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**Principles for Governmental Action
in a Broadband World**

Jonathan Sallet

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Principles for Governmental Action in a Broadband World

By Jonathan Sallet¹

Executive Summary

As the next generation of communications policy is considered, it is essential that economic growth be a primary goal of governmental policy, in addition to the more traditional goals of ubiquitous demand and the introduction of competition into regulated markets.

We have, at hand, a clear strategy for boosting economic growth, namely the encouragement of investment in new broadband networks. Academic studies confirm that broadband deployment stimulates growth in the GDP as well as stimulate job creation.

This paper outlines four essential principles for the government to follow.

- *Incentivize Ubiquitous Investment:* Government must create an environment conducive to the expansion of competitive networks.
- *Treat Similar Entities Similarly:* Regulation should not result in similar entities being treated differently.
- *Restrain Abusive Market Power When (and if) It Occurs:* Effective enforcement is needed if, and when, market abuse occurs.
- *Ensure That Government Exercises Any Authority in a Manner that Learns and Responds:* Various processes should be implemented, such as the inclusion of sunset provisions, to ensure that existing regulations are not obsolete.

¹ Principal, Quintessence LLC, Visiting Scholar, Institute of International Studies, University of California, Berkeley.

I. Introduction

U.S governmental policy towards the communications networks that will underlie next-generation broadband resembles a hodge-podge of aged coral reefs. U.S. governmental attitudes towards communications markets have accreted over generations, starting from different points, building on policies that are partly dead and partly alive, expanding in unpredicted directions; now threatening to coalesce into one giant barrier that poses an increasingly threat to modern navigation.

Nothing about this, except perhaps the metaphor itself, is new. Communications policy has been under constant self-examination for the last half-century. The notion of a natural monopoly began to be undermined with the issuance of the Hush-a-Phone decision in the 1950s² and, of course, the break-up of AT&T in 1984 represented a significant policy shift from regulation to competition;³ scholars for a generation questioned the applicability of the Supreme Court decision in Red Lion in a world in which broadcast scarcity has been replaced by video plenty;⁴ cable television rates have been subject to oscillating regulation as views of competition have ebbed and flowed⁵ and, of course, the advent of computing power as a separate communications market can be traced back to the decision of the Department of Justice to separate computing from telephony in the 1950s and the subsequent decisions, to the same end, of the FCC in its Computer Inquiry decisions.⁶

More recently, and certainly with vigor since the passage of the Telecommunications Act of 1996, policy-makers have focused attention on one particular inadequacy of current regulatory policy – the continuation of the so-called “stovepipe” regulation characterizing the current version of the Communications Act of 1934, which relies upon separate legislative regulatory

² Hush-A-Phone Corp. v. United States, 99 U.S.App.D.C. 190, 238 F.2d 266 (1956)

³ United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company. *Plan of Reorganization*. Civil Action No. 82-0192 December 16, 1982.

⁴ Red Lion Broadcasting Co. v. FCC, 395 U.S. 367 (1969) The Fairness Doctrine was repealed in 1987 by the FCC.

⁵ The Failure of Cable Deregulation: A Blueprint for Creating a Competitive, Pro-Consumer, Cable Television Marketplace.” U.S. Public Interest Research Group. (August 2003) <http://uspirg.org/reports/failureofcabledereg.pdf>

⁶ GTE Serv. Corp. v. FCC, 474 F.2d 724 (2d Cir.).(Computer Inquiry I) Final Decision, 77 FCC 2d 384 (1980), Memorandum Opinion & Order, 84 FCC 2d 50, further reconsideration, 88 FCC 2d 512 (1981) aff'd, CCIA, 693 F.2d 198 (D.C. Cir. 1982), cert. denied, 461 U.S. 938 (1982), cert denied, 461 U.S. 938 (1983). (Computer Inquiry II) CCIA, 693 F.2d at 207-209. Order, 3 FCCR 1150 (1988), rev'd, California v. FCC, 905 F.2d 1217 (9th Cir. 1990), cert. denied 115 S.Ct. 1427 (1995) (Computer Inquiry III) The provisions of the *Computer Inquiry* orders applicable to the wireline broadband Internet access services of the Bell Operating Companies were rescinded in the FCC's recent *Broadband Reclassification Order*, No. 05-150 (23 September 2005).

