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After *Comcast*: What Now for Net Neutrality?

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P R O C E E D I N G S*

ROB ATKINSON: I'd like to welcome everyone to this event on what's coming next in telecom. I'm Rob Atkinson, President of ITIF, and we've got a really great panel here this morning. So we're going to jump right in, so I'm not going to really read anybody's bios The video is going to be on the web site after by, probably, tomorrow morning. The video will be on our Web site and on Randy May's web site. We also want to thank Randy and the Free State Foundation for hosting this with ITIF.

So, I'm going to start from that end down, and what we'll do is we'll just have about six minutes of opening remarks from each speaker. We'll then have a little bit of dialogue, and then we'll certainly have plenty of time for comments and questions from the audience. So let me start by introducing the panel. I'll just then make a few opening remarks and we'll get right into it. Steven Teplitz who's Senior Vice President, Government Relations with Time Warner Cable. And then James Speta who's Professor of Law at Northwestern University School of Law and his area of focus is telecommunications. Randy May, President, Free State Foundation. Eric Klinker, who is the Chief Executive Officer of BitTorrent. And Jim Cicconi, who is the Senior Executive Vice President, External and Legislative Affairs for AT&T. And, finally, Richard Bennett who is a Research Fellow here at ITIF.

Alright, so I'm going to give you a history, a complete history of telecommunications regulation in less than 30 seconds. The 1996 Telecom Act, the

* This transcript has been edited for purposes of correcting obvious syntax, grammar, and punctuation errors, and eliminating redundancy. None of the meaning was changed in doing so. The editing assistance of FSF Intern Cody Williams is gratefully acknowledged.

Brand X Decision, reclassification to Title I with the last FCC, net neutrality becoming a big issue, the *Comcast* case most recently challenging the FCC's authority, the FCC Broadband Plan, post-*Comcast* reclassification by the FCC to Title II, with forbearance, and now Congress deciding that they want to take seriously the idea of legislation. So, I think we're done.

That's kind of the history of what's gone on and now the real answer to question is what comes next. And, in particular, what should come next? Do we need a re-write? If there is a re-write, should it be a surgical re-write? What kinds of things should we merely be focusing on? And in some ways I think that, as Richard Bennett has said, that in simply, what, really are we facing now? The central question really is, what should the U.S. policy be for the Internet? We spent four or five years having this heated argument about net neutrality. It has been highly emotional, and that's really only one component of this broader, I think, more fundamental question and so, I think that is in some ways, what we want to address today. So with that, I'm just going to turn it right over to Steve.

STEVEN TEPLITZ:

Thank you, Rob. I'd like to thank you and ITIF as well as Randy and Free State Foundation for inviting me here today. You have both done a great job of simulating discussion, and I'[m often in the audience for these panels so, thank you for letting me participate today. And hope that I can provide some insight from a cable operator perspective. Before getting to what's next for net neutrality, I do think it's important to put a little bit into context and maybe provide a little deeper dive than Rob's 30 second summation of the world, which was actually pretty good. So I'd like to talk very briefly

about where we've been and where we are now before getting to what I think is the best path forward.

So, in figuring out where we've been, one of the first things is where do you start? How far back do you want to go? Net neutrality is a concept for us to that appears in 2002. But at its core, it's really about the appropriate role of government and regulating a relationship between network operators and those who use the networks, and that is a conversation as old as networks themselves. The media forefather of net neutrality was the Open Access wars in the late 1990's, and we've been debating the policy, legal and economic consequences of government involvement in the Internet and broadband ever since.

And I'm going to add a couple of details to Rob's summation from a legal and regulatory perspective: We've really seen a drum beat every year in this space. In 1998, the Stevens Report kicked it off with the foundation. But then in 2002 with the *Cable Modem Order*, we've seen some seminal order or decision every year. So, in 2004 you had the four freedoms speech by Chairman Powell; in 2005, which was a busy year in this space, you have the *Madison River* case with *Brand X* Decision, the *Wireline Broadband Order* and the Chairman Martin-led FCC's net neutrality policy statement. 2006, 2007 we have the *Broadband Over Powerlines* and *Wireless Broadband Orders*, the net neutrality NOI, the Free Press complaint against Comcast, the AT&T/Bellsouth merger condition, leading up to the 2008 *Comcast BitTorrent Order*; 2009 was the Internet Openness NPRM; and, of course, most recently, the *Comcast* decision, in the DC Circuit.

So where we are is just a continuum in a pretty long conversation. And of course, I didn't even mention Congress, but they, of course, have had hearings and legislative initiatives. So for telecom lawyers and policy wonks, it really doesn't get much better than this. But in the real world, it's instructive really to keep in mind what's been happening in the same time frame through all of these policy cycles, and I won't go through with, you know, why broadband is so great, because everybody, I think is, pretty familiar with that.

But, there are really four things that I would just say as a foundation for going forward in this conversation, and in this debate. Broadband has really been a remarkable success story in the United States. It's available to over 90% of American homes, its ease continue to increase, and billions continues to be invested. Options and use continue to grow, and there's been no demonstration of in our competitive behavior in any way that threatens the openness of the Internet by network providers.

So, where are we now? There's no real world problem yet. There is a continuing concern in some circles about Internet openness and potential for future harm, and pending NPRM on foreclosing onerous net neutrality rules, this DC Circuit decision calling into question the FCC's legal authority to adopt those rules, the looming NOI that could lead to reclassification of broadband or parts of it as a Title II service, and legal and regulatory uncertainty that is casting a cloud over investment and job growth in this area.

So that leads us to, I think, two separate but equally important questions: (1) what is the right policy framework? And (2) what is the right legal foundation for that framework? And much of the policy framework to date has centered around the notion that consumers should have certain expectations with respect to broadband services,

namely: Subject to reasonable network management and the needs of law enforcement, consumers should have access to lawful content, run applications and use services of their choosing and have the ability to connect devices that don't harm the network. There's also growing consensus around broadband providers being prohibited from unreasonable discrimination, as well as offering transparency, so consumers have accurate, understandable information of the services they're buying.

Ideally, within this framework, there'd be an opportunity for stakeholders to work through technical issues on a voluntary basis with some kind of government back-stop in the event that parties are unable to resolve disputes on their own. That is a framework that is really separate from the legal underpinnings of how you get there and how that government back-stop would work.

And the FCC has now teed up what the Chairman's called, the "third way." And I think it's instructive and telling that in the Chairman's speech announcing his third way proposal he talks about Title I being unsound as a legal matter and Title II being a poor choice because of the baggage that Title II brings, which led him to the "third way." In our view; the "third way" has both of the same flaws as Title I and Title II. We think the legal gymnastics required to get to a Title II solution is inherently unstable and that would lead to all of the baggage and overhang that Title II entails.

So I think really, there should be a fourth way that we look toward, and that would be congressional action where they set out the policy framework and shore up the legal authority. And really, we think legislation is the best path forward and the cable industry is certainly willing to engage cooperatively, and also focus in figuring that out.

