



THE JOURNAL ON TELECOMMUNICATIONS AND HIGH TECHNOLOGY LAW

And

**silicon
flatirons**
A Center for Law, Technology, and
Entrepreneurship at the University of Colorado

Present

THE DIGITAL BROADBAND MIGRATION: *IMAGINING THE INTERNET'S FUTURE*

FEBRUARY 8TH – 9TH, 2009

THE UNIVERSITY OF COLORADO, BOULDER

The Internet's development has amazed even its early pioneers and its ability to confound skeptics suggests that calls for change should be taken with a grain of salt. At the same time, it seems difficult to imagine that the Internet's future will not feature any number of innovations that will change how it operates. Indeed, issues such as security, mobility, increased machine-to-machine communications, and the advent of real-time applications challenge some of the design principles of the current Internet. In any event, the network of the future will be shaped not merely by technological change, but also economics, the needs of users, and policy directives.

This conference will imagine the Internet's future, discuss its economic and social implications, and contrast different prescriptions for Internet policy. It will do so by bringing together a top flight group of academics, policymakers, and industry leaders to discuss these issues along four dimensions. First, we will evaluate the technological, economics, social, and policy challenges that are emerging on the horizon. Second, we will discuss the changing architecture of the Internet, the role of network management, and the significance of the transition away from an end-to-end architecture. The third panel will evaluate whether existing institutions—be they the Federal Trade Commission, the Federal Communications Commission; standard setting bodies like the Internet Engineering Task Force; self-regulatory bodies; or private contracting—are up to the task of overseeing Internet communications, including ensuring the reliable service delivery across different networks. The final panel will discuss the major changes in how the Internet serves consumers and how the market for Internet content is evolving. In all discussions, we will bring together the related technological, business, and policy themes that are shaping the Internet and the future of innovation in the information industries.

THE DIGITAL BROADBAND MIGRATION: IMAGINING THE INTERNET'S FUTURE

SUNDAY, FEBRUARY 8TH, AT CU SCHOOL OF LAW WITTEMEYER COURTROOM

- 8:45 – 9:00 WELCOME
Phil Weiser
- 9:00 – 9:45 OVERVIEW ADDRESS
William Kovacic, Chairman, Federal Trade Commission
- 9:45 – 11:45 OVERVIEW PANEL: THE INTERNET'S CHALLENGE TO POLICY MAKERS
Moderator: **Phil Weiser**
Discussants: **Kathryn Brown, Brad Feld, Don Gips, William Kovacic, Jack Krumholtz, Gigi Sohn**
- 11:45 – 1:15 LUNCH
- 1:15 – 3:15 THE EVOLUTION OF INTERNET ARCHITECTURE: FROM BEST EFFORTS AND END-TO-END TO REASONABLE NETWORK MANAGEMENT?
Moderator: **Paul Ohm**
Presenters: **Edward Felten, Shane Greenstein, Christopher Yoo**
Discussants: **Dorothy Attwood, Mark Cooper, Andrew McLaughlin**
- 3:15 – 3:30 BREAK
- 3:30 – 5:30 THE EVOLUTION OF REGULATORY INSTITUTIONS FOR AN INTERNET AGE
Moderator: **Andrew Crain**
Presenters: **Susan Crawford, Howard Shelanski, James Speta**
Discussants: **Jonathan Nuechterlein, Bryan Tramont, Joe Waz, Stephen Williams**
- 5:30 – 6:30 Reception - Sponsored by Perkins Coie
(Alcohol will be served)

MONDAY, FEBRUARY 9TH, at Glenn Miller Ballroom, University Memorial Center

- 9:00 – 9:45 KEYNOTE ADDRESS
Richard Lynch, CTO, Verizon Communications
- 9:45 – 11:45 THE FUTURE OF INTERNET CONTENT AND SERVICES
Moderator: **Peter Rohrbach**
Presenters: **Stacey Dogan, Eric Goldman, Pamela Samuelson**
Discussants: **Michael Gallagher, Kathleen O'Brien Ham, Chris Libertelli, Preston Padden**
- 11:45 – 1:15 LUNCH AND CLOSING ADDRESS
Irwin Jacobs, Founder and Chairman of the Board, Qualcomm

Symposium papers will be published in The Journal on Telecommunications and High Technology Law.

