibiting the offering of gambling services to United States citizens, Part V explores the various mechanisms that may be used to sever domestic access to illegal Internet gambling. Part VI discusses the current controversy of how best to combat Internet gambling, and concludes that regardless of whether or not there is a nationwide crackdown on such activity, Internet gambling remains a prosecutable offense under pre-existing federal and state laws.

II. ANTE UP: HOW TO LOG IN TO AN INTERNET CASINO

Access to the Internet is generally accomplished through the use of a modem, which is attached to a user's computer and a phone line in the user's home.[14] After the user's modem has dialed onto the Internet through the use of a commercial or non-commercial interactive computer service provider ("ICS provider"),[15] the user can log in to a website such as a vir-

14. *See* ACLU v. Reno (CDA I), 929 F. Supp. 824, 832 (E.D. Pa. 1996).

15. An interactive computer service is "any information service, system, or access software provider that uses a public communication infrastructure or operates in interstate or foreign commerce to provide or enable computer access by multiple users to a computer server, including specifically a service or system that provides access to the Internet." S. 692, 106th Cong. § 2(a)(6) (1999).

tual gambling casino.[16] The user can then enter the virtual casino and play blackjack, slots, roulette, and various other games of chance.[17]

After selecting a game, a user makes numerous gambling-related decisions from the comfort of his or her own home, including how much money to bet, and enters this information into the computer.[18] Similarly, after reviewing the applicable odds, point spreads and other relevant data, a user may place a bet on a sporting event through an online bookie.[19]

With the press of a button, or the click of a mouse, the information is transmitted over the phone lines, which are connected through a network of interstate and international wire communication facilities, to the servers of the business hosting the Internet gambling website.[20] These servers are generally located offshore in a country that issues Internet gambling licenses, such as Antigua or Australia.[21] In fact, as of the end of 1998, there were approximately twenty-two jurisdictions outside of the United States that were licensing, and in some manner regulating, Internet gambling.[22]

The servers hosting the Internet gambling operations in turn transmit information to a user's home computer, providing the user with an "interactive gaming experience."[23] Thus, by hosting a virtual casino and ex-

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16. *See generally CDA I* at 833. *See also* Peter Brown, *Regulation of Cybercasinos and Internet Gambling*, 547 PLI/PAT 9, 12-13 (1999).

17. *See* Jose Martinez, *A Gambler in Boston Laid 45 Grand on This Weekend's Football Games*, BOSTON HERALD, Nov. 2, 1998, at 3. *See generally* Freeling & Wiggins, *supra* note 2.

18. *See generally* Almond, *supra* note 2. *See also* James Rutherford, *Special Report: Internet Gambling: The Newest Casinos*, CASINO PLAYER, Dec. 1997, at 36, 36 ("Right now, somewhere out there in that wondrous global supermarket they call the World Wide Web—just a mouse click away on your home computer—the cards are snapping, the reels are spinning, the dice are rolling. About 60 'casinos' are up and running on the Internet, ready to take your bets for real money ....").

19. *See, e.g.*, Martinez, *supra* note 17; Almond, *supra* note 2.

20. *See generally* Freeling & Wiggins, *supra* note 2, at B7 ("The Internet can be much more effective than the telephone for interstate gambling. The Internet's reach makes possible practically unlimited simultaneous multi-channel communications. The potential number of bettors who can access a Web-based service is limited only by the number of connections to the Web and the service's ability to handle traffic."). *See also* People v. World Interactive Gaming Corp., 1999 WL 591995, at *5-6 (N.Y. Sup. Ct. July 22, 1999).

21. *See* Almond, *supra* note 2, at D1 ("Web surfers can wager on horse racing in Germany or place a bet in Australia, Antigua and a host of other countries without anyone being the wiser."). *See also* Fojut, *supra* note 8, at 169.

22. *See* Martinez, *supra* note 17.

23. *See generally* Martinez, *supra* note 17, at 3 ("From the security of his home computer, Mr. Surething logged onto a half-dozen sportsbook sites in England, Costa Rica, Jamaica and Antigua."); Freeling & Wiggins, *supra* note 2, at B7.

changing betting information transmitted internationally between an island offshore and a state within the United States, the business engages in gambling in violation of numerous federal and state laws.

III. ROLLING THE DICE: THE LEGALITY OF INTERNET GAMBLING UNDER CURRENT LAW

Due to the fact that most federal and state gambling laws were enacted long before the advent of Internet gambling, questions have arisen as to the applicability of these laws to the Internet. A careful review of federal gambling laws, however, demonstrates that even before the Internet became a viable commercial medium, Congress had the foresight to draft these prohibitions broadly so as to encompass the possibility that the means for offering gambling may change over time. A review of state constitutional and statutory authority likewise demonstrates that Internet gambling is currently illegal within most states' borders regardless of whether or not the Internet was extant at the time these laws were passed.

A. Federal Anti-Gambling Provisions

The transmission of gambling information in interstate or foreign commerce is illegal under numerous federal laws including the Federal Interstate Wire Act (also known as "the Wire Act"),[24] and the Interstate and Foreign Travel or Transportation in Aid of Racketeering Enterprises Act (also known as "the Travel Act").[25]

The Wire Act provides in part:

> Whoever being engaged in the business of betting or wagering knowingly uses a wire communication facility for the transmis-

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24. 18 U.S.C. § 1084 (1994).

25. *Id.* § 1952; *see also World Interactive*, 1999 WL 591995 at *6; Brown, *supra* note 16, at 21-23; Mark G. Tratos, *supra* note 12, at 104-05 (1997).

In addition to the Wire and Travel Acts, the Interstate Transportation of Wagering Paraphernalia Act (also known as the "Wagering Paraphernalia Act") prohibits the interstate or international transportation of wagering paraphernalia in furtherance of a gambling enterprise. 18 U.S.C. § 1953(a) (1994). *See also* Brown, *supra* note 16, at 23-24; The Gambling Devices Transportation Act, 15 U.S.C. §§ 1171-1178 (1994). For example, an Internet gambling enterprise might be said to have sent a gambling "device" in foreign commerce in violation of the Wagering Paraphernalia Act if the computer servers for the Internet casino are purchased domestically and then shipped offshore. *See generally* Rutherford, *supra* note 18. Courts have also found gambling enterprises vicariously liable under the Act. *See* United States v. Zambito, 315 F.2d 266, 267 (4th Cir. 1963), *cert. denied*, 373 U.S. 924 (1963). As such, the online casino which solicits United States residents to fund wagering accounts via the mailing of a check, or other such means, could arguably be said to be in violation of the Wagering Paraphernalia Act.

> sion in interstate or foreign commerce of bets or wagers or information assisting in the placing of bets or wagers on any sporting event or contest, or for the transmission of a wire communication which entitles the recipient to receive money or credit as a result of bets or wagers, or for information assisting in the placing of bets or wagers, shall be fined not more than $10,000 or imprisoned not more than two years, or both.[26]

The Wire Act defines a wire communication facility as "any and all instrumentalities, personnel, and services ... used or useful in the transmission of writings, signs, pictures, and sounds of all kinds by aid of wire, cable, or other like connection between the points of origin and reception of such transmission."[27]

Similarly, the Travel Act states that:

> Whoever travels in interstate or foreign commerce or uses any facility in interstate or foreign commerce, including the mail, with intent to (1) distribute the proceeds of any unlawful activity; or (2) commit any crime of violence to further any unlawful activity; or (3) otherwise promote, manage, establish, carry on, or facilitate the promotion, management, establishment, or carrying on, of any unlawful activity, and thereafter performs or attempts to perform (A) an act described in paragraph (1) or (3) shall be fined under this title, imprisoned not more than five years, or both.... As used in this section (i) "unlawful activity" means (1) any business enterprise involving gambling....[28]

Although the use of a wire or wire communication facility is not explicitly referenced within the Travel Act, courts have consistently interpreted this statute to include a prohibition against the use of a wire or wire communication facility.[29]

Since the initial enactment of the Wire and Travel Acts, courts have expanded their application, holding gambling enterprises liable not only for their own use of interstate wire communication facilities, but also for causing "one or more [other] persons to do some act in connection" with

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26. 18 U.S.C. § 1084(a) (1994).

27. *Id.* § 1081.

28. *Id.* § 1952(a)-(b).

29. *See* United States v. Villano, 529 F.2d 1046, 1052 (10th Cir. 1976), *cert. denied*, 426 U.S. 953 (1976); United States v. Burke, 495 F.2d 1226, 1228-29 & n.4 (5th Cir. 1974), *cert. denied*, 419 U.S. 1079 (1974); United States v. Hanon, 428 F.2d 101, 108 (8th Cir. 1970), *cert. denied*, 402 U.S. 952 (1971); United States v. Smith, 209 F. Supp. 907, 916 (E.D. Ill. 1962).

the gambling operation that utilizes those facilities.[30] Since Internet gambling also uses wire communication facilities for the purpose of transmitting the gambling information, a logical expansion in the application of these Acts would be to Internet gambling.

In an effort to circumvent the application of the Wire and Travel Acts to Internet gambling, however, some Internet gambling operators have argued that the Acts are inapplicable to their activities because the Internet did not exist at the time of the statutes' enactment. As such, the operators contend that Congress could never have intended for them to apply to Internet gambling.[31] This argument appears to be fallacious, however, when one reviews the Congressional intent behind the passage of the Wire and Travel Acts.

For example, the legislative history of the Wire Act indicates that it was intended to be applied broadly so as to prevent *any* interstate or international transmission of gambling information to or from the United States using wire communication facilities.[32] As former U.S. Attorney General Robert F. Kennedy wrote, "[t]he purpose of [the Wire Act] is to aid ... in the suppression of organized gambling activities by prohibiting the use of or the leasing, furnishing, or maintaining of wire communication facilities which are or will be used for the transmission of certain gambling information in interstate and foreign commerce."[33]

Case law also suggests a broad interpretation of both Acts. In *United States v. Smith*,[34] the court explained that the Travel Act should be read so as to effectuate the purpose of the statute "especially when it can be, and has been, determined by the Act itself or its legislative history what it is that the Congress is trying to accomplish by the passage of the act."[35] In *United States v. Borgese*,[36] the Southern District of New York approvingly cited *Smith* when it noted that the Wire Act and the Travel Act "are clearly directed against unlawful activity involving the use of interstate commerce

30. United States v. Salsbury, 430 F.2d 1045, 1049 (4th Cir. 1970); *see also* Bass v. U.S., 324 F.2d 168 (8th Cir. 1963).

31. *See, e.g.*, Fojut, *supra* note 8, at 157.

32. *See* H.R. REP. NO. 87-967, at 1 (1961), *reprinted in* 1961 U.S.C.C.A.N. 2631.

33. *Id.* at 2633.

34. 209 F. Supp. 907 (E.D. Ill. 1962).

35. *See id.* at 916 (citing Brooks v. United States, 267 U.S. 432 (1925)); *see also* Kish, *supra* note 8. As the *Smith* Court noted in dicta, Congress' power to regulate interstate commerce is not in any way limited to only certain forms of media. 209 F. Supp. at 916.

36. 235 F. Supp. 286 (S.D.N.Y. 1964).

facilities."[37] Similarly, as the Fifth Circuit observed in *United States v. Steubben*,[38] the Wire Act, the Travel Act, and the Wagering Paraphernalia Act were meant to be interpreted broadly so as to accomplish the Congressional intent behind their passage, namely to regulate "any gambling-related activity that touches upon interstate commerce."[39]

In *People v. World Interactive Gaming Corp.*,[40] the court specifically addressed the application of the Wire and Travel Acts to Internet gambling. In holding that both of these Acts applied to the Internet, just as they do to more traditional gambling, the court noted that

> [l]ike a prohibited telephone call from a gambling facility, the Internet is accessed by using a telephone wire. When the telephone wire is connected to a modem attached to a user's computer, the user's phone line actually connects the user to the Internet server and then the user may log onto this illegal gambling website from any location in the United States.[41]

As such, the court reasoned that "[b]y hosting this casino[42] and exchanging betting information with the user, an illegal communication in violation of the Wire Act and Travel Act has occurred."[43] The court also found the respondents' activities to violate the Wagering Paraphernalia Act.[44]

In essence, it would appear that Congress intended to prevent and punish the use of interstate commerce for illegal or immoral purposes such as gambling. There is no reason to believe that Congress would have intended to exempt Internet gambling from the scope of these statutes, since Internet gambling presents precisely the type of evils the statutes were enacted to prevent. Whether gambling occurs in real-space or cyberspace,

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37. *Id.* at 296-97. This rationale was likewise adopted by the court in *World Interactive* when it ruled that "the Interstate Commerce Clause gives Congress the plenary power to regulate illegal gambling conducted between a U.S. and a foreign location" and as such "[g]ambling conducted via the Internet ... is indistinguishable from any other form of gambling." People v. World Interactive Gaming Corp., 1999 WL 591995, at *6 (N.Y. Sup. Ct. July 22, 1999).

38. 799 F.2d 225 (5th Cir. 1986).

39. *Id.* at 229; *see also* Martin v. United States, 389 F.2d 895, 899 (5th Cir. 1968); *Borgese*, 235 F. Supp. at 297-98.

40. 1999 WL 591995 (N.Y. Sup. Ct. July 22, 1999).

41. *Id.* at *7.

42. Since the website in *World Interactive*, as well as many other gambling websites, required the user to download software to a computer prior to entering into and registering with the casino, the court reasoned that this created a "virtual casino within the user's computer terminal." *Id.* at *6.

43. *Id.*

44. *Id.*

the same interstate wire facilities are used. Therefore, federal statutes regulating traditional forms of gambling are applicable to gambling activities on the Internet.

B. State Anti-Gambling Provisions

An analysis of state constitutions and statutes reveals that gambling is presumptively illegal in a state unless there is explicit state constitutional and/or legislative authorization for the specific gambling activity sought to be undertaken. This holds true both in states that prohibit all land-based casino and sports gambling, as well as in states that permit at least some form of land-based casino and/or sports gambling.

1. States That Prohibit All Land-Based Casino and Sports Gambling

In states where land-based gambling is prohibited, such as New York and Wisconsin, Internet gambling would also be illegal under the current laws.

A review of New York's constitutional and statutory authority demonstrates that Internet gambling is illegal in that state for two reasons. First, Internet gambling is not explicitly authorized by the state's constitution. Second, the revenue-raising scheme established by New York for all legalized forms of gambling does not cover Internet gambling.

New York's Constitution prohibits "the sale of lottery tickets, pool-selling, bookmaking, or any other kind of gambling [within the state], except lotteries operated by the state and the sale of lottery tickets in connection therewith as may be authorized and prescribed by the legislature ... and except pari-mutuel betting on horse races as may be prescribed by the legislature...."[45] In order to enforce this prohibition, the New York Constitution requires the legislature to "pass appropriate laws to prevent offenses against any of the provisions of this section [pertaining to gambling]."[46]

Toward this end, the New York State legislature enacted Article 225 of the Penal Law, which prohibits unlawful gambling activity, as well as the advancement, promotion and/or profiting from unlawful gambling activity, and the possession of gambling records and gambling devices used for unlawful gambling activity.[47] Unlawful gambling activity has been defined as any gambling activity that is not explicitly authorized by the state

45. N.Y. CONST. art. I, § 9 (amended 1966).

46. *Id.*

47. *See* N.Y. PENAL LAW §§ 225.05-225.20 & 225.30 (McKinney 1999).

of New York.[48] Since Internet gambling has not been explicitly authorized in New York, it is logical to conclude that it is unlawful gambling activity. In fact, in *World Interactive*, the New York State Supreme Court recently found an Internet gambling company and its officers to be in violation of Article 225.[49]

A review of the New York Constitution provides a second argument for the illegality of Internet gambling within New York. One of the primary purposes behind New York's legalization of certain types of gambling was to raise revenue for the state.[50] Pursuant to Article 1, Section 9 of the state constitution, the net proceeds from all state-run lotteries have been designated exclusively for the "support of education in this state."[51] Similarly, New York is required to receive "reasonable revenue" from the operation of state authorized pari-mutuel betting which is to be used "for the support of the government."[52] The very nature of Internet gambling, however, precludes the state from capturing revenues from online gaming.

Because Internet gambling is not explicitly authorized by a constitutional amendment and in no way raises revenue for the state, it is reasonable to believe that Internet gambling is illegal in New York.

An examination of other state constitutions and statutes likewise demonstrates that gambling is presumptively illegal absent explicit constitutional and/or statutory authorization. For example, the Wisconsin Constitution states that "[e]xcept as provided in this section [entitled 'Gambling'], the legislature may not authorize gambling in any form."[53] The Wisconsin Constitution goes on to set forth the types of gambling which are permitted, including state lotteries, bingo and raffle games conducted by religious, charitable, service, fraternal or veteran's organizations which are licensed by the state, and pari-mutuel betting as provided for by Wisconsin law.[54] Aside from the limited forms of gambling sanctioned by the state, however, all other forms of gambling are unauthorized in Wisconsin, and thus illegal under Wisconsin law.

To enforce this prohibition against unauthorized gambling, the Wisconsin legislature enacted Chapter 945 of its criminal statute, criminalizing both the placing of bets, as well as the operation of a commercial

48. *See* People v. Kim, 585 N.Y.S.2d 310, 313 (Crim. Ct. 1992).

49. *See* People v. World Interactive Gaming Corp., 1999 WL 591995, at *6 (N.Y. Sup. Ct. July 22, 1999); *see also* Brown, *supra* note 16, at 20.

50. *See generally* N.Y. CONST. art. I.

51. N.Y. CONST. art. I, § 9.

52. *Id.*

53. WIS. CONST. art. IV, § 24(1) (amended 1993).

54. *See id.* § 24 (3)-(6).

gambling business. Pursuant to Section 945.02, "[w]hoever ... (1) [m]akes a bet ..." is guilty of a Class B misdemeanor.[55] Section 945.03 criminalizes the operation of a commercial gambling business and specifically provides that:

> [w]hoever intentionally does any of the following is engaged in commercial gambling and is guilty of a Class E felony: ... (7) [f]or gain, uses a wire communication facility ... for the transmission of a wire communication which entitles the recipient to receive money or credit as a result of a bet or offer to bet.[56]

Because Internet gambling is not explicitly authorized by Wisconsin law, and because Section 954.03(7) explicitly prohibits the use of "a wire communication facility" for the transmission of a communication which entitles the recipient to receive money or credit as a result of a bet, Internet gambling qualifies as "commercial gambling," and is therefore illegal in Wisconsin.

2. States That Permit Land-Based Casino and Sports Gambling

Even in the few states where limited state-approved, land-based casino gambling has been authorized, all forms of gambling not explicitly authorized by constitution and/or statute are still considered illegal.

For example, although many forms of gambling are now legal in Indiana, they are only legal because the legislature passed laws specifically authorizing them. Such operations are subject to state licensing restrictions. Specifically, Indiana permits state-approved lotteries,[57] licensed pari-mutuel wagering on horse races,[58] bingo events, charity game nights and raffles by "licensed qualified organizations,"[59] and licensed riverboat gambling in explicitly authorized counties.[60] Aside from statutorily authorized and licensed gambling, however, all other gambling is illegal in Indiana.[61]

To that end, Indiana's law defines "unlawful gambling" activity, a Class B misdemeanor, as the knowing or intentional "risking [of] money or other property for gain, contingent in whole or in part upon lot, chance,

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55. WIS. STAT. ANN. § 945.02 (West 1996).
56. *Id.* § 945.03.
57. *See* IND. CODE ANN. § 4-30-1-1 (West 1991).
58. *See id.* § 4-31-1-2.
59. *Id.* § 4-32-1-2.
60. *See id.* §§ 4-33-1-1 & 4-33-9-1 (permitting riverboat gambling only in certain areas).
61. *See* IND. CODE ANN. § § 35-45-5-1 to -10 (West 1991).

or the operation of a gambling device."[62] Similarly, Indiana's code makes it a Class D felony to act as a professional gambler and/or to promote professional gambling.[63]

The operation of an Internet gambling casino would be considered "unlawful gambling" because it involves the "risking [of] money or other property for gain, contingent in whole or in part upon lot, chance, or the operation of a gambling device" and because such gaming has not been explicitly authorized by the Indiana legislature.

In fact, Indiana's Attorney General recently addressed the legality of Internet gambling. In Official Opinion 98-8, the State Attorney General concluded that Internet gambling is illegal based upon Indiana's definition of gambling, which prohibits any gambling not otherwise explicitly authorized by law.[64] The Attorney General's opinion also concluded that the use of the Internet would constitute an illegal "gambling device" under Indiana law.[65] Thus, despite the legalization of certain types of gambling, Internet gambling is still considered illegal in Indiana.

Even in New Jersey and Nevada, the two states best known for offering a wide array of legalized gambling activities, Internet gambling is still "unauthorized," and therefore apparently illegal under both states' laws.

The New Jersey Constitution clearly specifies that "[n]o gambling of any kind shall be authorized by the Legislature unless the specific kind, restrictions and control thereof have been heretofore submitted to, and authorized by a majority of the votes cast by, the people...."[66] Thus, before a given type of gambling is permitted in New Jersey, it must be submitted to the people of the State of New Jersey for a referendum and approved by the legislature.

The New Jersey Constitution specifically authorizes state lotteries and state sponsored pari-mutuel betting, and also permits the conducting of bingo, lotto and/or raffle games by veterans, charitable, educational, religious, fraternal, civic or service oriented clubs and organizations.[67] In addition, casino gambling is permitted within the boundaries of Atlantic City because there is specific state constitutional authorization for such activity, but only under the following strict legislative restriction:

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62. *Id.* §§ 35-45-5-1 to -2.

63. *See id.* §§ 35-45-5-3 to -4.

64. *See* 98-8 Op. Att'y Gen. 1, 3 (1998); Brown, *supra* note 16, at 19-20; *see also* IND. CODE ANN. § 35-45-5-1 to -4.

65. *See* 98-8 Op. Att'y Gen. at 3.

66. N.J. CONST. art. IV, § 7, para. 2 (1998).

67. *See id.* para. 2(A)-(E).

> [i]t shall be lawful for the Legislature to authorize by law the establishment and operation, under regulation and control by the State, of gambling houses or casinos within the boundaries, as heretofore established, of the City of Atlantic City, County of Atlantic ... [t]he type and number of such casinos or gambling houses and of the gambling games which may be conducted in any such establishment *shall be determined by or pursuant to the terms of the law authorizing the establishment and operation thereof.*[68]

Gambling not authorized pursuant to the constitution is known as "unlawful gambling" and is illegal in New Jersey.[69] To enforce this prohibition, the New Jersey legislature has criminalized any activity involving unlawful gambling, including the promotion of gambling, the possession of gambling records, the maintenance of a gambling resort and the possession of a gambling device.[70]

At no time has Internet gambling been authorized by the New Jersey Legislature, nor has it been authorized by state referendum. Thus, despite the legalization of licensed casino gambling within the borders of Atlantic City, Internet gambling remains illegal under New Jersey law.

Finally, even in Nevada, where gambling is permitted by law, it is permitted only under very stringent governmental regulation and only when such gambling is explicitly authorized and licensed by the state pursuant to the Nevada Gaming Control Act.[71] In addition to permitting state licensed casino gambling, Nevada permits wagering under the pari-mutuel racing system and on sporting events, but only after securing "all required federal, state, county and municipal licenses."[72] Similarly, bingo and keno are deemed permissible gaming under the definition set forth in the Nevada Gaming Control Act and are therefore subject to state licensing requirements.[73] Finally, although state-operated lotteries and raffles are prohibited under Nevada law and the Nevada Constitution, lotteries and raffles are permitted when run by qualified licensed gaming establishments, and/or by "charitable, civic, educational, fraternal, patriotic, political, re-

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68. *Id.* at para. 2D (emphasis added).

69. *See* N.J. STAT. ANN. § 2C:37-1 (West 1995).

70. *See id.* §§ 2C:37-2-4, 7.

71. *See* NEV. REV. STAT. ANN. § 463.010-463.720 (Michie 1997 Cumulative Supp.) (providing that gambling is authorized in the state, but only upon the issuance of a license, and is subject to "strict" regulations and any restrictions provided for by the legislature).

72. *Id.* § 464.010.

73. *See id.* § 463.0152.

ligious or veteran's" organizations which are not operated for profit, and which are approved by the state.[74]

Any place in Nevada where gambling activity occurs "without a license as provided by law," is defined as a "public nuisance" which is "a crime against the order and economy of the state."[75]

Internet gambling has never been authorized by the Nevada Legislature and has never been licensed by the Nevada Gaming Authority. In fact, in 1997, the Nevada Legislature specifically passed a set of laws to clarify its prohibition of Internet gambling, prohibiting the "transaction of wagers through [various] mediums of communication," which includes "cable, wire, [and] the Internet or any other similar medium."[76] Under Section 465.092, aside from wagers placed with state licensed and approved entities, as enumerated in Section 465.094, it is illegal, both within and without the state, to accept, receive or allow another to accept or receive wagers from person(s) physically present in the state, through any of the aforementioned "medi[a] of communication," including "the Internet or any similar medium."[77] Similarly, pursuant to Section 465.093, it is illegal to place, send, transmit or relay wagers into or out of Nevada through the aforesaid "medi[a] of communication," including the Internet, aside from wagers placed with state licensed and approved entities.

The foregoing analysis illustrates that Internet gambling is illegal under both federal and state law. Regardless of whether a bet is called in over the phone or transmitted from a computer via the Internet, the activity still involves an international wire communication transmitted over a wire communication facility. By virtue of Internet gambling's reliance on these wire communication facilities, Internet gambling necessarily violates the Federal Wire Act and the Travel Act. Furthermore, an analysis of state statutes and constitutions illustrates what appears to be a common thread among the states: namely, the universal requirement of explicit state constitutional and/or statutory authorization in order for gambling to be legally conducted within a state.[78] The presumptive illegality of gambling

74. NEV. CONST. art. IV, § 24; NEV. REV. STAT. ANN. §§ 462.125 & 462.140 (Michie 1997).

75. NEV. REV. STAT. ANN. § 202.450 (Michie 1997).

76. *Id.* § 465.091; *see also* Brown, *supra* note 16, at 15.

77. *Id.* §§ 465.092 & 465.094.

78. Even with regard to activities on Native American reservations, traditionally an area where great deference has been granted since the reservations are considered to be sovereign entities within the United States, federal regulations still require explicit state statutory approval before a given type of gambling may be conducted. *See* The Indian Gaming Regulation Act, (hereinafter "IGRA"), 25 U.S.C. § 2701-2721 (1994). According to IGRA, before a Native American tribe may host casino gambling on the reserva-

activity absent explicit state authorization has also been enunciated by a number of state Attorneys General around the country.[79] This requirement has also been recognized by both state and federal courts faced with the question.[80] At no time has Internet gambling been explicitly authorized in any jurisdiction within the United States. Therefore, Internet gambling is necessarily illegal in the United States.

IV. ROLLER CONTROLS THE TABLE: THE LOCUS OF THE GAMBLER PROVIDES JURISDICTION

It is common for Internet gambling operators to claim that they are not bound by the wide range of federal and state statutes which prohibit gambling because they have secured an Internet casino license in a country

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tion, the tribe must first enter a state compact permitting said activity. *See id.* §§ 2703 & 2710(d)(1). Thus, even though the gambling operations are considered to occur on sovereign soil, explicit state authorization is still required. It would be quite sophistic to permit a private Internet gambling business to operate online without explicit state statutory authorization, while a sovereign entity, such as a Native American tribe, is required to seek explicit state approval and statutory authority before engaging in the exact same activity on its own reservation. Similarly, it would be irrational to subject a privately-owned Internet gambling business to gambling regulations which are less stringent than those enforced against Native American tribes.

79. *See* Brown, *supra* note 16, at 18-21 ("In three of these states, California, Indiana and Kansas, the Attorneys General have expressly held that any gambling activity not otherwise allowed by law would, if conducted over the Internet, fall within the ambit of their state's existing statutory framework and therefore be illegal.").

80. *See, e.g.*, People v. Kim, 585 N.Y.S.2d 310, 312 (Crim. Ct. 1992) (holding that the use of a computer system to transmit orders for out-of-state lottery tickets was illegal since "[a]ll forms of gambling are illegal in New York except those expressly authorized by the New York Constitution"); Seaside Futures, Inc. v. State, No. W-62930-88 slip op. at 5 (N.J. Super. Ct. Feb. 10, 1989) *aff'd*, A-3320-88T3 (N.J. Super. Ct. App. Div. Nov. 2, 1989) (holding that an injunction was warranted against the computer transmission of requests for out-of-state lottery tickets because "[g]ambling activity in this state by the terms of our state constitution and by our common law is illegal unless it is authorized by constitutional amendment"); State v. Fiola, 576 A.2d 338, 340 (N.J. Super. Ct. App. Div. 1990) (holding that the defendants' business constituted gambling activity within the state of New Jersey, and thus violated the state's gambling laws, since the New Jersey Constitution prohibits any type of gambling unless the constitution has been amended to explicitly permit the specific type of gambling); United States v. McDonough, 835 F.2d 1103, 1104-05 (5th Cir. 1988) (rejecting defendant's argument that the Wire Act did not apply to him because gambling information had been transmitted to him in Massachusetts, and there were apparently no laws in Massachusetts *which explicitly forbade the transmission* of wagers into the state, instead holding that although § 1084(b) permits the transmission of gambling-related information when gambling is explicitly authorized in *both* the sending and receiving states, it was never intended to authorize gambling when only one of the two locales permits gambling).

where such licenses are issued, and they have physically located their computer hardware there.[81] Essentially they argue that since the computer servers to which wagers and wagering information are transmitted are located offshore, the gambling also occurs offshore and therefore, their activities must be deemed legal since the Internet casino is legally licensed offshore.[82] Upon examination of this proposition in light of the applicable case law, however, it would appear that the argument is flawed.

A. Jurisdiction May Be Established Even Though The Internet Gambling Business And Its Servers Are Physically Located Offshore

A court's assertion of personal jurisdiction must satisfy the due process requirements of the Fourteenth Amendment.[83] This is true even if the potential defendant is not a United States citizen, as the Supreme Court has previously ruled that even non-citizens are entitled to constitutionally guaranteed due process.[84]

In assessing whether the exercise of personal jurisdiction comports with due process, courts have examined whether "minimum contacts exist between the defendant and the forum state" such that the exercise of jurisdiction comports with "traditional notions of fair play and substantial justice."[85] This test, first established in *International Shoe*, requires a court to examine both the "nature and quality," as well as the "sufficiency" of the contacts with the forum state.[86] In *World-Wide Volkswagen Corp. v. Woodson*, the Supreme Court elucidated this standard explaining that a forum may assert personal jurisdiction if the defendant "purposefully avail[ed] itself of the privileges of conducting activities within the forum State" thus invoking the benefits and protections of its laws such that it was "reasonably foreseeable" that the defendant might be "haled into court" in the forum.[87]

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81. *See* Almond, *supra* note 2, at D1 ("Cohen's attorneys argued in court documents that World Sports Exchange (www.wsex.com) is fully licensed and legal in Antigua and the defendant never hid his operation."); Fojut, *supra* note 8, at 169.

82. *See* Rutherford, *supra* note 18, at 40 ("Proponents of unfettered Internet communication maintain that these laws are obsolete. They say the nature of the technology is such that global computer gambling takes place not in the country where the gambler resides but on the host computer, which is located in a country where, presumably, the gambling is licensed and legal.").

83. *See* World-Wide Volkswagen Corp. v. Woodson, 444 U.S. 286, 291 (1980).

84. *See* Galvin v. Press, 347 U.S. 522, 530 (1954).

85. Int'l Shoe v. Washington, 326 U.S. 310, 316 (1945).

86. *Id.* at 316-19; *see also* Brown, *supra* note 16, at 36-37.

87. *World Wide Volkswagen Corp.*, 444 U.S. at 297.

In considering the assertion of personal jurisdiction over out-of-state defendants, courts have typically held that incidental contact with the state, such as "[t]he transmission of communications between an out-of-state defendant and a plaintiff within the jurisdiction" would not, standing alone, warrant the assertion of jurisdiction.[88] Likewise, the mere maintenance of an Internet web page accessible in a state, without more, would not be sufficient to establish jurisdiction.[89]

However, a finding of jurisdiction may be made upon a combination of Internet and non-Internet contacts with the forum state.[90] For example, in *State ex rel. Humphrey v. Granite Gate Resorts, Inc.*[91] the court found jurisdiction over a non-resident Internet gambling business based upon both cyberspace and real-world contacts.[92] In dicta, the *Granite Gate* court also noted that, although state interest alone cannot support the exercise of jurisdiction over a non-domiciliary, the state's interest in providing a forum to enforce its consumer protection and gambling laws can be given weight

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88. Bross Utils. Serv. Corp. v. Aboubshait, 489 F. Supp. 1366, 1371-72 (D. Conn. 1980), *aff'd*, 646 F.2d 559 (2nd Cir. 1980); *see also* Scherr v. Abrahams, 1998 WL 299678 (N.D. Ill. May 29, 1998) (denying jurisdiction although the defendant's website allowed users to contact him via e-mail, and he sent his publication to users via e-mail).

89. *See* Hearst v. Goldberger, No. 96 Civ. 3620 (PKL)(AJP), 1997 WL 97097, at *16 (S.D.N.Y. Feb. 26, 1997); Bensusan Restaurant Corp. v. King, 937 F. Supp. 295, 300 (S.D.N.Y. 1996), *aff'd*, 126 F.3d 25 (2d Cir. 1997). Over time, a "sliding scale" test has developed for purposes of assessing jurisdiction based upon activities that occur over the Internet. *See* American Homecare Federation, Inc. v. Paragon Scientific Corp., 27 F. Supp. 2d 109, 113 (D. Conn. 1998). In essence, there are three points on this "sliding scale" spectrum. *See id.* At one end of the scale is the passive website which contains only information and offers no interaction with the visitor. *See id.* At this end of the scale, the assertion of jurisdiction will likely be declined. *See id.* In the middle of the scale are websites where information is exchanged between the site operator and the visitors, including downloadable files or links to other websites. *See id.* It is in the middle of this scale where the circumstances which will lead a court to assert jurisdiction are most ambiguous. At the other end of the spectrum are the sites that engage in substantial activity within a forum state, such as: 1) sales; 2) solicitations; 3) acceptance of orders; 4) links to other sites; 5) product lists; or 6) the transmission of files. *See id.* at 113-14. It is these sites that will most likely provide a court with ample reason to assert jurisdiction.

90. *See, e.g.*, Mieczkowski v. Masco Corp., 997 F. Supp. 782, 788 (E.D. Tex. 1998) (conferring general jurisdiction over the company, which in addition to hosting an Internet website within the state, also conducted business there).

91. 568 N.W.2d 715 (Minn. Ct. App. 1997), *aff'd by an equally divided court*, 576 N.W.2d 747 (Minn. 1998).

92. Specifically, the court asserted jurisdiction based upon proof that at least 248 computers located in Minnesota accessed and received transmissions from the website, Minnesota computers were among the 500 computers that most often accessed the website, and persons from throughout the United States, including Minnesota, called the phone numbers advertised on its Internet gambling website. *Id.* at 718-19.

in making the jurisdictional assessment.[93] Similarly, the state's "public policy" interest in enforcing its gambling prohibitions within its borders may also be given consideration.[94]

Both cyberspace and real-world contacts also appear to have figured prominently in a Texas court's decision upholding jurisdiction over a California company in *Thompson v. Handa-Lopez, Inc.*[95] The *Thompson* court noted that the California defendant had not only advertised its Internet gambling casino in Texas, but also permitted the Texas plaintiff to log in and gamble from Texas. Furthermore, the company sent money to the Texas plaintiff when the plaintiff won money or prizes and wished to cash out.[96]

In addition to personal jurisdiction, a court must also possess subject matter jurisdiction over a case in controversy. In an effort to preclude the finding of subject matter jurisdiction, Internet gambling operators have argued that the gambling does not violate United States law since the gambling allegedly takes place offshore, where the computer servers are located and licensed.[97] As discussed in the next section, however, the gambling is deemed to take place in the state where the gambler is physically located, regardless of where the computer servers are located and licensed.[98] Even without analyzing the physical locus of the gambler, and assuming arguendo that the gambling is deemed to take place extraterritorially, a forum may still assert subject matter jurisdiction based upon a jurisdictional concept known by various names around the country, including "particular effect,"[99] "substantial effect,"[100] or "substantial impact"[101] jurisdiction. Under this theory of law, subject matter jurisdiction may be found over extraterritorial conduct if the conduct has a particular, substantial or significant impact within the forum state.[102]

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93. *See id.* at 721.