JAMES SPETA:

Thank you, and thanks to Randy and Rob for having me here. The question, what's new for net neutrality or what's next for net neutrality may be answered 'nothing' and 'who knows?' But I want to focus my comments on four main points.

First I want to say a little bit about what I think the FCC can do next, and then, what I think the FCC should do next. And I wanted to only spend a brief amount of time on those things as transitions to talking about what I perceived to be the interaction between what the FCC can do or might do, and what Congress can or might do. I don't live in the Beltway, notwithstanding my frequent appearances at events like this, so I don't have the insight that you all do on the ground-level action. But I want to talk a little bit about what I perceive to be some lessons from the last time we seemed to be at this sort of inflection point, which was a few years ago. And then, since I'm an academic and no consequences can come there from it, I'll make some predictions about what I think might happen with net neutrality.

So, first, what can the FCC do? The reclassification, there's an interesting one for someone who for the past 10 years has been taking the position that the FCC didn't have the authority to do what they were doing. My view on the project of reclassification is that the legal gymnastics are less intense than the factual gymnastics. But the factual gymnastics are made a little bit easier by the fact that Commissions change and this Commission is not the Commission that it was five or 10 years ago when some of the important factual findings were made, and gives them some freedom to walk away from them.

I have a solid prediction that reclassification would necessarily be upheld by the DC Circuit if the FCC decided to go in that direction. My view, which I've expressed a couple of times is that there are some good arguments that it would be upheld because the *Brand X* case seemed to say the Communications Act isn't clear about whether it's a Title I or Title II service, or whether it's an information service or a telecommunications service, and so we'll defer to the expert agency's choice.

On the other hand, I think there're some, what one might call 'meta arguments' that make it clear to me that Congress didn't in the '96 Act, go so far as to say, especially in Section 706, this is the kind of decision, the sort of big decision about whether to put the Internet under Title II Classification that we think we're giving, empowering, the FCC to make.

So, I think there are arguments one way or the other – I think that the fact that the arguments are uncertain pushes me and others in the direction of a congressional solution, because certainty is certainly something that can help. Which leads to my second point, which is what the FCC should do, and the answer to that, in my view, is exactly nothing.

I think that I am largely, as a substantive matter, in agreement with the way the "third way" has been articulated; that is the kind of light touch that has been articulated; although, there are some very big questions about what sorts of retail practices the FCC wants to have jurisdiction to control. But in terms of light touch regulation and in terms of it being housed at the FCC, I'm largely happy with that. But I don't think that the "third way" solution, as it's been proposed to be implemented, is stable. That is to say, to depend so much on uncertain forbearance, one that a subsequent Commission could retract, I don't think it's the kind of solution to bring certainty to this market.

So, how does this interact for me with what Congress is thinking about doing; I've given a lot of thought to this over the past few years. Randy and I, and others, spent a lot of time in the 2005 time frame when Congress last looked like it was going to re-write the Communications Act. Randy brought a copy. I...

RANDY MAY: I'm sorry, go ahead.

JAMES SPETA: No, that's okay.

RANDY MAY: I thought you wanted to tell it; I'm sorry.

JAMES SPETA: No. Here's the problem. There were a number of very good solutions being talked about for comprehensive re-writes of the Communications Act, and nothing that came out of Congress, even though it got that far, amounted to a comprehensive re-write of the Communications Act. And I've tried to reflect on why the enormous amount of work didn't result in any actual legislative action. And, again, I'm not in the Beltway, so I don't know what the real reasons were. But I think the academic reason that I've come up with was the Communications Act was already rewritten; that is, when the FCC classified Internet services as an information service and applied its light touch regulation, there wasn't an overwhelming need to do anything.

The regulation system on the ground had already been rewritten. I mean that's why the bills that emerged focused on relatively small questions. And so I wouldn't like to see the illusion of a stable regulatory solution created by the reclassification decision to take the pressure off legislative action to actually do something that settles things. So, what are my predictions? Well, my prediction is that as a substantive matter for net neutrality, since that's the title of the program, is that either by reclassification or by legislative action we will go to a system in which the focus will be more on

nondiscrimination rules and less on non-foreclosure rules. That is, I've always described the debate over net neutrality as between a camp that wants rules that say: Nondiscrimination should be illegal when it results in foreclosure. And that's the anti-net neutrality side; the pro-net neutrality side is the side that says: Nondiscrimination should be illegal because it almost always is foreclosure. Right?

And I think that as we go forward, the reclassification proposal, and if the Legislature were to embody the Four Freedoms or something like that, it would result in a regulatory system that focuses on outlawing nondiscrimination without requiring a substantive finding of foreclosure. And I think, obviously, that that's a mistake. So my second prediction is that as a way to head that off, what needs to happen, and Steven referred to this, and I think, is happening, in fact, is that the industry will engage in a lot more standard-setting around what reasonable network management looks like in order to establish norms, and those norms may then take the pressure off the focus – the legislative and regulatory focus on nondiscrimination.

ROB ATKINSON: Great. Thank you. Randy.

RANDY MAY: Thank you. Well, I was mostly responsible for dragging Jim into this project to re-write of the Communications Act back five years ago. When I look at this, now June 2005, it shocks me. It was then, but you know, because Jim was from outside the Beltway, I think he actually believed that once we issued this report with this red binder that Congress probably was going to act within two weeks and that didn't happen, and he's been a little disillusioned.

But what I would say is this: I think the time is now; that we're getting close. But look, I been watching the FCC for over 30 years and don't worry, I'm not going back

over the past 30 years. I've seen some pretty strange things in that time. But this case of the "third way"; nee, the Open Internet; nee, Net Neutrality; nee, Open Access, seems to be getting "curiouser" and "curiouser" almost daily. It makes me want to put a big sign on the wall as you get off the elevator on the 8th floor at the FCC that reads: "When you're in a hole, the first thing you do is to stop digging."

Here are some of the things that I think are fundamentally problematic about Chairman Genachowski's "third way" proposal, and perhaps I differ a bit with Jim. I think it's quite problematic. And to be really candid, I think in announcing the "third way" proposal, I think Chairman Genachowski and the Commission's General Counsel really have abused, somewhat, the ordinary use of the English language, really. Foremost, the Chairman describes his approach as embodying a bipartisan consensus from what he calls, quote: "a restrained approach" or, quote: "light touch approach" to broadband regulation.

Now I think, in my view, there is considerably more of a consensus on light-handed regulation than heavy-handed regulation with broadband; it's not that there's universal agreement, but I think if there is a consensus, it tilts in that direction. But it's wrong for the Chairman to characterize his approach as light-handed. If nothing else, with the insistence on adopting a broad new nondiscrimination mandate, we convert the existing regime into one that can be characterized as heavy-handed regulation. Enforcement of a nondiscrimination mandate has always been at the heart of common carrier regulation, and in the past, that's never been thought of as a characteristic of light handed regulation.