Biographies

DOROTHY ATTWOOD is the Senior Vice President – Public Policy and the Chief Privacy Officer for AT&T Services, Inc. Attwood leads the development and implementation of AT&T's strategic international, national, federal and state public policy initiatives across all AT&T lines of business – including wireless, internet, video and wireline services. As Chief Privacy Officer, Attwood has oversight responsibility for the development and implementation of enterprise-wide policies governing the privacy of customer information. Prior to joining the AT&T in November of 2002, Attwood spent six years at the Federal Communications Commission, advising Chairmen in both Democratic and Republican administrations. Attwood was the Senior Legal Advisor to Chairman William Kennard on all common carrier, enforcement and consumer matters, and served as chief of the Federal Communications Commission's Wireline Competition Bureau under both Chairman Kennard and Chairman Michael Powell. She also served as chief of the Enforcement Division of the Common Carrier Bureau. Attwood played a major role in implementing the Telecommunications Act of 1996, including advancing the FCC's competition, Internet, universal service and consumer policies.

KATHRYN C. BROWN is Senior Vice President of Public Policy Development and Corporate Responsibility at Verizon. Previously, she was a partner at Wilmer, Cutler & Pickering, where she focused on the legal and regulatory challenges for companies in the converging telecommunications market. Before that she was the Chief of Staff of the FCC and has served as the Chief of the FCC's Common Carrier Bureau as well. Ms. Brown received her J.D., *summa cum laude*, from Syracuse University College of Law and her B.A., *magna cum laude*, from Marist College.

MARK COOPER is the Director of Research at the Consumer Federation of America. He has provided expert testimony in over 250 cases for public interest clients in almost 48 jurisdictions in the U.S. and Canada. Dr. Cooper serves as a Fellow at the Stanford Center for Internet and Society and is the author of dozens of articles and the books *Media Ownership and Democracy in the Digital Information Age* and *Cable Mergers and Monopolies*. Dr. Cooper holds a sociology Ph.D. from Yale University and is a former Yale University and Fulbright Fellow.

ANDREW CRAIN has managed Qwest's regulatory law group since 2007. Prior to his current position, Mr. Crain managed the company's commercial lawyers, who negotiated all commercial contracts for the company and provided advice to its product development group. During his eleven years at Qwest and its predecessor U S WEST, Mr. Crain has served as the head of the company's FCC lawyers, the head of the company's wholesale lawyers, a lead lawyer in the company's project to obtain approval to provide long distance services, the company's state regulatory attorney for South Dakota, Wyoming and Montana, and the lawyer responsible for its cable litigation.

SUSAN CRAWFORD teaches internet law and communications law at the University of Michigan Law School. She is a member of the board of directors of ICANN and is the founder of OneWebDay, a global Earth Day for the internet that takes place each Sept. 22. Professor Crawford received her B.A. (*summa cum laude*, Phi Beta Kappa) and J.D. from Yale University. She served as a clerk for Judge Raymond J. Dearie of the U.S. District Court for the Eastern District of New York, and was a partner at Wilmer, Cutler & Pickering.

STACEY DOGAN is a Professor of Law at Northeastern University, where she writes and teaches in the areas of intellectual property and antitrust law, with a particular focus on the challenges wrought by the digital and online environments. Before joining the Northeastern faculty, Professor Dogan practiced with Covington & Burling, where she specialized in antitrust litigation. She earned her B.S. from MIT, and her J.D. from Harvard. After law school, Professor Dogan served as a law clerk to the Hon. Judith Rogers of the US Court of Appeals for the District of Columbia.

BRAD FELD is a Managing Director at Foundry Group and Mobius Venture Capital. Prior to Mobius, Brad founded Feld Technologies, which was sold to AmeriData Technologies in 1993, where he became Chief Technology Officer. Brad currently serves on the boards of a number of private companies, including ePartners, Gold Systems, Judy's Book, NewsGator, Rally Software, and StillSecure. Brad received his B.A. and M.S. from MIT.

EDWARD FELTEN is professor of computer science and public affairs at Princeton University, and is the founding director of Princeton's Center for Information Technology Policy. His research interests include computer security and privacy. He is extensively published in research literature, the co-author of two books on the topic of Java security, and was the lead computer science expert for the Department of Justice in the Microsoft antitrust case. His weblog, freedom-to-tinker.com, is widely read for its commentary on technology, law, and policy.

