silicon flatirons telecommunications program

2006-07 CONFERENCE SCHEDULE

Thursday, September 7th, 3:00 – 7:00pm
WIRELESS REVOLUTIONS
How Telecommunications Regulation Should Adapt
to New Technologies and Learn From Water Law

Tuesday, October 10th, 3:00 – 7:30pm
CONFRONTING CABLE'S TECHNOLOGICAL FRONTIER
Sponsored In Partnership with the Cable Center in Denver

Thursday, November 2nd, 3:00 – 6:20pm
NETWORK CONVERGENCE

SAVE THE DATES
2007

Sunday and Monday, February 11th – 12th, 2007
THE DIGITAL BROADBAND MIGRATION:
Preparing for the Next Wave of Innovation

Wednesday, March 21th, 2007
THE WEB AND THE WEST: COMPARING TWO FRONTIERS
Sponsored In Partnership with the Center for the American West

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Interdisciplinary Telecommunications Program

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Thursday, September 7th, 3:00 – 7:00pm

WIRELESS REVOLUTIONS

How Telecommunications Regulation Should Adapt to New Technologies and Learn From Water Law

Co-sponsored with the Interdisciplinary Telecommunications Program and Natural Resources Law Center

University of Colorado School of Law Courtroom

The wireless spectrum is a vital natural resource. Like water, its value and utility are diminished by unwanted pollution. Like sunlight, it cannot be depleted and is available all around us. The challenge for government policy is to define and enforce rules to govern its use. Historically, those rules have tightly prescribed who, how, and for what purpose the wireless spectrum could be used. As such, command-and-control rules limited opportunities for technological change, played favorites among technologies, and impeded marketplace activity.

There is widespread consensus that the command and control model needs to be replaced. The two candidates that will, likely in conjunction with one another, provide for greater dynamism and more efficient use of spectrum are the "commons model" and the "property rights model." In the commons model, spectrum is treated as a common resource (like a city park) open to the public. In the property rights model, spectrum is treated as something akin to real property, providing its "owner" the right to exclude others and use the property as she sees fit. Incrementally, the Federal Communications Commission continues to implement each model.

Over the next several years, telecommunications policy will almost certainly move away from the existing command-and-control framework. In charting a new course, regulators must appreciate the changing technologies that can operate effectively using commons access spectrum and propertized spectrum. Moreover, regulators must consider carefully what rules will govern spectrum effectively without stifling innovation. In a variety of contexts—specified protocols for how commons spectrum is used; database requirements for those using spectrum; or property-like rights and remedies (i.e., injunctions for trespass)—it is clear that spectrum is not just like real property and requires a new model. In developing that framework, policymakers should look not only around the world, but also to other legal regimes, such as water law. In this conference, we will set out the cutting edge perspectives on spectrum policy reform as well as examine what lessons water law can offer about restricting how spectrum is used and how it should (and should not) be propertized.

3:00 - 3:10	**Welcome**
Phil Weiser	Executive Director, Silicon Flatirons Program
3:10-4:10	**New Wireless Technologies and Opportunities for Further Innovation**
Dale Hatfield	Adjunct Professor, ITP, U. of Colorado; Former Chief Engineer, FCC
Peter Mannetti	Managing Partner, iSherpa Capital
Mark McHenry	CEO, Shared Spectum Company
Doug Sicker	Associate Professor, Computer Science & ITP, University of Colorado
4:10-5:10	**The Challenges of Spectrum Management Reform**
Bill Lehr	Professor, Professor of Economics, MIT
Christopher Guttman-McCabe	Vice President, Cellular Telecom. & Internet Association
Gregory Rosston	Professor, Stanford University
Bryan Tramont	Partner, Wilkinson Barker & Knauer
5:10-5:20	**Break**
5:20-6:20	**Lessons From Water Law**
Ray Gifford	President, Progress & Freedom Foundation
Gregory Hobbs	Justice, Colorado Supreme Court
Patrick Ryan	Faculty Director, Interdisciplinary Telecom. Program, U. of Colorado
Mark Squillace	Prof. & Exec. Director, Nat. Resources Law Center, U. of Colorado
6:20-7:00	**Keynote Address**
Kathleen Abernathy	Partner, Akin Gump Strauss Hauer & Feld; Former FCC Commissioner.