schemes for cable, telephony, wireless and broadcast services in a world in which binary bits can carry any form of information over any kind of (sufficiently fast) data network. This attitude was well-expressed by the former Chairman of the Federal Communications Commission when, after being asked whether a new law was needed, responded by saying that the current law “is dated – it does not match reality anymore.”⁷

At the same time, of course, discontent with the present structure of regulation does not mean lack of significant support for some well established policies. The desire for local broadcast content, expressed in the original allocation of radio spectrum countenanced by the Radio Act of 1927, found expression in Congress’ desire in 2004 to maintain limits on the aggregation of broadcast outlets.⁸ Universal service as an essential attribute of the telephone network, traceable to the historic pact negotiated between the U.S. Department of Justice and AT&T in 1913, was the motivation for Congress’ action at the end of 2004 to ensure that subsidies keep flowing to rural carriers and for the advancement of internet infrastructure in schools and libraries.⁹ Concern about the impact of vertically-integrated entities on competition, which was initially voiced in the AT&T antitrust litigation that spanned much of the Twentieth Century, was recently applied by the FCC in its decision to continue the application of the program-access rules to cable systems until 2007 and to apply a similar set of requirements on the occasion of the acquisition by NewsCorp of a controlling interest in DirecTV. And these are, of course, only a few examples.

Thus, we seemed to have reached a point of equipoise. There is a rough consensus that current regulatory distinctions do not suit a seamless broadband world. There exists, at the same time, considerable support for continued pursuit of long-lived goals, some of which have been constructed through the use of the very “stovepipes” that are now thought to be outmoded.

Moreover, some industry sectors may conclude that they will not be advantaged by large-scale reform or an updating of enduring policies. So, for example, the very inability of current regulation to treat similarly-situated network providers similarly – consider telephone and cable networks delivering competing “fast-internet” services¹⁰ – may work to the competitive advantage of some providers.

⁷ Powell, Michael. (August 2004). The FCC and the Future of the Internet at Progress and Freedom Foundation’s Tenth Annual Aspen Summit, Aspen, Colorado. See also: McCullagh, Declan (23 August 2004). FCC Chairman Calls for New Telecom Laws. CNET News.

⁸ Media Ownership Reform Act of 2004. H. R. 4069. SB 340.

⁹ Universal Service Anti-Deficiency Suspension Act of 2004. H. R. 5420. S. 2994

¹⁰ This paper uses the term “fast-internet services” to apply to the current generation of data services available to residences and small businesses, most notably cable-modem and DSL service. The term “broadband” is reserved for next-generation data services provided to these markets. Without attempting to restrict application of the term unnecessarily, one might think that services of the kind Yahoo provides to its Japanese customers, with a speed of 25 megabits would be a minimum speed for true “broadband”. Others will, of course, argue for an even higher

What's good for the goose (in this instance the traditional copper-based telephone network) might not be thought to be in the best interests of more technologically-advanced ganders.

In other words, although we have reached rough consensus about the failure of the present, we have not yet reached a common understanding about what should replace the current scheme. That is not surprising.

First, we have been consumed with the continuing battles fought under the Telecommunications Act of 1996. The rules of access to ILEC networks have produced years of spirited litigation and the future content of those rules is still not entirely established. Core definitions of the Act – such as the scope of “information” and “telecommunications” services have become battlegrounds and even the recent Supreme Court ruling may not eliminate all future controversy.¹¹ The appropriate governmental structure to oversee the deployment of Voice over the Internet Protocol voice service has been only recently resolved by the FCC.¹² The short-term practical impact of these issues has naturally required considerable focus by affected industries and regulators over a prolonged period of time. To take one example, the litigation over the FCC's unbundling rules spanned seven years and spawned seven appellate and two Supreme Court rulings.

Second, we have, of course, been hampered by the limits of our imagination. In 1954, leading computer scientists confidently predicted that computers would reside in homes fifty years hence in the year 2004 but they also confidently predicted that each computer would be the size of a living room. The failure to predict the impact of microprocessors meant that those experts would be unable to think about the impact, for example, of laptop computing on wireless usage patterns. Similarly, the Telecommunication Act of 1996, although enacted at a time when the internet had already demonstrated its possibilities as a transformative network, did not take seriously the advent of digital technology that could erase regulatory distinctions. There is no reason to believe our ability to understand the future has improved significantly.