Indeed, it is pursuant to the nondiscrimination rule that the Commission would prohibit ISP's from charging content providers differential fees for prioritization. Now, as he has done for some time now, the Chairman tries to suggest this proposal would not "regulate the Internet." This is wrong as a matter of statutory interpretation, precedent, and common sense in the ordinary usage of the English language. It would, as I've said previously, regulate the Internet in a more heavy-handed fashion than it has been regulated. You know, we can talk about degrees and so forth, but I don't think there's any doubt that that would be true.

Now, another thing that the Chairman says is that he wants to do this "third way", just as he said he wanted to the Open Internet to resolve, quote: "the current uncertainty." And Commissioner Copps says this all the time as well. As if whatever uncertainty that exists for the most part is not the result of the very proposal that he initiated to adopt a net neutrality regime as soon as he took office. I think that was the beginning of a major source of recurring uncertainty.

At the heart of the Chairman's proposal is a requirement that the transmission component of the Internet service be unbundled and regulated as common carriage, but that the remainder of what comprises the totality of Internet service, such as applications or content, not be regulated. The Commission says it is not requiring unbundling, but what is separation of the transmission component from everything else, if not unbundling? And by the way, I think this unbundling is not something that is really clean cut, as we would say. I think this would be a major source of instability in addition to the one that Jim referred to. Now, the General Counsel says: "There's no reason to anticipate the Commission would regulate Internet prices." Let me read that again. "There's no

reason to anticipate" the Commission would regulate Internet prices. This, sounds to me like the equivalent of a politician stating, quote: "I have no present intention to run for XYZ office."

The striking thing, above all, in both the Chairman's statement and the General Counsel's statement on the "third way" is that there's no reference whatever to market failure or any linking of the need for net neutrality regulation to the status of marketplace competition in either of those two statements. The assumption just seems to be, we need to just do it, whatever the cost may be in terms of legal jeopardy to broadband investment or the economy or jeopardy, again, to the ordinary usage of the English language in advancing the proposal. Now, I think if there's a consensus now at all, I think one is quite rapidly developing, is that if the FCC needs authority over Internet service providers, we should look to Congress to adopt a new legislative framework. Now, I'm just going to close by telling what I think that legislative framework would be and then, hopefully, have more time to discuss that in the back and forth.

I've articulated this before. But I would say the core of the new legislative framework should be a provision granting the FCC authority on a complaint filed, and after an on-the-record adjudication, to take action to prohibit broadband Internet service providers from engaging in practices that are determined to constitute an abuse of substantial and non-transitory market power, and that cause demonstrable harm to consumers.

I've just articulated a fairly specific standard and one that I think could be easily converted into legislative language. Such a circumscribed market-oriented rule would provide the FCC with a principled basis for adjudicating fact based complaints alleging

ISPs, acting anticompetitively; and at the same time, causing consumer harm, using antitrust like jurisprudence that incorporates rigorous economic analysis, the Commission would focus post hoc on specific allegations of consumer harm in the context with a particular marketplace situation. So with that, I'll close and maybe in the discussion period, Jim and I can have a little discussion about how the provision that I've articulated here differs somewhat from what we were thinking about perhaps five years ago in light of the changes.

ROB ATKINSON: Thank you. Eric?

ERIC KLINKER: Thank you, that was very interesting. I appreciate everybody for having me here today. As you might expect, my perspective might differ slightly from a few of my esteemed panelists. I would that say only because we are a small company, a very small creature of the marketplace and a creature of technology. So I could not come in here and stand toe to toe with my colleagues on a policy that they'd already begun to comprehend, plus understanding the inner workings of this small locality, despite the small amount of time I did spend here.

But I think it is interesting since we have been dragged into this debate, in a way, as one of the parties in a milestone case. It's been interesting, our approach to the challenges that have come to light. And first and foremost, when the practices that led to the current debate that perhaps sparked some of the current debate around network management, problem practices of our protocol in particular. Our approach was one of not, perhaps, a policy debate, but let's talk to the ISPs and let's try to figure out on a technical basis what the challenge was; what was actually causing these practices; what problems were they trying to solve.

And that led us to the very sound conclusion that consistently the rationale for these practices going through was quite discriminatory, at least against our protocol, was congestion– if you can solve congestion, then you would be attacking the root cause of some of these practices. So we took this technologist in a very small company, we said oh, let's try to take a market driven technology solution to this problem, and we spent roughly two years, creating a new foundation for the protocol we call UTP. It's a new transport layer, and I won't bore any of you nontechnical folks the technical details. But you can think of it in layman's terms as a protocol that essentially yields to other applications in the presence of congestion.

So think of it like the cars that get out of the way for the ambulance on the highway; that's what this protocol would do for BitTorrent. And on the surface, it seemed like the perfect market-oriented solution. Because of the global nature of our peer network, we've anticipated no performance impact with this concession and that should have led to users wanting it, because let's face it, the living room is a source of network congestion, just as much as the access networks are. There is contingent plan for my home connection amongst all of my family members, perhaps not that unrepresentative with most Internet users, and in turn the ISPs should want it, because it would obviously reduce the impact that peer-to-peer can have on other complaints that users might not have with the traffic and, ultimately, they could potentially save millions in CAPEX, and perhaps, at the end of the day, re-evaluate their management practices as it relates to protocol in question.

So BitTorrent took this investment, deployed it, spent years building it, testing it, rolling it out. We spent even more effort standardizing it inside the ITF, the standards

body for the Internet, co-chairing the working group with Microsoft, to bring this technology to the world, so to speak. Finally, in January, we've deployed it to all 75 million active users of our software; a very market-driven approach; a big bet for us, really, if you think about it.

The world of BitTorrent is hypercompetitive. There are over 60 other competing makers of technology, folks that maybe we compete with in marketplace, with very little switching cost, so you can imagine this is a source of anxiety for us as we roll out something so fundamental, as you compete. I think it does remain, however, a great testament to power of market forces that we would even attempt such a bold maneuver in attempts to solve or head off what could have been other more drastic solutions. Either continue discriminatory practices, or the heavy-handed regulation of the network.

These are both extreme cases. So we would like to find our own "third way" to avoid them, and the final chapter in this exercise, really, has yet to be written. We have no doubt faced a serious amount of criticism from any number of folks, from ISP-friendly tech blogs that ironically, should want this solution to succeed, to users and folks in our own community that have had a sort of backlash against what we've done. So, unfortunately for us, it is an all or nothing bet, and we are going to soldier on, we will continue to soldier on to mitigate and address all the concerns of the users and to mitigate and address all of the concerns that exist inside the ISPs themselves. We do want to continue this great spirit of engagement that we've had with the providers as they've worked to address their own network management practices and also embrace new technologies like UTP.

So I would just conclude, probably something short in my allotted time -- that the market and the solutions that we can bring into the market, I think can be powerful solutions to these particular problems, and as technologists, we often think the power of technology can solve a great many things and perhaps we are often wrong about that. But, nevertheless, it does not dampen our enthusiasm for these approaches. That we can transform just whole percentage points of Internet traffic by pushing a software update is nothing short of amazing, even before you consider the 25 people working for me that are behind that operation.