Tuesday, October 10th, 3:00 – 7:30pm
CONFRONTING CABLE'S TECHNOLOGICAL FRONTIER
At the Cable Center in Denver

Over the next 5-10 years, the cable industry faces what may well be its most formidable set of opportunities and challenges. The increasing adoption of digital technologies, and the disruptive set of forces unleashed by the Internet (and, in particular, the so-called Internet Protocol TV), will undoubtedly reshape the industry. This transformation promises new product opportunities, new functionalities such as a "start over" service (enabling consumers to restart programs), and services that integrate wireless devices into a digital home experience (e.g., programming a Digital Video Recorders (DVR) from afar).

The exciting opportunities confronting the industry present a series of technological and business challenges. Specifically, firms must consider whether to embrace a maze of new technologies that leverage network, hardware, and software innovations. In practice, the difficulties and expense of upgrading cable systems and their associated technologies (i.e., set-top boxes)—as well as the challenge of selling consumers on new technologies—is often a brake on innovation. Moreover, in many cases, firms must negotiate a set of complex legal and business relationships before rolling out new products and functionalities.

Additionally, industry incumbents today face the challenge that many innovations now being developed for the cable platform—particularly those that use broadband as a facilitator of consumer product offerings—are often pioneered by upstart firms. For example, the digital video recorder (e.g., Tivo), the remote viewing device (e.g., Slingbox), and Voice over Internet Protocol (VoIP) all emerged from the efforts of entrepreneurs acting outside of the established firms. Consequently, it is critical that established firms develop business strategies that effectively keep them on the leading edge of innovation, whether by creating breakthroughs internally or by adopting the innovations of outside firms.

New opportunities to provide content in creative forms and allow users a greater degree of control over their viewing experience are salutary byproducts of the digital age. At the same time, however, rising concerns about digital piracy threaten to kill the golden goose. How firms embrace digital technology and provide valuable enhancements to their existing content as well as develop protections against piracy remains a fundamental question for network operators and program developers.

Time	Session	
3:00 - 3:10	**Welcome**	
Jana Henthorn	Vice President, Programs and Education, The Cable Center	
3:10-4:20	**Technological Change and Network Innovation**	
Dick Green	CEO of Cablelabs	
Tom Lookabaugh	CEO of NGNA	
David Ellen	Deputy General Counsel, Cablevision	
4:20- 5:30	**Strategies for Remaining Innovative and Welcoming Innovation**	
Tryg Myhren	Former Chairman of American Television and Communications (ATC)	
Steve Halstead	Managing Director, Centennial Ventures	
Rich Grange	CEO, New Global Telecom	
Ryan McIntyre	Principal, Mobius Venture Capital; co-founder, Excite	
5:30-6:40	**Content In A Digital Age**	
Chris Moseley	EVP of Marketing for the Hallmark Channel	
Evan Shapiro	EVP and GM of IFC (Independent Film Channel).	
Barbara Jaffe	SVP of New Technology for HBO	
Decker Anstrom	President and COO, Landmark Communications	
6:40-7:30	**Reception**	

Thursday, November 2nd, 3:00 – 6:20pm
NETWORK CONVERGENCE
University of Colorado School of Law Courtroom

Increasingly, consumers will be able to communicate with one another and access information across disparate networks (wireless, wireline, broadband, satellite, etc.) in a seamless manner. According to some, consumers will soon engage in widespread content and service shifting, accessing video programs stored on their digital video recorders (DVRs) from their laptops, receiving emails on their television set, and programming their DVRs from their mobile phones.

To facilitate these and other innovations, technologists are developing a number of emerging technologies. For example, IP Multimedia Subsystem (IMS) already support multi-media applications across networks. Also emerging are multiple-mode phones (such as those that allow access to wi-fi networks where available and cellular networks where not) and ancillary terrestrial component (ATC) systems (which seamlessly integrate satellite and terrestrial wireless networks). In the midst of these technological changes, there are a number of questions about whether and how an integrated architecture will develop.

From a business perspective, the onset of network convergence could create significant opportunities both for the established network providers and independent applications developers. There are, however, a number of challenges in making this vision a reality. For starters, many carriers complain that the Internet rests on a fragile foundation and that current strategies have failed to develop sustainable approaches. More generally, many are concerned about whether open standards will enable consumers to switch between providers or whether applications will be largely dedicated to certain platforms. Finally, some question whether compelling applications will be developed at all and whether established firms will welcome innovations developed by independent firms (think Tivo and SlingMedia).