Third, and perhaps most importantly, we have not stepped back to decide upon the purpose of governmental action in a broadband age.¹³ We have a good sense of what we don't want – too much governmental interference that hampers innovation and results in fewer consumer choices top the list – but not a good sense of what we do want. We have a good sense of what we want to preserve

speed but the basic point is that, for purposes of this analysis, we should not treat current generations as providing true broadband connectivity.

¹¹ National Cable and Telecommunications Association v. Brand X Internet Services, 545 U.S. __ Slip op. at. 26 (June 27, 2005) (The Court appeared to leave open a distinction between trivial and necessary use of IP when combined with traditional telephony.)

¹² Vonage Preemption Order. FCC 04-267 and also Pulver.com MO&O, 19 FCC Rcd 3307 ¶ 10.

¹³ By “action” this paper means a decision by government whether to act and, if so, the resulting decision of how best to achieve its goals.

about the past systems – universal service is the leading candidate – but we have not yet learned how to reconcile continuation with change.

As will be described in greater detail in the next section, we can discern two large-scale epochs of governmental philosophy over the last century. The first fifty years, from roughly 1913 to the early 1950s, was designed to encourage the deployment of new technologies to as many Americans as possible. Hallmarks of this period are the Vail compact of 1913, ushering in an emphasis on universal telephone service and an increasingly complicated system of cross-subsidies to maintain the “affordability” of local service through the use of regulated monopoly, and the initial governmental oversight of first radio and then television channels, designed to prevent an undecipherable cacophony of signals while creating a network that was simultaneously ubiquitous, localized and free.

The second epoch, lasting the past fifty years, attempted to attain the benefits of competition without forgoing the benefits of ubiquitous access. Key events here are the break-up of AT&T, the passage of those portions of the Telecommunications Act of 1996 designed to foster competition in telephony markets, the creation of wireless telephony and then data networks to offer greater consumer choice and the fostering of video competition through rules governing cable and satellite delivery systems.

What was missing in these objectives? An emphasis on economic growth. As we look to the next generation of communication policy, this paper argues that a third purpose must be added: The encouragement of investment in broadband networks that will raise productivity, provide greater opportunities for a well-educated workforce and boost GDP. We know enough from the history of the U.S. economy generally, and from the experience of the 1990s specifically, to understand that information technology, including broadband networks, spur economic growth. The combination of broadband deployment, through fiber and wireless, and advanced computing offers a powerful, privately-funded, strategy for economic growth at a time when we face very large budget and trade deficits.

From these essential Purposes, this paper suggests a set of Four Principles that should guide governmental action and then offers preliminary thoughts on the transition needed to establish the next generation of policy. Even if these principles are correct, there are very hard, practical problems that remain. It is the essential goal of this paper, however, to remind us that we cannot decide what we want to do until we first decide what it is we want to achieve. And that the best way to untangle the knot of statutory and regulatory issues bequeathed to us from the Twentieth Century is simply to take out a blank piece of paper and start to write from scratch.

II. Purposes of Governmental Action

The starting point for the construction of a statute should be identification of the purposes for which government acts. It is fair to say that the goals of past regulation have not always been crisply defined. As one noted economist has observed, “[t]he public interest objective of telecommunications regulation is vague.”¹⁴

Nonetheless, it is possible to say that over the past century the overarching goals of governmental action have been basically two-fold: to spur the ubiquitous deployment of communications technologies and to control the concentration of market power in order to gain advantages from competitive markets.

Now, however, government has the opportunity to establish its policies in order to drive a third policy goal: The continuous improvement of our nation’s economic infrastructure. The addition of this goal to the historic purposes of communications policy creates a trilogy that, as this paper argues in Section III below, forms the foundation upon which basic principles of action can be established.

Why bother with this step? As this paper attempts to demonstrate, a clear-eyed understanding of the purposes of governmental action will help us separate the desiderata of the past from the requirements of the future. To take one obvious example, policies like the Fairness Doctrine were premised on an assumption of spectrum scarcity and on the accompanying belief that spectrum was the primary (if not exclusive) means by which television signals would be transmitted. When those assumptions changed, the policy foundation for the Fairness Doctrine disappeared and it was repealed.