94. *See id.*

95. 998 F. Supp. 738 (W.D. Tex. 1998).

96. *See id.* at 743-44.

97. *See* Fojut, *supra* note 8, at 169.

98. *See infra* Part IV.B.

99. *See* N.Y. CRIM. PROC. LAW §§ 20.10(4) & 20.20 (McKinney 1992).

100. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 402(1) (1987) ("subject to § 403, a state has jurisdiction to prescribe law with respect to ... (c) conduct outside its territory that has or is intended to have substantial effect within its territory....").

101. *See* Commonwealth v. Bertels, 394 A.2d 1036, 1039 n.9 (Pa. Super. Ct. 1978).

102. *See generally* Cynthia R. Janower, *Gambling on the Internet*, 2 J. COMPUTER-MEDIATED COMM. (1996), *available at* <http://jcmc.huji.ac.il/vol2/issue2/janower.html>.

In *Hartford Fire Insurance v. California*,[103] the Supreme Court explained that subject matter jurisdiction exists over extraterritorial conduct if there is a "demonstrated effect" within the United States resulting from the foreign entity's conduct, and, in undertaking that conduct, the foreign entity intended to affect commerce within the Unites States.[104] In the case of an Internet gambling enterprise, both factors would appear to be present, thus warranting the assertion of subject matter jurisdiction.

As Goldsmith explains in his analysis of modern-day jurisdictional issues, "a transaction can legitimately be regulated by the jurisdiction where the transaction occurs, the jurisdiction where significant effects of the transaction are felt, and the jurisdiction where the parties burdened by the regulation are from."[105]

B. Subject Matter Jurisdiction May Be Established Because The Gambling Occurs Within The United States In Violation Of United States Law

1. The Law Of The Country Hosting The Gambling Servers Is Irrelevant Under Federal Law

Illegal gambling activity might emanate from both within and without the borders of the United States. It was argued to the Supreme Court almost a century ago that "Congress, under the plenary power to regulate our relations with foreign countries, may well exclude persons, commodities, or printed matter of any nature whatsoever, whether or not relating to or connected with commerce. The power of Congress—the legislative power of a sovereign nation—... need not be challenged in the slightest degree."[106]

Considering the broad authority Congress has to regulate relations with foreign countries, there is no reason to believe that Internet gambling was meant to be excluded from the application of the Wire, Travel and Wagering Paraphernalia Acts.[107] The fact that the gambling information is transmitted to a computer server rather than to a live person does not alter this analysis. Additionally, even though Internet gambling servers may be located offshore, the gambling screens are viewed on a United States resident's monitor, the gambling decisions are made in the resident's home,

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103. 509 U.S. 764 (1993).

104. *See id.* at 798.

105. Jack Goldsmith, *Against Cyberanarchy*, 65 U. CHI. L. REV. 1199, 1208 (1998).

106. Champion v. Ames, 188 U.S. 321, 333 (1903) (Argument of William D. Guthrie for appellant). *See, e.g*, United States v. Baker, 364 F.2d 107, 110 (3rd Cir. 1966).

107. *See* Brown, *supra* note 16, at 21-27; Tratos, *supra* note 12, at 104-07.

and the gambling bets are placed and transmitted from the resident's computer. In essence, all relevant gambling activity takes place at the locus of the gambler, regardless of where the server is located. This leads to the inescapable conclusion that the gambling takes place within the United States, in violation of United States law.

Moreover, the legality of the gambling in a foreign country will not have any impact upon its legality within the United States. For example, in *United States v. Baker*,[108] the defendants printed lottery tickets in the United States for shipment to Haiti, where the games were apparently legal.[109] Subsequent to seizure of the tickets from a garage in Pennsylvania, the appellants were charged with violating the Wagering Paraphernalia Act.[110] In their defense, appellants contended that because the lottery for which the tickets were printed was "legal under a statute of the Republic of Haiti, the country where the lottery was to be operated, ... 1953(a) did not apply to their shipments by reason of subsection (b) [which provided an exemption from the Act's prohibition when materials to be used in the placing of bets or wagers are transported into a State in which such betting is legal] ...."[111]

In rejecting the appellant's argument, the Third Circuit found that:

> the word 'State,' as used in the subsection and as the district court [in the same matter] took great pains to point out (241 F. Supp. at 278-280), means one of the United States, and not a country in the international sense.[112]

In light of the uniform intent behind the Wire, Travel and Wagering Paraphernalia Acts, it is reasonable to conclude that the *Baker* court's reading of the word "state" in the Wagering Paraphernalia Act may be extended to the Wire and Travel Acts as well. Under such an interpretation, any exemption for the transmission of wagering information between two "states" where it is legal would only apply to the transmission between states within the United States. The licensing of an Internet casino offshore would therefore have no effect on the legality of Internet gambling under federal law. Congress has clearly chosen to exclude extraterritorial gambling from breaching our borders, and no foreign governmental licensing agency can, or should, alter that.

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108. 364 F.2d 107 (3d Cir. 1966), *cert. denied*, 385 U.S. 986 (1966).

109. *See id.* at 109-10.

110. *See id.* at 108.

111. *Id.*

112. *Id.*, (citing United States ex rel. Champion v. Ames, 95 F. 453 (C.C.N.D. Ill. 1899)).

2. *The Law Of The Country Hosting The Gambling Servers Is Irrelevant Under State Law*

Well before the Internet became a household term, state courts were being called upon to answer questions concerning the use of phone wires for the purpose of transmitting information pertaining to the sale of out-of-state lottery tickets. Since the Internet is essentially a network of computer networks tied together by high speed phone wires, this case law is arguably applicable to transmissions over the Internet.[113]

In *People v. Kim*,[114] the defendant took orders for Florida lottery tickets from New Yorkers, entered them into his computer terminal and transmitted the orders from inside New York to a host computer outside of New York. Despite the fact that the purchase information was transmitted into a state where such tickets were legally sold, the court held the defendant's activities could violate New York law.[115] In so holding, the court reasoned that regardless of the location to which the information was transmitted, the betting would still be deemed to have taken place within New York, since the bets were transmitted from there.[116]

More recently, in *People v. World Interactive Gaming Corp.*, the operators of an Internet gambling casino argued that although they permitted New York residents to log in and gamble in their Internet casino, they did not violate New York law since the gambling was alleged to occur offshore in Antigua where the computer servers were located.[117] In rejecting this argument, the court held that "[t]he act of entering the bet and transmitting the information from New York via the Internet [was] adequate to constitute gambling activity within New York State."[118]

Similar conclusions regarding the locus of the gambling have been reached in other states that have considered the issue. In *Seaside Futures, Inc. v. State*,[119] Seaside, a computer telemarketing business located in New Jersey, allowed New Jersey consumers to purchase out-of-state lottery tickets by phone.[120] Seaside then transmitted the consumer's request, via computer, to an "independent agent" in the state where the desired lottery

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113. *See* Tratos, *supra* note 12, at 107.

114. 585 N.Y.S.2d 310 (Crim. Ct. 1992).

115. *See id.* at 315.

116. *See id.*

117. People v. World Interactive Gaming Corp., 1999 WL 591995, at *2 (N.Y. Sup. Ct. July 22, 1999).

118. *Id.* at *4.

119. No. W-62930-88 (N.J. Super. Ct. Feb. 10, 1989), *aff'd*, No. A-3320-88T3 (N.J. Super. Ct. App. Div. Nov. 2, 1989).

120. *See id.* at 2-3.

tickets originated.[121] The court enjoined Seaside from continuing this business because the activity constituted unauthorized gambling under New Jersey law, since the gambling was considered to have taken place there.[122] In rejecting Seaside's argument that it was exempt from criminal liability because the lottery tickets were legally authorized in the state to which the transmission was sent, the court held that the gambling activity took place in the state from which the transmission originated.[123] Because the lottery tickets were not authorized under New Jersey law, the sales were necessarily illegal.[124]

Similarly, in *L.E. Services, Inc. v. State Lottery Commission*,[125] the Indiana Lottery Commission sought an injunction against a Delaware corporation which proposed a business plan to provide computers to retail outlets in Indiana, enabling Indiana consumers to purchase out-of-state lottery tickets. According to the business plan, customers would place their orders at retail outlets in Indiana, and the outlets would in turn transmit the orders to L.E. Services through a modem attached to a computer system.[126] L.E. Services would then purchase the out-of-state lottery tickets from an authorized agent in the state where the lottery originated.[127] The Indiana Court held this service to be illegal under a state statute that prohibited the transmission of gambling information and enjoined L.E. Services from implementing its business plan.[128] According to the court, the legality of the tickets in the state from which they are purchased is irrelevant. The gambling would still be considered to take place in Indiana since this was the state where the chance would be staked and from which the orders would be transmitted.[129] Thus, this scenario would constitute illegal gambling under Indiana law.[130] This analysis also comports with the Indiana Attorney General's opinion that Internet gambling is illegal under Indiana law.[131]

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121. *See id.* at 3.
122. *See id.* at 7.
123. *See id.* at 5-6.
124. *See id.*
125. 646 N.E.2d 334 (Ind. Ct. App. 1995).
126. *See id.* at 338-39.
127. *See id.*
128. *See id.* at 341-42.
129. *See id.* at 342.
130. *See id.*
131. *See* 98-8 Op. Att'y Gen. 8 (1998); *see also* Brown, *supra* note 16, at 19-20.

C. The Internet Should Not Provide Sanctuary For Internet Casinos

As the court observed in *World Interactive*, the operators of an Internet gambling website cannot move their computer servers offshore as a means of divesting a state of its jurisdiction and escaping liability.[132] So long as an individual is able to log in from a given state and place bets, the gambling is deemed to take place there, in violation of both federal and state law, and is a prosecutable offense in that state.[133]

A gambling operation should not be permitted to escape liability merely because it takes advantage of emerging technology such as the Internet. Gambling-related communications transmitted over the Internet cannot be meaningfully distinguished from any other transmissions over wire communication facilities. Phone wires remain essential to the Internet and are the same medium of communication used by the defendants in *Kim* and its progeny, as well as by the defendants in *World Interactive*. The holdings in *Kim*, *Seaside*, and *L.E. Services* appear to be applicable to the transmission of information to and from Internet gambling servers since they all involve the use of telephone lines.[134] Such an interpretation would appear to be supported by the post-Internet decision in *World Interactive*.

Regardless of where the transmission originates, both the sending and receiving locations are linked by telephone lines, and are both integral to the gambling activity. In deference to this integral link between the sending and receiving locales, the Wire Act created an exemption for gambling *only* when it involves the transmission of information "from a State where betting ... is legal into a State in which such betting is legal."[135]

Merely moving a business onto the Internet should not provide a "shield against liability."[136] "Invocation of 'the Internet' is not the equivalent to a cry of 'sanctuary' upon a criminal's entry into a medieval church."[137] So long as wagers or wagering information are transmitted to or from a computer in the United States, the activities should be considered gambling within the states, and, therefore, illegal. The legality of the business in an offshore country where the servers are housed is irrelevant.

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132. People v. World Interactive Gaming Corp., 1999 WL 591995, at *4 (N.Y. Sup. Ct. July 22, 1999).

133. *See id.*

134. *See* Tratos, *supra* note 12, at 107.

135. 18 U.S.C. § 1084(b) (1994).

136. *World Interactive*, 1999 WL 591995, at *4.

137. People v. Lipsitz, 663 N.Y.S.2d 468, 475 (Sup. Ct. 1997).

V. ALL BETS ARE FINAL: ENFORCING AN INTERNET GAMBLING CONVICTION

A separate and distinct question from the legality of Internet gambling is the issue of enforcement. One of the prospective enforcement tools for use by the government in its fight against Internet gambling is the Internet Gambling Prohibition Act ("IGPA").[138] If enacted, two of the more significant provisions of the IGPA would include a clarification that the criminal prohibitions in the Wire Act encompass the use of the Internet by a gambling enterprise, and a clarification that the Wire Act's criminal prohibitions apply both to casino betting and sports betting.[139] Additionally, the IGPA authorizes law enforcement to serve notice on an "interactive computer service provider" ordering that provider to remove or disable "access to the material or activity" residing at an online site which violates the Wire Act's gambling prohibitions.[140]

Yet numerous critics of the proposed IGPA and Internet gambling regulation in general have argued that laws which prohibit Internet gambling are virtually unenforceable.[141] According to these critics, the primary reason for this lack of enforceability is that the only effective means for combating Internet gambling would be to arrest the Internet gambling operators or to seize the Internet gambling servers, both of which are usually located offshore—outside of the jurisdiction of the United States.[142] As

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138. This bill passed the United States Senate by an overwhelming 90 to 10 majority when it was voted upon on July 23, 1998. *See Kyl's Latest Bill Revives Assault on Internet Gambling*, CONG. Q. DAILY MONITOR, Mar. 4, 1999, at 1. Although that bill died in the United States House of Representatives due to disputes over enforcement, as well as the House's preoccupation with President Clinton's impeachment, the bill has been reintroduced into the 106th Congress. *See* S. 692, 106th Cong. (1999); H.R. 3125, 106th Cong. (1999). The bill was approved by the Senate Judiciary Committee on July 26, 1999 and the House version was forwarded by the House Subcommittee on Crime to the full Committee on the Judiciary on November 3, 1999. For current status on these bills, see David Carney, *Summary: Internet Gambling Prohibition Bills in the 106th Congress* (last modified November 5, 1999) <http://www.techlawjournal.com/cong106/gambling/Default.htm>.

139. S. 692, 106th Cong. (1999).

140. *Id.*

141. *See* Andrew Beyer, *Racing Industry Gambling on Internet Legislation*, WASH. POST, March 31, 1999, at D1; Tom Bell, *Internet Gambling Ban Faces Losing Odds*, ALBANY TIMES UNION, January 6, 1998, at A7; Kish, *supra* note 8, at 463.

142. *See, e.g.*, Beyer, *supra* note 141; Janower, *supra* note 102, at 9-10; Internet Gambling: Prohibition v. Legalization, Hearing Before the Nat'l Gambling Impact Study Comm., May 21, 1998 (Testimony of Thomas W. Bell, Cato Institute), *available at* <http://www.cato.org/testimony/ct-tb052198.html> [hereinafter Bell]. Another potential method of enforcement might be to seize any assets of the Internet gambling operation

such, enforcement of U.S. laws would allegedly require the foreign government's cooperation in the form of extradition of the Internet gambling operators and aid in seizing or shutting down the Internet gambling servers.

Such cooperation, according to critics, would be problematic because application of U.S. laws to Internet gambling would mean that the United States is attempting to "regulate the local effects of multi-jurisdictional cyberspace activity," infringing upon the rights of a foreign entity legally operating in a foreign country.[143] Moreover, there may also be practical constraints on the use of extradition because, in order to extradite an individual, the United States would need to have a pre-existing treaty with the foreign nation from which it seeks extradition.[144] Assuming that such a treaty did exist, extradition would still only be effected if the crime for which extradition is sought "is a crime in both countries—this requisite is often referred to as double criminality."[145] This, of course, would be difficult to establish, since the individuals running these cyber-gambling websites generally tend to locate themselves and their servers in countries that issue Internet gambling licenses, thus legitimizing the businesses under the laws of those governments.[146]

Absent a pre-existing treaty, a second option for securing extradition would be pursuant to "'a discretionary doctrine based on notions of passive consent and inconvenience, which would lead the courts of one country to give effect to legal acts done in another country,'" known as "comity."[147] In essence, comity is a doctrine of "diplomatic niceties" performed out of a sense of "international etiquette."[148] Securing extradition through comity is unlikely in the realm of Internet gambling, however, because many of the countries that license Internet gambling actively solicit this business in pursuit of potentially substantial revenues.[149] As such, these

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found within the enforcing jurisdiction. *See* Goldsmith, *supra* note 105, at 1216. The effectiveness of asset seizure is questionable, however, since "[t]he large majority of persons who transact in cyberspace have no presence or assets in the jurisdictions that wish to regulate their information flows in cyberspace." *Id.* at 1217.

143. Goldsmith, *supra* note 105, at 1204.

144. *See id.* at 1220; Fojut, *supra* note 8, at 170.

145. Fojut, *supra* note 8, at 170; *see also* Goldsmith, *supra* note 105, at 1220.

146. *See generally* Martinez, *supra* note 17.

147. Fojut, *supra* note 8, at 170 (quoting Hall, *Int'l Comity and U.S. Federal Common Law*, 84 AM. SOC'Y INT'L L. PROC. 326 (1990)). *See also* Brown, *supra* note 16, at 34-35.

148. *See* Fojut, *supra* note 8, at 170.

149. *See* Cabot, *supra* note 9, at 22.

countries have a strong vested interest in providing Internet gambling operators with a safe, extradition-free haven.[150]

Without these enforcement mechanisms, any domestic government prohibition of Internet gambling, it is argued, would be mere saber-rattling, placing form over substance.[151] While the extradition of individuals accused of operating an Internet gambling website and the seizure of their computer servers are two potential enforcement mechanisms, they are not the only mechanisms available to regulators.[152]

To explore this concept further, it may be helpful to clarify the use of the word "enforceability." If we are referring to jailing the persons responsible for operating the Internet gambling websites, then we may indeed need to rely on extradition and the concomitant cooperation of foreign governments.[153] The need for cooperation also holds true for seizure of the gambling operation's computer servers. However, if we are referring to preventing the offering of Internet gambling to United States citizens, then enforceability may well be within the reach of domestic regulators and legislators.

Although Internet gambling is hosted in cyberspace, there are still two real-world parties which are essential to an Internet gambling business: the gambler and the intermediary party that facilitates the transfer of funds between the gambler and the gambling business. Elimination of access to either party will accomplish the goal of preventing United States citizens from engaging in Internet gambling.[154]

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150. *See* Fojut, *supra* note 8, at 170.

151. *See* Cabot, *supra* note 9; Andrew Beyer, *Internet Gambling Bill: All Bets Are Off*, WASH. POST, July 25, 1998, at E1, E6.

152. It should also be borne in mind that many of the individuals who have been prosecuted for offering Internet gambling to United States citizens have themselves been United States citizens. *See* People v. World Interactive Gaming Corp., 1999 WL 591995 (N.Y. Sup. Ct. July 22, 1999); Goldsmith, *supra* note 13, at 1118. As such, the necessity of effectuating extradition of Internet gambling operators may not be as paramount an issue as many Internet gambling proponents assert.

153. It is also interesting to consider that even without extradition, the mere issuance of a warrant for the arrest of the operators of an Internet gambling enterprise, coupled with the possibility of having all domestic assets frozen, may in itself provide an adequate deterrent to the offering of Internet gambling to U.S. citizens.

154. *See generally* Goldsmith, *supra* note 13, at 1118.

A. Enforcement Mechanisms Focused On The Gambler's Access To The Gambling Site

Many federal and state gambling prohibitions focus on the activities of the gambling business, as distinct from the activities of the gambler.[155] Instead of focusing on the Internet gambling business, however, an alternative enforcement option is to focus on hindering a gambler's ability to access the gambling website. This could be accomplished through a number of mechanisms, including filtering out Internet gambling websites at the ICS provider level, removing the domain name records which point to an Internet gambling website, or cutting-off the telecommunication services used by the website.[156]

1. Blocking or Filtering Access to Gambling Websites

One way to block access to Internet gambling websites is by focusing on the ICS providers. As Jack Goldsmith points out in his article examining the nature of cyberspace, "[f]iltering is especially important for cyberspace, where the costs of information production and dissemination are extremely low, and thus information overload is a serious concern."[157] Parental control or "content filtering" software, through which parents monitor and control the websites to which their children have access, is the most prominent type of filtering software commercially available.[158] However, content filtering could also be implemented at various junctures along the cyber-highway which connects the content providers and the end-users.[159]

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155. *See, e.g.*, 18 U.S.C. §§ 1084 & 1952 (1994); N.Y. Penal Law §§ 225.00(4)-(5) (McKinney 1999); Tratos, *supra* note 12, at 105-06. Indeed, the resistance to criminalizing the activity of the gambler was recently demonstrated when a challenge was raised to a provision in the 1998 version of the IGPA which would have created criminal liability for individuals who engage in gambling over the Internet. *See* S. 2260, 105th Cong. § 1085(b) (1998). In apparent response to this criticism, this provision is noticeably absent from the 1999 version of the IGPA. *See* S. 692, 106th Cong. (1999). Nonetheless, creating individual criminal liability for placing bets or wagers over the Internet remains a viable means of deterring gamblers from patronizing Internet gambling websites. *See* Goldsmith, *supra* note 13, at 1118-19.

156. Although the primary goal of the enforcement mechanisms discussed in this section focuses on making it difficult for a potential gambler to engage in Internet gambling on a particular website, these very same mechanisms will, at the same time, frustrate an Internet gambling operation's attempts to do business in the United States, thus potentially causing the operation to cease offering these services to United States residents entirely.

157. Goldsmith, *supra* note 105, at 1228.

158. *See id.* at 1227.

159. *See id.*

Since virtually all Internet users in the United States access the Internet through an ICS provider with a local point of presence ("POP"), these POPs represent the "junctures" along the cyber-highway where filtering software can be employed.[160] "Internet access providers could easily set up proxy servers and block any traffic based on Internet addresses. In principle, the very architecture of the Internet could be structured to block Internet addresses; for example, routers could be programmed not to forward information from particular addresses."[161]

Countries such as China, Singapore, and Saudi Arabia already employ filtering and blocking mechanisms to control the Internet content to which their citizens have access.[162] Similarly, the 1999 version of the IGPA devotes an entire section of the bill to requiring that ICS providers block access to Internet gambling websites upon direction by law enforcement.[163] Pursuant to Section 3(b) of the 1999 version of the IGPA, upon an ICS provider's receipt of a written or electronic notice from a federal or state law enforcement authority that "a particular online site residing on a computer server owned, controlled, or operated by or for the provider is being used to violate" the IGPA, the provider would be required to remove or disable access to the material or activity residing at that online site.[164] Even if the ICS provider "does not own, operate, or control the site at which the subject material or activity resides," the provider would still be required to notify the federal or state authorities of that fact, and would have an affirmative obligation to cooperate with the law enforcement authority "in identifying the person or persons who control the site."[165]

Moreover, the IGPA also provides for the issuance of injunctive relief against an ICS provider following the issuance of the aforementioned notice, which would require the provider to both terminate the account of any subscriber who is using an account to violate the IGPA, and to take "reasonable steps specified in the order to block access, to a specific, identified, foreign online location."[166] In order to promote cooperation by ICS providers, the IGPA would provide both criminal and civil immunity under federal and state law for any ICS provider, which in the absence of

160. *See* Goldsmith, *supra* note 13, at 1119.

161. *Id.* at 1119 n.16.

162. *See* James De Tar, *Net Enemies List*, INVESTOR'S BUS. DAILY, Aug. 19, 1999, at A6; *see also* Goldsmith, *supra* note 105, at 1228; Andy Kennedy, *For China, the Tighter the Grip, the Weaker the Hand*, WASH. POST, Jan. 17, 1999, at B02.

163. S. 692, 106th Cong. (1999).

164. *Id.* § 3(b)(4).

165. *Id.*

166. *Id.* § 3(b)(5).

fraud or bad faith, took action to: i) remove or disable access to Internet gambling material or activity residing at an online site, subsequent to service of the aforementioned notice, or ii) comply with a court ordered injunction.[167] At the same time, however, this immunity is limited solely to an ICS provider that "has established and reasonably implements a policy that provides for the termination of the account of a subscriber of the service system or network of the provider upon the receipt by the provider of a notice described in paragraph (4)(B)."[168]

While the employment of filtering technology is a potent weapon for blocking access to Internet gambling by United States citizens, there would still be ways to circumvent this filtering. For example, a potential gambler could work around an ICS provider's use of filtering technology by accessing the Internet through an ICS provider located outside of the United States. Those ICS providers would presumably not be employing the same filtering technology because they would not be subject to the same requirements imposed upon domestic ICS providers. Even if a few isolated individual users had the knowledge and determination to access the Internet through an offshore POP, however, the cost of accessing the Internet through a long-distance toll call would probably serve as an adequate deterrent to most local bettors.[169]

2. *Removing the Domain Name Records Pointing To a Website*

Although most Internet users are accustomed to entering catchy names in order to access a website, such as <www.joescasino.com>, these names are in themselves meaningless to a computer. The computers that comprise the Internet were designed to be accessed not by names, but rather by unique addresses known as Internet protocol ("IP") addresses.[170] These IP addresses allow one computer to locate another computer on the Internet.

Since it is quite difficult for individuals to remember many IP addresses, domain names were created.[171] By accessing a domain name server, a user's computer can identify the IP address of a host computer, which the user's computer then utilizes to access the host computer.

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167. *See id.* § 3(b)(6)(B).

168. *Id.* § 3(b)(1).

169. *See* Goldsmith, *supra* note 13, at 1119.

170. *See* Robert A. Fashler, *The International Internet Address and Domain System* §1.2 (last revised Sept. 10, 1997) <http://www.davis.ca/topart/domainam.htm>; *see also* Al Berg, *DNS Demystified—Take The Magic Out of Mapping*, LAN TIMES (June 9, 1997) <http://www.lantimes.com/handson/97/706a107a.html>. IP addresses are currently 32-bit numbers, notated as four numbers (ranging from zero to 255) separated by periods. For example, a typical IP address may read as: "123.56.89.101."

171. *See* Fashler, *supra* note 170.

> As an example, if a user were to type '*http://www.joes-casino.com*' into the 'location' or 'netsite' line of their browser (or if the user clicked on a link directing their computer to that site) the computer would first look to a domain name server for information on which specific computer on the entire Internet contains the content for 'www.joescasino.com.'[172]

The domain name server would then return the IP address for the computer hosting <www.joescasino.com>, and "[t]he user's computer [would] then go directly to that site without the user's intervention."[173]

If the domain name record for a specific website were removed from all domain name servers, the computer attempting to access that website via its domain name would be unable to locate the desired computer. In essence, by removing the record that points from the domain name to the IP address, the website becomes inaccessible.[174] "While the computer would still be located on the Internet, it would not be accessible to the vast majority of users, who would be unaware of the means necessary to work around this technological roadblock."[175] Accordingly, a court order directing the removal of the record which points from a domain name to its corresponding IP address would render the website inaccessible to most users.[176]

In order to be effective, however, a court would need to direct its order to the main domain name servers, called the master servers. The domain name system is hierarchical in nature:

> At the top of the DNS database tree are root name servers, which contain pointers to master name servers for each of the top-level domain names.... In turn, the master name servers ... contain a record and name-server address of each domain name.... The individual name servers for each domain ... contain detailed address information for the hosts in that domain.[177]

The root name and master name servers are more commonly referred to as upstream domain name servers, which are defined as "those [servers]

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172. Letter from James E. Doyle, Attorney General, State of Wisconsin, to Jon Kyl & Dianne Feinstein, Senators, U.S. Senate 2 (Apr. 7, 1999) (on file with *Berkeley Technology Law Journal*) (addressing the "feasibility and effectiveness of blocking Internet gambling sites as an enforcement mechanism").

173. *Id.*

174. *See id.*

175. *Id.* A user could, however, still access the machine if she knew the computer's 32-bit IP address.

176. *See id.*

177. Berg, *supra* note 170.

which provide domain name database information to individual providers' domain name servers."[178] By contrast, downstream domain name servers are the lower-level domain name servers, which are owned by individual companies or ICS providers.

Due to the sheer number and diversity of these downstream domain name servers, targeting them would likely be ineffectual because one would need to serve the court order on every company that hosted its own domain name server. Additionally, removing the pointer to a given website from a downstream domain name server would probably not have much of an impact on a user's ability to access the website if the pointer remains on upstream domain name servers. Due to the hierarchical design of the domain name system, if the downstream domain name server were unable to locate the pointer to the requested website because it was removed from that server, the server's "resolver" would send a request to the closest name server that has information on the host name, and the recipient server would then use the information in its cache to provide the correct IP address to the requesting computer.[179] "If the name server is unfamiliar with the domain name, the resolver will attempt to 'solve' the problem by asking a server farther up the tree. If that doesn't work, the second server will ask yet another—until it finds one that knows."[180] The more effective means for blocking a given IP address would therefore be to target the upstream domain name servers, since this would essentially remove all pointers to that website.

In tandem with the removal of a pointer from the upstream domain name servers, prosecutors could also seek a court order canceling the Internet gambling website's registration, as well as prohibiting the operators of the Internet gambling website from registering any additional sites. Securing such an order, however, requires certain logistical considerations. There are currently multiple organizations providing website registration services ("registrars") in the <.com> domain.[181] Each of these registrars would need to be served with a court order canceling the registration of the Internet gambling website and prohibiting the Internet gambling operators from registering any additional sites. Further, many expect the introduction of additional top-level domains in the near future, such as

178. Letter from Attorney General Doyle, *supra* note 172.

179. *See* Kristin Windbigler, *Exploring the Domain Name Space* (last modified Jan. 24, 1997) <http://www.hotwired.com/webmonkey/geektalk/97/03/index4a_page2.html>.

180. *Id.*

181. For a list of these registrars, see ICANN, List of Accredited and Accreditation-Qualified Registrars (visited Nov. 18, 1999) <http://www.icann.org/registrars/accredited-list.html>.

<.store> and <.firm>, which would effectively require the addition of new upstream domain name databases ("registries"). To be effective, then, a court order would need to be served on all of the registries and registrars.

Additionally, unless the registry and registrar organizations are actually parties to an action against an Internet gambling enterprise, the binding effect on these organizations of a court order is questionable. Therefore, a critical consideration for a prosecutor prior to commencing an Internet gambling prosecution would be whether to join the registries and registrars. Seeking the voluntary cooperation of the registries and registrars is certainly one option for enforcing a court order; alternatively, prosecutors may wish to include these organizations as "necessary parties" in an action.

Moreover, although the IGPA will certainly help in the battle against Internet gambling, even its passage would not provide any help in this respect. That is because the proposed IGPA does not provide for federal and state law enforcement authorities to serve notice on and apply for injunctive relief against either registry or registrar organizations. While the filtering of access to an Internet gambling website can be a helpful tool for prosecutors, it might only have short-term benefits, as gambling website operators can easily switch their Internet gambling website to another ICS provider and, therefore, a different IP address.[182] In contrast, by canceling the registration of an Internet gambling operation's website, and by removing the pointer to that site from the upstream domain name servers, access to the website will be much more difficult to obtain, no matter where the website is hosted. Specifically, in order to circumvent this type of enforcement, an Internet gambling operator would need to re-register where the registration services are administered and controlled by another government, or another non-U.S. entity.[183] Although this circumvention is feasible, there are two reasons why it is unlikely to be very effective. First, United States citizens have grown accustomed to websites which are in the <.com> top-level domain, and are probably largely unaware of the existence of country code top-level domains, such as <.uk> or <.au>. This familiarity with the <.com> top-level domain may render many U.S. citizens reticent to send money to businesses not utilizing <.com>.

Second, once regulators learn of the country in which the foreign domain name registrar is based, regulators could serve a copy of the court

182. *See supra* Part V.A.1.

183. *See* Letter From Attorney General Doyle, *supra* note 172, at 3; *see also* Fashler, *supra* note 170, § 1.3, at 2. Another way to circumvent this type of enforcement would be to provide users with IP numbers. However, these numbers would be difficult to remember and consumers may be reluctant to do business with such a site.

order on that registrar.[184] The same holds true with regard to serving a copy of the court order on foreign domain name registry organizations. Assuming that these entities agreed to comply with the court order, the website operator would then need to register in yet another country. Such constant changing of web addresses would be problematic because, as Attorney General Doyle noted in his letter,

> gambling businesses, especially those utilizing the Internet, are extremely dependent upon an appearance of stability and legitimacy.... If an Internet site's name were constantly changing, or if it were just a set of numbers instead of the more familiar ".com" type address, this could seriously erode the consumer confidence necessary to build a large Internet gambling business.[185]

One objection likely to be raised by opponents of an enforcement mechanism that cancels the registration of a website and removes the pointers to that site, effectively rendering it inaccessible, is that this mechanism may be too far-reaching, since it will not only prevent United States citizens from accessing the website, but it will also prevent non-citizens from accessing this site from outside the United States. This is known as a "spillover effect."[186]

The occurrence of a spillover effect as a result of a government's regulation of the local effects of transnational activity is not a new phenomenon. Even before the Internet was used to offer Internet gambling to United States citizens, governments were implementing local regulations that had international impact. The national regulation of transborder pollution, national consumer protection regulation of transnational contracts, and national criminal prohibitions on transnational drug activities all produce spillover effects.[187] Similarly, spillover effects have already been observed in the regulation of cyberspace activity. For example, in December 1995, the Bavarian Justice Ministry threatened to prosecute CompuServe "for carrying online discussion groups containing material that violated German anti-pornography laws."[188] Because the necessary technology did not exist at that time, CompuServe was not able to block access to these groups solely in Germany, so instead CompuServe blocked access to these

184. *See generally* Goldsmith, *supra* note 13, at 1119.

185. Letter From Attorney General Doyle, *supra* note 172, at 3; *see also* Goldsmith, *supra* note 13, at 1119; Tratos, *supra* note 12, at 116.

186. *See* Goldsmith, *supra* note 13, at 1240.

187. *See id.*

188. *Id.* at 1224.

discussion groups by all users, worldwide.[189] This clearly constituted a spillover effect as CompuServe, faced with multiple regulatory regimes, was left with no choice but to cater to the most restrictive.[190]

Although minimization of these spillover effects is an ideal for which every government should strive, the fact that a government's paternalistic regulation of illegal cyberspace activities may have spillover effects does not in any way diminish the necessity or propriety of that regulation. "Spillover-minimization is not the criterion of legitimacy for national regulation of harmful local effects."[191] "Fairness does not require ... [that a country] yield local control over its territory in order to accommodate the users of a new communication technology in other countries."[192] Nor does fairness require that one country absorb the local costs of foreign activity because of the spillover effects that country's regulation may have on the citizens of other countries.[193]

Courts have already begun to recognize, and to some extent accept, that while minimization of spillover effects may be desirable, governmental regulation is not dependant upon the elimination of these effects. In fact, in *World Interactive*, the court appeared to place the burden of implementing technological protections, which would prevent an Internet gambling website from being accessed in violation of New York law, squarely upon the individuals operating the offending website. Specifically, the respondents in *World Interactive* argued against a finding of liability, alleging that they had unknowingly permitted a New York resident to log in and gamble in their Internet gambling casino, in violation of New York's Penal Law.[194] In rejecting the respondents' argument, the Court noted that the protections implemented by the respondents were inadequate because "New York users can easily circumvent the casino software in order to play by the simple expedient of entering an out-of-state address."[195] In essence, the Court placed the burden of implementing technological protections which would screen for and block access by New York residents upon the respondent operators of the Internet gambling website. It can be surmised from this that if the respondents did not have the technological means with which to perform this screening, the respon-

189. *See id.*
190. *See id.*
191. *Id.* at 1242.
192. *Id.*
193. *See id.*
194. People v. World Interactive Gaming Corp., 1999 WL 591995, at *6 (N.Y. Sup. Ct. July 22, 1999).
195. *Id.*

dents would have to cease offering Internet gambling to all United States citizens. Even assuming arguendo that Internet gambling were legalized in a state within the United States, blocking all access to the website might still be necessary if it were the only viable technological means currently available for complying with New York's law. This would clearly constitute a spillover effect of New York law to the state where the activity was, for argument's sake, legal.

As Jack Goldsmith observed, "[c]yberspace users solicit and deliver kiddie porn, launder money, sexually harass, defraud, and so on. It is these and many other real-space costs—costs that cyberspace communities cannot effectively internalize—that national regulatory regimes worry about and aim to regulate."[196] Although Internet gambling takes place in cyberspace, the harmful effects are felt in the real world, with the costs of various remedial measures being borne by the taxpayers in the communities where the real-world effects are felt. It is these effects that would be avoided by canceling a website's registration and removing the pointers to that website. Although such action may have spillover effects on foreign citizens' ability to access an Internet gambling website, akin to Germany's regulation of CompuServe, this action would be a legitimate exercise of the United States's, or any individual state's, paternalistic regulation, designed to protect its citizens.

Besides, the United States cannot control sites registered in another country's top-level domain. Cancellation of a website's <.com> registration, and removal of the pointer to that website from all of the upstream domain name servers in the <.com> domain, would not prevent the website from being made available in an international domain, such as <.au> or <.uk>. Any website that had its domain registration cancelled could reregister in another country, which, presuming they did not permit United States residents to gamble on this new website, would be of no concern to United States regulators. The United States simply should not allow American companies[197] to facilitate criminal activities such as Internet gambling.