For policymakers, the emerging phenomenon of network convergence promises the final death knell to traditional silo-based regulation. Nonetheless, legacy approaches continue to govern new technologies. Consider, for example, that Voice over IP (VoIP) providers must offer E-911 access along the same lines offered by established firms. The reality is that when VoIP conversations rely on wi-fi networks or TV programs are downloaded from the Internet and then transferred to a TV or a PDA, the efforts to translate old rules to new technologies are likely to finally collapse.

3:00-3:10	**Welcome & Overview**
Phil Weiser	Executive Director, Silicon Flatirons Program
3:10-4:10	**The Technological and Business Realities of Network Convergence**
Carlos Kirjner	Partner, McKinsey
Don Kasica	CEO, Boldtech Systems
Roger Koenig	Founder and CEO, Carrier Access
Stephen Meer	CTO, Intrado
4:10-5:10	**Interoperability, Open Standards, and Applications Competition**
Kathleen Ham	Vice President, T-Mobile
Blair Levin	Managing Director, Stifel Nicholas
Tom Moore	Founder, WildBlue
Tom Wheeler	Partner, Core Capital; Former President, CTIA and NCTA
5:10-5:20	**Break**
5:20-6:20	**Regulatory Implications: The End of Silos?**
Steve Davis	Senior Vice President, Qwest Communications
Linda Kinney	Vice President, Law & Regulation, Echostar
Jennifer Manner	Vice President, Mobile Satellite Ventures
Barry Ohlsen	Legal Advisor, Commissioner Jonathan Adelstein
Joe Waz	Vice President and Chief Policy Counsel, Comcast
6:20-7:20	**Reception**

SAVE THE DATES

Sunday and Monday, February 11th – 12th, 2007
THE DIGITAL BROADBAND MIGRATION:
THE NEXT WAVE OF INNOVATION

Although still in its early stages, it is clear that the future of telecommunications will look very different than its past or even what the drafters of the Telecommunications Act of 1996 envisioned for its future. The network of tomorrow will not be optimized for particular services (cable, telephony, etc.) or applications (voice conversations, video programming delivery, etc.), but instead will be a general-purpose broadband platform capable of delivering diverse applications to consumers through the use of Internet Protocol technology. Ten years from now, there will not be Voice over Internet Protocol or Internet Protocol Television, there will simply be an array of applications providing voice or video to be delivered to consumers over broadband.

The new world of telecommunications will be a far cry from the Bell System's motto of "one system, one policy, universal service." There will be a network of networks and the challenges of facilitating interoperability between those networks and secure delivery of communications is a daunting one. To date, the Internet's open architecture allows for phishing scams, denial of service attacks, and spam—as well as massive amounts of innovation from applications developers who need not ask permission before launching the next Google, Skype, or Napster. Preparing for this new world presents enormous challenges to businesses, policymakers, and academics alike.

This Conference will examine the emerging world of telecommunications, taking special care to evaluate the rhetoric and realities of convergence; network management, security, and interoperability; digital rights management; and the role of entrepreneurship and outside innovation. Throughout all of these issues, a basic question arises as to whether and how policymakers can regulate software applications—or the transport platforms they rely on—to promote investment and innovation. Once again, we will be joined by an array of luminaries from government, academia, and industry, including former FCC Chairman Michael Powell, Federal Trade Commissioner Bill Kovacic, and Nextel founder Morgan O'Brien.

Wednesday, March 21th, 2007
THE WEB AND THE WEST: COMPARING TWO FRONTIERS
Sponsored in Partnership with the Center for the American West

The University of Colorado's Center for the American West has long explored the development of the original frontier—the American West. Together with Silicon Flatirons, the Center's MacArthur Fellow, Patty Limerick, will look through the lens of the original frontier to evaluate the issued raised by the increasing importance of the Internet and the World Wide Web— i.e., the current technological frontier. In particular, this conference will discuss the significance of how property rights are defined, infrastructure is developed, and a political and legal culture emerges.

LETTER FROM THE EXECUTIVE DIRECTOR

If there ever was a turning point for Silicon Flatirons since its founding in 2000, it was this past year. I am humbled as we approach our seventh year anniversary with several initiatives taking off and a new set of opportunities on the horizon. As always, the broad support and considerable enthusiasm of the many business persons and lawyers involved in our Program is critical to our success. I cannot thank you all enough.