So it is amazing. And transformative change on the Internet, as we all know, is very, very difficult; look at the standards process, look at how slow things move. That we can move this amount of traffic and change it in the fundamental way in such a short period of time, I think, is instructive and useful and we should try to embrace these approaches to the problem when they present themselves. So with that, I do want to thank you and I look forward to the discussion.

ROB ATKINSON: Jim.

JAMES CICCONI: Hi, I want to thank you for having me here today. I think there's an irony in the titling of the panel here. I think the irony is that the *Comcast* decision really changed what was the debate about net neutrality, and what was the proper resolution to those concerns, into a very different sort of debate. It's almost put net neutrality really in the background. I think prior to the *Comcast* decision, we were headed for what I think all of us felt was a consensus resolution to net neutrality -- set principles that most of us in the industry felt that we could accommodate, we could live with. We certainly lived with the four principles to this point. We've had no problem with adhering

to them. We committed early on to adhere to them, and we have no problem doing that going forward. I think the Chairman challenged us to consider two additional principles there. I think, by and large, an industry consensus emerged on those two things. And I think we were probably headed toward a fair resolution of that question through the FCC's processes. And then the *Comcast* decision came down and that decision begat a debate over the FCC's legal authority on net neutrality.

That's really what the court decision was about, and so as a result of that, the FCC really had three decisions, or three options, in front of it following that decision. It could have looked to the opinion itself, where the court was very clear that it wasn't reaching a conclusion about other assertions of authority under Title I, that the FCC could come back on those grounds. There was practically an engraved invitation to do so. And many of us feel that they've retained some authority there under Title I, certainly to do some of the things they've talked about in the National Broadband Plan, which was very, very important.

But the FCC's first option was to assert authority under Title I. Their second option was repair to Congress. If a circuit court of the United States says an independent regulatory agency lacks a legal authority to do what it wants to do, the right and proper thing for that agency to do in that circumstance under our Constitution is to go back to the United States Congress and seek a legal clarification. That's why that it set up, Article I that says what it exists to do. The FCC has no independent authority to create its own legal structure; it has to defer to the Congress to do that when a court says that you lack authority. That's what you should do if you're an agency. So that was the second option.

Unfortunately, I think for all of us, and they may conclude this themselves in the

privacy of their own thinking, is the FCC found what was a "third way." The real "third way" here was that they decided to reclassify broadband under Title II. And by doing so, they changed what was, I think, a debate headed toward resolution on net neutrality into a very, very different debate about the FCC's authority – not just to do net neutrality, but its legal authority to regulate in the Internet space at large. And I think, unfortunately, that's a debate that is occurring today. That's what all of us find ourselves debating.

It's less, really, about net neutrality than it is about that broad assertion of authority. I think it has pulled all the oxygen out of the room. I think it is deflecting what should be a debate about the National Broadband Plan, about spectrum, about a lot of other issues. And it's going to continue to do so because I think it's a rather sweeping action by the FCC, and a rather sweeping assertion of authority, all to solve what was a fairly narrow problem about which most everyone was driving toward consensus. I think the reaction from the industry is probably predictable to them. Certainly it is very strong, and I don't think anybody in the industry is prepared to concede or accommodate themselves to the notion that the Congress somehow intended, when it drafted the '96 Act, to give the FCC authority to regulate Internet facilities under common carrier regulation.

I think the thing that may be surprising some people is how strong the reaction is in the broader public when you have The Washington Post and Wall Street Journal editorial boards actually agreeing on a question, vigorously so. You have to at least perk up and wonder what's going on. And I think we've seen a manifestation of this recently with a variety of letters from members of Congress, House, and Senate members, with a strong bipartisan basis. In House alone, you've had a very clear majority of the House of

Representatives saying to the FCC two things: Number 1, we don't want you to do Title II, that this poses an unacceptable risk of jobs and investment. And point number 2 is: the proper place for this question to be addressed is in the Congress itself. These aren't soft letters. They are very pointed. There's a lot of them, but they all make essentially those same two points.

Now I think that sort of refutes the FCC's logic in rejecting the option of going to the Congress. If you'll recall, they indicated that while they conceded intellectually that was probably the best long term solution, they didn't feel it was possible in the short term and they couldn't leave the Internet somehow unprotected against abuses that aren't occurring anyway for some extra months. I think when you have 250 odd members of Congress and, again, a clear bipartisan majority of the House indicating that they should be the ones deciding this, I think it sort of refutes the FCC's argument. I think it demonstrates that congressional legislation is possible.

I think it's also becoming obvious to the FCC as they go down the Title II path that it entails more and more questionable legal maneuvers that cause this scheme to resemble a house of cards. It also becomes more and more obvious this does involve regulating the Internet. When you regulate the networks that comprise the Internet, it is a network of networks after all, that's how it's defined. When you regulate those networks, you are indeed regulating the Internet. And I think that assertion by the FCC is at odds with congressional intent. And no one can find any statement in the Communications Act or in the legislative record that indicates that Congress ever intended to give the FCC this authority – in fact, far from it. Congress said the opposite.

And again, keep in mind all of this would be a lot of maneuvering under reclassification to prevent abuses that aren't occurring, and to avoid what the Congress is telling it not to avoid, which is, going to the Congress itself to solve the question. So I think the solution here is becoming more obvious, and that is congressional legislation is possible. It's much cleaner and clearer. It can be done in a rifle shot basis. It can give the FCC the authority to enforce its broadband principles, no more and no less than that. And I think it's appropriate for the FCC in this circumstance to show some regulatory humility on this question and to defer to the Congress on this question.

ROB ATKINSON: Thank you. Richard.

RICHARD BENNETT: It's a challenge speaking last on a panel like this, to come up with something that hasn't already been said.

I want to put some of the previous remarks in context a little bit because we had some pronouncements on the legal and policy side and then also on the technical side from Eric. How these things fit together, I think, is important. When we talk of the net neutrality movement, the way I characterize it, it is coming up on its 10th anniversary.

In December of 2000, Larry Lessig had a conference at Stanford on the policy implications of end-to-end, which I think was kind of the formative thing. And the event began the Internet neutrality movement. And the concern of the people that attended that conference was that five years after the Internet was privatized, the Internet was changing, and they were concerned that what had been an academic research network for the first 15 years of its life was changing in ways that they were concerned about. All of those ways were not necessarily bad, but there were some fairly major changes taking

place as a result of the privatization of the Internet, and of the proliferation of new applications.

So there's this kind of Internet community – pretty much old timers from the Internet community – guys that had been involved in the development of the original protocols in the late 1970's who were concerned about changes that were taking place, and that the Internet of the future may not be like the Internet of the past. And then in a parallel development in the telecom regulatory community; there were a bunch of people who sort of discovered the Internet in the late 1990's, and it caused them a great deal of consternation because the Internet is based on a technology called packet-switching, which operates in a very different way than the traditional telecom and the video distribution networks that they were familiar with regulating.