3. *Severing a Gambling Website's Telecommunication Service*

One final mechanism for severing access to an Internet gambling website would be to utilize an enforcement provision already available under the Wire Act. Specifically, §1084(d) of the Wire Act provides that:

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196. Goldsmith, *supra* note 13, at 1242.

197. Network Solutions Inc., the company that provides registry services for the <.com> domain, is headquartered in Herndon, Virginia.

> [w]hen any common carrier, subject to the jurisdiction of the Federal Communications Commission is notified in writing by a Federal, State or local law enforcement agency, acting within its jurisdiction, that any facility furnished by it is being used or will be used for the purpose of transmitting or receiving gambling information in interstate or foreign commerce in violation of Federal, State or local law, it shall discontinue or refuse, the leasing, furnishing, or maintaining of such facility, after reasonable notice to the subscriber ....[198]

By way of example, Florida Attorney General Robert A. Butterworth issued a 1084 notice to Sprint in order to terminate the toll-free telephone service used by the Maliseet Indian Tribe to operate a telephone sports wagering business that was available in the State of Florida.[199] Use of the 1084 notice for this purpose has already been upheld by federal courts around the country.[200] Moreover, since the Wire Act has been held applicable to Internet gambling, it is reasonable to conclude that the Wire Act's 1084 notice is likewise available for use in Internet gambling cases.[201] This 1084 notice is especially useful since it may be issued without a court order, and may be used preemptively, before the gambling website becomes operational.

Regardless of the hardware used to link to the Internet, whether via modem, Digital Subscriber Line ("DSL"), or T1 line, the Internet gambling business will still need to subscribe to a telecommunications service.[202] As such, so long as the Internet gambling business utilizes a tele-

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198. 18 U.S.C. § 1084(d) (1994). *See also* Tollin v. Diamond State Tel. Co., 286 F. Supp. 86, 89 (D. Del. 1968) ("The Section calls for no specific form of notice and no particular language need be employed so long as, under the circumstances of the case, it seems reasonably clear that the notice of termination from the Telephone Company to the subscriber was predicated upon a written communication from a law enforcement agency to the effect that the utility's wires were being used or will be used for the purpose of transmitting or receiving gambling information in interstate commerce in violation of law.").

199. *See* Letter from Robert A. Butterworth, Attorney General, State of Florida & James T. Moore, Commissioner, Florida Department of Law Enforcement, to Sprint (Oct. 25, 1996) (on file with *Berkeley Technology Law Journal*) (serving a § 1084(d) notice "that there is a possibility that [Sprint's] facilities are being used for the unlawful purpose of transmitting or receiving gambling information in interstate or foreign commerce in direct violation of both state and federal law").

200. *See Tollin*, 286 F. Supp. at 92; Telephone News Sys., Inc. v. Illinois Bell Tel. Co., 220 F. Supp. 621, 628 (N.D. Ill. 1963).

201. *See* People v. World Interactive Gaming Corp., 1999 WL 591995 (N.Y. Sup. Ct. July 22, 1999). *See also* Tratos, *supra* note 12, at 107.

202. *See* Goldsmith, *supra* note 13, at 1120.

communications service registered with the Federal Communications Commission, the gambling business is susceptible to a service interruption by way of a 1084 notice.[203]

While a 1084 notice is helpful in terminating the telecommunications service of an Internet gambling operation, such a notice would probably be of little use in terminating the domain-name registration of an Internet gambling website, as discussed in the previous section. That is because the 1084 notice is explicitly limited to common carriers subject to the jurisdiction of the Federal Communications Commission.[204] A common carrier has been defined by the Federal Communications Commission as "a telecommunications company that is available for hire on a non-discriminatory basis to provide communication transmission services, such as telephone and telegraph, to the public."[205]

In contrast to a telecommunications company which provides "communication transmission services," a domain-name registrar, such as Network Solutions, Inc., provides only the actual registration of a domain name. Once a domain name is registered, the individual registering the domain name is responsible for locating an ICS provider or other service that will host the individual's website and provide access to the website through the Internet. Having secured a service to host the newly registered domain name, the IP address of the website residing on that server will be provided to the original registrar, which will in turn be used to link the domain name to the actual website by placing it in the upstream domain-name registry. While the registration of a domain name is critical to setting up an Internet gambling website, it is clear that the registrar does not in fact provide any "communication transmission services" and, as such, could not be considered a common carrier.

Moreover, these registrar services are subject to the jurisdiction of the Internet Corporation for Assigned Names and Numbers ("ICANN"), not the Federal Communications Commission.[206] Although the IGPA will help to clarify the application of the Wire Act to Internet gambling and will provide new law enforcement tools, the current version of the IGPA does

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203. *See id.*; *see also* S. 692, 106th Cong. (1999); Fojut, *supra* note 8, at 166 (pursuant to a proposed provision in the Internet Gambling Prohibition Act, a law enforcement agency may "acquire an injunction against a common carrier who refuses to terminate access after being notified of an offending site"); Goldsmith, *supra* note 13, at 1119.

204. *See* 18 U.S.C. § 1084(d) (1994).

205. FEDERAL COMMUNICATIONS COMMISSION, A GLOSSARY OF TELECOMMUNICATIONS TERMS (1998).

206. *See* ICANN, *ICANN Names Competitive Domain-Name Registrars* (Apr. 21, 1999) <http://www.icann.org/announcements/icann-pr21apr99.htm>.

not expand the applicability of the 1084 notice to domain-name registrars. Thus, regulators will still need to consider joining these registrar organizations in an action as necessary parties if they wish to potentially enforce a court order terminating the registration of an Internet gambling website.

B. Enforcement Mechanisms Focused On The Intermediary Party That Facilitates The Transfer Of Funds Between The Gambler And The Website Operator

An alternative or additional enforcement mechanism for severing access to Internet gambling could focus on the intermediary third party facilitating the transfer of funds between the gambler and the website operator.[207] In order for United States residents to gamble, the Internet gambling business must be capable of receiving and processing payments from persons within the United States. This requires the use of third parties to physically transfer the funds from the gambler's account to the Internet gambling business' account. This is generally accomplished through the use of checks, bank wires, Western Union wires, credit cards, or other cyber-cash type payment systems.[208] Severing an Internet gambling business's access to these payment systems would deprive the business of its funding, thus making it unprofitable to do business in the United States.[209]

1. Checks and Wire Transfers

One mechanism available for funding an Internet gambling account involves the use of the American banking system. Even if a U.S. dollar-denominated instrument is issued to a payee outside the country, such as to an Internet gambling operation, the instrument must still clear through a United States bank in order to effect payment.[210] Since the cost of sending individual checks to the banks on which they are drawn for purposes of clearing would generally be prohibitively expensive, a foreign bank will either maintain a branch in the United States itself through which it can

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207. *See generally* Goldsmith, *supra* note 105, at 1223.

208. *See, e.g.*, Rutherford, *supra* note 18, at 40 ("U.S. banks, along with VISA and MasterCard and Western Union and all the other providers of ... financial services are essential for online gambling"); Martinez, *supra* note 17 (stating that a U.S. resident may choose to gamble on an Internet gambling website through "the account he set up with either Federal Expressed cashiers check or his VISA through a server in the Caribbean"); Fojut, *supra* note 8, at 159.

209. *See generally* Goldsmith, *supra* note 13, at 1120.

210. *See* G. JAY FRANCIS, PRINCIPLES OF BANKING 110 (American Banking Association 6th ed. 1998).

clear instruments, or it will utilize a domestic bank to perform clearing services through a correspondent banking relationship.[211]

A correspondent bank is defined as a "bank that holds deposits owned by other banks and performs banking services, such as check clearing for banks in other cities [or countries]."[212] In order to clear instruments through a correspondent bank, the foreign bank literally sends the instrument to the correspondent bank in the United States.[213] The correspondent bank, in turn, maintains a deposit account for the foreign bank through which dollar items can be paid and credited to the foreign bank's account.[214] Once the money is credited by the correspondent bank to the foreign bank's account, the instrument is cleared, and the foreign bank can then credit the depositor's account in the foreign country.[215]

In essence, even if the Internet gambling operation is based entirely outside of the United States, and even if the monetary instruments drawn on United States banks are deposited in accounts outside of the United States, the instruments must still reenter the United States for purposes of clearing. As such, the foreign gambling operation is dependent upon the U.S. banking system for receiving the funds. This reliance therefore provides a mechanism which can be used to eliminate an Internet gambling business's ability to accept monetary instruments drawn on United States banks.

If legislation were enacted akin to the Federal Wire Act's 1084 notice provision, law enforcement could summarily sever a foreign business' access to the American banking system.[216] Through such legislation, law en-

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211. *See* JAMES M. KOLTVEIT, CPA, ACCOUNTING FOR BANKS § 5.01[6], at 5-13, 5-14 (Matthew Bender 1999).

212. THOMAS P. FITCH, DICTIONARY OF BANKING TERMS 153 (Barron's 2d ed. 1993).

213. *See* FRANCIS, *supra* note 210, at 110; KOLTVEIT, *supra* note 211, at 5-13, 5-14.

214. *See* BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, COMMERCIAL BANK EXAMINATION MANUAL § 2010.1 (4th ed. 1994).

215. *See* KOLTVEIT, *supra* note 211, at 5-13, 5-14.

216. *See supra* Part V.A.3. There is ample precedent in this nation's history which demonstrates the feasibility of severing access to our banking system. For example, after Iraq invaded Kuwait in 1990, President Bush assessed sanctions against Iraq, including the freezing of Iraq's bank accounts. *See* Moran, *Where are the Regs: Ad-Hoc Sanctions Against Iraq Give Advocates Room to Wiggle*, LEGAL TIMES, Nov. 12, 1990, at 1. Through the oversight of the United States Treasury Office's Office of Foreign Asset Control, the United States managed to control the flow of funds through the domestic banking system. *See id.* at 11. In addition to preventing Iraqi companies from utilizing our banking system, the sanctions also "placed 94 Kuwaiti banks and companies under various categories of control." *Id* at 11-12. The controls that would need to be implemented in order to effectuate the use of the "bank notice" would probably be much more

forcement could be statutorily authorized to serve a 1084-type notice, or "bank notice," on a bank facilitating the clearing of United States funds for an Internet gambling business.[217] This "bank notice" could require that the bank cease providing clearing service for any monetary instruments made payable to the Internet gambling business, as well as all known entities associated with that Internet gambling business. By eliminating an Internet gambling business' ability to clear United States denominated instruments, the government would effectively render all United States monetary instruments worthless to the Internet gambling operation.

The Internet gambling business' reliance on correspondent relationships could also be exploited to sever its use of wire transfers. Analogous to the requirement that all United States monetary instruments clear through a United States bank, all wire transfers originating in the United States must also pass through either a foreign bank's domestic branch, or a foreign bank's correspondent bank. The same "bank notice" used to prevent the clearing of monetary instruments could also be used to prevent the wire transfer of funds out of the country. However, although wire transfers by definition rely upon the use of wire communication facilities, the Wire Act's 1084 notice is probably not useful for purposes of preventing the wire transfer of funds between banks because § 1084(d) limits the use of these notices to "common carriers" which are subject to the jurisdiction of the Federal Communications Commission.[218]

Of course, there may be ways to circumvent the use of this notice. For example, an Internet gambling business could change banks in an effort to utilize a foreign bank that maintains a correspondent relationship with a different bank in the United States. Nonetheless, it would merely be a matter of time before law enforcement learned of the new bank and served a bank notice on that bank as well. Additionally, there is a general belief that an Internet gambling business is highly dependent upon both continuity of service and consumer confidence.[219] Continually changing banks and funding mechanisms available to United States citizens would undermine such credibility and confidence.

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rudimentary than those used for implementing the Iraqi sanctions. Nonetheless, the implementation of such controls appears to be feasible.

217. The name and location of the correspondent bank that is being used to clear funds for the foreign bank will be readily available to a prosecutor, either on the Internet site itself, or on the back of a canceled check or money order used to fund a gambling account.

218. *See* 18 U.S.C. § 1084(d) (1994); *see also supra* Part V.A.3.

219. *See supra* Part V.A.2.

2. *Commercial Money Transfer Businesses*

As an alternative to wiring money through a bank account, many Internet gambling operations also offer the option of funding an account through the use of commercial money transfer businesses such as Western Union or MoneyGram. In order to facilitate the use of a commercial money transfer outlet, an Internet gambling website will often provide the prospective gambler with the name of the foreign bank and the account number to which the money should be directed. These money transfer businesses then presumably use interstate and foreign wire communication facilities for the purpose of transmitting the information necessary to effectuate the transfer; however, as with wire transfers between banks, the Federal Wire Act's 1084 notice is probably inapplicable to these businesses since neither Western Union nor MoneyGram can be characterized as a "common carrier."[220]

In lieu of utilizing a 1084 notice, another viable option for preventing commercial money transfers to Internet gambling enterprises may be to secure the voluntary cooperation of these money transfer businesses.[221] For example, after being alerted to the fact that its money transfer business was being used "directly or indirectly to pay for sports bets that [were] illegal under Florida law," Western Union entered into an "Agreement of Voluntary Cooperation" with the Florida Attorney General's Office, wherein it agreed to operational modifications of its money transfer business within Florida.[222]

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220. *See supra* Part V.A.3.

221. *See* News Release of Robert A. Butterworth, Attorney General, State of Florida, Western Union Cuts Off Sports Betting Account (Dec. 23, 1997), *available at* <http://legal1.firn.edu/newsrel.nsf/b57e80b88fcebfad85256403005cbc7a/06268a62eb5817ba852565b50046b857?OpenDocument>.

222. Western Union agreed to the following operational changes: 1) "to implement procedures designed to prevent funds from being transferred from Florida through Western Union's Quick Pay service to any of the Western Union Quick Pay subscribers set out in [an] Appendix..."; 2) "to enter into agreements with the ... Quick Pay subscribers [set forth in the agreement] prohibiting the Quick Pay subscribers from accepting payments from Florida for or on behalf of [the gambling businesses in question]"; 3) "to advise its money transfer outlets in the State of Florida that the Florida Office of the Attorney General has advised that it is a violation of Florida law to place bets on sporting events and that they cannot use Western Union facilities in Florida to transfer money to pay for the placement of bets or wagers"; 4) "to notify the entities set out in [an] Appendix ... that ... it is a violation of Florida law to transfer money for the purpose of placing sports wagers in Florida and that they must cease receiving funds through Western Union money transfer services from Florida ..."; 5) "to implement procedures designed to prevent credit card money transfers from Florida to ... recipients outside the United States set out in [an] Appendix ..."; and 6) "to take reasonable steps to monitor periodically the transac-

Although this agreement did not pertain specifically to Internet gambling, it could serve as a model framework for law enforcement authorities that wish to eliminate the use of these commercial money transfer businesses by Internet gambling enterprises.

3. Credit Cards

Credit cards represent yet another payment option offered by Internet gambling websites. Since the type of credit card used to fund an account will vary based upon the individual gambler, negotiating an agreement of voluntary compliance with every credit card company may not be the most practical solution for preventing their use in Internet gambling. An alternative would therefore be to make it legally or commercially undesirable for the credit card companies to authorize Internet gambling businesses to accept their credit cards.

One possible mechanism for accomplishing this would be to enact legislation making it illegal for credit card companies to pay businesses for debts incurred through Internet gambling. The standard of knowledge required to establish an infraction by a credit card company could range from: making payments "knowingly;" "knowingly, or under the circumstances should reasonably have known;" or, "knowingly or recklessly" making payment. Since a business must first register with a card provider in order to accept a given type of credit card, this registration process presents an excellent opportunity for the provider to identify potential Internet gambling businesses. Accordingly, credit card companies already possess the means to avoid liability. Nonetheless, any attempt to enact such legislation would likely meet with a great deal of opposition from the credit card companies and their lobbies.

An alternative means for deterring the use of credit cards might be to make it commercially undesirable for credit card companies to allow the use of their credit cards by gamblers. This approach is best illustrated by a

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tions of its Quick Pay subscribers and regular money transfer agents in Florida and in the jurisdictions set out in [an] Appendix." *See* Agreement of Voluntary Cooperation, between Gary L. Betz, Special Counsel to Robert A. Butterworth, Attorney General, State of Florida, & Lawrence S. Fogelson, Chief Operating Officer—International, Western Union Financial Services, Inc. 2-5 (Dec. 22, 1997) (on file with *Berkeley Technology Law Journal*). This agreement was subsequently amended to update the lists provided in the initial agreement Appendices and to "provide a more effective mechanism for updating these lists in the future." *See* Amended Agreement of Voluntary Cooperation, between Gary L. Betz, Special Counsel to Robert A. Butterworth, Attorney General, State of Florida & David L. Schlapbach, General Counsel—International, Western Union Financial Services International (Apr. 19, 1999) (on file with *Berkeley Technology Law Journal*).

countersuit filed by Cynthia Haines of Marin County, California, in response to a suit filed against her by the credit card companies to which she owed $70,000.00 in Internet gambling debt.[223] According to the Haines lawsuit, "the card companies never should have given merchant accounts to the online casinos" because the online casinos are not legal entities within the United States.[224] The theory asserted by Haines was that debts owed by California citizens were unenforceable "because gambling is illegal in the state [of California] and on-line wagering is illegal in the United States."[225]

Recognizing "the evolving issues relating to online gambling," MasterCard International entered a settlement agreement with Haines, for an undisclosed amount of money, which included the issuance of new rules by MasterCard for using its cards to gamble on Internet gambling websites.[226]

Without venturing into the morality of permitting consumers to incur debt and escape liability by asserting that the debt is unenforceable, Haines's suit, and the subsequent concessions of MasterCard demonstrate a potentially potent enforcement tool. Specifically, credit card companies will probably only pay credit card bills so long as they reasonably believe that they will be able to recover the money from the person incurring the charges. If credit card debt incurred through Internet gambling is found to be unenforceable because of long-standing public policy, credit card companies would probably begin to bar the use of their cards on Internet gambling websites. In fact, at least one company has already implemented such a policy.[227] This long-standing public policy against the enforcement

223. *See Lawsuit Could Kill Online Gambling*, AP, Aug. 18, 1998, *available at* <http://www.wcco.com/news/stories/news-980818-103333.html>.

224. *See id.*

225. *MasterCard Sets Rules For Online Gambling to Settle Lawsuit*, AP Newswires, July 12, 1999, *available in* Westlaw, APWIRESPLUS Database.

226. *See id.* (stating that among the rules adopted by MasterCard was a rule that it "will now require Internet casinos that use its cards to ask gamblers where they live and keep a record of the information. The company will also require the sites to post notices stating that Internet gambling is illegal in California and other states."); *see also* Maharaj, *supra* note 4, at A1.

227. *See* Maharaj, *supra* note 4, at A7 ("Providian National Bank in San Francisco, one of the nation's largest Visa card issuers, says it will no longer process gambling transactions for its 11 million customers. Other card issuers are expected to follow suit. If enough of them do, that could effectively kill online gambling, observers say, by eliminating the only convenient way to pay.").

of gambling debts incurred on credit was recognized by the court in Haines's case, as well as other courts around the country.[228]

In order to avoid incurring unrecoverable debt, credit card companies could implement policies akin to those employed by MasterCard, and could refuse to make payment to websites that fail to follow those policies. Alternatively, since it may be difficult for a credit card company to ascertain exactly where the card holder is physically located at the time a bet is placed,[229] the company may instead choose to refuse to authorize any Internet gambling businesses to accept its cards.

4. Electronic Money Payment Systems

One final type of payment method that bears mentioning is the digital cash and smartcard businesses that have begun to proliferate on the Internet.[230] This includes such businesses as Digicash, Cybercash, e-Cash and Mondex.[231] Unlike credit cards, however, digital cash and smartcards function like debit cards, requiring pre-funding of an account which is then spent down as the account holder uses the money online.[232] As such, the inability to enforce debt, which might be a primary deterrent to credit card companies, would likely have little effect on these digital cash companies.

Perhaps the best mechanism available to law enforcement for preventing the use of digital cash by Internet gambling businesses would be

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228. *See id.*; *see also* Metropolitan Creditors Service of Sacramento v. Sadri, 19 Cal. Rptr. 2d 646, 651 (Ct. App. 1993) ("The cornerstone of the Hamilton rule against enforcement of gaming house debts is not simply that the game played is unlawful, but that the judiciary should not encourage gambling on credit by enforcing gambling debts, whether the game is lawful or not."); King Int'l. Corp. v. Voloshin, 366 A.2d 1172, 1175 (Conn. Super. Ct. 1976) ("It is the conclusion of this court that the legalization of gambling in a limited and regulated manner, while constituting a change to some degree in this state's ancient and deep-rooted public policy prohibiting gambling, has had no effect on the long-established policy of this state condemning gambling on credit and prohibiting the enforcement of any claimed obligation relating thereto."); Nelson Rose, *Gambling and the Law—Update 1993*, 15 HASTINGS COMM. & ENT. L.J. 93, 95 (1992) ("Even while legal gambling spreads throughout the country, the public policy of virtually every state makes legal gambling debts unenforceable, treating a casino marker the same as a contract for prostitution.").

229. Which, as noted by the *World Interactive* court, is an essential element in determining where the gambling takes place, and, whether state or federal law is being violated. *See* People v. World Interactive Gaming Corp., 1999 WL 591995, at *5 (N.Y. Sup. Ct. July 22, 1999).

230. *See* Tratos, *supra* note 12, at 108-111.

231. *See* John L. Douglas, *Electronic Money*, *in* ELECTRONIC COMMERCE LAW 111, 112 (William A. Tanenbaum & Allen R. Grogan, 1998).

232. *See* Tratos, *supra* note 12, at 110-11.

to secure voluntary agreements of abstinence from the digital cash companies, similar to the agreement secured from Western Union by the Florida Attorney General.[233] Another alternative might be to implement legislation akin to that discussed with regard to credit card companies, making it illegal for a digital cash company to "knowingly," "knowingly, or under the circumstances should reasonably have known," or "knowingly or recklessly" effectuate payment in furtherance of Internet gambling.[234]

VI. SNAKE EYES AND THE HOUSE LOSES: CONCLUSION

The reaction by state and federal regulators to Internet gambling has been as varied as the gambling sites themselves. The inability of regulators to arrive at a uniform method for dealing with this issue was clearly illustrated in January 1998 when Justice Department spokesman John Russell was quoted as saying, "[w]e have no jurisdiction [to prosecute Internet gambling operators]. The offense has not been made on U.S. soil."[235] By early March 1998, however, the Justice Department completely reversed its position, proceeding to announce a number of federal indictments against Internet gambling operators.[236]

While United States regulators continue to wrestle with methods for cutting off access to Internet gambling by American citizens, other countries have taken a more user-friendly approach.[237] For example, on March 18, 1998, the Queensland, Australia legislature passed the Interactive Gambling Bill, permitting the licensing and operation of Internet gambling within its borders.[238] Similarly, the governments of Antigua, New Zealand and other countries have embraced this bold new technology, envisioning a potential windfall from their provision of an apparent "safe-haven" for entrepreneurs interested in starting an Internet gambling business.[239]

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233. *See supra* Section V.B.2.

234. *See supra* Section V.B.3.

235. *See* Freeling & Wiggins, *supra* note 2; *see also* Kish, *supra* note 8, at 462.

236. *See* Rebecca Quick, *U.S. May Face Enforcement Hurdles In Crackdown on Internet Gambling*, WALL ST. J., Mar. 6, 1998 at B2, col. 1 ("[O]n Wednesday, the federal government began its first-ever crackdown on Internet gambling, charging 14 Website owners and managers with illegally using interstate phone lines to take wagers and vowing to bring down a big business that started just a few years ago."); Cabot, *supra* note 9; *see also* Michael Grebb, *The Players, Gambling*, BUSINESS 2.0, Feb. 1999, at 47 (quoting Assistant Attorney General Alan Kessner as saying, "[i]f you're going to choose between imperfect regulation or imperfect prohibition, it's better to have prohibition").

237. *See* Cabot, *supra* note 9 at 22.

238. *See State Tries To Protect Against Internet Gambling Abuses*, AAP NEWSFEED, Mar. 18, 1998, *available in* LEXIS, AAP Newsfeed File.

239. *See* Fojut, *supra* note 8, at 169. *See generally* Cabot, *supra* note 9, at 22.

Private industry's proposals for dealing with Internet gambling have also been quite varied. Some industry lobbies, particularly those whose members include the land-based off-line casino operators, favor a complete ban on Internet gambling. Others favor a cooperative effort between industry regulators and Internet gambling operators.[240] Under the latter concept, regulators would theoretically charge licensing fees and set "certifiable standards of randomness, procedures, financial stability and non-criminal activity."[241] Assuming a gambling website complied with regulator standards and paid the applicable licensing fees, the gambling website would then receive something akin to a "Good Housekeeping Seal of Approval," which could be used by potential gamblers to distinguish between "Gaming Certified" sites and unlicensed sites that do not meet regulator standards.[242]

One of the more widely publicized legislative responses to Internet gambling has been the proposed Internet Gambling Prohibition Act.[243] A popular misconception about this bill is the belief that until it is enacted there is no federal ban on Internet gambling. This is incorrect. As a resolution adopted by the National Association of Attorneys General demonstrates, the IGPA was designed to clarify the definitional sections of the Interstate Wire Act and to enhance its effectiveness, not to fill a vacuum and create a new body of law where none existed before.[244] Thus, even without passage of the IGPA, Internet gambling operators are already being prosecuted for violations of the Wire Act by both federal and state authorities.[245]

Additionally, Internet gambling has already been held by at least one state court to be illegal under the Federal Interstate Wire Act, the Travel

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240. *Compare* Bell, *supra* note 141 ("Powerful lobbies favor a ban on Internet gambling. The established, off-line gambling industry has huge overhead costs and a corresponding fear of new competitors. It also brings very deep pockets to the debate.") *with* Plumley, *supra* note 2, at 15 ("That's right, not to shut down Internet gaming - to capitalize on it. How? By accepting Internet gaming and each other's role in it, with a regulator providing standards of certification to assess the lottery and any other Internet gaming competitors and the lottery delivering strong products to the market.").

241. *See* Plumley, *supra* note 2, at 16.

242. See *id.*; *see also* Grebb, *supra* note 236, at 49.

243. *See supra* Part V.

244. *See NAAG Adopts Resolution on Internet Gambling*, NATIONAL ASSOCIATION OF ATTORNEYS GENERAL GAMING DEVELOPMENT BULLETIN, July/Aug., 1996; *see also* Brown, *supra* note 16, at 22.

245. *See, e.g.*, United States v. Cohen, sealed complaint, Buchwald, J. (S.D.N.Y. filed Mar. 9, 1998); People v. World Interactive Gaming Corp., 1999 WL 591995, at *6 (N.Y. Sup. Ct. July 22, 1999).; Brown, *supra* note 16, at 16-20; Cabot, *supra* note 9, at 21-22.

Act and the Interstate Transportation of Wagering Paraphernalia Act.[246] Similarly, Internet gambling appears to violate the law in every state of the country, since no state explicitly authorizes Internet gambling. It also appears that merely locating the gambling servers offshore, where Internet gambling is licensed, does not in any way create a legal umbrella for activity having an effect within the United States. So long as a person who is physically present within the United States logs in to a gambling website and places bets, the crime is deemed to have occurred on United States soil.[247]

It can therefore be said that Internet gaming operators are not only hosting the gambling, but are, in a sense, gambling themselves. In the latter instance, however, the gamble is not for money. Rather, the gamble is based on the likelihood that federal or state regulators will have the resources and the ability to prosecute them for their crimes, and the ability to utilize various enforcement methods to shut down the Internet gambling website and cut off the business' funding. Thus, the more important question becomes whether the Internet gambling operators are willing to play the odds and risk the potential ramifications of allowing United States residents to log in and place bets.

As Professor Rose alluded to in his historical analysis of gambling, there have been three distinctive waves of gambling resulting in new forms of gambling regulation, the first wave of gambling having been characterized by opportunistic pioneers who had an adventurous spirit, high expectations of making money and who enjoyed taking risks.[248] The Internet has likewise been characterized as a new mode of technology which provides those with an entrepreneurial spirit the opportunity to take risks in order to secure great wealth. This new technology has created the potential for many new business models, one of them being the opportunity to host an Internet gambling website. Although the ultimate conclusion to this chapter in gambling history has yet to play itself out, one thing has become clear. The indomitable pioneer spirit is still alive and well on the cusp of the next millennium. The only difference is that now the spirit resides in cyberspace.

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246. *See World Interactive*, 1999 WL 591995.

247. *See id.* at *4.

248. *See* Dunstan, *supra* note 3. The second wave was spurred by the expansion of the western frontier in the mid-1800s to the early 1900s. The third wave began during the Great Depression and led to a greater legalization of gambling. *Id.*

ICANN: BETWEEN THE PUBLIC AND THE PRIVATE COMMENTS BEFORE CONGRESS

By Jonathan Zittrain †

In July 1999, the Subcommittee on Investigations and Oversight of the House Commerce Committee held a hearing entitled "Is ICANN Out of Control?" Mr. Zittrain testified at the hearing; what follows is a revised version of his testimony that addressed the hybrid character of the Internet itself—neither public nor private—and the challenges facing ICANN due to its hybrid structure.

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> The town, a suburb of Mobile, Alabama, known as Chickasaw, is owned by the Gulf Shipbuilding Corporation. Except for that, it has all the characteristics of any other American town. The property consists of residential buildings, streets, a system of sewers, a sewage disposal plant and a "business block" on which business places are situated. A deputy of the Mobile County Sheriff,

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> paid by the company, serves as the town's policeman. Merchants and service establishments have rented the stores and business places on the business block and the United States uses one of the places as a post office from which six carriers deliver mail to the people of Chickasaw and the adjacent area. The town and the surrounding neighborhood, which can not be distinguished from the Gulf property by anyone not familiar with the property lines, are thickly settled, and according to all indications the residents use the business block as their regular shopping center. To do so, they now, as they have for many years, make use of a company-owned paved street and sidewalk located alongside the store fronts in order to enter and leave the stores and the post office. Intersecting company-owned roads at each end of the business block lead into a four-lane public highway which runs parallel to the business block at a distance of thirty feet. ... In short the town and its shopping district are accessible to and freely used by the public in general and there is nothing to distinguish them from any other town and shopping center except the fact that the title to the property belongs to a private corporation.[1]

The Internet lies somewhere between Chickasaw and Mobile. This simple fact—figurative though it may be—creates the lion's share of the debates over regulation of the Internet and fair apportionment of its bounties. To explain: We are entering an era in which "Internet governance" and "Internet regulation" are becoming synonymous with control of the Internet itself, of its paths and protocols, as opposed to control over behaviors that people and institutions engage in while using the Net.

Of course, control of the Internet has direct implications for control of its users; for example, creating a next-generation Internet whose users are more readily identifiable than their predecessors might make it much easier to regulate everything from online gambling to the distribution of pornography. The more the Net becomes a feature of daily life for the world's population, the more important it may be for governments (and their constituencies) to assert control over the Internet's workings—particularly those workings which bear on the "regulability" of online behavior.[2]

Further, those who can assert a role in creating or maintaining Internet infrastructure stand to profit in rough proportion to the popularity of the Net itself. Who owns or controls various components of the Internet are

1. Marsh v. Alabama, 326 U.S. 501, 502-03 (1946).

2. *See generally* LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE (1999).

therefore no longer backwater issues without need of formal resolution—for reasons of both profit and governance.

The Domain Name System ("DNS")[3] is a suite of protocols. It is one that is less necessary to the actual operation of the Internet as we know it than TCP/IP, but it is, currently, quite important to Internet navigation. The domain name system resolves addresses such as <www.harvard.edu> or <www.cnn.com> into unique numeric addresses. In turn, these unique addresses point to a single location on the Internet. The current implementation of the domain name system anticipates a set of databases—housed on servers, accessible at all times over the Internet—that allocate control over certain names to particular entities.[4] Thus, somewhere an entry in a database associates <www.harvard.edu> (and the ability to specify its numeric destination) with Harvard University, and <www.cnn.com> with the Cable News Network. To control the DNS protocols—or even the servers called for by the current protocols—is to control identity on the Internet.

Such control is appealing to trademark interests who wish to ensure that a name associated with a company does in fact resolve to that company's point of presence on the Internet. For example, whether <www.hertz.com> points to Hertz Rent-a-Car or to a site for oscilloscopes depends on who controls and makes policy for the creation of entries in the <.com> database.[5]

Furthermore, control of entries in the <.com> database could facilitate control of Internet content: those who dislike (or deem illegal) particular websites may find control over those sites' domain name entries a significant weapon in attempts to remove the sites from the Internet.[6] For example, if the <.com> database did not contain a record for

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3. For a technical explanation of the domain name system, see Jon Postel, Information Science Institute, *Domain Name System Structure and Delegation*, Request for Comments 1591 (visited Nov. 22, 1999) <http://info.internet.isi.edu/in-notes/rfc/files/rfc1591.txt>; *see also* Milton Mueller, *Technology and Institutional Innovation: Internet Domain Names* (May 28-29, 1999) (unpublished manuscript, available from the author at <mueller@syr.edu>).

4. *See* Thomas v. Network Solutions, Inc., 176 F.3d 500, 504 (D.C. Cir. 1999); *See also* Postel, *supra* note 3.

5. For a discussion of <.com>, *see* Postel, *supra* note 3.

6. *See* David Schepp, *Network NSI in Tussle Over Nasty Words in Domain Names*, NEWSBYTE NEWS (May 14, 1999), *available at* 1999 WL 512913; Joel Michael Schwarz, *The Internet Gambling Fallacy Craps Out*, 14 BERKELEY TECH. L.J. 1021, 1052-1058 (1999) (suggesting that removal of domain name records would be an effective way to prevent access to Internet gambling websites).

<www.hertz.com>, the address would cease to function—making the corresponding site much harder to find.[7]

Control over domain names was not particularly important in the era before the widespread commercialization and public adoption of the Internet. The domain name system was not developed by a corporation in the way Microsoft developed Windows or MCI developed MCI Mail, an early proprietary electronic mail system. Nor was it developed by a government. The domain name system evolved as the result of a collaborative scientific experiment.[8] Understanding this helps us to understand the unwieldy, sui generis organization known as the Internet Corporation for Assigned Names and Numbers ("ICANN").

In response to the concerns over control—and the absence of settled authority on who was entitled to exercise it—the United States Government solicited recommendations on the future of Internet governance.[9] The result was ICANN. Since its inception in the fall of 1998, ICANN has sought to assert control over the root of the domain name system in the name of the Internet community. It has done so for the stated purpose of fostering the consensus-building processes entailed in creating calculable rules of domain name management and evolution[10]—order out of initially irrelevant but then increasingly tense chaos.

I. THE PUBLIC AND THE PRIVATE

The Internet's ever-increasing number of "nodes," including websites that one might visit through a web browser, are linked by both physical and logical networks. The physical networks, whether wire or wireless,

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7. Indeed, the Motion Picture Association of America has gone on record stating that it would like to see a mechanism by which websites with copyright-infringing content could have their domain names revoked. *See* Berkman Center for Internet & Society, *Scribe's Notes XI Emerging Privacy Issues* (Oct. 31, 1999) (visited Nov. 14, 1999) <http://cyber.law.harvard.edu/icann/la/archive/scribe-103199.html> (summarizing comments by Ted Shapiro, Deputy Legal Counsel, Motion Picture Association (Brussels) at ICANN and the Public Interest: Pressing Issues).

8. The Internet originated as a defense project under the guidance of the Defense Advanced Research Projects Agency (DARPA). This early network, called ARPANET, consisted of four nodes located at UCLA, Stanford, UCSB and the University of Utah. *See* Improvement of Technical Management of Internet Names and Addresses, 63 Fed. Reg. 8826 (1998) [hereinafter The Green Paper].

9. *See* Request for Comments on the Registration and Administration of Internet Domain Names, 62 Fed. Reg. 35,896 (1997).

10. *See* ICANN, *Status Report to the Department of Commerce* (June 15, 1999) <http://www.icann.org/general/statusreport-15june99.htm>.

quite literally ensure that electronic signals can be passed from one node to another.

The logical networks provide successive layers of abstraction so that one can sit at ease at a given node's terminal and dispatch information to (and request information from) elsewhere without knowing how the wiring works. For example, thanks to Internet protocol ("IP") addressing, one can stamp a packet of information with a unique number representing another terminal's address and place it into the Internet's general shuffle of packets with confidence that it will reach its destination without one having to specify the physical route. Thanks to the domain name system one can enter a unique name—like <www.cnn.com>—and end up at CNN's website without having to know its numeric IP address.