New Additions

First and foremost, we welcomed to the Law School three critical partners in our emerging venture. Last fall, Brad Bernthal, a former student (CU Law 2001) and survivor of the dot-com bust (during which had worked at the now defunct Brobeck, Phleger & Harrison LLP), joined us as our first Research Fellow. Brad's energy, initiative, and work ethic are enormous assets. Since January, 2006, Brad has spearheaded the further development of the Entrepreneurial Law Clinic. Additionally, he teaches in the Interdisciplinary Telecommunications Program and supports a number of exciting telecommunications research initiatives.

This past January, Paul Ohm, who left the Justice Department's Computer Crimes and Intellectual Property Division to join us in Colorado, became a valuable addition to our Law School and a critical part of Silicon Flatirons. Paul's interests span computer security, intellectual property, and criminal procedure in the electronic age. Thus, his arrival broadens our reach and provides an infusion of enthusiasm. His ongoing research agenda is dynamic and exciting, complemented by his leadership on our Software Regulation Clearinghouse.

Finally, in May, Vic Fleischer, formerly on the faculty of UCLA School of Law, joined our faculty and assumed leadership of our entrepreneurial initiatives. Vic's interests span entrepreneurship, venture capital, innovation in the information industries, and tax law. As Vic put it himself (on his blog, Conglomerate), Colorado has an "interesting technology & start-up culture that makes it a great fit for my interest in venture capital, private equity, and branding." Like Paul and Brad, Vic fits in naturally and is a great addition to our program.

Research Mission

Over this past year, Silicon Flatirons also took important strides in developing its research mission. Brad Bernthal and I, along with Interdisciplinary Telecommunications Program colleagues Dale Hatfield, Doug Sicker, and Tim Brown, took on a DARPA-funded project related to the future of spectrum policy and, in particular, dynamic spectrum access with the use of "smart" (i.e., cognitive and software defined) radios. This project followed a previous NSF-funded project focused on spectrum policy reform.

The future of Silicon Flatirons-supported research is very bright. This last year, we launched the Dale Hatfield Research and Scholars Program. This Research and Scholars Program is administered by Silicon Flatirons in order to support policy research, regulatory education, and student interest in technology policy work. Thanks to the generosity of a large number of companies, law firms, and individuals—all of whom recognized how this Program is a fitting tribute to Dale Hatfield—we are able to support projects like PolicyLab, which will further develop our track record of interdisciplinary research. This Program will also ensure that Silicon Flatirons can continue to support and work with the Institute of Regulatory Law & Economics as well as support other worthy initiatives.

Student Excellence

Finally, I would be remiss if I did not acknowledge the ever-growing level of excitement and talents of the students who are increasingly viewing the University of Colorado School of Law as a valuable platform for preparing to be a technology and telecommunications lawyer. Of course, the energy and commitment of such students is essential to SFTP's success. Not surprisingly, their enthusiasm for telecommunications law also produces noteworthy results. For example, this past year CU's team won best brief at the Federal Communications Bar Association Moot Court and, meanwhile, the Journal on Telecommunications and High Technology Law made a seamless transition to publishing two issues per year.

In closing, I am looking to our next year with considerable excitement. We are clearly poised to elevate the quality of our Program even further and build stronger connections with our exciting local technology community. I am surprised that I am still finding new strengths and valuable partners here. If you have any suggestions for others who should get involved with Silicon Flatirons, organizations that are fitting co-sponsors for our programs, or suggestions of future directions, please let me know (at 303-735-2733 or phil.weiser@colorado.edu).

Phil Weiser
Executive Director
Silicon Flatirons Program

THE JOURNAL ON TELECOMMUNICATIONS AND HIGH TECHNOLOGY LAW

Law students interested in telecommunications and high technology are able to further their interest by working with noted scholars and practitioners in the area as a member of the Journal. The Journal has quickly become a preeminent publication in the field with articles authored by former FCC Commissioners, industry professionals, and several distinguished law professors. Each year the Journal publishes the proceedings from our flagship policy conference, The Digital Broadband Migration, along with other articles on important cutting edge questions of broadband policy as well as privacy and security policy. For further information or to subscribe, contact the Journal at JTHTL@colorado.edu.

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2005 Brian Tramont seminar series, "The Foundations of Telecommunications Policy"
2005 Digital Broadband Migration: Rewriting the Telecom Act
2004 Digital Broadband Migration: Toward a Regulatory Regime For The Internet Age

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