MICHAEL GALLAGHER is the President and CEO of The Entertainment Software Association. Previously, he was the Department of Commerce's Assistant Secretary for Communications & Information, serving as chief telecommunications and Internet policy advisor to the George W. Bush Administration, during which he led successful efforts to pave the way for a number of new technologies and services, such as ultrawideband, broadband over powerlines, advanced wireless services, and millimeter wavelength networks. Mr. Gallagher holds degrees in Economics and Political Science from the University of California, Berkeley, and a J.D. from the University of California, Los Angeles.

DON GIPS is Group Vice President of Corporate Strategy and Development for Level 3 Communications. Prior to joining Level 3, he was Chief Domestic Policy Advisor to United States Vice President Al Gore, with a focus on technology and communications industries in domestic and international arenas. Mr. Gips has also served as Chief of the Federal Communications Commission's International Bureau, and as an Executive Manager at McKinsey Company, an international management consulting firm.

ERIC GOLDMAN is Associate Professor and Director of the High Tech Law Institute, Santa Clara University School of Law. Professor Goldman has previously taught at Marquette University Law School, and prior to that, he practiced Internet and technology law in the Silicon Valley for eight years, first as an attorney at Cooley Godward, and then as General Counsel of Epinions.com, an internet start-up company. Professor Goldman received his undergraduate degree in economics/business and his JD/MBA from UCLA.

SHANE GREENSTEIN is the Elinor and Wendell Hobbs Professor of Management and Strategy at the Kellogg School of Management, Northwestern University. He is a leading researcher in the business economics of computing, communications and Internet infrastructure, and his research and writing focus on a variety of topics in this area, including the adoption of client-server systems, the growth of commercial Internet access networks, the industrial economics of platforms, and changes in communications policy. Greenstein received his BA from University of California at Berkeley and his PhD from Stanford University, both in economics.

KATHLEEN O'BRIEN HAM is Vice President, Federal Regulatory Affairs for T-Mobile USA, Inc. She oversees the company's work before the FCC, including the recent AWS Auction. Prior to joining T-Mobile, she worked for fourteen years at the FCC in a number of top policy positions, including Deputy Chief of the Wireless Telecommunications Bureau.

IRWIN JACOBS is co-founder and chairman of the board of directors of QUALCOMM Incorporated, pioneer and world leader of Code Division Multiple Access (CDMA) digital wireless technology. Dr. Jacobs served as chief executive officer of the Company until July 2005. He led the commercialization of CDMA technology and its success as the world's fastest-growing, most-advanced voice and data wireless communications technology. Previously, Dr. Jacobs co-founded LINKABIT Corporation in 1969. The company merged with M/A-Com in 1980. He earned his Bachelor of Science degree in electrical engineering from Cornell University in 1956, and his MS and doctorate of science degree in electrical engineering from MIT in 1957 and 1959. He taught electrical engineering at MIT from 1959 to 1966 and then helped establish the Electrical Engineering department at UCSD where he served as professor of Information and Computer Science from 1966 to 1972.

WILLIAM E. KOVACIC is Chairman of the Federal Trade Commission. Prior to his appointment as FTC Commissioner, he was the E.K. Gubin Professor of Government Contracts Law at George Washington University Law School, and was the FTC's General Counsel after that. Mr. Kovacic has served as an advisor on antitrust and consumer protections issues to governments including Armenia, Egypt, Georgia, Morocco, Vietnam, and Zimbabwe. He earned his bachelor's degree from Princeton and his J.D. from Columbia.

JACK KRUMHOLTZ is Managing Director of Federal Government Affairs and Associate General Counsel for Microsoft. Mr. Krumholtz and his office are responsible for developing and implementing outreach and lobbying strategies to advance Microsoft's and the industry's perspective on relevant public policy issues. Mr. Krumholtz is also responsible for developing and managing the Company's relationships with external groups based in Washington, D.C. He regularly represents Microsoft in public and with the media. He has testified before Congress on Internet services in China, bridging the digital divide, and software piracy.