These physical and logical networks are the roads of the Net. They are the lattices that integrate the various parcels of private cyberland into a web that can be nimbly traversed. One need only know the name or number of the desired destination, and instants later one is exchanging packets with the site in question.

A. Marsh v. Alabama Revisited

We have plenty of experience with the intertwining of public and private that characterizes Mobile and so many other cities. Private property exists in grids, with networks of publicly-maintained and publicly-owned roads helping citizens travel from one destination to the next. Decisions about these public roads—how wide to make them, what to call them, their respective speed limits—are made by municipal authorities serving the public interest, who are accountable through the processes of the administrative and, ultimately, elective and constitutional states.

We have less experience with company towns like Chickasaw: private property linked by private networks. Ms. Marsh sought to treat it as she might any other town; she stood on the sidewalk outside the post office and distributed religious literature. She was arrested for trespassing after the Gulf Shipbuilding Company, which owned the sidewalk, objected to her presence. The Supreme Court sided with Ms. Marsh, and the state's enforcement of its criminal trespass law on behalf of the company was blocked: "Whether a corporation or a municipality owns or possesses the town[,] the public in either case has an identical interest in the functioning of the community in such manner that the channels of communication remain free."[11]

11. *See* Marsh v. Alabama, 326 U.S. 501, 507 (1946).

In other words, Ms. Marsh could hand out her pamphlets and there was little the Gulf Shipbuilding Company could do about it. An unbounded ability to exclude, however, is only one stick in a bundle of rights we normally call ownership. The roads of Chickasaw likely still "belonged" to the company in other ways: Would anyone have questioned the company's prerogative to name its roads as it pleased?

In towns like Chickasaw and Mobile, one can get around with physical cues as readily as logical ones. If the town is well known enough to the traveler, the traveler can simply walk to the library or a friend's house without much regard for street names. Hence the hypothesis that the *Marsh* court would not consider a challenge to the Gulf Shipbuilding Company's proprietary street naming schemes, even though the court upheld the "public" character of those streets.

On the Internet, however, one relies on mnemonics. To visit a website, one must grasp its exact name rather than the physical details of how to get there. A browser is like a taxi driver and the user its passenger in an unfamiliar and constantly-changing landscape. "Take me to <www.harvard.edu>!" is the imperative that makes the territory navigable to the user, rather than "turn left at the next website and then stop at the first university one sees."

In addition, <www.harvard.edu> is easier to remember than <www.2yhf927.edu>, and thus the most visited websites tend to be ones with memorable names. In the absence of physical cues, labels are everything. As a result, there is more public interest in the scheme by which domain names are assigned than there is in the titling of private streets.

The street names in Chickasaw were the Gulf Shipbuilding Company's to disburse; the street names in Mobile are the municipalities' to give out. Who gives out domain names in cyberspace? The answer, it turns out, has been quite complicated, and represents a hybrid of the public and the private.

B. Quasi-private and Quasi-public Domain Naming Schemes

There exist wholly private, proprietary naming schemes apart from the domain name system. For example, RealNames is a company that matches up words with locations on the Internet.[12] With a RealNames plug-in, a user can type in a word or phrase and have the RealNames company send the user to the destination indicated by the word—wholly independent of DNS. RealNames could respond to a request for "bicycles" by sending the

12. *See* RealNames Corp., *RealNames Homepage* (visited Nov. 24, 1999) <http://www.realnames.com>.

user to <www.bicycles.com>, to <www.superbikes.com>, or to <www.cnn.com> for that matter. Presumably RealNames's decisions will be market-driven, based on guessing what the consumer is looking for.

There also exist proposals for wholly public naming schemes as well. For example, the United States Postal Service has sought to administer the <.us> top level domain ("TLD"), linking physical street addresses to domain names.[13] Such a scheme would be quite similar to the streets of Mobile: one's domain name would be a function of one's address, which is in turn decided upon by municipal bodies.

For now, however, the only universal mnemonic drifting comfortably above a squabbling set of directories and naming schemes is the domain name system, and it was developed by private individuals using public money—who did not claim to "own" the system in the sense of proprietizing it. Instead, these individuals, almost all of them engineers, tried to come to decisions on the developing of the naming scheme through consensus, and to ministerialize as much of the system as possible so that conflicts could be settled by an automatic (if perhaps unsatisfying) rule, such as "first come, first served" for domain names.

II. EVOLUTION OF ICANN

A. Early Management of Domain Name Policy

This job of consensus-building for the domain name system was until recently performed by IANA, the Internet Assigned Numbers Authority.[14] IANA was not incorporated; it had no legal personality. At its core was one figure, Jon Postel, a researcher at the University of Southern California. Postel did pioneering work on domain names and personally managed key aspects of the domain name system, including the vaunted root. He personally stewarded the <.us> domain—the country code he had designated for the United States—until the day when the U.S. government sought to actively manage the domain itself.[15] To many, Jon was a Solomonesque figure who applied an engineering talent to the various issues that came up, thought hard, and simply did the right thing to keep the process running smoothly.

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13. *See* The United Postal Service, Comments in Response to NTIA Request for Public Comments (RFC) on the Enhancement of the .us Domain Space, Sect. V (Oct. 2, 1998), *available at* <http://www.ntia.doc.gov/ntiahome/domainname/Campbell.htm>.

14. Although its functions are now largely subsumed within ICANN, a website still exists for IANA at <www.iana.org>.

15. That day has not yet arrived.

Jon did much of his work with the help of government grants.[16] In addition to taking the lead in developing the system of domain names as we know it, he led a process for documenting standards. These standards are available as documents entitled RFCs ("Requests for Comments," even though they are often final drafts). The RFCs include the specifications for how domain names work, along with manifold other aspects of Internetworking.[17] The standards are not formally enforced by any commission or governmental entity; thus they are in some sense voluntary. However, if a computer on the Internet deviates from these accepted protocols, it runs the danger of incompatibility and dysfunction. The RFC protocols have become the lingua franca of the Net, thanks to the sum of thousands of individual decisions by network administrators and software designers to hew to them. In this sense, they are quite binding.

No one owns the RFCs: no private company has a patent on the processes they describe, or an exclusive copyright on the documents themselves, and they are open to adoption by anyone without license.[18] In this sense they are public. Yet they are not developed by governments. In this sense they are private. They are written under the auspices of the Internet Engineering Task Force ("IETF"),[19] itself unincorporated, without legal personality, and for which there is no particular membership fee since there is nothing explicitly to join. The IETF comprises a group of self-selecting engineers, most of whom participate in their spare time. These engineers discuss the protocols on email lists with each other. Occasionally, they gather for a meeting where they try to develop consensus around what will work best—as expressed through a collective "hum" at a physical meeting or a rough poll via an email list.

Much of the design of the Internet was and is thus accomplished by a non-traditionally organized group of people who came from relatively similar backgrounds and had little patience for highly formalized structures. This informal system appears to work best—i.e., it comes to consensus—when the issues under discussion are of apparent and genuine interest only to the engineers who have gathered to discuss them. Political

16. Under a contract from DARPA. *See* The Green Paper, *supra* note 8.

17. See the RFC Directory maintained by the IETF Secretariat at <www.ietf.org/rfc.html>.

18. The RFCs included a "copyleft"-like license intended to copyright some IETF materials (by the Internet Society, since IETF does not legally exist) for the purpose of ensuring that the standards are not proprietized. *See* S. Bradner, Information Science Institute, The Internet Standards Process—Revision 3, Request for Comments 2026, (Oct. 1996), *available at* <http://www.ietf.org/rfc/rfc2026.txt>.

19. *See* IETF, *IETF Homepage* (visited Nov. 16, 1999) <http://www.ietf.org>.

ramifications of designing a network one way versus another are often ignored or disclaimed.[20]

B. From the Technical to the Political

In the IETF setting, there are rarely clear competing interests at stake outside the realm of engineering. But there are two examples of interests that have catapulted the domain name system out of the sleepy meetings of the IETF and into the public eye. These are exactly the kinds of issues, beyond the technical, that led most of the parties to the domain name debate to see a new, much more structured IANA come about, and that are echoed in the Commerce Department's White Paper as a reason for trying to go beyond the earlier status quo.

First, there is significant concern about trademark. As described above, domain names have become the primary way to reach something on the Internet. They are written on buses and coffee mugs, and the easier they are to remember, the more valuable they are when the audience in question is the public at large. Thus, there are fights over domain name ownership. The old system of "first come, first serve," (indeed, for awhile, "first come, first serve, with no fee per name") has thus come under fire. Major trademark holders, somewhat late to the Internet themselves, found their marks already registered when they attempted to take up shop online. For example, <hertz.com> was taken by a domain name speculator, and <mci.com> was taken by Sprint. A major company is not afraid of initiating a lawsuit to claim what it thinks it is entitled to.[21] However, many companies prefer a simpler, less-expensive way to get to the bottom of the issue, perhaps a form of dispute resolution whose results are more expeditious—and possibly more generous—than those provided by courts. Finally, those who think they deserve a domain name held by another may want to know who has registered the name. Without solid contact information about the defendant, it is not easy to start a lawsuit. Some cheer this fact, if only for privacy protection reasons, while others lament it. Decisions about domain name system architecture and the handling of domain name registrations can bear on whether famous mark holders and others can easily assert claims over names. These trademark issues present

20. Contrary to its usual self-imposed technical limits to discussion, the IETF is currently debating whether to build wiretapping standards analogous to those of CALEA (Communications Assistance for Law Enforcement Act, 47 U.S.C. § 1001 et seq.) into Internet Protocol packets. So far the prevailing opinion appears to be that doing so would amount to designing a security flaw into the system. See the Raven listserv located at <http://www.ietf.org/mailman/listinfo/raven>.

21. I don't mean to suggest that the law says that every trademark holder preemptively owns her own mark plus a <.com> or <.net> at the end of it.

a good example of the desire of powerful interests to propose changes to the management of the architecture of the Internet with legal, as opposed to technical, justifications.

A second example of pressures on the system that are beyond the technical is the entrepreneurial forces that want to provide domain name registration services. The ministerial act of registering domain names[22] is itself a lucrative business.[23] When a lot of money is directly at stake, it is very difficult to have IETF-like informality at the apex of the pyramid. The power of the root of the domain name system is the power to designate *who* can register the names under a given top level domain like <.com> or <.org>. It is also the power to designate *what* top level domains exist. The root of the system declares that there exists a <.com> domain and that a computer in the custody of a company called Network Solutions, Inc. ("NSI") will fill in registrations under it.[24] Since the computer hosting the authoritative root has no data on a <.biz> domain, for almost all of us there *is* no <.biz> domain.

Domain names were developed and managed with little more than a series of handshakes and a set of traditions for many years. This speaks to the spirit that built the Internet, kept it running, and ultimately attracted the rest of us to it. However, the Net is no longer just a convenient means of sharing research results or a large-scale experiment in applied computer science. It is an increasingly important foundation of commerce, social activity and information exchange.

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22. Registration of domain names consists of associating a holder with a name, and inserting the holder's desired destination address into a table that helps converts these names to the ultimate IP numbers required to find a site on the Internet. *See* Lockheed Martin Corp. v. Network Solutions, Inc., No. 97-56734, 1999 WL 965618, at *2, (9th Cir. June 8, 1999).

23. Network Solutions, Inc., the major player in the domain name business, is currently valued by investors at over $5 billion. See detailed quote information at <http://www.cnetinvestor.com/quote-detail.asp?symbol=NSOL> (visited Nov. 29, 1999). *See also* Courtney Macavinta, *NSI Beats Analysts' Expectations* (Oct. 28, 1999) <http://news.cnet.com/news/0-1005-200-1422067.html>.

24. In 1999, the Department of Commerce granted NSI a four-year extension of a 1992 exclusive deal allowing them to administer registration of names under <.com>, <.net>, and <.org>. The rates NSI is to charge dropped from $35 per name per year to $9, and its registrations went from "retail" to "wholesale." *See* NSI, *Change Coming in Domain Name Registration* (visited Nov. 19, 1999) <http://www.networksolutions.com/internic/internic.html>. Under the 1999 ICANN agreement, many other companies will be permitted to share this responsibility. *See infra* note 35.

C. The Need for a New Governance

Driven by the changing nature of the Internet and before the more recent U.S. government involvement, Jon Postel moved to formalize his efforts by organizing the Internet Ad Hoc Committee ("IAHC").[25] After a series of meetings, the IAHC produced the Generic Top Level Domain Memorandum of Understanding ("gTLD-MoU"), a plan by which new names like <.biz> could come about, managed by a formal structure largely dominated by the technical community.[26] While the IAHC had some of the trappings of officialdom and the gTLD-MoU had the aura of a treaty,[27] the plan failed. Jon Postel ascribed its failure to a lack of support by business interests and governments. The failure was made explicit by NSI's refusal to add the new gTLDs called for in the gTLD-MoU to the root.[28] The National Science Foundation ("NSF")—the entity that generated research funding for Jon Postel and IANA and brokered the original cooperative agreement by which NSI registered names—called for a halt to any substantive changes to the root until a way out of the stalemate was found.[29]

Ultimately the Department of Commerce took over responsibility from the NSF for bringing about a compromise, and drafted the "Green Paper."[30] After a round of public comment it then issued the "White Paper," a "statement of policy" calling for the private management of domain names in the public interest by an entity to be created specifically for this purpose.[31]

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25. *See* Mueller, *supra* note 3.

26. The gTLD-MoU proposed the creation of seven new TLDs. *See* Establishment of a Memorandum of Understanding on the Generic Top Level Domain Name Space of the Internet Domain Name System (visited Nov. 22, 1999) <http://www.gtld-mou.org/gTLD-MoU.html> [hereinafter gTLD-MoU]; Mueller *supra,* note 3; *see also* Heather Mewes, *Memorandum of Understanding on the Generic Top-Level Domain Space of the Internet Domain Name System,* 13 BERKELEY TECH L.J. 235 (1998).

27. The document itself was placed in the custody of the International Telecommunications Union as individuals and entities became "signatories."

28. The authoritative root file was in NSI's custody, though Postel (as IANA) claimed the right to make changes. *See* Mueller, *supra* note 3.

29. In a October 2, 1997 letter to NSI, NSF stated, "Network Solutions, Inc.—as administrator of the root zone—is not authorized to take direction from any entity other than the National Science Foundation with regard to the functions that Network Solutions, Inc. performs under the cooperative agreement." *See* Don Telage, *The New Commercial Internet: Where Do We Go From Here?* (visited Nov. 22, 1999) <http://netsol.com/policy/telage199803/tsld013.htm>.

30. *See* The Green Paper, *supra* note 8.

31. *See* Management of Internet Names and Addresses, 63 Fed. Reg. 31,741 (1998) [hereinafter The White Paper].

The White Paper called for a new organization (referred to in the document as "NewCo") to administer the DNS, as well as to decide future administrative policy.[32]

In October, 1998, the Department of Commerce entered into a series of memoranda of understanding with the newly-formed ICANN to manage domain names. The government began to transfer its residual authority in domain name matters to ICANN. Of course, even the government's own authority in these areas was, ultimately, as unclear as it was formally uncontested.

ICANN's shot at managing the top level of domain names—including the creation of policies that, through a cascade of contracts, can bind individual domain name registrants[33]—is now solidified through a network of agreements inked among NSI, ICANN, and the government.[34]

D. The Public/Private Challenge in a Political Environment

Given the money to be made registering names, control over the root is more than just a technical function. Those who want a piece of the domain name registration action[35]—among them are those with competing claims to slices of it—may only support ICANN if they think it will generate responsive policies. At the very least, people trying to build or maintain a business like to know where they stand and they like to have it in writing. They prefer to have what one would call "calculable rules" so that they

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32. *See id.* at 31,749. NewCo was specifically asked to do the following:

> (1) Set policy for and direct allocation of IP number blocks to regional Internet number registries;
> (2) Oversee operation of the authoritative Internet root server system;
> (3) Oversee policy for determining the circumstances under which new TLDs are added to the root system; and
> (4) coordinate the assignment of other Internet technical parameters as needed to maintain universal connectivity on the Internet.

Id.

33. Any would-be registrar must be accredited by ICANN and sign an agreement to be governed by ICANN's policies. Thus, ICANN can effectively bar participation by those who refuse to acknowledge its rules. *See* ICANN, *Registrar Accreditation Agreement* (visited Nov. 23, 1999) <http://www.icann.org/registrars/ra-agreement-10nov99.htm>.

34. *See* ICANN, *Approved Agreements among ICANN, the U.S. Department of Commerce, and Network Solutions, Inc.* (visited Nov. 22, 1999) <www.icann.org/nsi/nsi-agreements.htm>.

35. As of November 19, 1999, thirteen companies were accredited as registrars and currently operational, thirty-seven were accredited, but not yet operational, and thirty-seven were awaiting final accreditation. *See* ICANN, *List of Accredited and Accreditation-Qualified Registrars* (visited Nov. 19, 1999) <http://www.icann.org/registrars/accredited-list.html>.

can build a business on predictable forces as opposed to a "hum" that can be heard one way or another.[36] Thus the authority to modify the root file, or veto attempts to change it, is something that almost every stakeholder agreed needed more systematic handling.

More systematic handling, but not less sympathetic to any powerful interest. As a matter of pure political calculus, the Department of Commerce needed the concurrence of every powerful party with an interest in domain name policy in order to achieve a successful transfer of domain name policy-making authority to ICANN. These claims included legal assertions of possession of parts of the system (such as those advanced by Network Solutions to the <.com> registry operation and data, or the U.S. government's claim to the root), as well as simple claims of interest in substantive domain name policies. The latter have been advanced by parties as diverse as Net engineering groups like the IETF, other governments (particularly the European Union), and various trademark interests. Each of these groups must be satisfied that its interests are represented in order for ICANN's authority to be unchallenged. Thus the idea of ICANN went hand-in-hand with the idea of a "consensus" body. Since every powerful interest might think it could wield influence over it, this new body would be framed as inherently non-threatening.

The idea of ICANN was also one of closure: an end to paralyzing fights over domain policy between Network Solutions and engineers like Jon Postel. A mere trade association model does not capture the breadth of ICANN's responsibilities and intended structure, both because of the diversity of Internet stakeholders and because of the powerful, quasi-regulatory decisions that ICANN will make. ICANN is supposed to act in the public interest, not beholden to any one stakeholder. It is as if a private "International Communications Commission," comprised of all interested parties with a vested stake, were to attempt to allocate radio spectrum that had never been explicitly designated a public resource.

E. Toward Private Civil Procedure and Administrative Law

To foster ICANN's acceptability among interested parties, the U.S. government's solicitation of ICANN, as well as the resulting bylaws, demanded public organization-like features on the part of ICANN, while at the same time extolling the virtues of private management. These public-like features include basic principles such as openness, representation, and due process.

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36. *See* 2 MAX WEBER, ECONOMY AND SOCIETY, 956 (1978).

1. Openness

The easy part of openness is "sunshine" practices like open board meetings. But there will still be tendencies to have private consultations with staff, and even informal meetings among board members. After all, there cannot be a microphone everywhere; it may not even be desirable to have a microphone everywhere all the time.

In any event, openness goes far beyond open board meetings. It is an ethos, a way of conducting business that strives in good faith to be inclusive, clear, and genuine. For better or worse, ICANN has been saddled with typical private corporate baggage. After all, in form it *is* a private corporation. To call ICANN's chief policymaking body a "board" already endangers the spirit of openness—and obscures the fact that ICANN is "governing" in some important sense. ICANN is a private company with a public trust; its policies are "voluntary" as much or as little as are the IETF's RFC standards, and its contracts are binding once finalized. It makes policies that are explicitly meant to go beyond the technical—a decision on whether or not to make the domain name architecture more beneficial to famous mark holders at the expense of other interests is still a political one.

Under strong pressure from the U.S. government, ICANN took the step of opening its board meetings to the public in the summer of 1999.[37] Nonetheless, this leaves aside entire swaths of other governmental "openness" laws, such as sunshine laws, which cover meetings of principals outside public forums, and freedom of information laws providing for the production of documents upon request. ICANN will have to decide whether and how to adapt the openness mandate to its hybrid character.

2. Representation

Representation is a second area of difficulty for ICANN. The White Paper calls for ICANN to be a broadly representative body, both geographically and with respect to the interests involved.[38] But how does one weigh the different interests? Consensus is defined in this environment in such terms as "there does not appear to be any one complaining all that much" or "most people seem to agree, except for a few outliers." Therefore consensus will be elusive at times. After all, contested issues may of-

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37. *See* Esther Dyson, *Prepared Testimony for the U.S. House of Representatives, Subcommittee on Oversight and Investigation*, Interim Chair of the Board of Directors, (July 22, 1999) <www.icann.org/dyson-testimony-22july99.htm> (responding to House Subcommittee on Oversight and Investigation's questions regarding ICANN's formation, structure, and policies).

38. *See* The White Paper, *supra* note 31, at 31,748.

ten be a zero-sum game, and in such cases someone will "lose" on a given policy decision. When they do, the losers might say: "There is no consensus. I do not agree with this." And yet, ICANN cannot be paralyzed when consensus is missing. Maintaining the status quo is itself a decision that may upset some stakeholders and may be systematically detrimental to the evolution of the domain name space. The first goal must be to ensure that the openness and deliberative processes are in place. After they have been established, ICANN may then try to forge consensus and compromise wherever possible. It may also seek consensus around principles, and use that to justify specific implementation decisions among a set for which none has majority support. But when consensus is impossible, ICANN will have to make decisions. Weighing the different interests will be a difficult challenge.

A "procedural consensus" requirement—eschewing calculable votes in favor of generating documents that tend to show (or not show) "consensus"—may produce a paradox: there will be no objective means of ascertaining consensus. Thus added power is placed in the hands of whomever is to determine whether consensus exists. To the extent that ICANN's task is thought of as merely gauging consensus—rather than making substantive policy judgments through a representative board whose ultimate votes may be deemed to be proxies for consensus—ICANN's behavior will be unpredictable and difficult to second-guess. Strikingly, NSI's October 1999 agreement with ICANN exempts NSI from adhering to ICANN policies in the absence of numeric manifestations of consensus[39]—consisting of a majority of ICANN board members and a super-majority of votes from relevant subsidiary "supporting organizations."[40] The agreement also requires a "documentation of consensus" through written reports describing how many stakeholders were contacted about a proposed policy, and whether each agreed.[41]

Consensus is not demonstrated simply by assent of self-identified stakeholder corporations and other organizations. ICANN's bylaws provide that half of its board must be selected through an "at-large" elector-

39. *See* ICANN, *ICANN-NSI Registry Agreement* (visited Nov. 22, 1999) <http://www.icann.org/nsi/nsi-registry-agreement-04nov99.htm>.

40. *See id.* The ICANN bylaws provide for three Supporting Organizations ("SOs") to "assist, review and develop recommendations on Internet policy and structure." *See* ICANN, *Bylaws*, art. 6 (amended and restated Oct. 29, 1999) <http://www.icann.org/general/bylaws.htm>. They are the Address Supporting Organization, the Domain Name Supporting Organization, and the Protocol Supporting Organization. Each may name three directors to the ICANN board. *See id.; see also* ICANN, *Supporting Organizations* (visited Nov. 22, 1999) <http://www.icann.org/support-orgs.htm>.

41. *See* ICANN-NSI Registry Agreement, *supra* note 39.

ate.[42] Apparently this electorate is open to anyone who wants to sign up. A fear is that the only people who will sign up are the people who have direct stakes in the process, and therefore the process might become a race to the ballot box to see who can get in the most votes. In some sense, that is a normal election. But in another sense, it is a recipe for capture if a number of the interests that ICANN should be looking out for—perhaps the greater interest of the public at large—are not joining ICANN by becoming members, or members in representative proportions.

Jim Fishkin of the University of Texas is fond of telling the story of what happened when a poll concerning who would be *Time's* "Man of the Century" was put to the world through an open Internet poll. Mustafa Kemal Ataturk—hero of the modern Turkish state—emerged as the leader in all categories, eclipsing Bob Dylan as the best entertainer of the century and Einstein as the best scientist. A last-ditch effort was apparently mounted by Greece to vault Winston Churchill over Ataturk as best statesman.[43]

Assuming the vote was not fraudulent—i.e. no one voted twice—was Ataturk deserving of the best "entertainer and artist" mantle, or had there been capture in the election? In the absence of a framework of campaign finance laws, electoral abuse laws (and commensurate penalties), the specter of one entity paying a grassroots lobbying group to create the "astroturf" of public sentiment around an issue or candidate through vote-buying cannot be discounted. This is a prospect that is particularly threatening with ICANN so long as ICANN's work is abstruse and technical even if it is political as well. Understandably, would-be voters may not hasten to register as members or exercise their votes for domain name management responsibilities, even if they may legitimately wish to be represented in the process either by an elected representative, or an appointee. Thus are the decision making activities of the FCC, the Supreme Court, and the Commerce Department legitimized—perhaps more than they would be under criteria of "democratic representation" were their leaders chosen by direct election.

It is likely that ICANN will have to move forward with some form of electorate if only for political acceptance. Accountability to an open membership is a way of tethering ICANN so as to lessen the need for direct government intervention.[44] Currently ICANN appears to be moving to-

42. *See* Bylaws, *supra* note 40, at art. 5, sect. 4.

43. *See* Chris Morris et al., *Is This the Man of the Century?: Forget Mandela, Einstein, Gandhi, and Mao, Here's Ataturk,* THE GUARDIAN, Oct. 30, 1997, at 1.

44. ICANN's most direct form of accountability right now is to the U.S. government, whose memorandum of understanding phases in responsibilities slowly, and makes

ward adoption of an Electoral College model in which an open membership votes for a council, that in turn votes for at-large board seats.[45] This may be the worst of both worlds—indirection that does not lead to any more representation or stability, and lessens the value of an individual vote in terms of direct influence over the organization. A possible outcome will be low public participation coupled with high registration rates among warm bodies motivated (or paid) by distinct interests.

A number of groups led by the Markle Foundation, and ranging from the Berkman Center to Common Cause to the Carter Center, have recently joined (or re-joined) the fray.[46] This participation will be judged on the basis of how well it helps ICANN fashion an electoral system from something other than simply reasoning from first principles.

3. Due Process

Due process is another area of ferment. The idea is to ensure that people have a formal opportunity to be heard and afforded the chance to protest in a meaningful way if they think their rights are being trampled. The process developing within ICANN is one that struggles to adopt internal structures for guaranteeing due process and deliberation. For instance, once a policy proposal is made, it may be referred to one of ICANN's supporting organizations. In the case of the Domain Name Supporting Organization ("DNSO"), the proposal goes to one or more "constituencies" or cross-constituency working groups.[47] The constituencies deliberate, form views, and make recommendations to the DNSO.[48] After allowing

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those responsibilities provisional for the duration of the MoU. *See* gTLD-MoU, *supra* note 26; National Telecommunications and Information Administration, *Memorandum of Understanding Between the U.S. Department of Commerce and Internet Corporation for Assigned Names and Numbers* (visited Aug. 28, 1999) <http://www.ntia.doc.gov/ntiahome/domainname/icann-memorandum.htm>. Another source of accountability, or control, is the Internet technical community, which has been allotted several seats on the ICANN board through its "supporting organizations," and which in any event could be sufficiently roused to make the current popular, authoritative root file a pariah. *See* Bylaws, *supra* note 40, at Art. 5.

45. *See* ICANN, *Resolutions Approved by the Board* (visited Nov. 23, 1999) <http://www.icann.org/santiago/santiago-resolutions.htm#anchor21816>; ICANN, *At Large Membership and Elections* (visited Nov. 23, 1999) <http://www.icann.org/at-large/at-large.htm>.

46. *See* Markle Foundation, *Markle Foundation Commits More Than $1 Million To Improve Internet Governance, Including Initiatives to Make ICANN More Publicly Accountable* (visited Nov. 23, 1999) <http://www.markle.org/news/Release.199911021044.1219.html>.

47. *See* Bylaws, *supra* note 40, at art. 6, sec. 2.

48. *See id.*

other supporting organizations a similar chance for comment, the DNSO makes recommendations to the ICANN Board.[49] The ICANN Board votes and decides.[50] At that point an internal reconsideration process can be invoked by someone who feels that the decision is contrary to ICANN's structure and bylaws.[51] If the challenge gets past this "appeal" stage, there is a structure emerging—still not here, to be sure—for an independent board of review, which will look at the disputed issue and may require the Board to come explicitly to a new judgment on the subject.[52]

In litigation, there is a need to balance due process with a means to authorize closure. This balance attempts to prevent abuse by those who may make frivolous claims in an effort tie up a policy within a structure. ICANN faces a similar tradeoff, and it must choose a structure to reach an appropriate balance. The initial instinct (more process rather than less, and without an overall sense of unifying structure) has led to a proliferation of committees, advisory bodies, supporting organizations, working groups, ad hoc groups and other entities, each struggling to define and understand its role in relation to the others. A shakeout seems inevitable and healthy, presuming that what remains approximates an ability to participate with a clear momentum toward closure.

III. WHAT IF ICANN FAILS

As we judge ICANN, it makes sense to be aware of the likely alternatives. I see three possibilities if ICANN fails.[53]

A. Son of ICANN

First, one can imagine the creation of a "Son of ICANN" which would try to reconstitute a new organization that would improve upon that which ICANN has not done so well. I am skeptical about the success of a second attempt because it may be difficult to energize increasingly cynical parties to try again for a new ICANN. Also, I am uncertain it would be any better.

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49. *See id.*

50. *See id.*

51. *See* ICANN, *Preliminary Report, Annual Meeting of the ICANN Board* (visited Nov. 23, 1999) <http://www.icann.org/minutes/prelim-report-4nov99.htm>; Bylaws, *supra* note 39, art. 3, sect. 4.

52. *See* ICANN, *Principles for Independent Review, Final Report of the Advisory Committee on Independent Review* (visited Nov. 30, 1999) <http://www.icann.org/santiago/triac-final-report.htm>.

53. ICANN's failure in the short term is much less likely now that agreements among ICANN, NSI, and the U.S. government are in place. *See supra* note 34 and accompanying text.

Further, if someone believes he or she is going to lose out as a result of the actions of ICANN or its possible replacement, a perfectly rational approach may be to attempt to undermine the whole organization rather than live under what the person considers adverse policies. Therefore, there may always be attempts to destabilize ICANN in order to re-start the process, to throw the dice again and see what might come out. This is not to say that any criticism of ICANN is the result of sour grapes; rather, that in a healthy environment there will *always* be criticism, and indeed some of it will call for ICANN's end.

B. An Inter-governmental Entity

A second possibility is that ICANN's functions would be assigned to an inter-governmental entity. It is hard to imagine the U.S. government alone trying to continue domain name system management responsibilities for the very reasons stated in the White Paper[54] as well as the fact that national governments are waking up to the value of country code domains ("ccTLDs") and beginning to assert a proprietary interest in their management.[55] An international treaty organization is one possible way that governments could reach an agreement on how the DNS should be run.[56] It is not clear to me that such an organization would make policies that are any more in touch with the Internet community than those proposed by a well-functioning ICANN. More importantly, as the historical context suggests, the power of the root derives from the fact that a critical mass of system administrators and "mirror" root zone server operators choose to follow it.[57] A drastic turnaround in the management of Internet top-level

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54. The reasons given included a desire for more competition in domain name registration, the need for a "more robust" management structure, and the impropriety of the U.S. continuing to manage an increasingly commercial Internet. *See The White Paper*, *supra* note 31, at 31742.

55. *See* Press Communiqué of the Government Advisory Committee, August 24, 1999, Santiago, Chile (visited Nov. 28 1999) <http://www.noie.gov.au/docs/gacmtg3_communique.htm>.

56. Such an organization might be structured similarly to the International Telecommunications Union which studies technical, operating and tariff questions and adopts recommendations on them with a view to standardizing telecommunications on a worldwide basis and includes operation subdivisions not unlike the IETF. *See* ITU, *ITU Homepage* (visited Nov. 30, 1999) <http://www.itu.int/>.

57. The root server system is a set of thirteen file servers, which together contain authoritative databases listing all TLDs. Currently, NSI operates the "A" root server, which maintains the authoritative root database and replicates changes to the other root servers on a daily basis. Different organizations, including NSI, operate the other 12 root servers. The U.S. government plays a role in the operation of about half of the Internet's root servers. Universal name consistency on the Internet

functions—either through a sea change in favor of much more aggressive government involvement, or one that purports to literally privatize the whole system (imagine auctioning it off to the highest bidder)—could result in abandonment of the network by the technical or user community. RealNames might seem a more appealing alternative to addressing than it has to date. Engineers who run the domain name servers (that in turn subscribe to the root server for information about domain names) might simply point the servers elsewhere. The web of contracts currently buttressing the natural network effects (that auger only one predominant naming scheme) do not yet reach to every Internet service provider. Universities, companies like Prodigy or the Microsoft Network, and large corporations could cease listening to Jon Postel's "legacy root" for authoritative information about <.com>, <.net>, and <.org>.[58]

C. Free Market

Indeed, this hints at a third possibility following a demise of ICANN: the market is simply left to its own devices. In the absence of another ICANN or an "acceptable" government takeover, a battle would be fought by existing market players for control of the current root. Either through technical or legal maneuvering, some private party would end up running the root, and it would likely not be structured to foster due process, checks and balances, nor consensus building in the manner of the ideal ICANN. In other words, the winner would be truly "private," rather than "private, public trust." Network Solutions, Inc. would likely continue to operate the <.com>, <.net>, and <.org> top level registry.

The new "owner" of the existing root would then compete against the for-profit and non-profit entrepreneurs who are experimenting with alternative naming schemes. These schemes would also substitute their respective proprietary decision-making for "public trust" authority in allocating names to a particular entity or site.

Internet users and their respective Internet service providers would be able to specify where they would like to get their domain name information and they could choose any alternative root authority that the market might offer. Alternately, they could choose to adopt entirely separate di-

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> cannot be guaranteed without a set of authoritative and consistent roots. Without such consistency messages could not be routed with any certainty to the intended addresses.

The Green Paper, *supra* note 8, at 8828.

58. Several organizations have proposed alternative root systems. *See, e.g.*, Open Root Server Convention, Inc., Open-RSC Homepage (visited Nov. 20, 1999) <http://www.open-rsc.org>.

rectory and naming architectures that work independently of the domain name system. The problem is that there is such enormous benefit in having a single repository that it is difficult to switch out of a system that nearly everyone—and everyone's software—has inherited. Because of this, the likely result is either a continued dominance of the legacy system (and the private party controlling it), or "tipping behavior" through which a new naming scheme would predominate, and a different private party would end up with control of a new root. Either way, Internet naming would be run by a private entity answerable (presumably) only to itself or its shareholders, insensitive to market forces to the extent that its dominance is locked in through global use. Enforcement of individual countries' antitrust laws or other ad hoc mechanisms would be the primary instruments of preventing abuse of this new de facto "essential facility."[59]

IV. CONCLUSION

ICANN has inherited an extraordinarily difficult situation, with high expectations all around, and with almost no discretionary room to move. The set of realistic options for substantive policy making and procedural structure is quite small. For better or worse, ICANN faces swift dispatch if it strays too far from the desires of any of the mainstream Internet technical community, the United States and other governments (including executive, legislative, and judicial branches, which in turn may not agree) and powerful corporate interests. Indeed, those representing the "little guy" and/or those wanting a maximally unregulated Net—one where political concerns have no place in technical management—are quick to worry about capture of ICANN by one or another of these powerful interests.

The key in this critical transition period is for those entities more powerful than ICANN—governments, large corporations, the technical community—to give ICANN enough rope to demonstrate either that it can operate to foster trust and respect among disparate interests (the kind of respect that has even the "losers" in a given policy question know they got a fair shake), or show a conclusive inability to rise to the challenge.

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59. *See* Henry H. Perritt, Jr., *International Administrative Law for the Internet: Mechanisms of Accountability,* 51 ADMIN. L. REV. 871 (1999); Teague I. Donahey, *Terminal Railroad Revisited: Using the Essential Facilities Doctrine to Ensure Accessibility to Internet Software Standards*, 25 AIPLA Q.J. 277, 293-300 (1997) (identifying economies of scale, network externalities, and intellectual property rights as creating barriers to entry in software markets); Thomas v. Network Solutions, Inc., 176 F.3d 500, 504 (D.C. Cir. 1999).

* * * * *

ICANN is fashioned as a private, public interest municipal government. It is independent of the government functions of any single sovereign. This is in keeping with today's *zeitgeist* that government regulation of the Internet—whether of its users or the very networks that it comprises—is anathema to its nature and harmful to its explosive growth. ICANN's roads thus are not the roads of Mobile.

