Digital Broadband Migration: After the Internet Protocol Revolution
Silicon Flatirons Conference
University of Colorado law School
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Reading List

I. Internet Protocol: How it works (And What That Means)

Andrew L. Russell, OSI: The Internet That Wasn't, IEEE Spectrum (July 30, 2013), http://spectrum.ieee.org/computing/networks/osi-the-internet-that-wasn't.

- The history of the early days of the Internet, and how "TCP/IP eclipsed the Open Systems Interconnection standards to become the global protocol for computer networking"
- Points out the lack of technical insights from OSI in today's Internet community

Barry M. Leiner, Vinton G. Cerf, David D. Clark, Robert E. Kahn, Leonard Kleinrock, Daniel C. Lynch, Jon Postel, Larry G. Roberts, and Stephen Wolff, Brief History of the Internet, Internet Society (October 15, 2012), *available at* http://www.internetsociety.org/sites/default/files/Brief_History_of_the_Internet.pdf.

- Several people involved in the development and evolution of the Internet share their views of its origins and history.
- "This history revolves around four distinct aspects. There is the technological evolution that began with early research on packet switching and the ARPANET (and related technologies), and where current research continues to expand the horizons of the infrastructure along several dimensions, such as scale, performance, and higher-level functionality. There is the operations and management aspect of a global and complex operational infrastructure. There is the social aspect, which resulted in a broad community of Internauts working together to create and evolve the technology. And there is the commercialization aspect, resulting in an extremely effective transition of research results into a broadly deployed and available information infrastructure."

II. Challenges of Governance: Seamless Networks with Global Reach

Joan Engebretson, Savvis: Cloud Services Will Be Dominant IT Model by 2019, Telecompetitor (October 3, 2013), http://www.telecompetitor.com/savvis-cloud-services-will-dominant-model-2019/.

- According to new research from Savvis, nearly 90% of enterprises are using cloud services today, but that scenario will change dramatically over the next five years and "within 10 years, outsourced cloud services will represent the bulk of IT infrastructure for about 35% of enterprises…."

Karen Kornbluh and Daniel J. Weitzner, Foreign policy of the Internet, The Washington Post, Opinions (July 14, 2011), *available at* http://www.washingtonpost.com/opinions/foreign-policy-of-the-internet/2011/07/08/gIQAjqFyEI_story.html.

- "Iran's recent announcement that it plans to disconnect Iranian cyberspace from the rest of the world was another dramatic sign that the Internet is at risk of being carved up into national mini-Internets, each with its own rules and restrictions. In contrast, the United States has staked out a clear position of leadership in building a global consensus around the benefits of an open, interconnected Internet."
- "[N]ations that choose to take a heavy-=handed approach to regulating the Internet can reduce its value for every other nation and user. For this reason, collective action is needed to safeguard this global treasure. A foreign policy that accounts for the Internet has become essential. We need to work with other countries and stakeholders to build a global consensus on the importance of open communications online among all users – everywhere in the world. And we must build consensus around norms and expectations of behavior essential to that vision."

III. The Societal Impact of Networks: Internet Protocol Transition and the Social Contract for the Broadband World

Tom Wheeler, The IP Transition: Starting Now, Official FCC Blog (November 19, 2013), http://www.fcc.gov/blog/ip-transition-starting-now.

- "Our communications networks are changing – and fast. What some call the "IP transition" is really a series of transitions; a multi-faceted revolution that advances as the packets of Internet Protocol (IP)-based communication replace the digital stream of bits and analog frequency waves. The impacts on networks have already begun and will be profound…. The way forward is to encourage technological change while preserving the attributes of network services that customers have come to expect – that set of values we have begun to call the Network Compact."

Technology Transition Policy Task Force December 12 Presentation, Federal Communications Commission (December 12, 2013), http://www.fcc.gov/document/technology-transitions-policy-task-force-december-12-presentation.

- Technology Transitions Task Force Presentation: With the immediate goal to understand the impact of technology transitions on consumers through diverse experiments and open-data initiatives, focusing on the values of public safety, universal access, competition, and consumer protection.
- Statements from Chairman Wheeler, Commissioner Clyburn, Commissioner Rosenworcel, and Commissioner Pai.

IV. Competition Policy, Interconnection, and Internet Governance

Howard A. Shelanski, Information, Innovation, and Competition Policy for the Internet, 161 U. PA. L. REV. 1663 (2013), http://www.pennlawreview.com/print/Shelanski-161-U-Pa-L-Rev-1663.pdf.

- Discusses criticisms about the ability of competition agencies around the world to make beneficial enforcement decisions given the complexity and rapid pace of change in online markets.

- Argues that because the error costs of overenforcement of antitrust laws in digital markets would be much higher than the error costs of underenforcement, courts and antitrust agencies should presume against antitrust intervention in digital industries.
- Discusses several ways in which competition policy can adjust to better account for potential costs and benefits of enforcement in digital platform markets: importance of customer information and innovation and how those characteristics can affect competition and business conduct on the internet.
- Argues that non price effects related to information and innovation are particularly important to the performance of online platforms, and may hold the key to a better understanding of the costs of antitrust underenforcement and the assessment of the competitive effects of conduct and transactions in digital industries—antitrust enforcement in digital industries can build on ongoing policy developments that diminish the need to rely on a market definition and that allow innovation effects a more prominent place in competition analysis.

V. The "Consent" of the Governed: Multistakeholder Processes and Comparative Institutional Analysis

Joe Waz and Phil Weiser, Internet Governance: The Role of Multistakeholder Organizations, 10 J. ON TELECOMM. & HIGH TECH. L. 331 (2012), http://www.jthtl.org/content/articles/V10I2/JTHTLv10i2_WazWeiser.PDF.

- Identifies that the Internet's openness, global interconnectedness, decentralized nature, and the interrelationships among the layers that comprise it make it "Remarkably resistant to traditional tools of state governance" and frames a research agenda for the coming years, discussing how MSH organizations operate and framing the research agenda for the role of MSH in Internet governance.
- Concludes that while multistakeholder organizations exist in many parts of diplomacy, society, and commerce, "they are particularly integral to the culture of the Internet and its remarkably successful development" but "[i]f the shared vision of the U.S. government and OECD member states with regard to the ongoing central role for MSH-based governance is to become broadly accepted, a new wave of research is needed to better understand how MSH organizations engage in Internet governance, where they operate effectively, and where they fall short of the mark."