The risk of policies that outlive their usefulness is particularly high at this stage of technological development. We know a lot about what has happened – digital convergence – and almost nothing about the market structure that will evolve over the next ten years. Among the obvious, but currently unknowable, questions are some of the most obvious:

- How many broadband networks will be available to the average home and small business and how much bandwidth will they supply?
- How much bandwidth will be demanded by consumers? Will they prefer the use of relatively narrow-band applications, like VOIP, blogging or music downloads, or will there be a robust demand for high-bandwidth applications, like new generations of interactive gaming, comprehensive healthcare services or real-time high-definition video programming?

¹⁴ Nicholas Economides, (2004) “Telecommunications Regulation: An Introduction.”

- Where will the highest-value in the broadband ecosystem reside? In video programming? Interactive applications? Network access? Home-based devices? VOIP?
- What will be the market structure of this new broadband market? Will it be dominated by companies that now provide network access? Will new companies aggregate assets up and downstream – through alternative means of access that could include Broadband over Power Lines? Will we enter a period of “Wild West” competition or a period of extreme market concentration – or something in-between?

A lot of companies are deploying a lot of capital on the bet that they know (or can influence) the outcome to these and a host of similar questions. But the core assumption is that policymakers do not know -- and cannot yet know -- the answers. Moreover, the basis for answering the questions may be more technological than economic (for instance, what will be the technical success of WiMax in constructing a robust broadband network) and, if policymakers are bad at anything, surely they (like the rest of us) cannot successfully predict the pathways of technological progress. And yet the outcomes to these answers are the ones that will explain (some years hence) both the necessity for and nature of governmental intervention. Indeed, the sheer size of commercial investment, scientific talent, and marketing savvy that drives technology evolution helps explain why neither individuals nor regulators have an above-average chance of being right in guessing what will come next and what consumers will prefer.

Lack of governmental certainty about the future should impact how it conducts business -- a topic addressed in greater detail in Section IIID below. But the more important impact, for present purposes, is that we must construct policy on the basis of overarching principles precisely because little more is knowable at the moment.

As noted above, the most important goals of governmental action in communications markets in the past one hundred years have been to boost deployment of technologies and introduce competition into concentrated markets.

The goal of ubiquity has been present since the creation of modern communications policy in the historic agreement brokered in 1913 by Theodore Vail on behalf of AT&T. In return for regulated-monopoly status and the end of antitrust actions, AT&T committed itself to building a telephone network that would reach all of America. And it largely succeeded. Except during the Depression, the percentage of Americans with local telephone service increased steadily through the middle of the Twentieth Century.¹⁵ Similarly, the initial creation of a regulatory structure for radio in 1927 was designed to do more than simply eliminate the interference that then plagued unlicensed usage, it also enshrined a policy of “localism” designed to expand the reach of geographically-

¹⁵ Percentage of American households with local telephone service: 50% in 1945, 70% in 1955, 90% in 1969 <http://www.att.com/history/history3.html>

based broadcasting content into geographically-diverse communities. Indeed, the initial regulatory hostility to cable was premised precisely on the fear that a narrowly-deployed paid network would compromise the ability of the free broadcast network to remain financially viable.

The goal of competition was not always given the same priority, as the history of telephony illustrates. Indeed, the federal government actually nationalized AT&T during the First World War.¹⁶ But more to the point was the model of a regulated monopoly that followed the Vail compact. Whether based on economic theories of “natural monopoly” or more pragmatic notions of preserving cross-subsidies, the existence of a regulated monopoly provided a convenient mechanism for regulators to “pay” for the ubiquitous access that, under the rubric of “universal service”, has been a high priority.

The last fifty years can be seen as a quest to reconcile the goals of ubiquity and competition. Starting with the DOJ antitrust action of the late 1940’s, continuing through the Hush-a-Phone¹⁷ and Carterphone¹⁸ decisions, accelerated by the FCC Computer¹⁹ decisions and culminating in the break-up of AT&T, federal policymakers followed the playbook of competition – seeking to introduce innovation, lower prices and greater choice into the telephony markets.

The goal of competition in place of concentration culminated, of course, in the 1996 Telecommunications Act. Although not by any means limited to telephony, the competition theme²⁰ was most dramatically played out in the provisions of Title II, which substituted legislative direction for the continuing jurisdiction of the federal court that administered the AT&T Consent Decree. With apparent bilateral symmetry, the Act attempted to write a comprehensive set of rules to govern the entry of new competitors into the previously-closed local telephone markets (large long-distance companies were seen as the most obvious new entrants) and the entry of the Regional Bell Operating Companies into the long-distance industry.