Yet ICANN is to be apart from proprietary interests or behavior consonant with mere profit-making. Unlike the Gulf Shipbuilding Company, ICANN is intended to internalize notions and practices representing due process, notice and opportunity to be heard, and a balancing of interests—all in the public trust—in its administration of the top level functions that in large part define the Internet's nature. Its roads thus are not the roads of Chickasaw.

Indeed, the Gulf Shipbuilding Company's management of Chickasaw was an operation incidental to its core task of building ships. Today, the difficulties of running a private community with attention to the public interest—more than simply the interests of the market—are only slowly being worked through in the context of gated communities.[60]

ICANN's middle path is improvisational. It demands of ICANN a self-sealed structure that attempts to keep its politics from overflowing into the realms of countries that usually govern such systems or of the engineers who realized that their technical work on these systems was increasingly interrupted by non-technical disputes. If ICANN succeeds, it might serve as a model for the type of forum through which other Net-wide political issues might be worked out. The recent debates within the IETF about whether to build wiretapping into the next generation Internet protocol standards are sorely testing the IETF's desire to limit its jurisdiction to the technical.[61] The creation of such entities as the "Realtime Blackhole List," through which a few people can effectively exercise discretion over one's sending and receipt of electronic mail on the Internet (they do so for the purposes of reducing unsolicited "spam"), highlights the beginnings of an

60. For a discussion of this debate, *see* David A. Sklansky, *The Private Police*, 46 UCLA L. REV. 1165 (1999) (tracing the history of the private security industry and the challenges it creates for the judicial system); Steven Siegel, *The Constitution and Private Government: Toward the Recognition of Constitutional Rights in Private Residential Communities Fifty Years After Marsh v. Alabama*, 6 WM. & MARY BILL RTS. J. 461 (1998) (considering the application of the Supreme Court's state-action theory to residential community associations).

61. The IETF debate about wiretapping and privacy issues may be viewed by subscribing to the Raven listserv at <http://www.ietf.org/mailman/listinfo/raven>.

era of private undertakings that have regulatory outcomes without any particular due process, representation or openness components.[62]

ICANN's power could evaporate quickly, whether through adverse litigation outcomes that trump its decisions, legislation by sovereigns seeking to seize or control the intangibles ICANN tries to manage, or through an attrition of attention by which network operators or users could seek to substitute a new, separate domain name system or set of naming databases in place of the old. With this evaporation may go the notion that a medium as distinct at the Internet calls for a commensurately distinct mode of governance, one that aspires to the best of private and public rather than the worst.

62. *See* Lawrence Lessig, *The Spam Wars,* THE INDUSTRY STANDARD (Dec. 31, 1998) <http://www.thestandard.com/articles/display/0,1449,3006,00.html>; *MAPS Real-time Blackhole List* (visited Nov. 30, 1999) <http://maps.vix.com/rbl>.

PATENTS, PRODUCTS, AND PUBLIC HEALTH: AN ANALYSIS OF THE CELLPRO MARCH-IN PETITION

By Barbara M. McGarey† and Annette C. Levey‡

ABSTRACT

Under an extraordinary provision of the Bayh-Dole Act, which governs the commercialization of government-funded technology, a federal agency may "march-in" and license a funding recipient's inventions to a third party in certain circumstances. This march-in provision was invoked by a small start-up biotechnology company, CellPro, after it had been found liable for patent infringement. CellPro argued, inter alia, that government action was necessary to alleviate health or safety needs, since, infringement or not, it had an FDA-approved product on the market. Using the CellPro example as a case study, the authors critique the march-in authority and propose that its greatest value may well arise from the threat it poses and the resulting incentives for funding recipients to ensure appropriate commercialization of federally-funded inventions.

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Government-funded inventions are commercialized under the authorities granted to funding recipients by the Bayh-Dole Act. The Act allows

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The opinions expressed herein are personal and do not reflect the position of the National Institutes of Health or the Department of Health and Human Services.

funding recipients to obtain title to government-funded inventions, to patent and license them, and to seek and retain royalties from licensing. While providing broad discretion to funding recipients in managing inventions that arise from government funding, the Bayh-Dole Act also includes certain provisions protecting the public interest. One such provision, commonly known as "march-in," calls for mandatory licensing under certain conditions.

In August 1997, the Department of Health and Human Services ("HHS") became the first federal agency to respond to a formal petition to exercise this extraordinary provision of the Bayh-Dole Act. The march-in provision was invoked by CellPro, Incorporated ("CellPro"), a small Washington state biotechnology company, which sought to obtain from the government rights that it had been unable to obtain through more conventional channels. Specifically, CellPro had failed in its attempt to obtain a license to practice the invention from the patent holder or its licensee, and had been found liable for infringing the patent by the district court. CellPro, therefore, turned to the federal government, which funded the research that led to the discovery of the invention, for rescue.

This Essay provides an overview of the march-in authority and its implementing regulations using the CellPro Petition as a case study. In Part I, the Bayh-Dole Act is explained. Part II summarizes the NIH determination on the CellPro Petition. Part III discusses several legal and public policy issues illuminated by the CellPro Petition. Part IV discusses existing alternatives to government use of the march-in authority. We propose in light of existing government authorities that the greatest value of the march-in authority may be the threat it poses and the resulting incentives for federal funding recipients to ensure appropriate commercialization of their inventions.

I. FEDERAL TECHNOLOGY TRANSFER AND THE BAYH-DOLE ACT OF 1980

Technology transfer is the movement of technology and other resources between non-profit entities, government laboratories, and the private sector for further research, development and commercialization. Since the 1980s, with the passage of the Bayh-Dole Act[1] and the Stevenson-Wydler Technology Innovation Act of 1980,[2] federal laboratories and

1. 35 U.S.C. §§ 200-212 (1994).

2. Pub. L. No. 96-480 (1980) (current version at 15 U.S.C. §§ 3701-3717) (authorizing federal laboratories to, inter alia, enter into cooperative research and development agreements, and collect and retain royalites under patent license agreements).

federally-funded grantees and contractors[3] engaged in research have pursued technology transfer, assuming as a public mission the business of licensing new technologies to the private sector for commercialization. Many technologies have now matured, and inventions that were patented and licensed in the early days of these laws are now in the marketplace.[4]

The Bayh-Dole Act, as the primary statutory authority promoting the transfer of technology developed under federal grants and contracts, is the foundation for the current technology transfer policy of the federal government. Prior to enactment of the Bayh-Dole Act, there was no uniform government policy regarding a funding recipient's right to elect title to a government-funded invention. Long-standing debate over whether the government should obtain title, or merely a license, to inventions made with federal funds caused different agencies to apply different rules.[5] For example, the HHS regulations before implementation of the Bayh-Dole Act generally required research grants to provide that the ownership and disposition of all inventions be subject to determination by the Assistant Secretary of Health.[6] Alternatively, ownership and disposition could be left to the funding recipient institution in accordance with its established policies and procedures provided that the funding recipient gave assurances that "the invention will be made available without unreasonable restrictions or excessive royalties" and other conditions.[7] Obtaining rights to inventions made with funding from the government was burdensome and

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3. Grantees and contractors are treated identically under the Bayh-Dole Act. *See* 35 U.S.C. § 201(c) (1994). Thus, for simplicity's sake, this Essay will use the term "funding recipient" for both types of award.

4. For example, at the National Institutes of Health, 990 licensed technologies generated approximately $40 million in fiscal year 1998. *See* NIH Office of Technology Transfer, GAO Report RCED-99-173—Technology Transfer: Number and Characteristics of Inventions Licensed by Six Federal Agencies 33-34 (June 1999), *available at* <http://www.nih.gov/od/ott/rc99173.pdf>. Many products, including new research tools, diagnostics, vaccines, and therapeutics, are on the market and benefitting the public as a result of NIH's technology transfer program. *See id.*

5. For a discussion of the history of government patent policy with respect to technology transfer, see, for example, Rebecca S. Eisenberg, *Symposium on Regulating Innovation: Public Research and Private Development: Patents and Technology Transfer in Government-Sponsored Research*, 82 VA. L. REV. 1663 (1996). For a review of the historical patent policies of various federal agencies, see Ralph C. Nash and Leonard Rawicz, George Washington University, Government Contracts, Monograph No. 10, Patents and Technical Data 74-78 (1983).

6. *See* 45 C.F.R. § 8.1(a) (1996) ("Inventions and Patents (General)"), made obsolete and superseded by the Bayh-Dole Act and implementing regulations. *See* 61 Fed. Reg. 54743, 54743-44 (Oct. 22, 1996).

7. 45 C.F.R. § 8.1(a) (1996). Contracts for research were similarly handled. *See* 45 C.F.R. § 8.6 (1996).

inefficient. Technology often languished while the bureaucracy processed requests for patent rights.[8] With the Bayh-Dole Act, Congress modified this scheme and created a uniform patent policy with regard to small businesses and non-profit institutions.[9]

Under the Bayh-Dole Act, funding recipients generally have the right to elect title to inventions made with federal funding.[10] By giving funding recipients the benefit of their inventions, Congress sought to promote the utilization, commercialization, and public availability of federally-funded inventions.[11] Congress also retained certain rights for the government to ensure that the public benefits from its investment.[12] For example, the funding recipient is required to disclose each subject invention[13] to the funding agency within a reasonable time after it becomes known to the funding recipient[14] and to elect within two years of disclosure whether it will retain title to the invention.[15] The funding recipient must file patent applications for any invention in which it wishes to retain title within the appropriate statutory period.[16] If the funding recipient fails to take any of these required steps, the federal government may receive title to the in-

8. Of the more than 28,000 patents in the government's patent portfolio obtained from its funding recipients, only 4% were successfully licensed. *See* S. REP. NO. 96-480, at 2 (1979).

9. In 1983, President Reagan issued a memorandum instructing all federal agencies, to the extent not prohibited by law, to grant all recipients the same right to their inventions as the Bayh-Dole Act provided small businesses and non-profit institutions. Memorandum to the Heads of Executive Departments and Agencies: Government Patent Policy, Pub. Papers 252 (Feb. 18, 1983). This was subsequently acknowledged in law. *See* 35 U.S.C. § 210(c) (1994).

10. Funding recipients do not obtain title to inventions, however, when the government makes a determination of "exceptional circumstances" and under other circumstances set forth at 35 U.S.C. § 202(a) (1994).

11. *See* 35 U.S.C. § 200 (stating that the policy objectives of the Bayh-Dole Act include ensuring that "inventions ... are used in a manner to promote free competition and enterprise" and promoting "the commercialization and public availability of inventions made in the United States by United States industry and labor").

12. *See id.* (stating that the Act seeks "to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions"); *see also* 35 U.S.C. § 202 (1994).

13. A "subject invention" means any invention of the funding recipient conceived or first actually reduced to practice in performance of work under the funding agreement. *See* 35 U.S.C. § 201(e) (1994).

14. *See* 35 U.S.C. § 202(c)(1) (1994). Regulations implementing this portion of the Act are set forth at 37 C.F.R. Part 401.

15. *See* 35 U.S.C. § 202(c)(2) (1994).

16. *See* 35 U.S.C. § 202(c)(3) (1994).

vention.[17] In addition, the Bayh-Dole Act provides that the federal funding agency retains a nonexclusive, paid-up license to practice an invention or have it practiced for or on behalf of the United States throughout the world.[18]

Another significant public interest safeguard in the statute is its march-in provision. This provision at 35 U.S.C. § 203(1) authorizes a federal agency, in limited circumstances, to ensure that a federally-funded invention is available to the public. Section 203(1) states that for any invention for which title has been retained by a small business firm or non-profit organization, the federal funding agency may require the title owner or its licensee to license the invention on terms "reasonable under the circumstances," if certain criteria are met.[19] To exercise this march-in right, the government must determine that such action is necessary:

> (a) ... because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;
>
> (b) ... to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;
>
> (c) ... to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or
>
> (d) ... because the agreement required by section 204 has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of its agreement obtained pursuant to section 204.[20]

Although march-in, as a safeguard of the public interest, is a purely governmental authority, the legislative history of the Act indicates that Congress anticipated that third parties, such as CellPro, would inform the federal government of the possible need for march-in.[21] This is what hap-

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17. *See* 35 U.S.C. § 202(c)(1)-(3) (1994).

18. *See* 35 U.S.C. § 202(c)(4) (1994). Specifically, "[w]ith respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world...." *Id.*

19. 35 U.S.C. § 203(1) (1994).

20. 35 U.S.C. § 203(1)(a)-(d) (1994).

21. *See* S. REP. NO. 96-480, at 34 (1979) ("'March-in' is intended as a remedy to be invoked by the Government and a private cause of action is not created in competitors or other outside parties, although it is expected that in most cases complaints from third-parties will be the basis for the initiation of agency action.").

pened in the case of the CellPro Petition. On March 3, 1997, CellPro wrote to the Secretary of the Department of Health and Human Services seeking march-in and stating its rationale why march-in was warranted.

II. THE NIH DETERMINATION ON THE CELLPRO MARCH-IN PETITION

The march-in provision was invoked by CellPro, which sought to obtain a license to practice a certain stem-cell separation technology[22] that was invented by a researcher at The Johns Hopkins University ("Johns Hopkins") under a grant from the National Institutes of Health ("NIH"). CellPro, having failed to obtain a license to practice the invention from Johns Hopkins or the ultimate sublicensee, Baxter Healthcare Corporation ("Baxter"), was found liable for infringement of the Johns Hopkins patents, subsequently determined to be willful infringement.[23]

In its petition under the Bayh-Dole Act, CellPro argued, inter alia, that march-in was warranted because Johns Hopkins and Baxter failed to take reasonable steps to commercialize the technology.[24] Alternatively, CellPro asserted that government action to grant CellPro a license was necessary "to alleviate health or safety needs" that were not being met by Baxter, since, infringement or not, CellPro had an FDA-approved product on the U.S. market.[25]

CellPro sought government march-in under subparagraphs (a) and (b) of section 203(1).[26] On August 1, 1997, after several months of informal

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22. Stem cell separation is the process of isolating and purifying a certain type of blood cell, the stem cell, from the bone marrow or peripheral blood. Purified stem cells are infused into a patient during bone marrow transplantation as a means of helping the patient regenerate the patient's blood supply after cancer chemotherapy or radiation therapy. Newer means of stem cell separation, such as the antibody/device process at issue in the present case, allow such efficient purification that they are also being studied for their potential ability to prevent metastatic recurrences by screening out the microscopic cancer cells that typically remain with older isolation methods.

23. *See* Johns Hopkins Univ. v. CellPro, 978 F. Supp. 184, 184 (D. Del. 1997).

24. Letter from Lloyd N. Cutler and former Senator Birch Bayh, attorneys for CellPro, to Donna Shalala, Secretary, U.S. Department of Health and Human Services 13 (Mar. 3, 1997) (on file with authors) [hereinafter Petition].

25. The CellPro Ceprate SC device was approved for use in the United States by the U.S. Food and Drug Administration in December 1996. *See* Petition, *supra* note 24, at 4-5.

26. The criteria for march-in authority under subparagraphs (c) and (d) are applicable only in very narrow and specific circumstances, and were not relevant to the CellPro Petition. The "public use" criterion of subparagraph (c) only applies when such use is mandated by regulation. Subparagraph (d) applies narrowly to cases involving a procedural failure when an exclusive licensee has failed to agree (or obtain a waiver) that any

fact-finding pursuant to 37 C.F.R. § 401.6(b),[27] the NIH declined to initiate march-in proceedings, although the agency left open such a possibility if new facts arose.[28] The NIH based its determination on a voluminous public administrative record, consisting of the filings and responses of the parties, letters from Members of Congress,[29] letters from biotechnology companies and funding recipient universities[30] and other members of the public, as well as other information compiled by the agency. Of primary concern to the third party university and industry commenters was the potential for exercise of march-in authority to undermine their licensing rights under the Bayh-Dole Act.

The NIH evaluated the administrative record with regard to the two relevant subparagraphs of the march-in provision: sections 203(1)(a) and (b). First, the NIH examined whether Baxter failed to take, or was not expected to take within a reasonable time, "effective steps to achieve practical application" of the subject inventions.[31] "Practical application" refers to the manufacture, practice, or operation of an invention under conditions such that it is being utilized and its benefits are "available to the public on reasonable terms."[32] The NIH concluded that practical application had been achieved since Baxter was manufacturing, practicing, and operating a medical device based on the technology, called the Isolex 300.[33] The de-

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products embodying the invention or produced through its use will be manufactured substantially in the United States.

27. Procedures governing the exercise of march-in rights by federal agencies are provided at 37 C.F.R. § 401.6.

28. *See* Office of the Director, National Institutes of Health, Determination in the Case of Petition of CellPro, Inc., (Aug. 1, 1997), *available at* <http://www.nih.gov/news/pr/aug97/nihb-01.htm> [hereinafter NIH Determination].

29. NIH received many letters from Congress resulting initially from CellPro's, and subsequently from Johns Hopkins's and Baxter's, public relations campaigns in support of their respective positions. In total, NIH heard from 37 members in favor of CellPro's position and 40 members in favor of Johns Hopkins and Baxter.

30. Chiron, Genentech, Medtronic, Inc., and Research Corporation Technologies, among others, wrote to NIH expressing concern about the prospect of an NIH determination in favor of march-in, as did Harvard, Stanford, Emory, Vanderbilt, the University of Washington, Columbia University, University of Utah, University of Maryland System, University of Maryland at Baltimore, the Association of American Universities, and The Council on Governmental Relations. Only one funding recipient, the Fred Hutchinson Cancer Research Center, wrote in favor of march-in. CellPro held an exclusive license from the Fred Hutchinson Center on antibodies at issue in the infringement litigation.

31. NIH Determination, *supra* note 28, at 3-4.

32. 35 U.S.C. § 201(f) (1994).

33. The Isolex 300 was Baxter's competing product to accomplish stem cell separation and filtering. The device relied on the antibody technology that is the subject of the Johns Hopkins patents.

vice was commercially available abroad[34] (having received regulatory approval in Europe), and it was in widespread clinical research use in the United States, although approval for commercial sale in the United States was still pending.[35]

Second, the NIH examined whether there existed a health or safety need that was not reasonably satisfied by Johns Hopkins or Baxter under section 203(1)(b). The NIH found that the first factor needed to satisfy this criterion, in this case, the demonstration of a health need, had been met.[36] In reaching this conclusion, the NIH sidestepped a *de novo* review of the scientific or health data, about which the NIH found there to be considerable uncertainty and disagreement.[37] Instead, the NIH concluded that the very existence of CellPro's FDA-approved medical device was sufficient to meet the health need prong of section 203(1)(b), and that it would be "premature, and inappropriate for the NIH to substitute its judgment for that of clinicians and patients seeking to avail themselves of an FDA-approved medical device."[38] In other words, the NIH assumed a health need, since the Ceprate SC was the only device available for sale in the United States for selecting stem cells from autologous bone marrow for hematopoietic reconstitution. As stated in the NIH determination: "it fulfills a health need for those who wish to use it."[39]

Although the NIH determined that there was a health need for the device, the NIH found it was "reasonably satisfied by the licensee."[40] In

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34. The statute and regulations do not address whether practical application must be in the United States, or whether the health or safety needs relate to a domestic or an international population.

35. *See* Letter from Donald R. Ware, Foley, Hoag & Eliot, LLP and Frederick G. Savage, Office of the V.P. and General Counsel, Johns Hopkins University to Wendy Baldwin, Ph.D., Deputy Director, Office of Extramural Research, National Institutes of Health 17 (May 7, 1997) (on file with authors) [hereinafter Response].

36. *See* NIH Determination, *supra* note 28, at 3.

37. The NIH found considerable debate among scientists and clinicians as to whether immunoselection of stem cells with selection devices prior to transplantation provided a clinically significant benefit to patients over standard hematopoietic transplantation techniques. The clinical benefit upon which the CellPro Ceprate SC device was approved by the FDA was a reduction of infusional toxicity associated with the administration of bone marrow cells prepared with standard techniques. At the time of the agency's deliberation, neither CellPro nor Baxter had presented to the FDA any studies documenting that their cell separation devices improved stem cell engraftment, disease-free survival, or overall patient survival. The NIH found that it was premature to claim patient benefit from the use of either device. *See* NIH Determination, *supra* note 28, at 4.

38. *Id.*

39. *Id.*

40. *Id.* at 4-5.

making the determination, the NIH relied on the injunction entered by the United States District Court for the District of Delaware in the patent infringement litigation.[41] The injunction allowed the continuing sale of the Ceprate SC until the Baxter product was approved for sale by the FDA, and for three months thereafter.[42] In addition, the provision of products solely for use in clinical trials was authorized.[43] The NIH also relied on the pledge of Baxter to increase patient access to the Baxter stem cell separation device in the event CellPro reduced its support to clinical research sites.[44] Because it determined that the health need was being reasonably satisfied, the NIH concluded that march-in proceedings under 35 U.S.C.§ 203(1)(b) were not warranted.[45]

III. MARCH-IN AUTHORITY AND PUBLIC POLICY: ISSUES ILLUMINATED BY THE CELLPRO CASE

The CellPro Petition provides a vehicle to examine the march-in statute and its implementing regulations. Some of the problems encountered by the NIH in the CellPro Petition may be unique, such as how to make an agency determination about granting rights to an invention to a company that was simultaneously being sanctioned by a federal court for the practice of the same invention. Other problems are likely to recur, such as the lengthiness of the process. In this section, we illustrate some of the potential conflicts between federal agency authorities and between executive and judicial authorities that arose or could have arisen in the case of the CellPro Petition. In addition, we consider the unwieldiness of the march-in administrative process and the potential for misuse of the march-in authority.

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41. Johns Hopkins Univ. v. CellPro, No. 94-105-RRM (D. Del. Jul. 24, 1997) [hereinafter Order].

42. The Order states in pertinent part:

> CellPro may continue to make, have made, use and sell SC Systems and disposable products (including the 12.8 antibody) for use with SC Systems, within the United States, until such time as an alternative stem cell concentration device, manufactured under a license under the '204 and '680 patents, is approved for therapeutic use in the United States by the United States Food and Drug Administration ... and for a period of three months thereafter.

Id. at 5.

43. *See id.* at 5, 7.

44. *See* Letter from Vernon Loucks, Chairman and Chief Executive Officer, Baxter Healthcare Corporation to Donna Shalala, Secretary, U.S. Department of Health and Human Services (June 12, 1997) (on file with authors).

45. *See* NIH Determination *supra* note 28, at 6-7.

A. Potential Conflicts Between Sister Agencies

The CellPro Petition demonstrates that the statute's "health or safety" criterion may give any funding agency presented with a march-in petition the ability to inadvertently undermine another executive branch agency's statutory authorities. Federal agencies are hesitant to work at cross-purposes with other agencies, since it can confuse the public and generate tension and inconsistency within the executive branch.

In the CellPro Petition, the NIH was called upon to determine whether a "health need" existed for a medical device, and, if so, whether a competing device "reasonably" satisfied that need under a complex factual situation implicating FDA regulatory authorities. As described above, the NIH avoided a complex and controversial factual inquiry by determining that because the FDA approved the Ceprate SC as safe and effective for selecting stem cells from autologous bone marrow for hematopoietic reconstitution, and because, at that time, the Ceprate SC was the only device available for sale in the United States *for that purpose*, the device did fulfill a health need for those who wished to use it, until such time as a comparable alternative product became available for sale.[46] In essence, the NIH used the "safe and effective" approval standard for drugs set forth in the U.S. Food, Drug and Cosmetic Act as a proxy for a health need.[47]

Although convenient to use the FDA "safe and effective" standard as a proxy for the Bayh-Dole Act's "health or safety" criterion, the two are not interchangeable. FDA approval does not involve an assessment of need, instead leaving judgments as to the value of a particular product to the physician and patient. This case, therefore, neither sets a precedent nor offers guidance on the meaning of the health or safety criterion of 35 U.S.C. § 203(1)(b). The CellPro Petition illustrates that in the absence of further regulations, funding agencies apparently have discretion to determine what constitutes a health or safety need for the purposes of march-in, based on any reasonable criteria they deem suitable. The NIH's reliance on FDA approval as a proxy for a health need shows a prudent reluctance to place two agencies of HHS at potential odds with each other, even though a *de novo* determination of a health need would presumably be more in the NIH's area of expertise than any in other federal agency's. Other federal agencies, called upon to make a health need determination

46. *See id.* at 4.
47. 21 U.S.C. § 355(a), (b) & (j).(1994).

merely because they happened to be the source of funding for a particular invention, may face even greater challenges.[48]

The NIH also sidestepped a more subtle problem presented by unique facts in the CellPro Petition. Although CellPro's Ceprate SC device was FDA-approved, it was *not* approved for the use for which the device was primarily being used. The device was approved for use in processing bone marrow for autologous (self) transplants, based on evidence that it reduced infusional toxicities associated with bone marrow prepared with standard techniques.[49] This use was neither the most prevalent, nor that which CellPro sought to preserve by seeking march-in.[50] The more prevalent and clinically important use, immunoselection of stem cells prepared from peripheral blood (rather than bone marrow), was at that time experimental and practiced only by medical practitioners using the device "off-label" or within the context of FDA-approved clinical trials.[51]

By seeking a license under the march-in authority for an unapproved use, CellPro put the NIH in an awkward position. The NIH was being asked to make a finding on whether a health need existed for an off-label, unapproved use of an experimental medical device, which nonetheless showed great anecdotal clinical promise. Had the NIH determined that march-in was warranted, two agencies—in this case in the same department of the executive branch—might have been working at cross-purposes. Due to the very public nature of the proceedings, a determination by NIH declaring a public health need for the device would have

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48. There is nothing in the Bayh-Dole Act or its implementing regulations that requires or precludes federal agencies called upon to make "health or safety" determinations outside the scope of their technical expertise from consulting with appropriate sister agencies, or nonfederal parties for that matter, in order to make the march-in determination. While such consulting might increase the likelihood of consistent and appropriate findings, it will add to the burdensome and time-consuming nature of march-in authority. *See infra* Part IV.C.

49. Evidence of reduced infusional toxicities is reported in Meeting of the FDA Center for Biologics Evaluation and Research: Biological Response Modifiers Advisory Committee (February 28, 1996) (on file with authors). At that public meeting, Richard Champlin, M.D. of the Anderson Cancer Center, introducing the CellPro device on behalf of CellPro, stated to the Committee, "again, one has to remember this is not a treatment for cancer. This is a means to enrich stem cells for a variety of purposes. It has again been shown to be reproducible, safe, and effective for that purpose. And this technology is really critical to allow us to develop the field in a number of other very important applications." *Id.* at 21-22. For documentation of FDA pre-market approval based on this evidence, see Letter from FDA to Monica Krieger, Ph.D., CellPro, Inc. (Dec. 6, 1996) (on file with authors).

50. *See* Petition, *supra* note 24, at 13.

51. *See* Response, *supra* note 35, at 5-6.

placed pressure on the FDA to approve the as-yet unapproved uses of the CellPro or the competing Baxter devices.[52]

The NIH dilemma illustrates a serious concern with implementation of the health or safety criterion of the march-in authority. Funding agency determinations under this criterion may implicate the authorities of other agencies, resulting in conflicting or duplicative agency actions, since there is no statutory or regulatory directive under Bayh-Dole to defer to sister agencies. In addition, agencies may make decisions under the march-in authority in areas in which they have no expertise. Even when the funding agency defers to pertinent findings made by the applicable agency, anomalies may result. Such was the case here, where the FDA-approved use of the technology was declared to meet a "health need," notwithstanding the fact that the approved use was not how the device was actually being used. Further, the coordination that took place in the case of the CellPro Petition between the FDA and the NIH can in part be attributed to the fact that although the agencies have different missions, they are both agencies within the U.S. Public Health Service, Department of Health and Human Services. One can imagine examples where such overlapping expertise and ability to coordinate would not occur.

B. Potential Conflicts Between the Funding Agency and the Courts

A march-in petition may also put an executive branch agency considering the petition at odds with the judiciary. The petitioner, simultaneously before the funding agency and a court, both of which have authority to affect the petitioner's license rights, could obtain conflicting remedies. The facts of the CellPro Petition, although perhaps unusual, illustrate this problem. CellPro initially attempted to obtain rights to practice the technology the traditional way: by seeking a license.[53] CellPro was offered essentially the same terms as two other companies, Systemics, Inc. and Applied Immune Sciences, Inc.[54] While these companies accepted licenses,[55] CellPro refused the offered terms and instead, in April 1992, initiated a suit seeking a declaratory judgment that Johns Hopkins' patents were in-

52. As with any promising, but unproven medical advance, the device had a devoted following among cancer patients and advocates, many of whom called upon the NIH to ensure that issues of statutory interpretation and patent infringement not inhibit their access to the device.

53. *See* Petition, *supra* note 24, at 8; *see also* Response, *supra* note 35, at 18.

54. *See* Response, *supra* note 35, at 18.

55. *See id.* The acceptance of a license to the technologies by two other companies suggests that Baxter's terms were not commercially unreasonable. CellPro may have made a business decision weighing the costs of the license against the potential liability for infringement.

valid and that, in any event, CellPro did not infringe them. That suit was dismissed on jurisdictional grounds, and further license negotiations ensued. Again, license negotiations failed, and ultimately, the patent holder, Johns Hopkins, and its licensee and sublicensee, Becton Dickinson and Baxter, sued CellPro in U.S. District Court for the District of Delaware in March 1994, for patent infringement.[56]

CellPro's defense in litigation was largely unsuccessful. The district court determined that CellPro's product infringed the Johns Hopkins' patent, and the jury's award of over $2.3 million from CellPro's willful infringement was then trebled by the court.[57] Having failed to achieve the right to practice Johns Hopkins' patents through conventional negotiation of a license, and having failed to undo Johns Hopkins' rights through litigation, CellPro sought the intervention of a federal government agency under the power of the Bayh-Dole Act.[58] Although this was an understandable strategy by CellPro—one that potentially could obtain for the company a sought-after license or at least generate some pressure on Baxter to resolve the matter by executing a license with the company directly—the circumstances of the petition created a tension between the executive and judicial branches because of their overlapping jurisdiction.

The tension arises because although the march-in authority, under section 203(1)(b), gives the agency discretion to undo the exclusive rights of the patent holder when such action is merited by public health needs, the court also has that authority through its equitable powers.[59] If a petition for

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56. *See* Johns Hopkins Univ. v. CellPro Inc., 978 F. Supp. 184 (D. Del. 1997), *aff'd* 152 F.3d 1342 (Fed. Cir. 1998).

57. *See id.* at 196. On August 11, 1998 (more than one year after the NIH determined not to initiate march-in proceedings) the Federal Circuit upheld the district court's determination and damage award. *See* Johns Hopkins Univ. v. CellPro, Inc., 152 F.3d 1342, 1365 (Fed. Cir. 1998). The Federal Circuit modified the district court's injunction in one minor regard, determining that CellPro was not required, as previously ordered, to return to the United States six vials of cells used to produce antibodies that had been shipped to Canada in 1993. *See id.* at 1367. On September 28, 1998, CellPro announced that it had settled its dispute with Johns Hopkins and Baxter and agreed to pay them $15.6 million. Shortly thereafter, CellPro initiated voluntary Chapter 11 bankruptcy proceedings. *See In re* CellPro, Inc., No. 98-13604 (Bankr. W.D. Wash., Nov. 6, 1998) (on file with author).

58. *See* Petition, *supra* note 24, at 1.

59. Injunctive relief invariably takes account of the public interest. *See, e.g.* Weinberger v. Romero-Barcelo, 456 U.S. 305, 312 (1982). There is clear, if dated, precedent for not enforcing patent rights to their fullest when such action would harm the public. *See, e.g.* Vitamin Technologists, Inc. v. Wisconsin Alumni Research Foundation, 146 F.2d 941 (9th Cir. 1944) (discussing suppression of patents against the public interest, in this case, in connection with a patent for irradiated margarine used to treat rickets); City

and determination to march-in *precedes* the issuance of an injunction by a court concurrently considering an infringement action, then the agency runs the risk of preempting the court's authority to strictly enforce the patent.[60] If the agency decided to exercise its march-in authority, it would presumably also be required to intervene in the district court case in order to bring the government's determination and interests before the court. It is not clear what would happen if the district court disagreed with the government's action and failed to recognize in its order any license granted by the government under march-in. Alternatively, if a court issued an injunction strictly enforcing a patent prior to an agency determination that march-in was warranted, the license granted under the march-in authority could be in direct conflict with the injunction. In such event, the licensee would be compelled to request the court to modify its injunction, or risk violating the injunction by practicing its rights under the license. Although these issues are likely resolvable, this overlapping jurisdiction creates procedural issues and tension between the executive branch and judiciary that may not have been anticipated by Congress when it enacted the march-in authority.

In the *CellPro* case, the injunction[61] was issued only days before NIH's self-imposed deadline for making its determination.[62] Although the language is vague, the regulations clearly intend that the consideration of a march-in petition be handled expeditiously and come to closure.[63] Each

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of Milwaukee v. Activated Sludge, 69 F.2d 577, 592-93 (7th Cir. 1934) (denying injunctive relief when the requested relief would have closed the city's sewage treatment plant thereby causing public health concerns).

60. Clearly, if the agency decides not to march-in, the court may still assess the public interest and not strictly enforce the patent. In such a case, there would be no conflict between the agency's and the court's actions.

61. *See* Order, *supra* note 42, at 1-4.

62. *See* Letter from Robert B. Lanman, Legal Advisor, National Institutes of Health, to Donald R. Ware, Foley, Hoag & Eliot, L.L.P. (June 24, 1997) (on file with authors).

63. The regulations implementing the march-in process set forth a schedule for the agency's action, stating that:

> [w]henever an agency receives information that it believes might warrant the exercise of march-in rights, before initiating any march-in proceeding, it shall notify the contractor in writing of the information and request informal written or oral comments from the contractor as well as information relevant to the matter. In the absence of any comments from the contractor within 30 days, the agency may, at its discretion, proceed with the procedures below. If a comment is received within 30 days, or later if the agency has not initiated the procedures below, then the agency shall, within 60 days after it receives the comment, either initiate the procedures below or notify the contractor, in writing, that it

party involved in this dispute continued to brief issues for the NIH, which then triggered requests by the other party to respond. Eventually, in keeping with the intent of the regulations,[64] the NIH set a firm deadline for its determination.[65] Because the court did not order CellPro's product to be removed immediately from the market, no action was needed to alleviate health or safety needs, as the only FDA-approved technology was still available both for sale and for clinical research.[66] The outcome of the judicial decision was crucial information for the NIH to consider in making its march-in determination. However, the timing of the court's ruling was purely serendipitous. In the future, federal agencies faced with a march-in petition as well as the prospect of concurrent judicial jurisdiction may wish to consider notifying the contractor that "it will not pursue march-in rights on the *basis of the available information*,"[67] citing the pending judicial consideration, and subsequently open a new administrative action if warranted.[68]

Although the problem did not arise in this dispute, yet another instance of overlapping jurisdiction could have arisen had NIH made a determination to exercise its march-in authority. If a determination to march-in is made by a funding agency, the statute provides that the adversely affected party may appeal to the U.S. Court of Federal Claims.[69] If the NIH had marched-in and required Johns Hopkins to license CellPro, presumably CellPro would have had to seek a modification of the injunction from the district court. Johns Hopkins would likely have contested any such modification and simultaneously appealed the march-in determination to the U.S. Court of Federal Claims. It is not clear how the conflicts would have been resolved if the U.S. Court of Federal Claims had upheld the march-in decision, but the district court refused to modify its injunction.

C. The Procedurally Burdensome Nature of the March-in Process

The CellPro Petition also highlights the unwieldy nature of the march-in administrative process. Under Department of Commerce regulations, an

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> will not pursue march-in rights on the basis of the available information.

37 C.F.R. § 401.6 (1998).

64. *See* 37 C.F.R. § 401.6(b) (1998).

65. *See* Letter from Robert Lanman to Donald Ware, *supra* note 62.

66. *See* Order, *supra* note 42, at 5.

67. 37 C.F.R. § 401.6(b) (1998) (emphasis added).

68. Neither the text nor legislative history of the Bayh-Dole Act indicates whether Congress anticipated this potential concurrent jurisdiction or considered it as a source of checks and balances between the Executive and Judiciary.