So, if you're a career regulator, regulating a network like the telephone network, which is designed around a single application, is actually pretty simple because what you, all you really have to do is look at that application and if the application works correctly. If it is, then the network operator is doing its job. And these traditional networks are designed in such a way that individual users don't interact with each other. When you book a call through the telephone network, you're getting a fixed amount of bandwidth, you can do anything you want with that bandwidth and you don't interact with other users of the network because you're so constrained by the four kilohertz of analog bandwidth that's allocated to you for the duration of your call.

And, of course, that's troublesome if you want to do something other than book a telephone call through the network, like transfer a file. That's one of the reasons that packet-switching was invented. So in packet switching networks, instead of bandwidth

being allocated in these fixed little packages, bandwidth all comes from a common pool and all the users on the network essentially compete with each other for access to the bandwidth. So the regulator is frustrated to a certain extent, and I don't mean to sound cynical about this, but it's pretty hard to put it any other way. To a certain extent regulators don't like the Internet because it doesn't behave in the same way as the networks that they have spent their whole careers regulating do.

And so one way to look at the net neutrality movement from the regulatory perspective is an attempt, perhaps unconscious, on the part of career regulators to force the Internet into the mold that already existed for telephone networks, the one that's embodied in Title II. But in order to achieve the maximum utility out of the Internet, as a technical matter, what we actually have to do is develop even more sophisticated methods of determining which application and which user is going to be successful in the competition for bandwidth that takes place millisecond by millisecond on the network.

And this is one of the reason that the BitTorrent folks invented UTP because a UTP is a recognition of the fact that applications are not all equal with respect to their demands for bandwidth, their demands for latency and, so a negotiation can take place between applications such that bandwidth is allocated in a manner that satisfies more people more of the time. And if you're selling products into this marketplace, it's in your interest for people to adopt your technical solution.

But, this is a very difficult problem to solve strictly from the end points of the network because the end users know very little about what the other end users are doing. Their ability to negotiate with each other about who's going to get bandwidth in a given time point, and who's not, is limited by their lack of knowledge of what's going on across

the network from a global perspective. Well, it turns out that the only entities that actually know what's going on across a more global perspective of the network are the network operators.

And so in order to achieve the maximum utility and use of the Internet going forward into a world in which applications are more diverse than they were in the past, in which the demands for bandwidth are ever greater, in which some of the users of the networks of the future are not even people, they're machines -- machine to machine communication for the smart grid and for smart traffic systems, there's not somebody looking at the screen all the time. There are machines that are communicating with each other through the same network that people are using. So it's a completely different world. And, in order to make any sense out of that, I think, going forward, we need to sort of back off of the obsession that the net neutrality movement has brought with discrimination and anti-discrimination rules, and to think about the problem from the standpoint of such a utility.

One of the things that I really liked about the National Broadband Plan is that it puts so much emphasis on what they call national purposes, which are the things like healthcare, education, transportation, and smart grid. It's the social reasons why we want to have networks like the Internet and the Internets of the future. And that's really where the policy discussion, I think, needs to focus. And to say if we can sort of take this discrimination stuff, put it off to the side, put the focus on the utility, the social utility that we want to achieve from our networks and what that has to say about subsidies, what it has to say about business models, what it has to say about the resolution of contention for resources as a marketplace phenomenon. Those are the kinds of issues that I really think

that we can focus on if we can get the oxygen back into the room that the anti-discrimination debate has sucked out over the last 5 to 10 years.

ROB ATKINSON: Great. So I want to raise a couple of questions in dialogue here and then we can open it up for everybody in the audience. But one of the themes that I heard was this question of how industry needs to be more active, will need to be more active. Jim you mentioned this in terms of industry standard setting; Eric, you mentioned what you're doing with UTP; and Richard, you mentioned it. And I'm struck by the fact that anybody could criticize BitTorrent for what you're doing, which to me suggests that so much of this debate has nothing to do with reality, but everything to do with religion.

And the sense that pipes have to be stupid and all bits have to be equal, even when a provider of an application is doing this on their own, that they've somehow been forced to do this, or they've lost their way or whatever, and we need to protect you from yourself by regulation. So I guess one thought, my first question would be: If, as we move forward and as a consensus appears for, I would say, some sort of surgical, congressional action taken fairly quickly – what in that framework, should be carved out for some kind of industry self- regulation, not pure self-regulation, but industry standard process. How does that work? Should there be any sort of mention of that in the legislative framework?

RICHARD BENNETT: Yeah, I think that's a key focus. If you look at how the Internet has always operated, it has given rise to institutions to essentially regulate itself. I mean the Internet engineering task force, which has produced over 5,000 documents specifying protocols and practices, is a completely voluntary organization of industry participant and academic participant that formulates the basic rules of the road.

There are organizations like ICANN and the North American Operators Group, right, in Europe, which are for industry participants to get together and essentially enact standards. And the role of national regulators like the FCC is, of course, very interesting in the context of regulating what's a global system. I mean how much can one national regulator do in terms of applying leverage to the local system?

And so probably the proper way for this to happen is through development of new institutions for what some people call co-regulation, where the industry participants have a backstop in terms of government, and it's not just the United States government, other governments would have to participate in this as well. I mean clearly, within the United States, we can do some things about the terms of service for broadband offerings. But we can't really look at the Internet, or do much with the Internet as a whole. So new institutions like that have to be developed and Congress can certainly help.

ROB ATKINSON: Randy?

RANDY MAY: Well, I mean I'm not sure how much Congress could actually help in terms of addressing, in a new statute itself, the self-regulatory mechanisms. I don't want to be misunderstood; I think it's important that those self-regulatory mechanisms be developed, and that they can be useful. But if Congress tries to legislate in that area, it might just crowd out, or it might take some of the breathing room out of those mechanisms. But here's one thing that perhaps could be done, and the type of framework that I proposed when I talked about the FCC acting upon a complaint filed claiming there's been an abusive practice.

Congress could require that before such complaint was filed, or before it was acted on by the FCC, that there'd be resort to some mechanism like mediation or

arbitration, and that there could be a body perhaps recognized that would handle those types of complaints first. You wouldn't want to have it set up so it's just a complete diversion from the FCC ultimately addressing it. But perhaps that's the way you could incorporate some type of mediation or self-regulation consumer process into a legislative provision.

ROB ATKINSON: Let me just drill down one more, then we'll move on. Randy, you alluded in a blog post maybe a month ago, about your proposal for this sort of adjudication process, and I thought was very interesting. What do people think about that? Should the statute, assuming there will be one, should it be focused on this adjudication process to allow participants in the process to have some certainty and some recourse? Should it do more than that? If it is an adjudication process, what's the right standard for finding harm? Does anyone want to respond to that?

