

THE CENTRAL ROLE OF WIRELESS IN THE 21ST CENTURY COMMUNICATIONS ECOLOGY: Implications for a Pragmatic, Progressive View of Universal Service Reform

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THE REVOLUTION IN MOBILE COMMUNICATIONS

The remarkable growth of wireless communications and mobile computing (mobile communications) represents the greatest communications revolution in human history. Unlike past revolutions that enhanced the communications opportunities for a small sliver of the population in highly restricted forms and patterns, the mobile communications revolution has dramatically enhanced the opportunities of the vast majority of people to communication with both voice and data in fluid, real-time flows. The remarkably rapid spread of mobile communications reflects this fundamental difference, the central role and implications of the mobile communications revolution has not been adequately recognized in public policy, above all, universal service policy.

- The rapid uptake of mobile communications rests on a number of factors:
 - the value of mobility and real time connectivity,
 - personal communications as opposed to household communications
 - the low cost of provision,
 - the speed of deployment, and
 - the decreasing marginal functionality of bandwidth.

In the long term, mobile computing will be at the center of 21st century communications. In the short term, it provides more than adequate functionality for the communications uses that constitute the vast bulk of daily communications activity.

IMPLICATION FOR UNIVERSAL SERVICE POLICY

The universal service goal of the Communications Act universal, *to make available, so far as possible, to all people of the United States... a rapid, efficient nationwide and world-wide wire and radio communications service with adequate facilities at reasonable charges*, has proven remarkably durable because it is pragmatic. Focusing universal service policy on mobile commuting in the 21st century fits the definition perfectly. The basic communications activities that mass market consumers engage in on a daily basis are adequately provisioned by moderate levels of functionality, a level of functionality that is readily achieved by 4G wireless technology.

Unfortunately, universal service policy has lost touch with communications reality on both the revenues and expenditures sides, at a moment that the need to adapt policy to ongoing technological and sociological change has never been greater. The approach taken by the FCC after the passage of the 1996 Act codified the 20th century approach of using interstate toll revenues to contribute revenue support for local access services. The dramatic shift in communications in the first decade of the 21st century blew away the 20th century model. Universal service as currently configured is ineffective, poorly targeted and unsustainable.

- Twentieth century communications are in rapid decline.
 - Toll revenues, which are the primary source of universal service funds for subsidizing local access, have declined by 60% in the past decade.
 - Access lines, the primary target of universal service support, have declined by 30%.
- 21ST Century communications are on the rise.

- Wireless revenue has become the single largest revenue category in the communications sector.
- Monthly Internet subscription revenues (for broadband and Voice Over Internet Protocol) exceed toll revenues.
- The number of broadband subscribers exceeds the number of access lines.

Current universal service policy has failed miserably, with almost one-third of all U.S. households still lacking broadband and the U.S. continuing to lag far behind other advanced industrial nations in broadband penetration.

BRINGING UNIVERSAL SERVICE INTO THE 21ST CENTURY

In order for universal service policy to succeed, it must reflect and take advantage of these fundamental characteristics of the 21st century communications ecology, while adhering to sound economic principles.

- **Basic Cost Recovery Principles:**
 - Costs should be recovered from cost causers to the greatest extent possible.
 - Costs should be recovered by the entity with the most direct relationship to cost causation.
 - All of the entities that benefit from the ubiquitous communications network should cover the costs they impose and make a reasonable contribution to support universal service.
 - In allocating the burden of universal service support, recovering the costs from more discretionary services maximizes consumer welfare.
- **Redefine Universal Service**
 - Define broadband as universal service.
 - Define adequacy in a pragmatic manner.
 - Define 4G wireless as universal service.
- **Expand Infrastructure:**
 - Backbone and middle mile fiber are critical common infrastructure for 21st century fixed and mobile communications.
 - Clear the spectrum to provide maximum support for mobile communications.
 - Vigorously enforce “use it or lose it” requirements on spectrum that is well-suited to use in 4G applications.
 - Recognize that in the digital age code can be infrastructure.
- **Improve Funding for Universal Service:**
 - Expand the funding base by including all users and uses of the network.
 - Reinvest auction revenue in wireless broadband.
 - Improve the efficiency of spending with consumer choice on the demand side and competitive rivalry on the supply-side.

In tight fiscal times, we must get the biggest bang for the universal service fund buck. Focusing on mobile broadband will advance broadband penetration farther and faster than focusing on wireline. This does not mean we cannot evolve to a 100 megabit wireline broadband model, but the need for connectivity is urgent and resources are constrained. Wireless will deliver the most valuable form of 21st century communications to the largest number of people in the shortest amount of time at the lowest cost.