69. *See* 35 U.S.C. § 203(2) (1994).

agency that receives information it believes might warrant march-in may not initiate march-in proceedings without notifying the funding recipient and seeking informal comment.[70] After this notice and comment period, the agency may initiate march-in proceedings.[71] While these proceedings are described in the regulation as "informal," in fact, they entail a full administrative fact-finding complete with the right to counsel, opportunity to call and confront witnesses, and to present documentary evidence.[72] In the event that a determination adversely affects the funding recipient, inventor, assignee or exclusive licensee, that party may appeal to the U.S. Court of Federal Claims. In cases involving a funding recipient's failure to take steps to achieve practical application of an invention[73] or failure to meet requirements for public use specified by federal regulations,[74] the agency's determination is held in abeyance pending the exhaustion of appeals.[75]

In the case of the CellPro Petition, the informal written comments from the grantee became an administrative process unto itself. CellPro submitted an extensive petition and Johns Hopkins responded in kind. The NIH, following a careful four-month review of all of the submissions related to the petition, determined that a march-in proceeding was not warranted. Had the NIH determined that a march-in proceeding was warranted because Johns Hopkins or Baxter could not reasonably alleviate the health need for the technology, it may easily have taken far longer to complete the full administrative process set forth in the regulations. In a case where march-in was justified by a health care emergency, the administrative process would likely not be expeditious enough to address the situation.[76] Although the march-in provision of the Bayh-Dole Act seeks, in part, to alleviate public health or safety needs for federally-funded inventions, the implementation of this authority hinders quick action.

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70. *See* 37 C.F.R. § 401.6(b) (1998).

71. *See id.*

72. *See* 37 C.F.R. § 401.6(e) (1998).

73. *See* 35 U.S.C. § 203(1)(a) (1994).

74. *See* 35 U.S.C. § 203(1)(c) (1994).

75. *See* 35 U.S.C. § 203(2) (1994).

76. As in any judicial proceeding, issues beyond the merits of the case may be challenged and litigated, thereby extending the length of the case. For example, Hopkins reserved objections to NIH jurisdiction over the patents at issue. *See* Response, *supra* note 35, at 22 n.9. Johns Hopkins communicated to the NIH that Johns Hopkins and Baxter would challenge jurisdiction in federal court in the event that NIH initiated march-in proceedings. *See id.*

D. Use of March-in Petitions as a Weapon Against Competitors

It was recognized in the legislative history of the Bayh-Dole Act that interested third parties would probably generate most petitions for march-in.[77] However, there is nothing in the statute or its legislative history to indicate that use of the march-in authority should be for the direct benefit of such third parties. Rather, the march-in authority is intended to be an extraordinary remedy to be used to protect the public.[78] If funding agencies exercised their march-in authority frequently to allow third parties to compete with a bona fide licensee, federally-funded technology would be financially devalued by license applicants. In addition, frequent use of the march-in authority would chill the government's ability to license exclusively to applicants concerned about the certainty of their rights.

Fortunately, petitions for march-in in the biomedical arena are rare.[79] This is not surprising, because there are powerful economic incentives for the funding recipient, the licensee and the third party seeking a license to reach a commercial licensing arrangement. Patent owners generate revenue by licensing, and non-profit organizations, such as universities, have every incentive to license.[80] One of the criteria for marching in—lack of practical application—can be most effectively addressed by the funding recipient when the technology is licensed. For example, if an exclusive license is contemplated, a patent owner can negotiate specific fields of use (most often corresponding to different applications of the technology), and require applicants to submit commercial development plans with objective development benchmarks and milestones. These fields of use and development plans can, as part of the license, stipulate the loss of exclusivity or termination of the agreement if the licensee fails to develop the technology by meeting the benchmarks and milestones. There is little need to exercise march-in for non-use of such a license, because the funding recipient/licensor itself can modify or terminate the license in response to a

77. *See supra* note 21 and accompanying text.

78. *See id.*

79. To the best of the authors' knowledge, the CellPro petition to the HHS is the only formal petition for march-in since the inception of the Bayh-Dole Act. There have been various inquiries to federal agencies from third parties regarding possible march-in, but all have been resolved informally.

80. The Bayh-Dole Act encourages commercialization and allows non-profit funding recipients to retain royalties and other consideration earned from the licensing of federally-funded technologies. *See* 35 U.S.C §. 202(c)(7) (1994). These royalties are an important source of revenue for universities. *See generally* ASSOCIATION OF UNIVERSITY TECHNOLOGY MANAGERS, 1998 SURVEY OF UNIVERSITY TECHNOLOGY TRANSFER ACTIVITIES.

march-in petition by a third party, thereby making the technology available to the third party or others.

There are also market incentives for an exclusive licensee to sublicense. Where a licensee has failed to bring the invention to practical application, either entirely or within particular fields of application, it will likely welcome sublicensing discussions with a third party as a means of extracting some value, or additional value, out of the technology. This is common practice in biotechnology, an industry having a proclivity for partnerships, mergers, and sublicensing. The parties in the *CellPro* case were no exception. Baxter sublicensed the technology to two other companies, and apparently would have sublicensed to CellPro as well had terms been consummated. Further, in the midst of the CellPro march-in case, Baxter initiated discussions with VIMRX Pharmaceuticals, Inc. and subsequently sold its entire Immunotherapy Division to this small company (which subsequently began doing business as Nexell).[81] Indeed, market forces resolved the ostensible "health need," as interpreted by the NIH to require availability of at least one of the devices, without the exercise of the march-in authority, resulting in CellPro's withdrawal of its petition on September 28, 1998.[82] When CellPro filed for bankruptcy, Nexell Therapeutics Inc. obtained judicial approval to acquire CellPro's intangible assets, including intellectual property rights, patents, antibodies and related cell banks, research, and license rights.[83] Thus, Nexell acquired the right to market and sell the CellPro Ceprate SC. In addition, Nexell obtained FDA approval for the Isolex 300 device.[84] Thus, although both devices were ultimately licensed to the same company, which may result in only the more promising of the two devices being developed, march-in authority was not required to ensure that the public retained access to the technology originally developed under the government grants.

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81. *See* Letter from Loucks to Shalala, *supra* note 44. Soon thereafter, VIMRX and Baxter Healthcare Corporation formed a new company, Nexell Therapeutics Inc., as a collaboration to develop and market cell therapies. *See* Nexell Therapeutics Inc., *VIMRX Announces Restructuring and Name Change to Nexell Therapeutics Inc.* (Jan. 14, 1999) <http://www.nexellinc.com/press/1999/99jan15NEX.htm>. Nexell's lead products were the Isolex 300 Cell Selection Systems. *See id.*

82. *See* Stipulation by CellPro, Inc. and Johns Hopkins University, September 28, 1998, *In re* Petition of CellPro, Inc. (on file with authors).

83. *See* Nexell Therapeutics Inc., *Nexell Acquires CellPro Assets* (Feb. 1, 1999) <http://www.nexellinc.com/press/1999/99FEB01%20nex.htm>.

84. *See* Nexell Therapeutics Inc., *Nexell Therapeutics Receives FDA Approvable Letter for Isolex 300 and 300i Cell Selection System* (Jan. 8, 1999) <http://www.nexellinc.com/press/1999/99jan08NEX.htm>.

Despite economic incentives to license, there are times when march-in may be necessary because of market failure or when companies license technologies without intending to develop them. For example, a company may exclusively license certain patents primarily to raise capital or to block competitors. If the patent owner has licensed without milestones and benchmarks, it loses the ability to address problems of public availability of the technology. Perhaps, it is here that the march-in authority provides its greatest value. Because march-in authority is such a blunt and powerful means to ensure that a government-funded technology does not languish to the detriment of the public, it exerts an *in terrorem* effect on the conduct of funding recipients and exclusive licensees. Exclusive licensees, in particular, are deterred from shelving federally-funded technologies because they may lose rights that may be important to them. Thus, exclusive licensees are encouraged by the presence of the march-in authority to develop or sublicense a technology, both of which benefit the public.

IV. ALTERNATIVES TO GOVERNMENT USE OF THE MARCH-IN AUTHORITY

If march-in authority is an unwieldy safeguard of the public interest, one must ask if alternative powers of the government are better suited to the task.

A. 35 U.S.C. § 202(c)(4)

In addition to the march-in authority under section 203, the Bayh-Dole Act also protects the public's investment in government-funded research by reserving a license for the government. 35 U.S.C. § 202(c)(4) states, in part, that the federal funding agency has a nonexclusive license to practice or have practiced the invention for or on behalf of the United States anywhere in the world.[85]

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85. [W]ith respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferrable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world: *Provided*, That the funding agreement may provide for such additional rights; including the right to assign or have assigned foreign patent rights in the subject invention, as are determined by the agency as necessary for meeting the obligations of the United States under any treaty, international agreement, arrangement of cooperation, memorandum of understanding, or similar arrangement, including military agreement relating to weapons development and production.

35 U.S.C. § 202(c)(4) (1994).

The government's license under section 202(c)(4) does not provide the same ability to use the invention as the march-in authority. It is limited to practice "for or on behalf of the United States," whereas march-in authority is not so limited.[86] The reach of a section 202(c)(4) license has not been litigated. The government clearly can practice the invention itself, and it is well established that anything the government can do itself, it can do by contract.[87] Accordingly, under section 202(c)(4) the government could enter into a contract for the production of a particular technology that required the practice of an invention, provided that the federal agency's contract was otherwise authorized. In theory,[88] the NIH could have exercised its license under section 202(c)(4) by entering into a contract with CellPro to manufacture the stem cell separator. However, the government's contract with CellPro could only have been for the production of the technology for authorized government purposes. The NIH has authority to "secure, develop and maintain, distribute and support the development and maintenance of resources needed for research."[89] It appears, therefore, that NIH had the authority to contract with CellPro to support clinical research, but not to support CellPro's broader commercial purposes.[90]

Notwithstanding the limitations of section 202(c)(4), it has certain advantages over the march-in authority of section 203. For example, the government's license under section 202(c)(4) applies statutorily and no administrative process is required for the government to exercise its rights.[91] This means that the government can exercise its license expeditiously.

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86. *Id.*

87. *See generally* 2 U.S. GENERAL ACCOUNTING OFFICE, PRINCIPLES OF FEDERAL APPROPRIATIONS LAW ch.10, 10-11 (2d ed. 1992) (describing federal assistance in the form of grants and cooperative agreements).

88. We say "in theory" only because, due to the overlapping jurisdiction of the court and the federal agency as described *supra* Part III.B, once the injunction against CellPro issued, NIH would presumably have had to go to the court to obtain modification of the order.

89. 42 U.S.C. § 284(b)(1)(F) (1994).

90. It is an open question, we believe, whether the license "on behalf of the United States" at section 202(c)(4) can be extended to allow the use of the invention by federal grantees. Although grantees and contractors are treated the same for purposes of the Bayh-Dole Act, these two types of funding recipients are not identical. Contracts are used to fund research that is for the direct benefit or use of the government, while grants are awarded for investigator-initiated research that supports a public purpose. This issue, however, is beyond the scope of this Essay.

91. It is worth noting, however, the government's license constitutes protection against a claim of infringement but does not necessarily provide the government with the

B. 28 U.S.C. § 1498 as an Alternative to March-in Authority

In contrast to sections 202(c)(4), and 203, section 1498 gives the federal government the right to practice an invention or infringe a copyright without a license if that practice is "by or for the United States"[92] whether such inventions or copyrights were generated with federal funding or not. Under section 1498, the owner's only remedy is a suit for money damages after the government's use has begun.[93]

In the case of the CellPro Petition, had there truly been a public health need for the invention, particularly an immediate need, the logical recourse for the government would have been action under section 1498, not the initiation of march-in proceedings under section 203. March-in proceedings, as described, are burdensome and, more significantly, time-consuming. Compliance with the procedural requirements of the march-in authority would be a disaster in the face of a true public health need; lawyers would be arguing while the public was left waiting. If there truly is a public health need for a particular patented technology, the government, through the use of section 1498, can immediately practice the invention, or contract with another entity for the practice of the invention, and the wrangling over "reasonable compensation" may occur after the public health needs have been addressed.

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ability to practice the invention. For instance, a funding recipient may make an invention involving a method of using certain biological materials. The government's statutory license to practice the invention does not provide the government with the necessary materials or the know-how. Government agencies that anticipate a desire to practice inventions made under funding agreements would be advised to assure that the funding agreements provide that materials will be a deliverable under the contract or will be shared with the agency under a grant.

92. 28 U.S.C. § 1498 (1994).

93. Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner's remedy shall be by action against the United States in the United States Court of Federal Claims for the recovery of his reasonable and entire compensation for such use and manufacture.... For the purposes of this section, the use or manufacture of an invention described in and covered by a patent of the United States by a contractor, a subcontractor, or any person, firm, or corporation for the Government and with the authorization or consent of the Government, shall be construed as use or manufacture for the United States.

Id.

V. CONCLUSION

The march-in authority is cumbersome to invoke, duplicates, in part, existing authorities, and has the potential to undermine the process of federal technology transfer by disrupting the existing synergy between the academic community and the private sector. What, then, is its value? In the view of the authors, there is value in the *in terrorem* effect march-in has on federal funding recipients and their licensees. The greatest value of march-in may well be as the proverbial Sword of Damocles, suspended over the federally-funded invention licensing process, its very presence an incentive for parties to resolve privately would-be cases of march-in.

COMMENT

SAFETY IN NUMBERS: REVISITING THE RISKS TO CLIENT CONFIDENCES AND ATTORNEY-CLIENT PRIVILEGE POSED BY INTERNET ELECTRONIC MAIL

By Joshua M. Masur[†]

ABSTRACT

Courts have not yet considered the application of the attorney-client privilege to electronic mail transmitted over the Internet. Despite the absence of a definitive ruling on the issue, legal commentators and ethics committees have presented opinions that tend to conclude that the privilege applies to electronic mail. This Comment addresses the possibility that these legal opinions are based on misconceptions about the underlying technology and security of Internet transmitted electronic mail. This Comment critically evaluates legal opinions regarding the relationship of the privilege to electronic mail by explaining the pertinent technology and security issues that attorneys should be aware of when discussing sensitive information with their clients over Internet transmitted electronic mail. Given the relative ease with which unencrypted electronic mail can be intercepted by third parties, encryption presents one cautionary measure that can be taken by attorneys seeking to ensure that communications with their clients remain privileged.

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I. INTRODUCTION

Throughout much of the 1990s, one of the livelier questions in legal ethics was whether unencrypted electronic mail sent over the Internet could sustain the attorney-client privilege. If any case law issued, it went unnoticed, but state ethics committees and law journal pundits issued

competing analyses of the potential weaknesses of e-mail. As the decade wore on, however, skeptical voices were drowned out by the chorus of well-meaning commentators who insisted that e-mail was just like the telephone, fax, or postal mail, and nothing like a cellular phone, radio broadcast, or crowded public place. Then, in the spring of 1999, the American Bar Association Standing Committee on Ethics and Professional Responsibility joined the fray with a voice of authority:

> A lawyer may transmit information relating to the representation of a client by unencrypted e-mail sent over the Internet without violating the Model Rules of Professional Conduct (1998) because the mode of transmission affords a reasonable expectation of privacy from a technological and legal standpoint. The same privacy accorded U.S. and commercial mail, land-line telephonic transmissions, and facsimiles applies to Internet e-mail.[1]

The Committee hedged that its opinion was "based upon current technology and law *as we are informed of it*,"[2] but the message was clear: lawyers could use e-mail to communicate with clients in much the same way as they would a telephone or fax.

There are two problems with this opinion. First, the Committee, like many other contemporary commentators, betrayed the long-standing mandate that the attorney-client privilege ought to be treated as the exception to the general rule that all testimony should be admitted as evidence before a court.[3] While some intellectual defense for this conclusion can be found in the courts' recent tendency to apply the privilege with great frequency rather than great scrutiny, one should be cautious about thinking of this judicial change in applying the privilege as sufficient ground for the ABA opinion. Judicial goals often differ from the goals for organizations like the ABA.

The second problem is thornier. The Committee was wise to warn that its opinion depended on its understanding of the technology at issue. It would have been wiser still to base its understanding on the appropriate technological research. Instead, every technical pronouncement in the

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1. ABA Comm. on Ethics and Professional Responsibility, Formal Op. 99-413 (1999) (on protecting the confidentiality of unencrypted e-mail) *available at* <http://www.abanet.org/cpr/fo99-413.htm> [hereinafter ABA Op.].

2. *Id.* (emphasis added).

3. *See In re* Horowitz, 482 F.2d 72, 81 (2d Cir.), *cert. denied*, 414 U.S. 867 (1973) ("[Privilege] is to be strictly confined within the narrowest possible limits consistent with the logic of its principle.").

opinion is cited not to a source with some technical pedigree, but to a law journal article.

The most stunning example of the Committee's attempt to draw a conclusion based on a misunderstanding of the technology is the following uncited assertion: "Because the specific route taken by each e-mail message through the labyrinth of phone lines and ISPs is *random*, it would be very difficult consistently to intercept more than a segment of a message by the same author."[4] While empirical research conclusively demonstrates this proposition as erroneous,[5] a small degree of common sense reveals its absurdity: if "the specific route taken by each e-mail message ... is random," how on earth does the message reach its intended recipient? To use a real-world analogy, how many of us would respond to a request for directions to our homes by saying, "just drive—you'll get there eventually"? Routing is the foundation of the Internet, without which there is no internetwork communication, only individual networks. This is the ABA's most striking misconception of the way in which the Internet works; that it exists in a document that purports to establish rules for Internet use is profoundly disturbing, made worse by the implicit contention that it is common knowledge, undeserving of citation.

The sad fact is that by the time the ABA weighed in on privilege issues and electronic mail, the discussion of privilege for electronic mail was little more than an incestuous game of telephone. Technical concepts like "dynamic routing," where the Internet's traffic cops direct messages along what they believe to be the most efficient route, had become perverted into the mythical "random routing"—mythical because it betrays more about its proponents' desires than about objective truth. The ABA opinion thus stands as the stunning apotheosis of a debate that had long ago lost its objective moorings. The members of the debate quoted one another, secure in the belief that they had ascertained the truth. Unfortunately, by convincing themselves, they may well have convinced enough others that their ungrounded beliefs will take on the force of law.

This Comment considers the possibility that some court will find that unencrypted electronic mail sent over the Internet is insufficiently confidential to maintain the attorney-client privilege over its contents. Part II discusses the law of attorney-client privilege, focusing on the requirements of contemporaneous confidentiality and subsequent non-waiver. Part III provides an introduction to the benefits and dangers of e-mail and discusses encryption and its limitations. Part IV analyzes in detail the security

4. ABA Op., *supra* note 1 (emphasis added).
5. *See infra* Part IV.C.1.

issues surrounding unencrypted electronic mail sent over the Internet. Finally, Part V proposes protective measures for attorneys who wish to minimize incursions into their private communications with their clients, but who do not wish to forego the benefits available from the use of electronic mail in such communications.

II. THE ATTORNEY-CLIENT PRIVILEGE

The classic formulation of the attorney-client privilege can be found in Wigmore. The privilege applies:

> (1) Where legal advice of any kind is sought (2) from a professional legal advisor in his capacity as such, (3) the communications relating to that purpose, (4) made in confidence (5) by the client, (6) are at his instance permanently protected (7) from disclosure by himself or by the legal advisor, (8) except the protection be waived.[6]

A simplified version of this test is proposed by the Restatement (Third) of the Law Governing Lawyers, which provides that "the attorney-client privilege may be invoked ... with respect to: (1) a communication (2) made between privileged persons (3) in confidence (4) for the purpose of obtaining or providing legal assistance for the client."[7] Both of these definitions apply best when the client is a natural person, rather than an artificial entity like a corporation, the subjective intent of which is difficult to gauge. Thus, application of the privilege to corporate entities is controlled by the test announced by the Supreme Court in *Upjohn Co. v. United States*.[8] *Upjohn* provides an eight-prong test similar to that of Wigmore. Under *Upjohn*, the attorney-client privilege protects:

> [1] communications ... by ... employees [2] to counsel ... acting as such, [3] at the direction of corporate superiors [4] in order to secure legal advice from counsel ... [5] concern[ing] matters within the scope of the employees' corporate duties ... [6] [where] employees themselves were sufficiently aware that they were being questioned in order that the corporation could obtain legal advice ... [7] communications were considered "highly

6. 8 JOHN HENRY WIGMORE, EVIDENCE § 2292, at 554 (McNaughton rev. 1961) (emphasis omitted).

7. RESTATEMENT (THIRD) OF THE LAW GOVERNING LAWYERS § 118 (Proposed Final Draft No. 1, 1996) [hereinafter RESTATEMENT].

8. 449 U.S. 383 (1980).

> confidential" when made ... and [8] have been kept confidential by the company.[9]

These requirements act to limit privilege to those communications where protection is judged necessary. "While the professional obligation to keep client information secret is a hallmark of professional practice, confidentiality can also be exploited to violate the law. The rules of confidentiality therefore provide exceptions to guard against abuse."[10]

The applicability of attorney-client privilege to electronic mail communications hinges on the seventh and eighth factors of the *Upjohn* test, and the corresponding fourth and eighth Wigmore factors—that the communication be intended to be confidential and that the privilege not be waived.[11] For the attorney-client privilege to attach, a party must have contemporaneously intended to keep confidential any communication over which attorney-client privilege is asserted. That confidentiality must not have been waived, either inadvertently or intentionally. Furthermore, because the privilege is an exception to the rule that all testimony should be admitted as evidence before the court, the privilege "ought to be strictly confined within the narrowest possible limits consistent with the logic of its principle."[12] Thus, application of the privilege to unencrypted electronic mail cannot be presumed without meaningful inquiry.

A. State of the Law: Lack of Controlling Precedent

As one commentator stated, "no one yet knows whether or not courts will determine that sending an e-mail message over the Internet waives the attorney-client privilege."[13] This lack of predictability is amplified because communication over the Internet is fundamentally different from other forms of communication, as the Supreme Court noted in *Reno v. American Civil Liberties Union*.[14] Thus, existing privilege case law may not map efficiently or effectively onto e-mail.

Failure to use encryption to protect electronic mail communications may, in and of itself, indicate lack of intent or actual failure to maintain

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9. *Id.* at 394-95.

10. RESTATEMENT, *supra* note 7 at introductory note to chapter 5.

11. *See, e.g.*, Jonathan Rose, Note & Comment, *E-mail Security Risks: Taking Hacks at the Attorney-client Privilege*, 23 RUTGERS COMPUTER & TECH. L.J. 179, 182 (1997) ("In applying the attorney-client privilege to e-mail, ... the most crucial elements to consider are the requirements that the communications be confidential and that the privilege has not been waived.").

12. *See In re* Horowitz, 482 F.2d 72, 81 (2d Cir.), *cert. denied*, 414 U.S. 867 (1973).

13. Todd H. Flaming, *Internet E-mail and the Attorney-Client Privilege*, 85 ILL. B.J. 183, 183 (1997).

14. 117 S. Ct. 2329 (1997).

confidentiality. This is, however, a matter of unsettled law. No reported case addresses the effect of e-mail communication on the privilege.[15] The closest that reported federal decisions have come to this issue is reviewing electronic mail sent over in-house or private networks, without considering issues unique to Internet-based communication.[16] Some state ethics boards have found more limited protection for unencrypted electronic mail sent via the Internet. Iowa and South Carolina require express consent by the client to use of unencrypted e-mail, while Illinois treats electronic mail as an "ordinary telephone call."[17] However, ethics panels in other states and the American Bar Association consider unencrypted electronic mail to be fully entitled to privileged treatment.

1. Statutory Approaches to the Privilege and the Internet

Ethics boards and legislatures have disagreed as to whether and how the attorney-client privilege should apply to unencrypted e-mail communications over the Internet.[18] This problem is compounded by the nature of the Internet itself. "Since the Internet defies state boundaries, it is difficult to know how e-mail that is not purely local should be handled. Worse, the confusion seems to surround not only the technology, which is relatively new, but the attorney-client privilege itself, which is as old as the profession."[19]

Several states have provisions under which privilege is maintained despite interception; most are analogous to the federal Electronic Communications Privacy Act ("ECPA").[20] New York's recently-enacted Civil Practice Law and Rules section 4548, adopted in 1997, is fairly typical:

> Privileged Communications; Electronic Communication Thereof. No communication privileged under this Article shall lose its privileged character for the sole reason that it is communicated by electronic means or because persons necessary for the

15. *See* Julienne W. Bramesco, *Employee Privacy: Avoiding Liability in the Electronic Age*, 562 PLI/LIT 515, 527 (1997).

16. *See, e.g.*, United States v. Keystone Sanitation Co., 903 F. Supp. 803, 808 (M.D. Penn. 1995); Int'l Marine Carriers v. United States, No. 95 Civ. 10670, 1997 WL 160371 (S.D.N.Y. Apr. 4, 1997); Heidelberg Harris v. Mitsubishi Heavy Indus., No. 95 C 0673, 1996 WL 732522 (N.D. Ill. Dec. 18, 1996).

17. *See* Wendy R. Leibowitz, *Communication in the E-mail Era: Deciphering the Risks and Fears*, NAT'L L.J., Aug. 4, 1997, at B9. *See also infra* Part V.

18. *See* Leibowitz, *supra* note 17.

19. *See id.*

20. 18 U.S.C. §§ 2510-2520 (1982) (amended 1994).

> delivery or facilitation of such electronic communication may have access to the content of the communication.[21]

However, at least one pre-enactment commentator noted that this section "does not address unauthorized access by snoopers who have nothing to do with the transmission of an electronic message."[22] Furthermore, reliance on illegality of interception may be misplaced, especially given the wording of the law, which does not apply the privilege for communications that would otherwise lack it.[23]

2. *Ethics Committee Opinions on E-mail Privilege Issues*

Ethics committee opinions on the role of encryption in privilege issues varied during the 1990s. In 1995, South Carolina's ethics board found that system operators' accessibility to unencrypted electronic mail might be sufficient to waive the privilege absent some mechanism to ensure confidentiality.[24] Under its analysis, absent certain confidentiality, e-mail communication with a client was impermissible absent express client waiver.[25] The committee noted that "the very nature of online services was such that the system operators of the online service may gain access to all communications that occur on the online service" and therefore required client consent to pass privileged information via the Internet.[26] As critics of limited privilege rightly point out, however, this might not have been an accurate statement of the law: "the logic of the opinion would apply to land line telephone hookups, because telephone companies employ system operators at their switches and other facilities."[27]

In 1996, an Iowa opinion also required encryption or client consent to send "sensitive material" via the Internet.[28] At about the same time, Colo-

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21. N.Y. C.P.L.R. § 4548 (McKinney 1999) (originally enacted as § 4547 and renumbered in 1999).

22. Kevin J. Connolly, *Cryptography Can Ensure E-mail Confidentiality*, 19 NAT'L L.J. 41, at B13 (Jun. 9, 1997).

23. *See* discussion of ECPA, *infra* at Part IV.C.

24. *See* James K. Lehman, *Litigating in Cyberspace: Discovery of Electronic Information*, S.C. LAW., Apr. 1997, at 14, 15, 17 (citing S.C. Bar, Advisory Op. 94-27 (1995)).

25. *See* Joan C. Rogers, *Ethics, Malpractice Concerns Cloud E-mail, Online Advice*, 12 Law. Man. on Prof. Conduct (ABA/BNA) 59, 60-61 (Mar. 6, 1996) (citing S.C. Bar, Advisory Op. 94-27 (1995)).

26. William Freivogel, *Internet Communications—Part II, A Larger Perspective*, ALAS LOSS PREVENTION J., Jan. 1997, at 2 (quoting S.C. Bar, Advisory Op. 94-27 (1995)).

27. *See id.*

28. Iowa Supreme Court Board of Professional Ethics and Conduct Op. 96-1 (1996).

rado warned attorneys that they must ensure e-mail confidentiality to prevent waiver of the privilege,[29] and Arizona stated that encryption should be used when e-mailing confidential information.[30] Furthermore, Massachusetts, New York City, and New Hampshire ethics boards stated that use of cellular phones would not maintain the privilege.[31] Given the frequent analogies made between cellular telephony and unencrypted Internet electronic mail, it would hardly have been surprising if those entities had released similar statements regarding e-mail over the Internet.

As the decade drew to a close, however, ethics board opinions grew uniformly optimistic. In 1997, South Carolina re-examined its earlier policy "in light of the current state of technology."[32] The new opinion found that although the earlier opinion had been correct, because of the now-commonplace use of electronic mail, "improvements in technology and changes in the law" had created "a reasonable level of 'certainty' and expectation that such communications may be regarded as confidential."[33] Other than the increased popularity of e-mail, however, these putative changes seem like distinctions without a difference. The "changes in the law" discussed were limited to the 1994 amendments to ECPA,[34] which were implemented prior to the 1995 publication of the original South Carolina opinion.[35] Perhaps more striking was that the "improvements in technology," which allegedly justified this new opinion, were never detailed or described. By 1998, Alaska,[36] New York State,[37] and Vermont[38] had followed suit, finding that ECPA's protection and questionable analogies between electronic mail and voice telephony sufficed to ensure applicability of the privilege. Uniformly, these opinions cited the same few

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29. *See* Victoria Slind-Flor, *Defense Bar Misses a Good Show on High Tech*, NAT'L L.J., Oct. 14, 1996, at A6.

30. *See* Susan B. Ross, *E-mail: How Attorneys Are Changing the Way They Communicate*, C. HILL LEGAL PRAC. NEWSL. (page unavailable) (July 1996), *available at* <http: //www.interlegal.com/1artcollege.html>.

31. *See* Rogers, *supra* note 25, at 61.

32. South Carolina Bar Advisory Op. 97-08 (1997), *available at* <http://www.scbar.org/apps/reference/EthicsOpinions/ethicsopinion.dbm?OpinionID=97%2D08&OpinionType=ethics>.

33. *Id.*

34. Pub. L. No. 103-322, 108 Stat. 2147 (1994).

35. ECPA's putative role in privilege analysis is discussed *infra* Part IV.B.2.

36. *See* Alaska B. Ass'n, Ethics, Op. 98-2 (1998) (on communication by electronic mail), *available at* <http://www.alaska.net/~akctlib/eo98-2.txt>.

37. *See* New York St. B. Ass'n Committee on Professional Ethics, Op. 709 (1998), *available at* <http://www.nysba.org/opinions/Opinion709.html>.

38. *See* Vermont B. Ass'n Comm. on Professional Responsibility, Advisory Op. 97-5 (1997), *available at* <http:www.vtbar.org./AdvisoryEthicsOpinions/1997/97.05htm>.

sources: articles from law journals, practitioners' newspapers, and the ECPA. Finally, in 1999, the ABA Standing Committee on Professional Ethics weighed in.[39] As discussed in the Introduction, its opinion differed from those that preceded it only in degree, and it too found that unencrypted e-mail could support the privilege.

B. The Confidentiality Requirement and Contemporaneous Intent

Confidentiality is the measure of contemporaneous intent to keep a communication secret. "A communication is in confidence ... if, at the time and in the circumstances of the communication, the communicating person reasonably believes that no one will learn the contents of the communication except a privileged person."[40] Wigmore's classic enumeration of its limits is reasonably clear. "'The moment confidence ceases,' said Lord Eldon, 'privilege ceases.' This much is universally conceded."[41] Lack of confidentiality will deny applicability of attorney-client privilege because "the privilege is not violated by receiving such disclosures as the client by his own will permits to be made."[42] Moreover, "the mere relation of attorney and client does not raise a presumption of confidentiality, and the circumstances are to indicate whether by implication the communication was of a sort intended to be confidential. These circumstances will of course vary in individual cases, and the ruling must therefore depend much on the case in hand."[43]

Because the privilege is an exception to the rule requiring testimony, third parties who obtain knowledge of privileged communications are not thereby bound.[44] Possession of information by third parties has presumptively indicated unprivileged status, although the presumption may be rebutted by proof of theft or deceit.[45]

The intended confidentiality must have been both subjective and objective.[46] In most jurisdictions, the client must have subjectively intended that the communication be confidential, and no transmission to a third party attempted; whether that third party in fact receives the communica-

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39. ABA Op., *supra* note 1.

40. RESTATEMENT, *supra* note 7, § 121.

41. WIGMORE, *supra* note 6, § 2311, at 599 (footnote omitted).

42. *Id.* § 2327, at 634.

43. *Id.* § 2311, at 600 (footnotes omitted).

44. *See id.* at 601-03.

45. *See* William P. Matthews, Comment, *Encoded Confidences: Electronic Mail, the Internet, and the Attorney-Client Privilege*, 45 U. KAN. L. REV. 273, 281 (1996) (citing PAUL R. RICE, ATTORNEY-CLIENT PRIVILEGE IN THE UNITED STATES § 9:26, at 681 (1993)).

46. *See* Rose, *supra* note 11, at 184.

tion is irrelevant.[47] Objectively, the client's expectation of confidentiality must have been reasonable under the circumstances. It cannot have been made in the presence of a third party, unless that person is an agent of the client or attorney, a joint client, or a joint defendant.[48]

Confidentiality requires reasonable protection against willful eavesdropping.[49] "[I]t is not asking too much to insist that if a client wishes to preserve the privilege ... he must take some affirmative action to preserve confidentiality."[50] Interception of a message intended to be kept confidential may result in loss of privilege.[51] However, the trend appears to be in favor of analyzing both the protective measures taken and the circumstances of interception,[52] or toward requiring intent.[53] Furthermore, the ECPA may protect the privilege in certain circumstances.[54]

C. The Non-Waiver Requirement[55]

While confidentiality depends on contemporaneous intent to maintain secrecy of a communication, waiver is a measure of a privileged party's subsequent efforts to maintain the privilege.[56] Because few parties intentionally and overtly waive the privilege, the issue before a court faced with a conflict over the existence of waiver tends to become "[w]hat constitutes a *waiver by implication*."[57]

> Judicial decision gives no clear answer to this question. In deciding it, regard must be had to the double elements that are predicated in every waiver, i.e., not only the element of implied intention, but also the element of fairness and consistency. A

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47. *See id.* at 184-85. However, certain jurisdictions, such as New York, depart from this rule. The New York Court of Appeals has held that communications created by a potential defendant to be sent to non-attorneys, but which were prevented from delivery, were protected in a criminal prosecution. *See, e.g., In re* Vanderbilt, 439 N.E.2d 378 (N.Y. 1982).

48. *See* Rose, *supra* note 11, at 185.

49. *See In re* Grand Jury Proceedings, 727 F.2d 1352, 1356 (4th Cir. 1984).

50. *In re* Horowitz, 482 F.2d 72, 81 (2d Cir. 1973), *cert. denied*, 414 U.S. 867 (1973).

51. *See* Arthur L. Smith, *E-mail and the Attorney-Client Privilege* (visited Dec. 2, 1999) <http://www.bamsl.org/lpm/email.htm>.

52. *See id.*

53. *See* Daniel J. Pope & Helen Whatley Pope, *"Is It Safe..."*, 64 DEF. COUNS. J. 138, 141 (1997).

54. This idea is analyzed at some length in the discussion of ECPA, *infra* Part IV.C.

55. A discussion of various waiver approaches can be found in *Bank Brussels Lambert v. Credit Lyonnais (Suisse) S.A.*, 160 F.R.D. 437 (S.D.N.Y. 1995).

56. *See,* WIGMORE, *supra* note 6, § 2327, at 634-38.

57. *See id.* at 635 (emphasis in original).

> privileged person would seldom be found to waive, if his intention not to abandon could alone control the situation. There is always also the objective consideration that when his conduct touches a certain point of disclosure, fairness requires that his privilege shall cease whether he intended that result or not.[58]

Failure to take appropriate measures to maintain subsequent confidentiality will waive the privilege. For example, a corporation that cannot demonstrate that privileged documents were maintained in a reasonably secure location where access was controlled may find that it has implicitly waived the privilege.[59]

Intent to maintain confidence may not be presumed for privilege purposes.[60] Indeed, because messages "[are] frequently disclosed to persons 'outside the circle of confidentiality'" by a recipient's decision to forward them, the burden of proof as to intent of confidentiality may be greater for e-mail than for other means of communication.[61]

Waiver can be effected by the client or its agent so authorized—and that authorized agent may be its attorney.[62] In *Commodity Futures Trading Commission v. Weintraub*,[63] the Supreme Court found that the ability to waive in the corporate context is usually limited to the corporation's "control group":[64] those corporate personnel "in a position to control or even to take a substantial part in a decision about any action which the corporation may take upon the advice of the attorney."[65] It did so notwithstanding *Upjohn*'s specific abolition of the use of the test to limit the privilege to control group speakers.[66] However, *Weintraub* has been interpreted in at least one court as applying only under bankruptcy; otherwise, the fact that communications by non-control group employees enjoy the privilege permits those same employees to waive through voluntary disclosure.[67]

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58. *See id.* at 635-36 (footnote omitted).

59. *See* Smith, *supra* note 51.

60. *See* WIGMORE, *supra* note 6, § 2311, at 599-603.