JAMES SPETA: I think there's a general sense that *ex post* remedies and adjudications have a lot to say for them, as opposed to highly articulated rules. I don't perceive a lot of motion towards highly articulated rules, but the devil's in the details, in the drafting, as it were. Here's what I think about adjudication as a sort of meta-institutional matter. One of the big debates that I've always had with myself is whether the better location for this, for regulatory authority, would be in the Federal Trade Commission or in the Federal Communications Commission. I've always resolved that in part on the basis that there's private complaint authority in the FCC, and not in the Federal Trade Commission.

If we adopt any regulatory or legislative solution that relies on the FCC handling complaints, the infrastructure for doing those complaints needs to be substantially

overhauled in the FCC, and I think there's a consensus about that as well. I mean you're going to need a different sort of enforcement procedure or complaint procedure there. So I think those issues cannot be separated. I have never gone so far as to say an emphasis on complaint procedures means that rulemaking authority ought to be entirely withheld.

I'm perceiving that Randy is trending in that direction, although I don't want to speak for him. That is one sort of the fundamental $64,000 questions about how you do it. And it may be a big difference between the rifle shot of just embodying the right to enforce the Four Freedoms, and Title II reclassification because Title II eeclassification comes with all the rule making authority in the world.

ROB ATKINSON: Steve, and then Eric.

STEVEN TEPLITZ: I just want to add a little bit what Jim said. The FCC probably isn't set up right now to handle some of the kind of engineering complaints or disputes that might come, so there is an important role for some sort of industry self-regulation body or bodies that can identify and develop best practices. BitTorrent and Comcast should both be really commended for all the hard work that they put in during the pendency of their dispute, to come up with an alternative that everyone got comfortable with. And to the extent that you can offload some of those conversations to a different process before you get to a regulator, everybody would be well served.

ROB ATKINSON: Eric.

ERIC KLINKER: All right. This one may blow up on me but, I had a couple of thoughts to this. You know, I think there is a role, no matter what policy may end up being adopted, for some sort of industry-based self-regulating principles. I think they go a long way to foster a dialogue. Dialogue can lead to solutions, and I think solutions are in

the best interest of consumers. An element that would probably make the ISPs in the room uncomfortable is that there's a strong need for transparency in these dialogues, and third parties, I think, invariably will be providing a lot of the information that could bring to life practices that are not good or would lead to this adjudication process.

If there is going to be sort of any complaint-based resolution, as other regulatory environments have ultimately decided is a good approach, then there's a strong role for general transparency in the network and that, at least in my ISP dialogues, is a source of no small discomfort. Is the network congested? If there are competitive forces, these are not things that they want out there. So, something to think about - how would you protect information; how would you bring information to light and that kind of process. If we get down to the nuts and bolts, what would that look like?

ROB ATKINSON: Okay. Why don't we open it up for questions. If you can hold off before there's a mike and then we'll go right here. You can just state your name and who you're with and then go ahead

JULIE REYNOLDS: Thank you for the discussion; Julie Reynolds, Committee on Oversight Government Reform. It seems as though what is being said is basically boiling down to a market failure kind of approach with two options that are being submitted. One would be the use of best practices on a voluntary basis. The other would be establishment of an enforcement approach, and then there was an inclusion for the need for transparency. So I wanted to pursue the enforcement approach a little bit more and ask Mr. May and others, would you would prefer to allow the FCC to defer to a body, say, a standards body, to do arbitration and mediation? Should that body be appointed by the FCC, the President, or be totally independent? How would you ensure

unbiased representatives on that body and ensure collaboration? Would that be paid for by the United States or public/private parties?

RANDY MAY: Wow, those are great questions and I can tell you're already thinking about this legislation, in a useful way. But I don't know if you have all the...

JULIE: I don't speak on behalf of the Committee on Oversight Government Reform.

RANDY MAY: I understand. But I do speak for the Free State Foundation. But, I mean those are good questions and I don't have answers for all. But this probably makes some of us think about those things. My own view, as I said, I wouldn't necessarily try and have legislation that probably details that whole mechanism. But maybe it could be done. I'm provoked now to think about it. But I do think having written about and practiced and been involved in administrative law and regulatory practice for a long time, there is an important role here to try and use these types of conciliation mechanisms, mediation, self-regulation types of things. But I'm also saying that after that, in order to resolve this issue at some point in the right way, that I'm not opposed to giving the FCC some authority, if it's the type of circumscribed authority that I talked about.

ROB ATKINSON: Jim.

JAMES CICCONI: I think our answer would probably be all of the above. I think that, first of all, the role of a private sector body is to do what the industry, frankly, hasn't done terribly well to this point, and I think there's a reason for that. I mean five years ago these were very different industries. Technology and the Internet has caused

everything to converge into one Internet ecosphere, in which everyone depends on each other. And I think we do depend on each other's health and the ability to make returns on the investment, and everybody is continuing to invest together in this sphere. What we've lacked though, I think, are the type of high level technical interactions between the different players in this ecosphere, so that they can identify and hopefully solve problems before they actually become complaints at the FCC.

This is the ideal. I mean, the ideal is to have a situation where things are running so well that the different members and participants in this ecosphere and consumers are all treated fairly in the process. There's enough consensus that develops that complaints and abuses simply never reach the FCC. This is really what we should strive for. I think there are precedents for government bodies deferring to private entities in terms of their technical expertise. The Federal Trade Commission certainly does this as a routine matter in regulatory proceedings, and so there's no reason the FCC couldn't do that as well.

And I think if you combine that with, again, the type of rifle shot authority for the FCC, it is to do simply this much and no more. Do what the Chairman says, he feels he needs the authority to do to preserve the open Internet, take the four principles, maybe add transparency and I think the consensus, the discrimination principle, and I think that's probably sufficient authority for the FCC, if there are abuses that simply can't be worked out within the industry itself.

JAMES SPETA: I'm not sure my answer isn't none of the above. I would hate to see private or self-regulatory organizations bureaucratized by being expressly referred to in the statute. I wouldn't want the FCC or anyone else to have authority to appoint the members to it, for a couple of reasons. The first reason is I think we are

trending in the direction of this happening organically in much the way that a lot of the other institutions in the Internet have. The BitTorrent folks can testify most directly to that. In part, it's a reflection of the maturation of the Internet; in part, it's a reflection of the regulatory threat and so self-regulation arises and responds to regulatory threat in a very organic way.

And so I think we ought to decide what the FCC's authority ought to be – this is the second point, and if the FCC's authority is something like the authority to issue orders against unreasonable network management practices or unreasonable discrimination, unreasonable being one of those wonderful lawyer words, then the incentives will all align so that the worry won't be there. That is, the ISPs will form a body that is consultative with everybody else in what I guess is Washington's favorite word right now - the Internet ecosystem. And they will do that because, in order to defend themselves against the FCC, a possible FCC action, they will want to point to a consensus body that includes all of the stakeholders and says, we're complying with what this SR, this self-regulatory organization says is a reasonable way to handle the networks. And so I actually think it's going to happen relatively organically. And I think that's best. I don't want it bureaucratized, I don't want it put in the statute or in the FCC's regulations. I don't want the Commissioners being members of this body -- that makes it not a self-regulatory organization.