CHRIS LIBERTELLI is Senior Director of Government and Legal Affairs for Skype. Before joining Skype, he was Senior Legal Advisor to FCC Chairman Michael Powell where he managed the Chairman's broadband and competition policy agendas and was central to the development of the FCC's Internet Telephony framework. Prior to that, he worked for Dow Lohnes & Albertson.

RICHARD J. LYNCH is Executive Vice President and Chief Technology Officer for Verizon Communications. In this role he is responsible for technology direction and network planning for all the Verizon business units. Prior to assuming his current position in July 2007, Lynch had been the Executive Vice President and Chief Technical Officer for Verizon Wireless since its formation in 2000, and before that, had held the same position at Bell Atlantic Mobile since 1990.

ANDREW McLAUGHLIN is Head of Global Public Policy and Government Affairs for Google, and is a non-resident Senior Fellow at the Berkman Center for Internet & Society at Harvard Law School, where his work has focused on the law and regulation of Internet and telecommunications networks. Mr. McLaughlin helped to launch ICANN and served as Vice President, Chief Policy Officer, and Chief Financial Officer. He earned a B.A. in history from Yale, and, after receiving his J.D. from Harvard, clerked for Judge Gerald W. Heaney of the U.S. Court of Appeals for the Eighth Circuit.

JON NUECHTERLEIN is a partner at WilmerHale, where he focuses on competition issues arising under federal telecommunications law. From 2000-01, he was Deputy General Counsel of the FCC, where he oversaw litigation arising from the Telecommunications Act of 1996, and from 1996-2000, he served as assistant to the Solicitor General in the US Department of Justice. After graduating from Yale Law School, he clerked for Judge Stephen Williams on the D.C. Circuit and then for Justice David Souter on the U.S. Supreme Court. He is co-author (with Phil Weiser) of *Digital Crossroads: American Telecommunications Policy in the Internet Age*.

PAUL OHM is an associate professor of law at the University of Colorado, where he specializes in the emerging field of computer crime law, as well as criminal procedure, intellectual property, and information privacy. Prior to joining CU he worked as a trial attorney in the Computer Crime and Intellectual Property Section of the U.S. Department of Justice. Mr. Ohm clerked for Judge Betty Fletcher of the U.S. Court of Appeals, Ninth Circuit, and Judge Mariana Pfalzer of the U.S. District Court for the Central District of California.

PRESTON PADDEN is Executive Vice President, Government Relations, of the Walt Disney Company, working with all business units of Disney and their interactions with the U.S. government and those of other countries. He is the former president of ABC Television Network, and has served as chairman and CEO of American Sky Broadcasting, a satellite television joint venture between News Corp. and MCI. Mr. Padden also served as President, Telecommunications and Television, for News Corp., and Senior Vice President, Affiliates, of Fox Broadcasting Company.

PETER ROHRBACH is a partner at Hogan & Hartson, where he is Co-director of the firm's communications group and a leading member of the U.S. Communications Bar. Mr. Rohrbach's particular emphasis is on the telephone industry, satellite communications, and information services, and he routinely appears before the FCC, state public utility commissions, and other governmental bodies. He received his B.A. *magna cum laude* from Yale, and his J.D. from Stanford.

PAMELA SAMUELSON is a professor of law and Chancellor's Professor of Information Management at the University of California at Berkeley. She is a director of the Berkeley Center for Law & Technology, teaches and researches in the areas of intellectual property, cyberlaw, and information policy, and has written extensively about the challenges that new information technologies pose for traditional legal regimes. She is also a director of the Electronic Frontier Foundation and the Open Source Application Foundation.

HOWARD SHELANSKI is a professor of law at the University of California, Berkeley, and director of its Center for Law & Technology. He has published extensively in the fields of antitrust, regulation, and telecommunications law, and is co-author of the casebook *Telecommunications Law and Policy*. Dr. Shelanski has previously served as chief economist of the FCC and as senior economist to the President's Council of Economic Advisers. He has clerked for Judge Stephen F. Williams of the U.S. Court of Appeals; U.S. District Court Judge Louis Pollak; and Supreme Court Justice Antonin Scalia.

GIGI SOHN is a communications attorney and founder of Public Knowledge, a digital rights advocacy group. She has been published in the Washington Post, Variety, CNET and Legal Times, and has appeared on programs such as the Today Show, The McNeil-Lehrer Report, C-SPAN's Washington Journal and National Public Radio's All Things Considered. Gigi is a Fellow at the University of Southern California, and a Senior Fellow at the University of Melbourne Faculty of Law. Ms. Sohn holds a J.D. from the University of Pennsylvania Law School.