61. Susan J. Silvernail, *Electronic Evidence: Discovery in the Computer Age*, 58 ALA. LAW. 176, 179 (1997).

62. *See* Rose, *supra* note 11, at 187.

63. 471 U.S. 343 (1985).

64. *See id.* at 348.

65. Upjohn Co. v. United States, 449 U.S. 383, 390 (1981) (quoting Philadelphia v. Westinghouse Electric Corp., 210 F. Supp. 483, 485 (E.D. Pa. 1962)).

66. *See id.*

67. *See* Jonathan Corp. v. Prime Computer Inc., 114 F.R.D. 693 (E.D. Va. 1987).

Waiver of the privilege is rarely express, but rather implied by conduct that would make its application unfair.[68] Waiver may occur where a third party has not read or heard the communication, but could have.[69] "Waiver of the privilege has been found where documents were stored in a place accessible to third parties, placed in a public hallway for delivery to an attorney, ... left on a table in another person's hotel room, ... [and] kept in files routinely viewed by third parties."[70] In short, the carelessness demonstrated by making confidential information available to persons to whom the privilege does not apply can vitiate its application, whether or not confidentiality is actually compromised.

When the content of confidential communications is in fact learned by third parties without permission, primarily via eavesdropping or theft, the approaches taken by courts vary. Some courts do not treat such inadvertent disclosure as waiver when certain factors are present, including "the reasonableness of the precautions to prevent inadvertent disclosure, the time taken to rectify the error, the scope of the discovery and the extent of the disclosure."[71] Nonetheless, others insist that inadvertent disclosure constitutes waiver per se.[72] "[T]he majority of jurisdictions ... consider the circumstances surrounding [an inadvertent] disclosure and determine on a case-by-case basis whether [the] disclosure waives the attorney-client privilege."[73]

Reasonable precautions to protect the privilege are not necessarily foolproof; the fact that inadvertent disclosure has occurred does not indi-

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68. Rose, *supra* note 11, at 188-89.

69. First Interstate Bank v. Nat'l Bank & Trust Co., 127 F.R.D. 186, 189 (D. Or. 1989).

70. Rose, *supra* note 11, at 190-91 (citing, respectively, *In re* Horowitz, 482 F.2d 72, 82 (2d Cir. 1973), *cert. denied*, 414 U.S. 867 (1973); *In re* Victor, 422 F. Supp. 475, 476 (S.D.N.Y. 1976); Bower v. Weisman, 669 F. Supp. 602, 605-06 (S.D.N.Y. 1987); Jarvis, Inc. v. American Tel. & Tel. Co., 84 F.R.D. 286 (D. Colo. 1979)).

71. Lois Sportswear, U.S. v. Levi Strauss & Co., 104 F.R.D. 103, 105 (S.D.N.Y. 1985).

72. *See, e.g.*, *In re* Sealed Case, 877 F.2d 976, 980 (D.C. Cir. 1989); Golden Valley Microwave Foods Inc., v. Weaver Popcorn Co., 132 F.R.D. 204, 208-09 (N.D. Ind. 1990); Underwater Storage Inc. v. United States Rubber Co., 314 F. Supp. 546, 549 (D.D.C. 1970).

73. Mary Frances Lapidus, *Using Modern Technology to Communicate with Clients: Proceed with Caution and Common Sense*, HOUS. LAW., Sept./Oct. 1996, at 39, 40 n.41 (citing Alldread v. City of Grenada, 988 F.2d 1425 (5th Cir. 1993); Granada Corp. v. First Court of Appeals, 844 S.W.2d 223 (Tex. 1992)).

cate unreasonableness per se. However, disclosures due to "extreme or gross negligence" may be deemed intentional.[74]

III. UNDERSTANDING ELECTRONIC MAIL

New technologies have changed the practice of law before—air travel, overnight mail, facsimile transmission, and online information services like Lexis and Westlaw, to name a few.[75] Now, electronic mail has taken root in law firms and in their clients' businesses, and technology is once again changing the practice of law.

> E-mail is the most popular Internet application, and the most used by lawyers, because it enables rapid, efficient communication and file sharing with anyone in the world from the lawyer's desk. The practice of law is dependent upon the rapid transmission of information and documents over geographical space, and time deadlines and sensitive documents make e-mail and its associated applications the fastest growing form of communications for lawyers. The lawyer of 2010 will use electronic [mail] as often as the telephone or letter today.[76]

The popularity of e-mail has grown despite fears about security because computer files generally, and electronic mail specifically, have significant advantages in speed, cost, storage, rapidity of access, ease of searching, and the ability to reuse portions without retyping.[77]

A. E-mail and the Dangers of Discovery

The increasing ubiquity of electronic mail potentially presents a trove of evidence which must be turned over in discovery. *In re Brand Name Prescription Drugs Antitrust Litigation*[78] upheld a discovery request for approximately 30 million pages of e-mail, despite protests that it would cost at least $50,000 to comply. In that case, the court found that "if a party chooses an electronic storage method, the necessity for a retrieval program or method is an ordinary and foreseeable risk."[79] Two aspects of

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74. *Id.* (citing FDIC v. Marine Midland Realty Corp., 138 F.R.D. 479, 482 (E.D. Va. 1991)).

75. *See* Pope & Pope, *supra* note 53, at 138.

76. Richard M. "Rick" Georges, *The Impact of Technology on the Practice of Law—2010*, FLA. B.J., May 1997, at 36, 38.

77. *See, e.g.*, Robert L. Jones, *Client Confidentiality: A Lawyer's Duties with Regard to Internet E-mail* (Aug. 16, 1995) <http://www.computerbar.org/netethics/bjones.htm>; Ross, *supra* note 30.

78. 1995 WL 360526 (N.D. Ill. June 15, 1995).

79. *Id.* at 1.

electronic mail make its potential discovery particularly dangerous: its informality and its persistence.

1. Informality of Electronic Mail

Numerous commentators have noted the informality of electronic mail,[80] which can lead to dissemination of information traditionally transmitted by telephone or in person rather than through the permanent medium of office memoranda.[81]

> E-mail users often perceive their correspondence as ephemeral and, accordingly, do not exercise discretion in their communications.... The most important concern for companies is that employees all too frequently use casual, off-the-cuff language in their e-mail messages, quite unlike what they would write in ordinary business correspondence.[82]

As one expert notes, "It's as if people put their brains on hold when they write e-mail. It's a substitute for a phone call, and that's the danger"[83]—that is, users treat it as if it maintains no records of communications. Because little, if any, thought is given to the record left behind when sending an e-mail, the risk of creating a record of decontextualized statements is increased.[84]

It is not surprising that, since as "a substitute for telephonic[,] printed[, and] direct oral communications, ... e-mail has become an indispensable tool in the work place, it has also become the 'digital smoking gun' in more and more lawsuits."[85]

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80. *See, e.g.*, Georges, *supra* note 76, at 38 ("Communication by e-mail is not as formal as written correspondence, nor as informal as speech."); Bramesco, *supra* note 15, at 527 ("E-mail messages tend to be conversational, brief and 'folksy.'")

81. *See* Michael Traynor, *E-mail Authentication Is Key*, NAT'L L.J., Aug. 1, 1994, at B9. *See also* Charles R. Merrill, *Toward a Paperless Federal Practice by the Year 2000*, 484 PLI/PAT 125, 130 (1997) ("[T]here is a tendency to use [e-mail] for internal conversations which would formerly have taken place in-person or by phone, and for external conversations which would formerly have taken place by phone.").

82. Charles A. Lovell & Roger W. Holmes, *The Dangers of E-mail: The Need for Electronic Data Retention Policies*, R.I. B.J., Dec. 1995, at 7.

83. Leslie Helm, *The Digital Smoking Gun: Mismanaged E-mail Poses Serious Risks, Experts Warn*, L.A. TIMES, June 16, 1994, at D1 (quoting John H. Jessen of Electronic Evidence Discovery, Inc.).

84. *See* Lehman, *supra* note 24, at 15.

85. Silvernail, *supra* note 61, at 181; *see also* Lovell & Holmes, *supra* note 82, at 7 ("[P]laintiffs' attorneys increasingly view e-mail as a source of 'smoking gun' evidence waiting to lead to painful revelations and, possibly large settlements.").

2. *Persistence of Electronic Mail*

Unlike the telephone, which typically generates only transactional information, e-mail leaves records of its content. Even deleted e-mail messages often can be retrieved indefinitely from a computer system.[86] The indefinite life expectancy of e-mail has resulted in discovery requests by attorneys which ask for "deleted" e-mail messages and hard drives. Even computer system employees are now asked to attend depositions.[87] The problem is compounded by the fact that while there tends to be a significant correlation between multiplicity of printed copies and lack of intended confidentiality, the same does not necessarily apply to electronic media.[88]

> Use of backups to protect data integrity makes deletion inherently more difficult. Companies use digital storage systems because they offer an inexpensive and space saving alternative to traditional paper storage. This results in an exponential increase in the amount of discoverable information available during litigation. This information may include potentially damaging documents thought to have been destroyed years ago.[89]

Stored electronic mail is discoverable under Federal Rules of Civil Procedure 26(a)(1)(B) and 34.[90] To actually permanently destroy e-mail, the author and all recipients must delete it, and all backups must be erased or overwritten.[91] Absent applicable legislation or rulemaking, an appropriate balance adopted by practitioners is to use phone or in-person communications when disclosure of the content of the communications could be potentially damaging.[92] When such inherently evanescent forms of com-

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86. *See* Bramesco, *supra* note 15, at 527; *see also* Lovell & Holmes, *supra* note 82, at 8; Charles R. Merrill, *E-mail for Attorneys from A to Z*, N.Y. ST. B.J., Jun. 1996, at 20, 23 (1996); Silvernail, *supra* note 61, at 180-181 ("Electronically stored records are not as easily destroyed as paper records. Contrary to conventional wisdom, when a user strikes the 'delete' key, the data is [sic] not physically removed from the hard drive.... The data remains [sic] undisturbed until more space is needed on the hard drive.").

87. *See* Bramesco, *supra* note 15, at 527.

88. A corporate employee sending a private memorandum to corporate counsel will ordinarily not make several additional copies, while sending the same information by electronic mail will often inherently create such copies.

89. *See* Betty Ann Olmsted, *Electronic Media: Management and Litigation Issues when "Delete" Doesn't Mean Delete*, 63 DEF. COUNS. J. 523, 523 (1996); *see also* Lehman, *supra* note 24, at 15 (explaining that electronic communications can result in keeping backup copies, both intentionally and unintentionally).

90. *See* Merrill, *supra* note 83, at 130.

91. *See id.*

92. *See id.*

munication are undesirable or unavailable, encrypted e-mail should be considered as an appropriate alternative.

B. Encryption[93]

1. Cryptography 101

A brief introduction to cryptography and the terminology surrounding it may be of use. Cryptography is the use of "difficult problems" to alter information, the solution to which requires "secret knowledge"—usually referred to as a cryptographic key. Encryption, a practical application of cryptography, is "the transformation of data into a form that is [practically] impossible ... to read without ... appropriate knowledge (a key)."[94] Cryptography ensures privacy because access to the encrypted communication does not provide access to its contents. It therefore permits secure transfer of information over an insecure medium.

Electronic mail can use encryption to secure communications, ensuring that unwanted third parties cannot comprehend them. It can also be used for identification and authentication of parties to a communication, verifying parties' identities in much the same way as an ATM personal identification number. Generally, managing the transfer, storage, and authentication of keys is the largest deterrent to acceptance of encryption in the workplace.

There are two primary types of encryption: symmetrical key[95] and public key.[96] Symmetrical-key encryption is the traditional variety, in which the same key is used both to encrypt and decrypt a message. However, large-scale practical application of symmetrical key encryption tends to fall victim to the "key transfer problem." The parties to the communication must agree on the key to be used, and that agreement must be done secretly. As a practical matter, the coordination necessary to transfer the secret key securely is often difficult if not impossible, in that appropriate security requires both authentication of the desired parties and exclusion of others.

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93. The discussion of encryption technology and cryptography in this section is based on the author's personal knowledge. For additional sources on cryptography and encryption, see generally A. Michael Froomkin, *The Metaphor is the Key: Cryptography, the Clipper Chip, and the Constitution*, 143 U. PA. L. REV. 709, 885-97 (1995) and RSA LABS., FREQUENTLY ASKED QUESTIONS ABOUT TODAY'S CRYPTOGRAPHY (4th ed. 1998), *available at* <ftp://ftp.rsasecurity.com/pub/labsfaq/labsfaq4.pdf> (PDF file).

94. RSA LABS., *supra* note 93, § 1.2, at 10.

95. Also referred to as "secret" or "private."

96. Also referred to as "asymmetrical."

A breakthrough arrived in the late 1970s with the advent of public-key encryption. Public-key encryption solves the key transfer problem by allowing the use of different keys by the sender (to encrypt) and the recipient (to decrypt). Two keys, such as extremely large prime numbers, relate formulaically such that what is encrypted with one may only be decrypted with the other, and the identity of one cannot be practicably derived from knowledge of the other. Because public-key encryption avoids key transfer issues, it can be used to create a widely-deployed cryptographic infrastructure.

As a practical matter, preparing to use public-key encryption is fairly simple. A user obtains appropriate software, such as Pretty Good Privacy ("PGP").[97] The user then generates a key pair, keeping one key secret and marking the other for public distribution. The secret key is usually encrypted by symmetrical encryption using some secret "passphrase" to prevent someone who gains access to it from being able to use it, but there is no key transfer problem because that key is intended only for the use of one person. The association of the public key with the user is then authenticated by a trusted third party called a certification authority ("CA"), which makes the key publicly available and vouches for its validity.

Using public-key cryptography to encrypt electronic mail typically entails several steps, most of which are transparent to the user. First, the author creates an unencrypted message ("plaintext"), and tells her encryption software to encrypt that message and send it to the intended recipient or recipients. At this point, the encryption software takes over, and operations become opaque to the user. The software attempts to find the recipient's public key in its local key directory; if it is not found, the software requests the recipient's key from a trusted CA, which may in turn request the key from other CAs. The software then generates and uses a single-use secret key to encrypt the message. Then the software encrypts the session key using the recipient's public key, so that only the recipient can decrypt the message. Finally, the software sends both the message (encrypted with the session key) and the session key (encrypted with the recipient's public key) via an insecure network such as the Internet.

The recipient's decryption software follows a parallel process. If the electronic mail software is suitably automated, it recognizes that an encrypted message has been received; otherwise, the user must request de-

97. PGP was the first commonly-available implementation of asymmetrical cryptography in end-user software. With over 6 million users, it has become the de facto standard for message encryption. *See* Network Assoc., *PGP Total Network Security—PGP Encryption & PKI* (visited Oct. 17, 1999) <http://www.nai.com/asp_set/products/tns/pgp_freeware.asp>.

cryption. Either way, the software first verifies that the session key was encrypted with a public key with a corresponding private key that is available to the user. Then the software requests that the recipient provide an appropriate passphrase to decrypt the stored private key. Assuming that the passphrase is entered correctly, the encryption software uses the private key to decrypt the session key, then uses that decrypted session key to decrypt the actual message. That message is then displayed as the original plaintext.

Using public-key cryptography for authentication of electronic mail—commonly called digital signatures—is essentially the reverse of using it for encryption. In public-key cryptography, that which is encrypted with one key of a related pair can only be decrypted with the other, and vice versa. Thus, if a message may be decrypted with the public key, it must have been encrypted with the private key. If that private key has been kept secret, that ensures that the communication came from the user in question.

Properly implemented, a public-key cryptosystem provides practically absolute confidentiality.[98] In fact, there are more possible combinations of public-private key pairs used in typical implementations of RSA[99] than there are atoms in the known universe.[100] Any form of security can be compromised; military-grade public-key cryptography is no exception. "Public-key cryptography may be vulnerable to impersonation," wherein an interceptor tricks the sender into using the wrong public key.[101] Furthermore, individual messages may be cracked through brute force—trying every possible key until one works—and hackers can intercept them pre-encryption or post-decryption.[102] However, as part of a systematic approach to security, properly-implemented cryptography provides extremely high levels of protection.[103] In fact, encrypted electronic mail may be the most confidential interpersonal communications medium available, and its use may indicate presumptive intent to maintain confidentiality for attorney-client privilege purposes.

Indeed, much of the fear over the potential lack of protection for unencrypted e-mail appears to have been generated by the presence of such an

98. *See, e.g.*, RSA LABS., *supra* note 93, § 3.1.3 at 61.

99. RSA, named after inventors—Ronald L. Rivest, Adi Shamir, and Leonard M. Adelman—is the most commonly used asymmetric encryption algorithm. It is described by U.S. Patent No. 4,405,829 (issued Sept. 20, 1983).

100. *Id.* § 3.1.6 at 64.

101. *Id.* § 2.1.3 at 20.

102. *See* Freivogel, *supra* note 26.

103. *See* Jones, *supra* note 77.

ironclad alternative. Because available encryption mechanisms provide essentially invulnerable protection, courts might be persuaded that failure to use encryption waives the privilege.[104] Some commentators have noted that in *The T.J. Hooper*,[105] Learned Hand, writing for the Second Circuit, found negligence in failure to use available technology that was not yet in widespread use. Likewise, "Hand's Formula," announced in *United States v. Carroll Towing*,[106] states that if the potential for loss multiplied by the magnitude of that loss exceeds the burden required to prevent it, the failure to take preventive measures constitutes negligence.[107] Neither *The T.J. Hooper* nor *Carroll Towing* has been cited to overcome the attorney-client privilege.[108]

One commentator has noted that if the burden of encryption is sufficiently light, failure to use it may be found negligent without knowing the likelihood of electronic mail interception.[109] However, his analysis considered only the out-of-pocket expenditure required to purchase a license to use PGP. In fact, the cost of the software may be the least burdensome aspect of e-mail encryption.

2. *Barriers to Effective Implementation of Encryption*

Despite the obvious security benefits of using encryption software, there are practical barriers to implementing encryption for interorganizational communication, such as the requirement of uniform or interoperable software,[110] limited exportability,[111] key management,[112] and ease of use.[113] Nonetheless, these problems can be solved. Software interoperability has become possible through implementation of appropriate standards for interapplication communication.[114] Export limitations are not a barrier to most American attorneys, and less secure versions of cryptographic products are available for export.

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104. *See* Pope & Pope, *supra* note 53, at 143.

105. 60 F.2d 737 (2d Cir. 1932).

106. 159 F.2d 169 (2d Cir. 1947)

107. *See id.* at 173.

108. *See* Freivogel, *supra* note 26.

109. *See* Jones, *supra* note 77.

110. *See id.*

111. *See* Albert Gidari, *Privilege and Confidentiality in Cyberspace*, COMPUTER LAW., Feb. 1996, at 1, 3.

112. *See id.*

113. *See* Ross, *supra* note 30.

114. *See* David Willis, *Secure Electronic-Mail: Return To Sender?*, NETWORK COMPUTING, Nov. 1, 1997, at 108; *see also* Ronald V. Grant, *Law Office Technology*, HAW. B.J., Jun. 1997, at 24.

Though e-mail is considered a personal technology, centralized control of encryption keys is critical in the corporate e-mail environment in order to maintain the corporation's assets.[115] If each user possesses a different private key, the firm can get blocked from access to information it or its client owns. Central key management is therefore necessary to ensure that the corporation or law firm owns the relevant cryptographic keys.[116]

The administration of a company's encryption system is admittedly non-trivial.[117] Specifically, problems of access by the company to employee keys have been formidable. However, these administration problems are being addressed. Certain products allow certificates to contain separate keys for encryption and signatures, so that the individual user is the only person with control over her signature, but the firm can have access to any encrypted materials.[118] Even PGP, historically the most individual-oriented public-key cryptosystem, has made increasing allowances for business users. By automatically sending an encrypted blind carbon copy of all encrypted messages to a central electronic "drop box," encryption policy enforcement software can ensure that the corporation or law firm's management can gain access to the contents of encrypted communication without involving the individual user.[119] This same software can also enforce different policies for different groups of users. For instance, it may require encryption for messages sent by a client's legal department to its outside counsel, while allowing the marketing department to send unencrypted mail.[120]

Despite their technical significance in development of an integrated public-key infrastructure,[121] key management risks are often negligible as a practical matter in any given communication. "With good encryption, your only security risks come from someone stealing the private encryption keys, or someone tricking you into thinking he's your client [or another intended recipient].... You're probably more likely to send a fax to

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115. *See* Willis, *supra* note 114, at 108.

116. *See* Rogers, *supra* note 25, at 65.

117. *See* Jones, *supra* note 77 (citing BRUCE SCHNEIER, E-MAIL SECURITY 41 (1995)).

118. *See Securing Electronic-Mail Across Borders*, NETWORK COMPUTING, Nov. 1, 1997, at 112.

119. *See* Willis, *supra* note 114, at 116.

120. *See* Larry Stevens, *Mac Encryption Finding Its Way Into Corporations*, MACWEEK, Oct. 27, 1997, at 16 (describing corporate use of encryption software).

121. Such an infrastructure would provide for secured electronic transactions, both financial and informational, and is seen as a primary mechanism to further develop the Internet and other network technologies.

the wrong number by accident than you are to have someone trick you with a *doppelgänger* encryption key."[122]

The ease of use of encryption software has also improved greatly over recent years. In the past, this software was "still somewhat cumbersome to use,"[123] but more recent versions integrate into popular e-mail programs, making "encrypting sensitive messages as easy as automatic transmission makes driving a car."[124] Today, the most popular Internet mail clients, including Qualcomm's Eudora and Microsoft's Outlook series, now integrate seamlessly with cryptographic software. For instance, when composing a message in Eudora with PGP installed, two new icons are placed just under the right of the message's title bar, one for encryption and one for digital signatures. Rather than writing a message in one program, launching the encryption software, and telling the software to encrypt and/or sign the message, the user need simply click on the appropriate icon. The software handles the remainder of the process; assuming that it can find the recipient's public key, no further intervention by the sender is required.

Admittedly, the network administrator's job continues to be complex even though the user's job is no longer difficult. On a technical level, the administrator must make appropriate arrangements with CAs and configure any policy enforcement software. Furthermore, because introducing new software into a networked environment almost always threatens to upset a delicate equilibrium, administrators are usually justifiably reluctant to suggest additional functionality. As a practical matter, the administrator must also obtain funding for purchase and implementation of encryption technologies and overcome bureaucratic inertia. Depending on management priorities, that funding may come at the expense of other services.

All told, then, deploying a cryptographic infrastructure is hardly a trivial task. Because much of a network administrator's time is dedicated to remedying existing problems, she may be justifiably reluctant to raise another. However, assuming appropriate support from relevant management, these barriers can—and should—be overcome.

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122. G. Burgess Allison, *Technology Update*, L. PRAC. MGMT., Apr. 1996, at 16, 20.

123. Ross, *supra* note 30 (discussing PGP).

124. Samuel Lewis, *Memoirs From the Corner Suite: An Update on Security and the Internet* (last modified Mar. 24, 1997) <http://www.collegehill.com/ilp-news/lewis2.html>.

IV. SECURITY ISSUES ATTENDANT TO INTERNET ELECTRONIC MAIL

Misinformation about Internet security issues is unfortunately the norm, even among those who should be well-informed.[125] It creates misguided legal commentaries that quickly conclude that unencrypted e-mail will maintain the attorney-client privilege. Analyzing the privilege's application to e-mail requires genuine knowledge of the technology. To dismiss the technological sophistication of the issue, as several commentaries have, creates an expectation regarding the privilege among the legal community that may be proven incorrect when the issue is addressed by a court.

Much of the misinformation used in legal commentaries can be grouped into three areas of ignorance: closed networks provide a solution to privilege issues that is unattainable on the Internet; laws criminalizing interception of network traffic protect the privilege; and analogies between Internet electronic mail and other means of communications dictate application of the privilege. A look at each of these areas indicates that those legal opinions asserting that attorney-client privilege necessarily applies to e-mail may be less conclusive than the opinions suggest.

A. Closed Networks Versus the Internet

Private commercial networks like CompuServe and Lexis' Counsel Connect are unquestionably safer than the Internet, because their traffic is regulated by a single entity.[126] Therefore, case law supports the proposition that a user has a reasonable privacy interest in electronic mail sent

125. Take Charles R. Merrill, for instance. Merrill "heads [McCarter & English's] Computer and High Tech Law Practice Group[,] ... [s]erves as National Moderator of the Lexis Counsel Connect E-mail and Electronic Commerce Forum, and is Co-Rapporteur of the Digital Signature Guidelines, a project of the ABA Information Security Committee, Section of Science and Technology." Charles R. Merrill, *E-mail for Attorneys from A to Z*, 443 PLI/PAT 187, n.1 (Dec. 1996). Yet Merrill misstates that secure socket layer ("SSL") technology would be available "probably within the next twelve months." Merrill, *supra* note 86, at 23. In fact, it had been in place for at least a year prior to publication of his article. He also claims that SSL provides a mechanism to secure interaction between SMTP-compliant e-mail servers, when in reality, it applies only to communications between web servers and browsers. He is also incorrect to claim, as do others, that private commercial internetworks like "ATTMail, MCIMail, Sprint, Compuserve, AOL, Prodigy, Lexis Counsel Connect" provide added security via use of circuit-switched connections rather than packet-switched ones. *Id.* In fact, all computer networks use packet-switched communications; the added security provided by private commercial networks is due to their total control over traffic.

126. *See* Grant, *supra* note 114, at 33-34.

over a single network, even one connected to the Internet.[127] E-mail sent over proprietary services is sufficiently secure, but that which travels through multiple systems—such as on the Internet—may be accessible to too many people to minimize risks.[128]

Yet the days of the closed private internetwork may be numbered, thanks to the seductive openness of the Internet, which allows internetwork communication almost as easily as intranetwork. What is gone is the need to establish dedicated links between attorney and client, or to agree on a common private commercial internetwork; gone also is the added security both solutions supply. "The shift from closed to open systems for computer networking raises several legal and legal automation issues that are worth thinking about in determining when and how lawyers should use the Internet in addition to or instead of closed information services."[129] However, public-key cryptography can remedy the privacy issues which inhere to public internetworks, such as the Internet.[130] Not only can cryptography secure e-mail between sender and recipient, it can be used to create "virtual private networks" of encrypted nodes over the public Internet.[131]

B. Misplaced Reliance on ECPA and Other Criminal Laws for Protection of Privilege

1. *The Electronic Communications Privacy Act of 1986 (ECPA) Criminalizes Interception of E-mail*

The ECPA protects "wire, oral, or electronic communications"[132] against warrantless interception by law enforcement officers,[133] and criminalizes such interception by other persons.[134] Many commenting on application of attorney-client privilege to electronic mail note one provision of ECPA, which provides that "[n]o *otherwise privileged* wire, oral, or elec-

127. *See, e.g.*, United States v. Maxwell, 45 M.J. 406 (C.A.A.F. 1996) (finding Fourth Amendment privacy interest in e-mail sent over America OnLine's network).

128. *See* Smith, *supra* note 51.

129. Henry H. Perritt, Jr., *Security in Open Networks: Maintaining Confidentiality and Getting Paid* (visited Sept. 24, 1999) <http://www.cilp.org/chron/articles/pbisecu6.htm> (footnote omitted).

130. *See* Merrill, *supra* note 85, at 128.

131. *See, e.g.*, Mike Fratto, *The State of Security 2000* (Oct. 4, 1999) <http://www.nwc.com/1020/1020f22.html> (discussing virtual private networks).

132. 18 U.S.C.A. § 2517(4) (West 1999).

133. *See* 18 U.S.C.A. § 2516 (1982) (amended 1994).

134. *See* 18 U.S.C.A. § 2511(1982) (amended 1994).

tronic communication intercepted in accordance with, or in violation of, the provisions of this chapter shall lose its privileged character."[135]

Some commentators have argued that because ECPA's protection for electronic mail is similar to that for telephone calls, the two should be treated similarly for privilege purposes.[136] For instance, system administrators of an "electronic services provider," like telephone company employees, may intercept communications when necessary for provision of service or to protect their property, pursuant to 18 U.S.C. § 2511(2)(a)(i).[137] However, it is unclear whether ECPA's "electronic services provider" provisions apply to Internet transmission.[138] Cases such as *State Wide Photocopy Corp. v. Tokai Financial Services, Inc.*[139] have found ECPA's electronic services provider provisions available only to entities that actually provide services to the public.[140] The limitations contained in ISP contracts and interconnection agreements may preclude application of ECPA,[141] as may the fact that some ISPs do not provide services to the public per se, but only to corporate entities.

No reported case considers the privilege impact of 18 U.S.C. § 2517(4)'s "otherwise privileged" language due to interception of attorney-client communications. The legislative history for the original ECPA legislation, prior to the 1986 amendment which added "electronic communication" to "wire or oral communication,"[142] states that 18 U.S.C. § 2517(4) "is intended to vary the existing law only to the extent it provides that an otherwise privileged communication does not lose its privileged character because it is intercepted by a stranger. Otherwise, it is intended to reflect existing law."[143] This fails to clarify the meaning of the section as to whether the privilege is compromised by the vulnerability of the me-

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135. 18 U.S.C.A. § 2517(4) (1982) (amended 1994) (emphasis added).

136. *See, e.g.*, Flaming, *supra* note 13, at 184.

137. *Id.*

138. *See* Matthews, *supra* note 45.

139. 909 F. Supp. 137, 145 (S.D.N.Y. 1995) (application of ECPA denied because party does not "provide[] a communication service to the public, but ... is in the business of financing and ... merely uses fax machines and computers as necessary tools of almost any business today").

140. *See* Matthews, *supra* note 45, at 291.

141. *See id.* at 290-91. Service provider contracts commonly permit administrative interception by service provider employees, which is a loophole expressly provided in ECPA. *See id.* (citing 18 U.S.C. § 2511(2)(a)(i)).

142. Electronic Communications Privacy Act of 1986, Pub. L. No. 99-508, § 101(c)(A) (1988). The Senate Report on ECPA, S. REP. NO. 99-541, *reprinted in* 1986 U.S.C.C.A.N. 3555, contains no specific references to privilege.

143. S. REP. NO. 90-1097 (1968), *reprinted in* 1968 U.S.C.C.A.N. 2112 (cases omitted).

dium per se to interception. All reported federal cases applying 18 U.S.C. § 2517(4) consider the effect of a wiretap executed as part of a criminal investigation on the privilege; none consider the effect of a communication's inherent lack of confidentiality.[144] However, some cases have denied application of the privilege to communications lawfully intercepted pursuant to wiretap,[145] despite the fact that 18 U.S.C. § 2517(4) provides that "[n]o otherwise privileged ... communication intercepted in accordance with ... the provisions of this chapter shall lose its privileged character."[146]

State analogues to ECPA also exist. Some states, including California, Connecticut, Georgia, Kansas, Michigan, Pennsylvania, and Texas, provide statutory protection against wiretapping.[147] However, at least one state—California—has found that those statutes do not apply to electronic mail,[148] while another—Texas—explicitly makes interception of e-mail illegal.[149]

2. *The ECPA Tautology: Criminality of Interception Mandates Applicability of Privilege*

Some commentators claim that ECPA's terms ensure the application of the privilege to unencrypted e-mail, regardless of the attendant common-law factors.[150] The line of reasoning is roughly as follows: Interception of telephone communications is illegal, and such interception does not preclude applicability of the privilege; since interception of computer

144. *See, e.g.*, United States v. Kahn, 415 U.S. 143 (1974), *rev'g* 471 F.2d 191 (7th Cir. 1972); United States v. Vastola, 899 F.2d 211 (3d Cir. 1990); Cruz v. Alexander, 669 F.2d 872 (2d Cir. 1982); United States v. Ford, 553 F.2d 146 (D.C. Cir. 1977); United States v. Hall, 543 F.2d 1229 (9th Cir. 1976); United States v. Feldman, 535 F.2d 1175 (9th Cir. 1976); United States v. Turner, 528 F.2d 143 (9th Cir. 1975); United States v. Kerrigan, 514 F.2d 35 (9th Cir. 1975).

145. *See, e.g.*, *Turner*, 528 F.2d 143 (wiretap orders entered lawfully under ECPA void attorney-client privilege as to intercepted communications); *Kerrigan*, 514 F.2d 35 (same); Commonwealth v. Alves, 608 N.E.2d 733 (Mass. 1993) (same as to spousal communications privilege).

146. 18 U.S.C.A. § 2517(4) (1982) (amended 1994).

147. *See* Matthews, *supra* note 45, at 292 (citing, *e.g.*, CAL. PENAL CODE §§ 630-632 (West 1986 & Supp. 1996); CONN. GEN. STAT. ANN. §§ 53a-187 to 53a-189 (West 1994); GA. CODE ANN. §§ 16-11-66 to 16-11-69 (1996); KAN. STAT. ANN. §§ 21-4001 to 21-4002 (West 1995); MICH. COMP. LAWS ANN. § 750.539d (West 1991); 18 PA. CONST. STAT. ANN. §§ 5705-5748 (1983 & Supp. 1996)).

148. *See id.*

149. *See* Lapidus, *supra* note 73, at 40.

150. *See, e.g.*, Freivogel, *supra* note 26; Gidari, *supra* note 115; Georges, *supra* note 77.

communications is also illegal, it must not preclude applicability of the privilege either.

Few are so blunt as the commentator who believes that absent contrary court findings, he may announce his own rule. "If the interception is criminal, the lawyer has not violated the ethics rules, has not waived any privilege, and has not subjected herself to civil liability. While we are not aware of any court stating such a rule in just that way, we are not aware of any decision that is contrary to it."[151] But he announces a few "obligatory *caveats*."[152] Some judges and ethics committee members lack comfort and familiarity with new technology. This may produce "occasional overreaction as a way of assuring that clients are protected," such as the "well-intentioned" Iowa and South Carolina opinions cautioning against faith in the privilege.[153] Furthermore, he finds one putatively anomalous case, *Suburban Sew 'n Sweep v. Swiss-Bernina*,[154] where waiver was found as to letters placed in a dumpster near the opposing party's loading dock. *Suburban Sew 'n Sweep* appears to adopt "the older, unforgiving approach to waiver favored by Wigmore," but it has not been cited to mean that commission of a crime in the obtaining of communications waives the privilege, and the subsequent passage of ECPA may deny its applicability as to electronic communications.[155] Most important, he admits, there are confidences so valuable that extraordinary measures must be taken to protect them.[156]

A similar tack is taken by another commentator.

> Fortunately, the law is not as muddled as conventional punditry suggests.... To understand the issue, we do not start with the Rules of Professional Conduct on maintaining the confidences and secrets of clients or with the technology or medium of exchange. Rather, we look to the criminal law.... [N]o one can lawfully intercept communications made over phone lines or wireless communications. The same is true for information or communications made over the Internet, including e-mail.[157]

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151. Freivogel, *supra* note 26.

152. *Id.* (emphasis in original).

153. *Id.* (citing Iowa Supreme Court Board of Professional Ethics and Conduct Op. 96-1 (Aug. 29, 1996); South Carolina Bar Advisory Op. 97-08 (1997)).

154. 91 F.R.D. 254 (N.D. Ill. 1981).

155. Freivogel, *supra* note 26.

156. *See id.* However, Freivogel fails to note that protecting *all* communications might be an effective means to protect the extraordinary as well.

157. Gidari, *supra* note 111, at 1-2.

A third commentator is somewhat more cautious, despite asserting absolute non-waiver due to another's criminal conduct.

> As a result [of ECPA's prohibition on interception], it may be persuasively argued that e-mail communications to clients have the expectation of privacy, and that there is no waiver of the attorney-client privilege by their use.... For the same reason there is no privilege waiver when written mail is stolen, there is no privilege waiver when e-mail is intercepted by criminal conduct.... Even so, some authors postulate that the more prudent course of conduct is to encrypt all e-mail.[158]

Other commentators, however, take a different approach. That it is a crime to intercept e-mail is not necessarily sufficient to maintain privilege; inadequate protection of information can still demonstrate lack of confidentiality.[159] Because ECPA's privilege protection applies only to *otherwise* privileged communications, common law principles still control.[160]

No case law supports the idea that criminality of interception negates waiver. ECPA has not necessarily protected application of the privilege to cellular and cordless phones.[161] While its potential use to substantiate the privilege remains untested by the courts, the ECPA does not appear to demonstrate the necessary expectation of confidentiality to ensure the applicability of the privilege to Internet electronic mail.[162]

While ECPA prohibits interception, it does not necessarily deter hackers. It is hardly surprising that commentators have "found no cases saying reliance on federal law is sufficient to preserve the attorney-client privilege or confidentiality of hacked e-mail."[163]

> Assuming the privilege does apply to an e-mail message ..., it is clear that the privilege may nonetheless be lost under traditional rules of interpretation if the e-mail falls into the wrong hands. Professor Wigmore ... says:
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> > All involuntary disclosures, in particular, through the loss or theft of documents from the attorney's possession, are not protected by the privilege on the principle that, since the law has granted secrecy so far as its own process goes, it leaves to the client and attorney to take

158. Georges, *supra* note 76, at 38.
159. *See* Connolly, *supra* note 22.
160. *See* Rose, *supra* note 11, at 211-12.
161. *See* text accompanying *infra* Part IV.C.2.b.
162. *See* Matthews, *supra* note 45, at 291-92.
163. Grant, *supra* note 114, at 33.