At the same time, of course, Congress was eager to ensure that the goal of ubiquity was not sacrificed on the altar of competition. Concern was justified since, of course, a hallmark of a competitive market is the freedom of providers to choose when and where to sell their products whereas a hallmark of “universal service” is the assurance of a specified level of service to all consumers. Nonetheless, Congress believed that telephony revenues could be used as a stable basis for collecting the monies needed to subsidize universal service and it decreed that such subsidies be established on a transparent basis by requiring

¹⁶ Thierer. Adam. (Fall 1994) “Unnatural Monopoly: Critical Moments in the Development of the Bell System Monopoly.” The CATO Journal. Vol. 14.2

¹⁷ Hush-a-Phone v. U.S. 238 F.2d 266, 268 (DC Cir. 1956).

¹⁸ Carterphone v. American Tel. & Tel. Co., 13 F.C.C.2d 571 (1968)

¹⁹ Computer Inquiry (I, II,III)

²⁰ Telecommunications Act of 1996, Titles II and III

that: “Every telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service.”²¹

Congress’ treatment of broadcast, cable and satellite issues showed a similar attempt to reconcile the goals of ubiquity and competition. No longer adverse to cable aspirations, Congress largely de-regulated cable pricing as a means of incentivizing cable to build the infrastructure that would allow additional services and competition with incumbent telephone companies,²² but it took care to ensure that cable’s success did not undermine local broadcasters and satellite systems that reach a larger percentage of the nation’s population.²³ So, for example, “must-carry/retransmission consent” provisions guarantee local broadcasters the ability to be carried on local cable systems. Similarly, the “program access” rules are designed to serve both ubiquity and competition by ensuring that vertical integration between video programming and cable systems does not deprive satellite systems of programming that they require to provide a competitive service to cable.

Of relatively less importance, both in 1996 and certainly before, was the potential impact of governmental policy on macro-economic growth. This is not to say that the quest for competition in the latter half of the past century failed to grasp the potential benefits of competition. But even in that context there was relatively little appreciation of the totality of communications vehicles as forming a potential infrastructure of critical importance to U.S. competitiveness.²⁴

Of course, in other contexts, the notion of networked infrastructures as a fundamental driver of economic growth stands as a long-standing pillar of U.S. economic strategy. The creation of canals in the first half of the 19th Century, the deployment of the telegraph, the construction of the first intercontinental railroad in the 1860s, and the construction of the federal highway system are all examples of networked infrastructures that were supported by governmental action and that boosted economic growth.

Consider, as just one example, the impact of railroads on the U.S. economy in the 19th Century. President Lincoln, despite the burdens of the Civil War, strenuously advocated federal support for the creation of the transcontinental railroad – consistent with his long-standing political philosophy favoring improved infrastructure. The building of the transcontinental railroad is considered by

²¹ Telecommunications Act of 1996. 47 U.S.C. 254

²² Telecommunications Act of 1996. 47 U.S.C. 301, 302

²³ In-Stat Report: US Broadband Market Reaches Critical Mass (6 April 2004) In-Stat market Alert. <http://www.in-stat.com/newmk.asp?ID=928>

²⁴ While leaders like Al Gore and Newt Gingrich certainly did refer to the potentially transformative impact of the Internet, policymakers as a whole saw the 1996 Act more as a process of adjudication between industries, with beneficial economic and social benefits, than as legislation focused on macro-economic outcomes such as economic growth and productivity.

many to be the greatest technological feat of the 19th century. As soon as the connecting spike was driven in at Promontory Point, a telegraph message that read simply “Done” was transmitted to both east and west coasts – the first coast-to-coast broadcast of a media event in the U.S. – upon which the country erupted in celebration. Coast-to-coast travel was reduced from four or more months to just one week.

The sociopolitical impact of the building of the transcontinental railroad probably cannot be overstated. Moving from wagon trains, it created a mechanized transportation network that revolutionized the population and economy of the American West. It made possible the mass and speedy transportation of people and goods in a rapidly growing nation. It aided and speeded immeasurably the settling of the west and the closing of the frontier. The railroads formed the backbone for increased commerce, and also brought rapid economic growth as industries such as mining, farming, and cattle-raising developed along the main lines and their branches.