ROB ATKINSON: Randy?

RANDY MAY: I notice that Jim was referring to the ecosphere, first time I've heard that and, I'm going ask you how that differs from the ecosystem?

But anyway, look, I want to make a point now, maybe a bit different for my friend, Jim, here on something more substantive than maybe others on the panel, because that word, 'discrimination' keeps coming up and I want to make sure this gets out today. In Jim's presentation, he referred to the fact that before the *Comcast* decision that he thought that there was a consensus position evolving on net neutrality. I think others have said this as well, and I can appreciate what he's saying in some respects. I think the industry is somewhat shell-shocked as they go along, and these proposals increasingly look more threatening.

But this is an important point for me. Even before the *Comcast* decision, one of the key things the Commission had proposed, and I think still wants to implement, but did then propose, was a non-discrimination prohibition that didn't exist under the four Internet principles. And I think Jim referred to the fact that there was, maybe, a consensus on the discrimination principle, and I think perhaps, this other Jim also did. But I have to say, from my perspective and as someone that's watched this a long time, litigated a lot of cases under the Section 202 antidiscrimination principle, I think it has the potential to be very harmful, likely to over-regulate, and difficult to cabin in. So I understand we're in a even potentially worse situation now with the reclassification proposal, of course. But I just don't want the record to reflect that everyone here, or at least that I, think that what the Commission was proposing before *Comcast* was in any way satisfactory, because, I don't.

ROB ATKINSON: Quick response, and then we'll move on.

JAMES CICCONI: Yeah, I just want to be clear on the discrimination point. I mean, as Randy, I think knows, we disagreed strongly with the proposed non-

discrimination language in the FCC's NPRM. It was absolutely too broad, overreaching and unworkable in practice. The consensus that I was referring to, and that I think is forming, is reflected more in what a lot of us are calling the "harm standard." And that was really embodied in some letters that have been exchanged in there, I think some public statements by a variety of companies, and I think it's designed primarily to be based on the concept that if competition isn't harmed, if consumers aren't harmed, if the practice isn't unreasonable, then the FCC shouldn't care. The FCC shouldn't get into trying to micromanage how networks are run if no one is hurt in the process.

So that's the point. I wasn't trying to suggest that the consensus was forming around the FCC's proposed standard. I think the consensus is forming around a very different standard that some of us have been articulating.

RICHARD BENNETT: Can I say something?

ROB ATKINSON: Okay.

RICHARD BENNETT: So on the specifics of forming a group and doing adjudication, I think there is actually something that the FCC could do today without waiting for Congress to act, and I think they may actually already be headed in that direction. There's nothing stopping the FCC from reforming the Technical Advisory Group and pulling together participants from industry and the public interest sector to advise the FCC, and perhaps serve as a forum for dealing with certain complaints. I would suggest that the first task that we would want this group to conduct is to devise some standards for measurement, and for transparency of terms of service, so the consumers can actually make meaningful comparisons between broadband providers. We also need some sort of rational way of assessing Internet performance because it's

actually a very difficult technical challenge to assess performance on the Internet in a meaningful way.

ROB ATKINSON: Great, thanks.

SCOTT CLELAND: Scott Cleland, NetCompetition.org. I want to piggyback on something you said about the "third way" being unstable in the sense that everybody agrees that you can forbear, but that you can un-forbear. And that is what people think is the main instability. I'd like to see if you agree or others agree that there is an instability in a sense that Section 201 and Section 202 are really foundational on which most all of the other sections are built upon. And when you remove them, people will then come in and say I want to start with 201 and 202, that will naturally lead to the FCC having to create through fiat basically what was done through Congress to resolve many of these issues. And so it's a way of basically opening up blanket authority for the FCC to re-legislate many of the sections that they forbore from.

ROB ATKINSON: Jim? Ah, there're two Jim's here, so Jim Cicconi.

JAMES CICCONI: Well, Scott, you know, I think you've hit the nail on the head. I think, as Steven was saying earlier, the forbearance process is a big problem. It's a problem for couple of reasons. First of all, it's a very difficult problem for the FCC from a legal standpoint. You have to actually go in to court, and I don't think they could go into the court and argue that we reclassified because we didn't like your last decision, although their press releases seemed to indicate that that's exactly what they're doing. They haven't really laid out a rationale based on the competition in the market and what's changed since the last decisions that they've made in this area. But they need to do that. Well, to forbear, you actually have to demonstrate that there's competition in these areas

and, therefore, that you can forbear on this. Put aside the fact that it's subject to the whims of a 3 to 2 vote at any given point in time.

I think the other point is that we keep hearing about pricing regulation, and as you know, and as Steve and Randy know very well, that's in Section 201. They're not talking about forbearance on Section 201. This is the heart of common carriage regulation. They are not talking about forbearance in Section 201. That's where the pricing regulation is. When they speak of not subjecting the industry to pricing regulations, in essence they're saying, we're not going to forbear on 201, you're just going to have to trust us that we're really not intending to regulate prices. So on top of the 'trust us' that's embedded in the whole forbearance process, they're saying, okay, even where we're not going to forbear, just trust us that we're not going to subject broadband to these regulations. Again, it piles on itself in a way that's very unstable, and I think it's a very good word that Steven used. And keep in mind, this is all designed, this Rube Goldberg approach, is all designed to deal with a relatively narrow problem of jurisdiction and authority. And so it becomes more and more complicated for this Commission.

Let me give you one other quick example. They can't touch ISPs, they cannot enforce net neutrality simply through reclassification because they're not talking about touching or reclassifying what the ISP does. So, after this they then have to do something else to regulate the ISPs. What Madison River did, what Comcast was accused of doing; these were all done in the ISP layer, okay. And so the reclassification itself does not allow them to regulate ISPs. Even if they pass legal muster, it doesn't allow them to enforce the broadband principles. They have to then do something else. They've either got to go out there and still do a Title I proceeding, or they've got to reconsider 30 years

of *Computer Inquiry* rules. So this continues to get more and more complex, more and more unstable, as Steven put it, and all to serve a relatively narrow purpose – it could easily be done by the United States Congress with a very narrow grant of authority.

ROB ATKINSON: Jim?

JAMES SPETA: I'm good.

ROB ATKINSON: You're good? Steven.

STEVEN TEPLITZ: I was just going to add just a little bit to what Jim said, although it seems like he covered most of the key points. But it is just a lot more complicated than just forbearance versus un-forbearance. And the other piece that you have to take into account as well is you're going to have to come up with sort of a theory for reclassification, and I don't know whether that is consistent with forbearance. I don't think that it's going to be. So we have all of these different threads all hanging sort of together and if you pull one thread out, the whole thing falls apart. Now, Jim's final point was "what's the purpose of all this?" Well, the purpose is to get to this sort of very narrow solution on net neutrality and really the right way to do that is probably to go ask Congress to address it.

