

EMERGING ISSUES IN THE DEVELOPMENT OF A NATIONAL BROADBAND PLAN

***Status Report: What Is At Issue, Where Will This Lead,
And Who Is Leading The Effort***

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The National Broadband Plan

“Technology changes exponentially,
but social, economic and legal systems
change incrementally.”

Larry Downes, *The Laws of Disruption*
(Basic Books 2009)

The National Broadband Plan

- A little historical context ...
 - 40 years since ARPANET first connected four academic labs
 - 13 years since last major revision of Communications Act
 - Today, majority of U.S. businesses and households have broadband connections, thru variety of technologies
 - Is a National Broadband Plan the first step towards a new regulatory regime?

The National Broadband Plan

- What, specifically, is it?
- Congressionally mandated
 - Component of the Stimulus Act (ARRA)
 - One of several recent Congressional acts to increase broadband deployment and adoption
- Another government report?
 - FCC to develop “national plan” to address questions of: broadband deployment, adoption and use
- Report to Congress by February 17, 2010
 - Little more than *4 months* (127 days) from today

The FCC's Momentous Task

- National plan must:
 - 1st – analyze most efficient / effective mechanisms for ensuring broadband access “by all people of the U.S.”
 - 2nd – develop strategy for achieving affordability of such service, and maximum utilization
 - 3rd – evaluate status of deployment (including broadband stimulus projects)
 - 4th - develop plan for use of broadband to support social policies, improve public safety and homeland security, incent private sector investment, and create jobs

The FCC's Momentous Task

- Who is leading this effort ...
 - FCC Chairman Genachowski
 - Staff under former Chairman Reed Hundt
 - Recent experience in media and investment capital firm
 - Blair Levin, Executive Director of Omnibus Broadband Initiative
 - Staff under former Chairman Reed Hundt
 - Recent analyst for Wall Street and financial institutions
 - FCC Staff for Omnibus Broadband Initiative
 - Team leaders, Technologists, Policy, and Legal Advisors

The FCC's Momentous Task

- The FCC's work to date: data, data, (and more) data...
 - Traditional data gathering methods
 - Notice of Inquiry and public notices seeking written comments
 - Novel methods (at least for a federal government agency)
 - FCC's blog -- <http://blog.broadband.gov/>
 - Workshops and hearings
 - Appraisal of comments and data
 - B. Levin: written comments “analytically weak and lacking a seriousness of purpose”
 - FCC staff:
 - “Many problems with existing broadband data”
 - “Good policymaking requires consistently updated data”

Framing the Debate

- Focus: build-out and utilization of high-speed broadband infrastructure
- But, not just deployment
- Key concepts in the statute
 - Universality
 - Affordability and adoption
 - Maximum utilization
 - Serving national purposes

Framing the Debate

- Examples of existing government “levers” to achieve these purposes
 - Reduce transaction costs, or increase supply, of key government inputs: spectrum, rights-of-way
 - Increase funding of adoption-based programs, via assessed revenues, such as USF
 - Facilitate applications thru use of government data or devices through standard setting processes

Framing the Debate

- Broadband to support national policy “purposes” and priorities
 - Healthcare
 - Energy / Environment
 - Education
 - Government operations
 - Economic opportunity
 - Public safety
- Deployment and adoption principles underlying policy priorities

High-speed connectivity ↔ **Universal access** ↔ **Ubiquitous adoption**

Framing the Debate

- One more question to help frame the debate: what is “broadband”?
- Should policy definition be
 - Tethered to a numerical definition, or
 - Determined in reference to “experiential” metrics
 - Do all Americans want, or need, access to:
 - Basic e-mail, web-browsing
 - Ability to download content, streaming voice and video apps
 - Advanced multimedia apps and content
 - Next-gen and interactive two-way apps

Core Principles

- Underlying economic principles
 - Broadband is a “key” input into modern economy
 - Broadband can be a foundation for sustained economic growth
 - But the current math doesn’t add up
 - Private investment, *and*
 - Universal service subsidies, *and*
 - Stimulus Act funding are, *collectively*,
 - Not sufficient to meet Congressional objectives

Core Principles

- Underlying economic principles (cont'd)
 - Rewriting the equation
 - “Unleashing” underutilized assets
 - Maximize utilization of shared deployment efforts
 - Deploy new assets

Core Principles

- Applications: driving usage of the Internet
 - *Utility* of the Internet is critical driver of adoption
 - Applications and bandwidth create “virtuous cycle”
 - Different applications require different performance parameters
 - Basic e-mail, web-browsing, streaming audio and VoIP: 0.1-0.3 mbps
 - Basic streamed video: 0.3 – 0.5 mbps
 - Advanced multimedia applications: 1 – 5 mbps
 - Next-gen and interactive two-way applications: 10 – 20 mbps

Core Principles

- Applications: driving usage (cont'd)
- FCC staff (preliminary) conclusions
 - Internet creates value only if applications are adopted by consumer
 - Utility of Internet is in usage of network, at capacity
 - Usage must be measured during the busy hour

Core Principles

- Deployment: the heart of the issue
 - Further analysis relies upon critical data points
 - Geographic granularity
 - Availability (separate from demand)
 - Infrastructure data
 - Advertised vs. actual speeds
 - Currently available data insufficient
 - Additional data necessary for complete analysis

Core Principles

- Deployment: the heart of the issue (cont'd)
 - Network performance driven by extent of fiber deployment
 - Middle mile only
 - Broadband limited where insufficient copper connectivity between CO and remote terminal
 - Middle mile and second mile
 - Deeper fiber deployment shortens loop lengths, extending fiber to cell sites enables 4G network
 - Middle mile, second mile and last mile
 - End-to-end fiber deployment offer nearly unlimited scalability and performance

Core Principles

- Deployment: the heart of the issue (cont'd)
 - Economic challenges of deployment
 - Average distances between homes (indicia of rural communities)
 - Increased costs result from multiple factors
 - Revenue opportunities limited due to economic realities of many rural communities
 - Thus, deployment cost challenges in rural areas arise from both capex and opex

Core Principles

- Deployment: the heart of the issue (cont'd)
 - Public policies impacting broadband deployment
 - Universal Service Fund showing some progress
 - Rural ILECs showing recent signs of upgrading plant to offer broadband
 - Systemic problems with USF funding mechanisms may limit utility of fund as key policy tool
 - Role of special access regulation, forbearance reform, and UNE access not yet demonstrated
 - Pole attachment and right-of-way access costs may be significant barriers to deployment



National Broadband Plan Roundtable: Government Officials, Industry And Attendees Discuss The Issues

Moderator: Randy Lowe, Partner, Davis Wright Tremaine LLP

Roundtable: Joe DePetro, Director of Business Development, National LambdaRail

Roundtable: Rob Curtis, Deployment Director, Omnibus Broadband Initiative, FCC

Roundtable: Scot Eberle, President, The Fiberutilities Group

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