> measures of caution sufficient to prevent being overheard by third persons. The risk of insufficient precautions is upon the client.[164]

The privilege does not apply to all communications that should have been kept confidential; it only applies when confidentiality actually incurs. The relevant measure for actual confidentiality is the reasonable potential for interception by third parties, not those third parties' potential liability or the possibility that they will be deterred from interception thereby. In fact, it might be argued that there would be no need to make interception of electronic mail illegal were the threat of interception not substantive. That is, illegality might not imply infrequency, but frequency.

Those who promote the use of ECPA to ensure the privilege appear to either ignore or miscomprehend the primary argument against its use—namely, that if the communicating parties have subjective reason to believe that their means of communication is susceptible to interception, or if there is objective reason to believe the same, the privilege will not protect those communications. This misunderstanding may be illuminated through use of an admittedly extreme hypothetical. A lawyer and client who discuss private information over a telephone connection, which they know is wiretapped by an adverse party, will have no reasonable expectation of confidentiality. The privilege will not apply, despite the language of 18 U.S.C. § 2517(4). Once this baseline is established, it seems that the ECPA privilege proponents are attempting to argue matters of degree. Certainly, if the lawyer and client merely believe that the phone may be tapped, the privilege may or may not apply based on the common law principles of the privilege. Logically, this is the probable meaning of the phrase "otherwise privileged."

That attorney and client need not demonstrate reasonable belief that telephony is a generally secure means by which to communicate appears due to the technology of the medium and its history of supporting the privilege, not to § 2517(4). Indeed, the Safe Streets Act of 1968,[165] of which ECPA is a component, was enacted not to reduce the ability of a party to introduce intercepted conversations, but to enhance it. The year prior to its enactment, the Supreme Court had recognized a Fourth Amendment privacy interest in telephone conversations.[166] By setting out procedures to be followed for lawful wiretaps, the eavesdropping provi-

164. Smith, *supra* note 51.
165. 42 U.S.C. § 3711 (1976 & Supp. IV 1980).
166. *See* Katz v. United States, 389 U.S. 347 (1967).

sions that we now call ECPA were designed to make introduction of intercepted conversations constitutional.

C. Some Claim the Use of Unencrypted Internet E-mail Will Maintain the Privilege

"Because the use of e-mail has assumed such a prominent place in the business world, public policy strongly supports the extension of the attorney-client privilege to cover this means of communication."[167] That may well be true. However, some commentators have leapt from the proposition that electronic mail *should be availed* of the privilege, as a matter of policy, to the claim that it *is actually availed*, as a matter of law. Unfortunately, this laudable goal belies the truth—that unencrypted electronic mail sent over the Internet is in fact susceptible to interception, and that such interception may at least sometimes jeopardize the privilege.

1. Physical Security of Communications

Several commentators have made claims which are simply untrue, such as analogizing the difficulty of tapping a phone line to that of intercepting a TCP/IP[168] transmission. Some statements to this effect are thoroughly misinformed;[169] others merely mistake details.[170] These commentators believe that lack of physical network access[171] over the mandatory

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167. Matthews, *supra* note 45, at 295.

168. TCP/IP (Transmission Control Protocol/Internet Protocol) is the standard set of protocols used on the Internet. It was "developed to allow cooperating computers to share resources across a network." Charles L. Hedrick, *What is TCP/IP?* (visited Dec. 2, 1999) <http://oac3.hsc.uth.tmc.edu/staff/snewton/tcp-tutorial/sec1.html>.

169. *See, e.g.*, Gidari, *supra* note 111, at 2 ("To intercept an Internet communication ... requires a wiretap. Thus, there is no greater insecurity when the Internet communication is in transit over the phone lines than there is with an ordinary phone.").

170. *See, e.g.*, Perritt *supra* note 129 ("If an intruder were on the same subnetwork as the law firm or its correspondent (or if she managed to get physical access to the relevant packet path), the physical access would exist, and all the intruder need do is program a computer to search for the packets with the desired addresses. If the intruder does not have access to those subnets, however, he must establish a physical connection to a wire or optical fiber over which the traffic moves. This is a significant barrier to eavesdropping not present when an intruder wishes to intercept cellular telephone messages. The main barrier to eavesdropping on email thus is equivalent to the principal barrier to eavesdropping on ordinary telephone conversations: effectuating a physical tap. On the other hand, once physical access is obtained, screening for the desired information is much easier in the case of Email because a computer can be programmed to do it, while a human being must screen voice conversations to find the desired one.").

171. That is, lack of a physical wiretap.

portions of the message's route, packetization,[172] and dynamic routing[173] over the remainder of its journey, make interception of Internet traffic difficult.[174] While it is theoretically possible that these limitations could themselves provide "reasonable precautions," there is a lack of case law to support such a claim.[175]

As a technical matter, moreover, physical access is not required, and the multiplicity of potential routes is not itself sufficient protection. While packetization and dynamic routing protect Internet traffic over most of its journey, the closer a potential interceptor can get to the points of origination and receipt, the more susceptible to eavesdropping a message becomes. Although a TCP/IP packet can take many different paths across the Internet between the same two nodes,[176] certain nodes are common to each potential route.[177] All told, many specific and identifiable nodes must typically be traversed by a message packet in order to be transmitted from sender to recipient.[178] Compromising any one of these nodes—gaining metaphysical access—enables access to the data stream without physical access to a vulnerable point on the network.

If there was a time when dynamic routing led to vastly different paths of travel for multiple packets in a single message, it is no longer. A sampling of routes between this author's home computer and three remote

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172. Packetization is the process of dividing Internet communications into smaller pieces, or packets, for delivery.

173. Dynamic routing is the ad hoc direction of individual packets based on estimated efficiency of different network segments.

174. *See, e.g.*, Allison, *supra* note 122, at 18.

175. *See* Smith, *supra* note 51.

176. A node is any device connected to a network. I use the term to refer primarily to users' computers, servers, and routers, but other devices such as terminal servers and printers are nodes as well.

177. By way of analogy, my father can drive on any number of roads from his home to the grocery store, but his journey inevitably begins in his driveway and ends in their parking lot.

178. Typically including, in order of receipt, several of the following: (1) the sender's computer; (2) the sender's e-mail server; (3) the sender's e-mail server's SMTP gateway if one is used; (4) the router connecting the sender's local area network ("LAN") to the leased line to its Internet service provider ("ISP"); (5) the router connecting the leased line to the sender's ISP; (6) the router connecting the sender's ISP to the leased line to its backbone provider; (7) the router connecting the leased line to the sender's ISP's backbone; (8) the router connecting the leased line from the recipient's ISP to its backbone; (9) the router connecting the recipient's ISP to the leased line to its backbone provider; (10) the router connecting the leased line from the recipient's LAN to its ISP; (11) the router connecting the leased line to the recipient's LAN; (12) the recipient's e-mail server's SMTP gateway if one is used; the recipient's e-mail server; and finally, (13) the recipient's computer.

computers—<www.echonyc.com>, <echonyc.echonyc.com>, and <boalthall.berkeley.edu>—on six separate occasions during September and October 1999, reveals far less variation than would suffice to provide any real degree of protection.[179] All told, at least half of the individual routers traversed by transcontinental packets sent a month apart were identical. Compare packets sent a mere 24 hours from each other, and any variance is minor or nonexistent. Clearly, one can no longer expect that the path of multiple packets from the same electronic mail message will look like anything other than the trail of a brood of lemmings on its terminal stroll. Although it is doubtful that the variation described by technical protection proponents has existed during the past decade, one may presume that its remaining artifacts largely disappeared with the increasing professionalism of the Internet and the relative stability it entails. After all, from the outset, dynamic routing has had three primary goals: to reduce demands on the network, to increase the efficiency with which communications travel, and to route around unstable nodes. As the topology of the Internet has become more stable, the network environment changes less frequently, and there is comparatively little to be gained from updating router tables that have grown so enormous that updating them with the same frequency as a decade ago has become technically untenable.

Identifying necessary nodes for an Internet mail communication is thus no longer difficult. However, the mere ability to identify the path of travel is useless to a potential eavesdropper without the ability to intercept the packets on their path. Some 85% of Internet routers are manufactured by a single manufacturer.[180] That company promotes on the cover of its 1998 Annual Report that, "Virtually all of the information on the Internet travels across the systems of one company[:] Cisco Systems."[181] While this is positive for Cisco's market share, it may not be the best scenario for security. That all those routers are based on similar software and hardware means that they share common vulnerabilities; that they are so ubiquitous gives hackers both the incentive and the opportunity to learn as much as possible about those vulnerabilities. As a result, compromising one of those necessary nodes and thereby gaining metaphysical access is quite a bit more possible than would make for comfort.

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179. Tables of these routes follow this Comment as Appendices. See *infra*, page 1160.

180. *See* Dean Takahashi, *Technology & Telecommunications: Cisco's Net for Quarter Surged 61% as Firm Continued to Dominate Market*, WALL ST. J., Feb. 5, 1997, at B2.

181. CISCO SYSTEMS, INC., 1998 ANNUAL REPORT, at front cover (1999) *available at* <http://www.cisco.com/warp/public/749/ar98/pdf/ar98.pdf> (PDF file).

2. *Insecurity of Other Media*

Often, those who accept that the Internet is vulnerable, yet claim that the attorney-client privilege applies to electronic mail, feel that demonstrating the lack of safety in other media will bolster their argument. This reasoning by analogy tends to fall short of conclusive proof, in part because the case law surrounding wired and wireless telephony is not uniform, but can only be understood on a case-by-case basis. In fact, it was only thirty years ago—nearly a century after Alexander Graham Bell's most famous invention—that the Supreme Court first recognized any reasonable expectation of privacy in any telephone conversations.[182]

On the whole, these advocates have a point, in that the differences are largely of degree.

> The problem is that security—on the Internet—is singled out as deserving special attention, while similar risks with other forms of communication are simply ignored.... [O]ther technologies—cellular phones, regular phones, voice mail, faxing, (even couriers)—have their own set of risks. But when the Internet is discussed in isolation from the alternatives, it's difficult to judge the *comparative* risks.[183]

Absolute security is not attainable in any medium; neither is it required to maintain the privilege.[184] Instead, "courts focus both on the precautions taken to preserve the confidentiality, and on the parties' reasonable expectation of privacy."[185] Examples of communication vulnerabilities include intentional or inadvertent interception of telephone or face-to-face conversation, misdirection or insecure storage of mail or faxes, lip-reading, and the compromise of persons with pertinent knowledge.[186]

Perhaps because telephone conversations are almost uniformly found to maintain the privilege, their putative insecurity is widely hyped by proponents of affording the same status to unencrypted electronic mail. Admittedly, telephone calls can be tapped more easily than most people think. Printed materials provide instructions on so doing, and additional technical expertise can be easily had from disgruntled technical workers among "the thousands of recently 'downsized' telephone company em-

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182. *See* Matthews, *supra* note 45, at 273 (citing Katz v. United States, 389 U.S. 347, 360 (1967)).

183. Allison, *supra* note 122, at 16 (emphasis in original).

184. *See* Leibowitz, *supra* note 17.

185. *Id.*

186. *See, e.g., id.*; Freivogel, *supra* note 26.

ployees."[187] Yet no court or ethics committee requires use of a secure wired telephone to demonstrate a justifiable expectation of confidentiality.[188]

But it is an insupportable leap from the fact that wired telephony is not perfectly secure to the claim that "[a]s a practical matter, it is far more difficult to access e-mail sent through the Internet than it is to tap a telephone line or to snatch a letter from a mailbox."[189] With both the mails and telephony, a potential interceptor must actually gain physical access to the medium. In contrast, a hacker need merely compromise a node on the network which is necessary to a transmission between attorney and client, and such access need not be physical.[190]

The analogies to wireless phones are more clearly damaging to protection of electronic mail. Despite protection afforded to "wireless communications" under ECPA, courts have found that cellular and cordless phones lack sufficient confidentiality to support the privilege.[191] In *Tyler v. Berodt*, the Eighth Circuit found a lack of confidentiality in use of cordless phones, but *Tyler* was decided before cordless phone eavesdropping was made illegal in 1994.[192] That statutory change, however, has not had the expected effect on the outcome of cases. Recently, courts have held that one party's use of a cordless phone, even without the other party's knowledge, defeats the expectation of privacy held by either.[193]

"Even though it is a federal crime to intercept [cellular phone] communications, the ease with which such communications can be intercepted apparently led [several state and local bar associations] to the conclusion that such communications are not 'made in confidence' and therefore could not fall within the privilege."[194] Although no courts have apparently ruled on application of the privilege to cell phones, relying on it "would be foolhardy."[195]

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187. *See, e.g.*, Freivogel, *supra* note 26.

188. *See id.*

189. Pope & Pope, *supra* note 53, at 142.

190. *See supra* Part IV.C.1.

191. *See* Matthews, *supra* note 45, at 293 (citing Tyler v. Berodt, 877 F.2d 705, 706-07 (8th Cir. 1989); People v. Fata, 529 N.Y.S.2d 683, 696 (Rockland County Ct. 1988); State v. Smith, 438 N.W.2d 571, 577 (Wis. 1989)).

192. *See* Rogers, *supra* note 25, at 61.

193. *See* Matthews, *supra* note 45, at 293 (citing McKamey v. Roach, 55 F.3d 1236, 1240 (6th Cir. 1995); *In re* Askin, 47 F.3d 100, 104-06 (4th Cir.), *cert. denied*, 516 U.S. 944 (1995)).

194. Smith, *supra* note 51.

195. *Id.*

At the risk of sinking into the analogical muck, the modern computer network tends to look less like wireline telephony than like wireless. Wireline telephony is circuit switched; that is, an exclusive connection is established between two points, and communications travel through that connection. With wireless communications, by contrast, the recipient must merely know the frequency upon which the communication is to be transmitted. With cellular or cordless phones, all that maintains privacy is that no one else happens to be listening to that particular frequency in that particular location at that particular time. Similarly, Ethernet networks broadcast the same information across the entirety of their unrouted network; whether a machine "hears" a packet going by depends on whether it opts to or not. Most of the time, computers are configured to ignore all packets not intended for them, but reprogramming them to do otherwise is relatively trivial.[196]

Furthermore, electronic mail invokes additional security concerns compared to telephone calls and voice mail.[197] In general, no record is made of the content of phone calls, although transactional data are maintained.[198] Voice mail, while also stored until listened to and deleted, is usually disposed of earlier than electronic mail. Furthermore, it is usually not backed up to protect against system failure, as are most e-mail servers, and voice mail systems usually delete messages after a certain time in order to recover storage space. Nor is the content of either telephone calls or voice mail easily searched.

Some firms use e-mail disclaimers like those on fax cover sheets; such disclaimers might demonstrate intent to maintain confidentiality, limit improper distribution, and bind lawyers who accidentally receive to protect the privilege.[199] But since interception is already a felony, a paragraph of legalese is unlikely to dissuade many.[200] In fact, use of disclaimers may imply belief that e-mail is insecure.[201]

196. This is commonly known as "packet sniffing," and is discussed in detail in *infra* Part IV.D.2.e.

197. *See, e.g.*, Allison, *supra* note 122, at 16-20.

198. Transactional data recorded tend to be that required for billing and system monitoring purposes, including the fact that a call was made by a specific party to another party, the time of the call, and its duration.

199. *See* Rogers, *supra* note 25, at 66.

200. *See id.*

201. *See id.*

D. Some Claim the Use of Unencrypted Internet E-mail Will Threaten the Privilege

As new technologies help provide greater security to communications, mechanisms by which that security can be breached tend to develop apace.[202] Electronic mail is no exception. This has significant implications for the privilege, since at its root, "the availability of a claim of privilege to protect an e-mail communication turns on whether a court can be persuaded that the risk of meaningful interception is so trivial that the communication can be deemed to have been 'made in confidence.'"[203]

Those who doubt the security of electronic mail transmitted over the Internet are no less prone to hyperbole than their opponents. One extreme perspective is that "the ease with which electronic mail messages can be intercepted by third parties means that communicating by public electronic mail systems, like the Internet, is becoming almost as insecure as talking in a crowded restaurant."[204] Technologists, too, can be bitten by the overstatement bug. "E-mail security is in a perilous state. A closed user domain can be adequately secured, but what happens when messages cross organizational boundaries?"[205]

Explanations for why threats to Internet security, while serious, have been exaggerated tend to hinge on phenomena of information distribution combined with inconsistent case law surrounding the privilege. Allison discusses what he calls the "airplane magazine effect"—when "Someone Way High Up In The Food Chain" reads an oversimplified description of a technical problem and decides they have to fix it.[206] Internet issues are particularly susceptible to this type of superficial treatment because the technology is poorly understood by editors and readers, and a few horror stories can be used to justify maintenance of the status quo.[207] "And to be fair, in the context of attorney-client communications, even the *prospect* of poor security warrants serious attention."[208]

Increased awareness of the risks of Internet e-mail have resulted in such steps as increased use of disclaimers and legislation like New York State Civil Practice Law and Rules § 4548.[209] "One thing is clear: almost

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202. *See* Lapidus, *supra* note 73, at 39 (citing Arizona Ethics Op. No. 95-11 (1995); Association B. City N.Y. Comm. Prof. Jud. Eth., Formal Op. No. 1994-11 (1994)).

203. Smith, *supra* note 51.

204. Froomkin, *supra* note 93, at 724.

205. Willis, *supra* note 114, at 108.

206. Allison, *supra* note 122, at 16.

207. *See id.*

208. *Id.*

209. *See* Lewis, *supra* note 124.

everyone seems to perceive that the Internet is less secure than the traditional mail system and the telephone networks."[210] These fears are well-supported—there are legitimate reasons to worry about security of computer files generally, and electronic mail in particular.[211] In fact, the threat of infiltration of computer records may exceed that of paper files, even with individual login names and passwords.[212]

1. Security of Computer Data in General

Many of the security problems associated with unencrypted electronic mail are not unique to such transmissions, but are endemic to computer data generally, whether or not the computer in question is even networked.

Employers and MIS staff have high levels of access to data. The very technology of computer networks centralizes information access. Usually, this is one of the primary benefits of computerization, but it also provides an unprecedented ability to review that information without requiring physical access to those with technical or managerial needs or desires for such access—including MIS staff and employers.[213] Furthermore, electronic data may be searched easily using sophisticated techniques that are likely to pinpoint useful information. Since e-mail is usually sent in readable text format, automated analysis thereof tends to be particularly fruitful.[214] Finally, computer files are difficult to delete and backups tend to persist even after the original files are long gone.[215]

2. Security of Computer Networks and Internetworks

The Simple Mail Transfer Protocol ("SMTP") and most other mail protocols in use were designed to maximize the likelihood that a message will be received, not that its contents will be kept confidential. "You need only watch the typical SMTP gateway to understand how lax intercompany e-mail security is. Messages often pass in the clear, and undeliverable messages are dumped at the gateway or in a postmaster mailbox. It's a sight most e-mail administrators would rather keep hidden."[216]

"Encryption services are not normally in place for ... SMTP links" which transfer e-mail between the in-house system and the Internet.[217] A gateway, as these electronic links between the firm and the outside world

210. Flaming, *supra* note 13, at 183.
211. *See generally* Rose, *supra* note 11 at 202-05.
212. *See* Traynor, *supra* note 81.
213. *See* Rose, *supra* note 11, at 202-05.
214. *See* Matthews, *supra* note 45, at 279.
215. *See supra* Part III.A.2.
216. Willis, *supra* note 114, at 108.
217. *Id.*

are known, might conceivably provide enhanced security, but those in use today unwarrantedly fail to verify the identity of client systems, give too much control and oversight to the network administrator, and are too blunt a weapon against intrusion to truly be effective.[218] Furthermore, even encrypted mail must necessarily use unencrypted addressing schemes. While the generated data are merely transactional, not content-based, knowing who has talked to whom may lead to further discoveries.[219]

ISP staff have physical access to any transmission between a local-area network ("LAN") and any other node on the Internet.[220] ISP and MIS personnel will necessarily have access to information in and on its way to user accounts, whether they avail themselves of it or not.[221] Furthermore, ISP end-user agreements are more frequently requiring permission to divulge contents to third parties.[222]

Computer files may be duplicated and transferred more easily than paper. "Electronically stored records are far more portable and accessible than paper records. An individual electronic file may be found on one ... or on several personal computers ... or ... disks. If a party is 'networked,' ... then the number of people who can access the electronic file or the number of copies that could exist is expansive."[223]

Node impersonation, or "spoofing," is telling a computer to pretend to be another computer.[224] A "spoofed" node can pretend to be necessary to a potentially privileged transmission. The risk to e-mail from spoofing is relatively low, given the use of servers and routers to transfer information without user intervention, but it is present.[225] Probably the devices at greatest risk for spoofing are routers, in that they are mere milestones on the path of a packet. Copies of mail and other Internet traffic can be siphoned off by a spoofing router without any realistic chance of detection.

A node which has been programmed to "sniff" packets can provide access to inappropriate information. Sniffing is telling a computer not to ignore packets intended for other computers.[226] Some proponents of applying the privilege overstate the difficulty of intercepting Internet traffic;[227]

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218. *See id.*
219. *See* Matthews, *supra* note 45, at 279.
220. *See* Rose, *supra* note 11, at 202-05.
221. *See* Allison, *supra* note 122, at 18.
222. *See* Lewis, *supra* note 124.
223. Silvernail, *supra* note 61, at 180.
224. *See* Flaming, *supra* note 13, at 184.
225. *See id.*
226. *See id.* at 183-84.
227. *See* Freivogel, *supra* note 26.

in fact, spoofing does not require hardware or luck. While Freivogel is correct to disparage the oft-invoked "postcard" analogy for e-mail, neither is "[a]n Internet message ... like a metal box with a lock that few criminals are competent to pick."[228] Freely-available, intuitive, and inexpensive software will capture all network traffic passing by, including most electronic mail account passwords.

Sniffers are frequently used by network technicians to pinpoint the source of network failures. For instance, in attempting to determine whether a specific node was generating any Ethernet traffic whatsoever, or was instead silent, this author once used a sniffer to capture all network traffic on a client's LAN for fifteen seconds. Coincidentally, the president of the company chose that moment to check his electronic mail. As one might imagine, revelation of his password was a catalyst for institution of additional security measures.

Interception software positioned at an appropriate location—namely, on or near the respective networks of attorney and client—can compromise either individual messages or entire accounts, or both. And like any other software, it can be placed and run on an inadequately-secured machine without its owner's or operator's knowledge. Most dangerous of all, sophisticated sniffers can target traffic according to certain criteria, such as the addresses of the originating and destination nodes, and the type of traffic.[229] Thus, a sniffer placed at a necessary node between attorney and client can be configured to capture all SMTP traffic between the organizations' e-mail servers for later analysis.

V. PRACTICAL ADVICE FOR THE PRUDENT PRACTITIONER

To date, no case has held a lawyer liable for breach of the privilege or for the related ethical duty of confidentiality based on use of electronic mail.[230] Unencrypted e-mail may well be sufficiently unlikely to be intercepted that it can probably be used for the "vast majority of messages most attorneys will send or receive."[231] While technical and legal standards concerning encryption evolve, however, practitioners must choose

228. *Id.*

229. Most sniffers are able to target specific traffic by the "port" number used therefor. There are over 65,000 available ports; however, both machines must agree on the port to use. Therefore, traffic which commonly travels between networks, such as SMTP and HTTP, uses default ports to allow intercommunication.

230. *See, e.g.*, Freivogel, *supra* note 26.

231. Lapidus, *supra* note 73, at 42.

between two starkly divergent perspectives on prescribing policies governing communication with clients by electronic mail.

Ethics boards of various states, and now the ABA, have joined commentators in insisting that any concerns over the confidentiality of Internet electronic mail are farfetched. Unfortunately, their analyses are invariably flawed by both ignorance of Internet and encryption technologies and by their misunderstanding of the legal standards for attorney-client privilege. Moreover, these shortcomings are compounded by their proponents' self-interest in ensuring that the umbrella of privilege extends as widely as possible. Yet the champions of unquestioned privilege over Internet electronic mail appear to have momentum on their side. Since the hallmark of protected communications is reasonable belief in rather than actual confidentiality, this growing chorus of voices may suffice to ensure that a court faced with these issues will find that electronic mail supports privilege without any consideration to technological or legal context. Thus, the prospect of finding safety in numbers by relying on the ECPA tautology and pronouncements of ethics boards is tempting indeed.

On the other hand, a practitioner would be more prudent to seek a different kind of safety in numbers—that is, in the algorithms that form the basis for modern cryptography. No commentator or ethics board has questioned that encrypted Internet electronic mail supports the privilege. Indeed, it appears universally-accepted that cryptography makes such messages at least as safe as other media known to protect their contents. The very volume of pronouncements on the issue should give the reader pause: if application of the privilege to unencrypted electronic mail were as clear as some suggest, there would be no need to discuss it at all.

Clearly, the practical use of encryption will continue to become easier, while the potential bounty awaiting the interceptor of electronic mail sent over the Internet will continue to multiply.[232] These trends make the possibility that a court will eventually find negligence in the failure to encrypt increasingly likely and, arguably, inevitable. Because there is a first time for everything, this comment concludes with tips for attorneys and their clients who wish to avoid the difficulties which inhere in becoming a test case.

232. While determining the probability of interception will remain impossible as a practical matter, *see* Jones, *supra* note 77, there is no reason to believe that it will not stay relatively constant. *See also* Lapidus, *supra* note 73, at 42.

A. Don't Rely on the ECPA

It is reasonable to note that "no communication is secure if someone is willing to violate criminal laws to get the information,"[233] because every security measure can be overcome, at least in theory. Indeed, the fact that interception of an electronic mail message is a federal felony will probably deter many potential interceptors.[234] Nonetheless, a prudent attorney probably will not wish to rely on the rationality of potential criminals to ensure applicability of the attorney-client privilege to her communications. Until a court has held that the mere criminality of interception suffices to maintain privilege, reliance on ECPA and analogous statutes seems inadvisable.

B. Address Electronic Security as an Integral Aspect of an Overall Security Strategy

1. Conduct a Confidentiality Audit

Chances are high that communications security holes exist in both law firms' and their clients' offices. Faxes containing confidential information are often left waiting at facsimile machines after being sent or received. The weaknesses of popular voice mail systems and private branch exchanges ("PBXs") are well-known and exploitable. Concerns about Internet security should be a catalyst for overall examination, not a palliative to convince either the attorney or the client that all is clear.

2. Involve MIS Staff in the Review

MIS staff learn early on that when they have a choice, they should maximize safeguards against loss of data. Users accidentally delete or modify important computer files on a frighteningly frequent basis. The ability to recover information feared lost is a magic trick that has won many friends, and probably not a few promotions. So long as adequate storage space is available, MIS rarely sees a downside to maximum preservation; as a result, files may be maintained longer than necessary for internal needs.[235]

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233. Freivogel, *supra* note 26.

234. *See id.*

235. For example, network operating systems often have settings for the preferred and minimum amount of time to wait before forgetting the location of a file which has been deleted and permit specification of directories whose contents are immediately purged if deleted. Electronic mail software often supports filtering, which can be customized to delete mail according to criteria such as date sent.

An MIS department which is educated about privilege and discovery concerns will be able to make informed decisions about optimizing security settings on a server. With data-protection measures such as backup strategies, even minor modifications—for instance, the order in which specific directories containing files of varying vulnerability are written to tape[236]—can have major effects.

3. Include Electronic Documents in Retention Policies

Despite the clear threat, document retention policies almost always cover paper documents, but not electronic ones.[237] The searchability and persistence of electronic data make them more vulnerable to damaging discovery than other documents. If your or your clients' document retention policies have not yet caught up with new technology, this would be an opportune time to update them. If no formal policies exist, develop them and be sure to include computer data. As with any document retention policy, care must be taken to avoid spoliation, the unethical and potentially illegal destruction of evidence. However, remember to treat computer files as you would paper ones; standards developed in other media should be brought into the electronic realm.

4. Use Contracts to Bind Employees and Contractors to Maintain Confidentiality

The privilege can protect communications by nonlawyers with access to sensitive legal material. All employees, as well as outside support personnel with access to sensitive information, such as ISP staff and computer consultants, should be made to sign promises to maintain confidentiality. Even if these contracts may be found ineffective to support the privilege's confidentiality and non-waiver requirements without additional measures, their use may evince subjective intent to maintain confidentiality and may help educate their signatories about security concerns.

C. Encrypt Sensitive Materials and Communications

The problems with implementing a firm-wide encryption strategy should not dissuade users from encrypting sensitive materials when appropriate. Even the built-in encryption offered by contemporary word processing software can provide greater security than cleartext transmis-

236. A directory written to the beginning of a tape will be erased each time the tape is reused; one written to its end may be recoverable even after subsequent backups. Thus, if a daily backup run includes both privileged information like client files and unprivileged information like backups of software applications, backing up the privileged data first ensures that reuse of the tape will destroy it, even if multiple copies of software remain.

237. *See* Lovell & Holmes, *supra* note 82, at 8.

sion or storage, and may help prove subjective intent to keep the specific communication secret. The password to the file will need to be told by sender to recipient in a separate telephone call and recorded for future access. This makes the process cumbersome compared to a fully-implemented public-key infrastructure, but its use may make the difference between privilege and its absence.

Strong encryption mechanisms are becoming easier to use and implement. If a client wishes to use electronic mail frequently for attorney-client communications, discuss the benefits of implementing a public-key cryptosystem, and develop a strategy to ensure its use. If and when you start to use encryption, be sure to follow through. Against a background policy requiring its use, a court might find lack of confidentiality or constructive waiver in failure to encrypt a specific communication.

Encryption cannot solve every security problem. Low-technology means of access to computer information—physical compromise of a user's password or computer, for instance—will still leave information vulnerable.[238] Yet when used properly, the best encryption makes electronic mail at least as safe as any other extant medium. As encryption becomes easier and more effective to use and implement, its use will probably become a standard aspect of business communications generally, and legal practice specifically.

238. *See* Jones, *supra* note 77.

Appendix 1. Traceroute Results, 24.142.58.224 to <www.columbia.edu>

Date/Time	*Step 1*	*Step 2*	*Step 3*	*Step 4*	*Step 5*	*Step 6*
9/18/99, 11:25 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.4.81**	**206.157.77.66**	**144.232.4.33**
9/20/99, 9:48 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.4.81**	**206.157.77.66**	**144.232.4.33**
10/12/99, 10:08 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.4.81**	**206.157.77.66**	**144.232.4.33**
10/13/99, 9:46 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.4.81**	**206.157.77.66**	**144.232.4.33**
10/16/99, 1:49 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.4.81**	**206.157.77.66**	**144.232.4.33**
10/17/99, 9:36 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.4.81**	**206.157.77.66**	**144.232.4.33**

Step 7	*Step 8*	*Step 9*	*Step 10*	*Step 11*	*Step 12*	*Destination*
n/a	144.232.5.110	169.130.1.126	169.130.2.21	**169.130.12.6**	**128.59.247.3**	**128.59.35.36**
n/a	144.232.5.110	169.130.1.102	169.130.2.21	**169.130.12.6**	**128.59.247.3**	**128.59.35.36**
144.232.8.177	169.130.1.25	*169.130.2.70*	*169.130.12.13*	**169.130.12.6**	**128.59.1.5**	**128.59.35.17**
144.232.8.177	169.130.1.33	*169.130.2.70*	*169.130.12.13*	**169.130.12.6**	**128.59.1.5**	**128.59.35.17**
144.232.8.177	169.130.1.33	*169.130.2.70*	*169.130.12.13*	**169.130.12.6**	**128.59.1.5**	**128.59.35.17**
144.232.8.177	169.130.1.33	*169.130.2.70*	*169.130.12.13*	**169.130.12.6**	**128.59.1.5**	**128.59.35.17**

Legend: **bold** = included in all routes ***bold italic*** = included in all but one route *italic* = included in all but two routes

Appendix 2. Traceroute Results, 24.142.58.224 to <echonyc.echonyc.com>

Date/Time	*Step 1*	*Step 2*	*Step 3*	*Step 4*	*Step 5*	*Step 6*
9/18/99, 11:28 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.9.41**	***204.70.10.158***	146.188.148.218
9/20/99, 9:50 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.9.41**	204.70.10.162	146.188.148.214
10/12/99, 10:11 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.9.41**	***204.70.10.158***	146.188.148.210
10/13/99, 9:47 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.9.41**	***204.70.10.158***	146.188.148.214
10/16/99, 1:50 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.9.41**	***204.70.10.158***	146.188.148.210
10/17/99, 9:38 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	**204.70.9.41**	***204.10.10.158***	146.188.148.210

Step 7	*Step 8*	*Step 9*	*Step 10*	*Step 11*	*Destination*
152.63.48.234	152.63.3.153	146.188.178.209	*146.188.177.113*	**198.67.15.1**	**198.67.15.2**
152.63.49.50	152.63.3.201	146.188.178.193	146.188.177.125	**198.67.15.1**	**198.67.15.2**
152.63.48.238	152.63.3.149	146.188.178.177	*146.188.177.113*	**198.67.15.1**	**198.67.15.2**
152.63.49.42	152.63.3.201	146.188.178.197	146.188.177.125	**198.67.15.1**	**198.67.15.2**
152.63.48.238	152.63.3.149	146.188.178.177	*146.188.177.113*	**198.67.15.1**	**198.67.15.2**
152.63.48.238	152.63.3.149	146.188.178.177	*146.188.177.113*	**198.67.15.1**	**198.67.15.2**

Legend: **bold** = included in all routes ***bold italic*** = included in all but one route *italic* = included in all but two routes

Appendix 3. Traceroute Results, 24.142.58.224 to <boalthall.berkeley.edu>

Date/Time	*Step 1*	*Step 2*	*Step 3*	*Step 4*	*Step 5*
9/18/99, 11:31 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	204.70.4.89	209.185.9.9
9/20/99, 9:50 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	204.70.4.89	209.185.9.9
10/12/99, 10:13 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	204.70.4.93	209.185.9.13
10/13/99, 9:47 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	204.70.4.93	209.185.9.13
10/16/99, 1:51 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	204.70.4.93	209.185.9.13
10/17/99, 9:39 pm	**24.142.50.1**	**208.166.60.2**	**166.48.15.249**	204.70.9.131	206.24.210.61

Step 6	*Step 7*	*Step 8*	*Step 9*	*Step 10*	*Step 11*
216.32.132.85	216.33.154.131	209.185.249.109	209.1.169.42	209.185.255.125	***209.185.111.30***
216.32.132.77	216.33.154.131	209.185.249.109	216.33.147.81	*216.33.147.163*	***209.185.111.30***
216.3.64.170	216.33.153.1	209.185.249.141	216.33.147.34	*216.33.147.163*	***209.185.111.30***
216.33.64.170	216.33.153.1	209.185.249.141	216.33.147.34	*216.33.147.163*	***209.185.111.30***
216.33.64.170	216.33.153.65	209.185.249.141	216.33.147.34	*216.33.147.163*	***209.185.111.30***
206.24.211.134	198.32.249.69	128.32.0.89	128.32.0.78	128.32.0.99	n/a

Step 12	*Step 13*	*Step 14*	*Step 15*	*Destination*
192.35.216.57	***198.128.16.21***	**128.32.2.1**	**128.32.235.100**	**128.32.25.39**
192.35.216.57	***198.128.16.21***	**128.32.2.1**	**128.32.235.100**	**128.32.25.39**
192.35.216.57	***198.128.16.21***	**128.32.2.1**	**128.32.235.100**	**128.32.25.39**
192.35.216.57	***198.128.16.21***	**128.32.2.1**	**128.32.235.100**	**128.32.25.39**
192.35.216.57	***198.128.16.21***	**128.32.2.1**	**128.32.235.100**	**128.32.25.39**
n/a	n/a	**128.32.2.1**	**128.32.235.100**	**128.32.25.39**

Legend: **bold** = included in all routes ***bold italic*** = included in all but one route *italic* = included in all but two routes