ROB ATKINSON: This gentleman right here. See if we can keep answers pretty short; maybe we can get one more question in.

JASON SCHANKER: Jason Schanker with Strategy Advisors. I thought the point of this is that priority is really important, and since there is not a good mechanism for end user negotiation for priority, and the solution, the market driven solution that Eric's company produced, was a step in the right direction. I'd be curious what the panel thinks of the likelihood that all of these problems, all the need for

regulation, the need for discrimination, are all driven by the fact that ultimately you have a scarce resource that's being allocated in a one size fits all methodology.

So when home phones went to 'all you can eat' pricing, or when AOL first did 'all you can eat' pricing, the difference between the lightest user and the heaviest user might have been a factor of 50 or 100. Today, on the Internet, the difference between a light user and a heavy user might be a factor of 100,000 or a million, and yet they both pay the same price. So how much would some mechanism for either time-based price discrimination or a dynamic pricing of bandwidth make these problems go away because if you were being paid more by the users, you wouldn't need to discriminate?

ROB ATKINSON: I would encourage you to look at a piece that Richard wrote for us on the end-to-end principles piece, Richard what is the title?

RICHARD BENNETT: "Designed For Change."

ROB ATKINSON: "Designed For Change," which should be back there. It's also on our website. That article got into a lot of those questions, but I'll let Richard address that for you.

RICHARD BENNETT: Yeah, I think that's where the solutions are going to lie. We're going to develop and, are already developing, some new technical approaches to mediating the demands for bandwidth and those have to really be combined with economic incentives for people to cooperate, and to place a value on the particular demand for bandwidth that a particular application has at a particular point in time. And this is one of the reasons that the whole net neutrality thing has been really frightening to me all along, as an engineer, is that I can see the need for the development of new pricing

schemes in order to make new methods of bandwidth allocation, and the mediation of bandwidth effective.

But if we're going to insist on imposing this traditional regulatory apparatus that is really based on networks that were designed to support one and only one application, then this is going to be a huge train wreck. And there is work being done in the ITIF around something called "re-DCM", which is a technical solution that gives rise to economic decisionmaking to resolve this bandwidth contention thing. And the deal about scarce resources in the Internet is that, by design, bandwidth is meant to be a scarce resource in the sense that it's designed to all be used, right? And that's kind of the huge difference between the Internet and telephone network. The telephone network is designed so that congestion is a pathology, but the congestion, or what we call 'saturation' is actually a goal. I mean, you want all the deployed bandwidth to be capable of being used 100%, right? And so you can't ever really avoid congestion on the Internet.

Let me tell a little story. A few years ago, BellSouth discovered they had a network in which they had 25% packet loss, which sounds like a lot. It was an OC3 network, so what they did was they quadrupled the bandwidth. So, what do you think happened to the packet loss when they quadrupled the bandwidth? You think it went away? Well, it actually declined from 25% to about 5%. And this is a dynamic that takes place. I mean this is a fundamental dynamic of the Internet. Unless you understand why that's the case, don't regulate my network.

ROB ATKINSON: All right, Jim.

JAMES SPETA: I think the economics of that are right, but they run up against a couple of things that we've learned through really good research about

consumers, which is they don't want surprises at the end of the month, in terms of how big their bill is. And so they need tools, and the tools can't be complicated. And some of the work that we've done, that's been being done on smart grid, shows that people will tolerate a certain degree of interruptability of service as long as it's not interruptability of experience. So, it's okay for the electric company to shut off my air conditioning for a little while, while they need to, but not so long as it makes my house hot. That sort of experience is very hard to replicate with your Internet service and the sort of consistent outcries about bandwidth caps and tiered pricing, which, to some extent doesn't make any rational sense from an economic perspective, are real facts on the ground. So how do you build a business model that allows that pricing and still satisfies consumers' fundamental desire not to get a $600 bill, or not even to be afraid of getting a $600 bill at the end of the month? The cell companies learned that lesson very strongly.

RANDY MAY: I can just pick up on your question because when you asked your question, I was thinking of Time Warner Cable's experience about a year and a couple months ago when it proposed what was a pretty modest experiment in capacity-based billing, I think it was called usage-based pricing, and within three days it was abandoned. There was an outcry from Free Press and Public Knowledge and some of the leading advocates of net neutrality. And, by the way, this wasn't, technically and strictly speaking, a net neutrality issue, right? I mean you weren't blocking access to sites.

But here's the point - I think once they have this, and I'll just be pretty blunt about it, I would worry a lot about the FCC having the authority to regulate Internet prices. Actually the FCC didn't get to that point in the Time Warner Cable incident, but giving the FCC the authority to regulate Internet prices, and I think Jim Cicconi made the point,

that one of the provisions they're not proposing to forbear from is 201, the rate regulation proposal. I read you initially in my opening remarks the statement in Austin Schlick's memo, which I thought was pretty carefully worded, where he said there is no reason to anticipate that the Commission would regulate, and he was talking about end user Internet prices in that paragraph. I wouldn't have too much faith, if I were an ISP, in that type of statement that there's no reason to anticipate rate regulation.

ROB ATKINSON: Randy, we've got to wrap up, but I want to let Eric have the last word. We're just a couple of minute's overtime here.

ERIC KLINKER: Yeah, I mean that question could probably foster an entire panel on its own. There are a couple key thoughts there, and one, you have to be very wary of consumer outcries. You can see it's something consumers do understand what they pay, and obviously what they fear they might pay, so you have to kind of cater to those concerns very early in the process. Meter pricing, of course, is neutral. It's fair, right, as long as it is fair. Grandma should probably expect a $2 ISP bill and maybe my BitTorrent user should expect a $100 ISP bill. I think as long as it's per bit, per meter, you can make a rational fairness argument. Tiered pricing gets into something where you are trying to skew the market in a particular direction. Having been in the ISP business, however, I think flat rate pricing is very successful. It's been very successful for ISPs, and because of many subscribers' Grandmas, immensely profitable, and yet it takes a breakage on the other guys' rates. So, at the end of the day, it all washes out as long as that fixed price is set appropriately per the market. So, I think, again, tread with caution but, yeah, I think economics incentives, as Richard pointed out, are the way to go. If you

can incent that sort of behavior, you'll get that behavior. There's a lot of work to be done there and a lot of opportunity.

ROB ATKINSON: Great, well let me just sum up by saying, I think, at least on this panel, I sense a consensus that Congress can and should act, ideally, this year with a surgical strike focused on some of these, giving FCC some authority in these areas with the recognition that some sort of co-regulation approach is also going to be needed. And let me leave us with the thought that I think is interesting - why is it that we want a smart grid and a dumb pipe? I really don't know the answer to that, but we want a smart grid and essentially a smart grid is more or less like a smart Internet, and one's okay, but the other one's not. Seem to me that you want one intelligence in all our networks.

So with that, please join me in thanking a great panel, and I know they'll be around for a couple of minutes if you have questions. Thank you.