JAMES SPETA is a Professor of Law at Northwestern, where his research interests include telecommunications and Internet policy, antitrust, administrative law, and market organization. Professor Speta earned his J.D. from Michigan Law School, clerked for Judge Harry T. Edwards on the United States Court of Appeals for the D.C. Circuit, and practiced appellate, telecommunications, and antitrust law with Sidin & Austin.

BRYAN TRAMONT is a partner at Wilkinson Barker Knauer. He served as Chief of Staff of the FCC under former Chairman Michael Powell. He also served as Senior Legal Advisor to Commissioners Kathleen Abernathy and Harold Furchtgott-Roth. Previously, Tramont practiced communications law at Wiley Rein and Fielding in Washington, D.C., and also clerked for the Hon. Duane Benton on the Supreme Court of Missouri. He is a visiting adjunct lecturer at the Univ. of Colorado, Boulder, an adjunct Professor of Law at Catholic University, and a Practitioner in Residence at Syracuse University Law School. Tramont also serves as a member of the Commerce Department's Spectrum Management Advisory Committee and earned his J.D. from Yale, where he was editor of the Yale Law & Policy Review.

JOE WAZ is vice president, External Affairs and Public Policy Counsel, for Comcast Corporation, based in Philadelphia. He is also president of the Comcast Foundation and executive director of the Comcast Corporation Political Action Committees. He began his Washington career with Ralph Nader's Telecommunications Research and Action Center, and was executive vice president and general counsel of the Wexler Group in Washington before joining Comcast. He is the winner of the Vanguard Award, the cable's industry's top honor for contributions to the industry, in the field of government and community relations. He received his J.D. from the University of Connecticut.

PHIL WEISER is the founder and executive director of the Silicon Flatirons Center at the University of Colorado. He is also a professor of law at the University of Colorado, with a joint appointment in the Interdisciplinary Telecommunications Program. Professor Weiser was formerly senior counsel to the Assistant Attorney General, Antitrust Division, at the U.S. Department of Justice. He has also clerked for Justices Byron R. White and Ruth Bader Ginsburg of the U.S. Supreme Court. Professor Weiser teaches, writes, and publishes in the area of information policy and is the co-author of *Digital Crossroads: American Telecommunications Policy in the Internet Age*.

STEPHEN WILLIAMS is a Senior Judge for the U.S. Court of Appeals, D.C. Circuit. Prior to his appointment to the bench, Judge Williams taught at the University of Colorado School of Law. He has also served as a visiting professor of law at UCLA, University of Chicago, and Southern Methodist, and a consultant to the Administrative Conference of the United States and the Federal Trade Commission. In 2006 he published *Liberal Reform in an Illiberal Regime: The Creation of Private Property in Russia, 1906-1915* (Hoover Press). He received his B.A. from Yale in 1958 and his J.D. from Harvard in 1961.

CHRISTOPHER YOO is a Professor of Law and Communication and Founding Director of the Center for Technology, Innovation, and Competition at the University of Pennsylvania Law School, where his research focuses on how technological innovation and economic theories of imperfect competition are transforming the regulation of the Internet and other forms of electronic communications. Professor Yoo earned an A.B. from Harvard, an M.B.A. from UCLA, and after receiving a J.D. from Northwestern clerked for Judge A. Raymond Randolph of the U.S. Court of Appeals for the D.C. Circuit and Justice Anthony Kennedy of the Supreme Court of the United States.

THE JOURNAL ON TELECOMMUNICATIONS AND HIGH TECHNOLOGY LAW is the most recent addition to CU's tradition of student publications. JTHTL is sponsored by the Silicon Flatirons Center and is committed to providing a meaningful experience to students who have an interest in telecommunications, technological convergence, intellectual property, and regulatory law. Strategically, JTHTL capitalizes on the University of Colorado at Boulder's tradition as a pioneer in interdisciplinary telecommunications scholarship and the strong base of technology companies located in the Denver-Boulder corridor. Accordingly, JTHTL encourages interdisciplinary inquiry, publishing articles by technologists and economists as well as by law professors, practicing lawyers, and policy experts. Furthermore, in conjunction with the Silicon Flatirons Center, JTHTL presents a symposium each spring for scholars, practitioners, faculty and students to discuss and debate the relevant, pressing issues of the day. More information concerning the journal and upcoming issues is available at <http://www.colorado.edu/law/jthtl/>.

