

# FCBA CLE Seminar: “Broadband Deployment and Take-up: What Are the Experiences of Various Countries?”

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# Panel I. Developing Useful Measures of Success in Broadband Deployment

- This panel contributes to a constructive dialogue
- Good data essential to effective analysis
  - *Authoritative and reliable*
  - *Transparent*
  - *Necessary for purely introspective appraisal*
  - *Special challenges for comparative analysis (need for uniform/common framework & methodology)*
- Data collection presents a difficult challenge
  - *At present, no single authoritative source exists*
  - *“Apples to Oranges” problem*
  - *Cost-benefit balancing (how to get “best” data consistent with available resources – \$\$\$, time, personnel, etc.)*



# Panel I. Developing Useful Measures of Success in Broadband Deployment

- **Approach should follow logical sequence of analysis**
  - ***Establish Baseline***: What is being measured? (not directive . . . a guide)
  - ***Assess Availability (i.e., supply)***:
    - Where is baseline service (or better) being provided?
    - Who is providing it? (e.g., modality(ies), provider(s), etc.)?
  - ***Assess Usage and Adoption/Penetration (i.e., demand)***:
    - Usage (important to gauge “non-subscription” uptake)
    - Subscription
  - ***Assess Characteristics (e.g., costs, speeds, demographics, market drivers)***
- **Sources (who’s best able to compile data?)**
  - ***Governments (e.g., FCC)***
  - ***Private Sector/Industry (e.g., service providers, market analysts)***
  - ***Third Parties (e.g., OECD, Pew, specialized organizations)***



# Panel I. Developing Useful Measures of Success in Broadband Deployment

- **NETWORKED NATION: Broadband in America, 2007**
  - **Released January 31, 2008**
  - **Reviews President's Broadband Policy Strategy**
    - Rely chiefly on private action: Create environment to foster capital investment and allow technical innovation and competition to flourish
    - Provide targeted support to fill market gaps
  - **Surveys Progress in Accelerating Broadband Deployment and Access**
    - Examining Availability, Affordability, and Investment
    - Overall, and within each broadband modal sector
- **Summary of findings/conclusions**
  - **U.S. has achieved significant success by many measures**
  - **More work remains to be done**
  - **Need to improve information collection efforts to obtain better (i.e., more complete, higher resolution) data**



# Panel I. Developing Useful Measures of Success in Broadband Deployment

## Measurement: Room for Improvement

- **Domestic methodologies**
    - ***FCC April 2007 NPRM***
      - Need more granularity (e.g., more detailed zip code data – 9 digits?)
      - Better measurement across modalities (e.g., wireless broadband)
    - ***Mapping***
      - NTIA supports efforts to obtain improved broadband data and will work with Congress
      - Avoid duplicate/redundant efforts, and compounding of reporting burdens
      - Focus first on effective measurement; policy prescriptions should follow
  - **International, comparative methodologies**
    - ***Need to standardize collection models and enhance transparency***
    - ***Must capture all relevant factors***
      - e.g., “usage” versus “subscription”
      - e.g., Range of platforms (dsl, cable, fiber, BPL, fixed and mobile terrestrial wireless, satellite, etc.)
- Must be sensitive to geographic/demographic differences among nations***



# Panel II. Country Experiences: USA

## BACKGROUND:

- **Telecommunications Act of 1996**
  - **Policy of the United States:** “[T]o promote the continued development of the Internet and other interactive computer services and other interactive media; . . . [and] preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services . . . .” 47 U.S.C. § 230 (b)(1)-(2).
- **President’s Technology Agenda (2002)**
  - “**The role of government** is not to create wealth; the role of our government is to create an environment in which the entrepreneur can flourish, in which minds can expand, in which technologies can reach new frontiers.” *President Bush*
  - **Key principle:** *Broadband not for its own sake, but for what it supports (e.g., productivity, economic growth, etc.).*
- **President’s Broadband Goal (March 2004)**
  - America “ought to have . . . universal, affordable access for broadband technology by the year 2007, and . . . make sure as soon as possible thereafter [that] consumers have . . . plenty of choices” for broadband carriers.



# Panel II. Country Experiences: USA

## PRESIDENT'S BROADBAND STRATEGY:

- **Premise:**
  - *Recognize need for private sector action – not government mandates or intervention*
  - *Create an environment to foster capital investment, technical innovation, and competition.*
- **Framework: Integrated Set of Mutually-Reinforcing Policies**
  - *Technology*
  - *Regulatory*
  - *Fiscal/Spending*
- **The broadband package has:**
  - *Stimulated investment; and*
  - *Accelerated innovation and deployment of new broadband services*
- **Broadband Policy Results:**
  - *New service offerings across a range of platforms (e.g., cable, fiber, wireless, satellite)*
  - *Intense and growing competition*
  - *Prices are being driven down while quality and variety of consumer services are rising*