THE SILICON FLATIRONS CENTER FOR LAW, TECHNOLOGY AND ENTREPRENEURSHIP brings to campus individuals from legal, technical, regulatory and business backgrounds to discuss issues facing the telecommunications and information technology communities. It creates an environment for analyzing the continually changing dynamics in the telecommunications and information technology industries and the resulting entrepreneurship in these fields; prepares students for leadership in these important areas; and supports initiatives to encourage entrepreneurship at the University and surrounding community. More information about Silicon Flatirons is available at <http://www.silicon-flatirons.org>.

SUPPORTERS OF THE SILICON FLATIRONS CENTER

Founding Members

AT&T
Microsoft
Qwest Communications
Verizon

Charter Members

Comcast Corporation
Level 3 Communications

Executive Members

Brad Feld
Computer & Communications
Industry Association (CCIA)
Google
Hunton & Williams LLP
National Cable and
Telecommunications Association
(NCTA)
Perkins Coie

Sponsors

Brownstein Hyatt Farber Schreck, LLP
Cooley Godward Kronish LLP Dorsey
& Whitney LLP
Faegre & Benson LLP
Greenberg Traurig
Hogan & Hartson
Holme Roberts & Owen LLP
Intrado
Jason Mendelson
Liberty Media Corporation
Patton Boggs LLP
Qualcomm
Sherman & Howard L.L.C.
The Walt Disney Company
Tom Lookabaugh
Townsend and Townsend and Crew

Patrons

CableLabs
Davis Graham & Stubbs LLP

Davis Wright Tremaine LLP
EchoStar Satellite, L.L.C.
Holland & Hart LLP
Huron Consulting Group
Kamlet Shepherd & Reichert,
LLP
Stoel Rives LLP
T-Mobile USA
Wilkinson Barker Knauer, LLP
Willkie Farr & Gallagher LLP
Wilmer Cutler Pickering Hale and
Dorr LLP

Friends

Bill Mooz
Communications Technology
Professionals (CTP)
Sequel Venture Partners

Media Sponsor

w3w3.com

To learn how you can support the Silicon Flatirons Center for Law, Technology, and Entrepreneurship, contact Phil Weiser, Executive Director at (303) 735-2733 or phil.weiser@colorado.edu.

REGISTRATION INFORMATION

Register online at: www.silicon-flatirons.org

Registration Fees:

General Public	\$500
FCBA/DTP members	\$450
CU Alumni	\$400
Academic/Government	\$350
CU Faculty/Staff/Students	Free

Save \$100 on all registration payments received before January 23rd.

Pay in advance (save \$100 before January 23rd):

Make a check payable to the University of Colorado-Silicon Flatirons and send, along with registrant's name, affiliation, and contact information (including email), to:

Silicon Flatirons Center
401 UCB, Wolf Law Building
Boulder, CO 80309

****University policy does not allow us to accept credit card payments.**

Full Registration includes:

Symposium Admission
Attendance at Monday's Lunch & Sunday's Reception
Journal on Telecommunications and High Technology Law Subscription

Location:

University of Colorado School of Law
Paid parking for Monday is available in the Euclid parking lot to the east of the University Memorial Center
Maps of campus and the surrounding area are available at: www.colorado.edu/directories/webmap

Cancellations:

Please email sf@colorado.edu by January 23, 2009 5:00 MST to receive a refund.

For Further Information:

Check the website (www.silicon-flatirons.org), call (303) 735-5633 or email us at sf@colorado.edu

Transportation:

Boulder is served by the Denver International Airport (DIA), 40 miles from the Boulder campus. Hourly shuttles run from the airport to Boulder. Tickets can be purchased on Level 5 of DIA.

Accommodations:

The Hotel Boulderado is located in downtown Boulder and is within close proximity to the University of Colorado campus. Seasonal discount and/or corporate rates apply in early February. Make reservations by calling 1-800-433-4344. For additional accommodation options, contact the Boulder Chamber of Commerce at (303) 442-1044.