# Panel II. Country Experiences: USA

## IMPLEMENTING THE STRATEGY

- **Technology Opportunities Created:**
  - *Technology Neutrality (don't create barriers to innovation and entry)*
  - *Spectrum Reforms*
    - New Radio Spectrum has been freed for advanced wireless services;
    - New opportunities created for unlicensed and licensed broadband services;
  - Encourage new technologies such as Broadband over Power Lines (BPL)
- **Regulatory Reforms:**
  - *Deregulate to promote facilities-based competition and investment in new broadband infrastructure*
  - *Eliminate artificial regulatory distinctions among similar services (level the playing field)*
  - *Forbear from regulating new broadband applications (e.g., VoIP)*
- **Fiscal/Spending Initiatives:**
  - *Continue Internet Tax moratorium*
  - *Rationalization of asset depreciation*
  - *Reduce tax burdens for R&D to encourage capital flows into broadband sector*
  - *Targeted loans and grants to seed deployment in unserved/underserved areas*



# Panel II. Country Experiences: USA

## GAUGING THE RESULTS (1)

- **Summary:**
  - *The policies have had a real and positive impact*
  - *Vigorous broadband marketplace with rich innovation and multiple technological platforms competing against one another on price, speed, mobility, content, and other service features*
  - *Broadband usage and penetration are increasing sharply, and consumers (including rural and remote users) have more opportunities than ever to choose the broadband solution that best suits their needs and budget.*
- **Framework for Analysis:**
  - **FCC data:** High-Speed Services for Internet Access (as of December 31, 2006)
  - **Supplemental data:** Drawn from various sources within the broadband sectors themselves (e.g., industry, trade association, market analysis, FTC, Census Bureau, etc.)
  - **General Metrics:**
    - Availability
    - Usage
    - Investment Levels
    - Affordability



# Panel II. Country Experiences: USA

## GAUGING THE RESULTS (2)

- **Availability: Data Show Significant Growth Overall**
  - *As of 12/2006, broadband service was available in 99 percent of the nation's ZIP codes, encompassing 99 percent of the nation's population*
  - ***Number of broadband lines** in the U.S. **grew more than 1,100 percent** from almost **6.8 million** lines (12/2000) to **82.5 million** (12/2006)*
  - ***Number of broadband service providers** more than tripled from 482 (12/2003) to 1,397 (12/2006) – and grew tenfold since 12/2000*
  - *Most areas of the nation receive service from multiple providers.*
    - **91.5 percent** of ZIP codes have **3 or more**
    - **Over 50 percent** have **6 or more**.
  - ***Census Bureau data** as of 10/2007 also show significant increases in home broadband usage*
    - Home broadband usage by Americans grew from 9.1 percent of households in 9/2001 to 50.8 percent in 10/2007
    - Rural Americans have also experienced impressive growth in their home broadband usage from 5.6 percent of rural households *in 9/2001 to 38.8 percent in 10/2007 (more than a sixfold increase)*



# Panel II. Country Experiences: USA

## GAUGING THE RESULTS (3)

- **Availability: Data Also Show Growth Within the Sectors**
  - **Digital Subscriber Lines:**
    - 79 percent of U.S. households that can receive local phone service can access DSL service; OPASTCO reports that 90 percent of ILEC rural customers receive broadband service, chiefly via DSL
    - Subscribership grew over 300 percent between 12/2002 and 12/2006
    - Speed are accelerating from under 1 Mbps to 2-3 Mbps.
  - **High-Speed Cable:**
    - 92 percent of U.S. households can access high-speed Internet cable service
    - Subscribership has increased over 125 percent
    - Transmission speeds are increasing, with most now delivering 5 Mbps or better.
  - **Mobile Wireless:** Dramatic growth in lines and usage and increases in network speeds
  - **Fixed Wireless:** Over 65,000 Wi-Fi hotspots in the U.S. and significant innovation.
  - **Satellite:** Virtually all U.S. households can access satellite broadband service;
  - **Fiber:** Over 9 million U.S. homes can access fiber optic connections



# Panel II. Country Experiences: USA

## GAUGING THE RESULTS (4)

- **Investment:**

- Data reflect significant investments across sectors
- Verizon reports “**more than \$45 billion**” in total CAPEX “[i]n the three years since federal regulators began dismantling network sharing and pricing regulation of broadband networks . . . .” (Verizon)
- From 1996 through 2006, cable companies spent **more than \$117 billion** in CAPEX to develop and enhance their broadband networks (\$23 billion in the last two years alone) (NCTA).
- U.S. wireless providers increased capital investment from \$18.9 billion in 2003 to \$30 billion in 2007 due to the AWS auction, deployment of 3G networks, and the build-out of additional infrastructure to support new, advanced services (TIA, CTIA)
- Spending to support broadband network infrastructure is predicted to rise over the next four years from \$15.2 billion in 2007 to \$23 billion in 2010 (TIA).

- **Affordability:**

- Data show general downward trends in prices, making services more affordable
- Competition from DSL and fiber is pushing high-speed cable prices downward
- Satellite providers are cutting installation charges and exploring new pricing models.



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