Similarly, the deployment of the telegraph increased the speed and lowered the cost of transcontinental communications – the cost of sending a telegram from New York to San Francisco fell from \$7.45 to as low as a dollar from the late 1860s to the late 1880s and, over roughly the same period, the volume of messages handled by Western Union increased almost tenfold.²⁵

There is ample reason to believe that the deployment of broadband networks will also have a positive impact on the U.S economy now. We have been in a period since 1995 in which labor productivity has grown more quickly than it did in the roughly twenty year period from the beginning of the 1970s until 1995.²⁶ It is now well-recognized that the increased diffusion and use of information technology has been the most important contributor to that improvement.²⁷ “[T]he real drivers of the productivity gains in the 1990s were the related high-tech innovations of the late 1970s and 1980s, including the personal computer, fiber optics, wireless communications and the internet.”²⁸

All of these innovations are growing ever closer together: The computer now requires fiber and wireless broadband networks accessing the internet and other high-speed data channels. Moreover, broadband deployment is an example of

²⁵ Ferguson and Wascher. (2004). “Distinguished Lecture on Economics in Government: Lessons from Past Productivity Booms.” *Journal of Economic Perspectives*. v18: 2 pgs. 3–28

²⁶ “The neoclassical framework decomposes the growth in labor productivity, measured by output per hour worked, into the contributions from three broad factors: increases in the amount of capital per hour worked (usually referred to as capital deepening), improvements in the quality of labor, and growth in multifactor productivity.” Oliner and Sichel, “Information technology and productivity: where are we now and where are we going?” (2003)

²⁷ Jorgenson, Ho and Stiroh (July 2002). “Lessons from the US growth resurgence.” *Resources for the Future*. See also: Oliner and Sichel (2003). “Information Technology and Productivity: Where are We Now and Where are We Going?” *Journal of Policy Modeling*. V.25 pgs. 477–503

²⁸ Ferguson and Wascher (2004).

what Ferguson and Wascher call a “general purpose technology” that they credit as particularly important as the basis for innovation in a variety of downstream sectors and as attractive to investment. As Oliner and Sichel similarly note, “the use of IT through the economy has contributed significantly to the pickup in labor productivity growth, quite apart from the developments in IT-producing industries.”²⁹

Specific analysis of the impact of the telecommunications sector supports the same conclusion. One review of the experience of OECD countries finds a positive correlation between telecommunications infrastructure investment, on the one hand, and aggregate economic output, on the other.³⁰ Another study, also of OECD nations, concluded that “telecommunications is both statistically significant and positively correlated with growth in real GDP per capita growth for these countries”, pointing specifically to the “indirect social returns” from telecommunications investment that include greater efficiency by corporate end users.³¹

Available analysis of the quantifiable impact of broadband deployment supports the conclusion that broadband deployment will stimulate growth in GDP. That gain is composed of benefits both to consumers, in the form of their ability to purchase new or improved products, and to producers, who are able to earn increased returns because of the new technological advantage. For consumers, that includes concrete benefits in shopping, telecommuting, home entertainment and networking, voice communications and healthcare. From the perspective of producers, the deployment of broadband generates additional revenue from network access and the purchase of new hardware, among other factors.³² A U.S. Chamber of Commerce study contends that the broadband investment can stimulate, over five years, an additional \$167 billion in GDP.³³

In addition, two studies have suggested that full-scale broadband deployment could stimulate job creation.³⁴ Of particular interest is the prediction that job creation will grow as a consequence of the additional economic activity that broadband usage generates.³⁵

²⁹ Oliner and Sichel (2003).

³⁰ Roller and Waverman, (Sept. 2001). “Telecommunications Infrastructure and Economic Development: A Simultaneous Approach.” *American Economic Review*. Pgs. 909-923.

³¹ Datta and Agarwal. (2004) “Telecommunications and Economic Growth: A Panel Data Approach.” *Applied Economics*. V.36 pgs. 1649-1654.

³² Crandall, Robert and Jackson, Charles. (2001). “The \$500 Billion Opportunity: The Potential Economic Benefit of Widespread Diffusion of Broadband Internet Access.” *Brookings Institute*.

³³ Hazlett, Bazelon, Rutledge, and Hewitt. (22 Sept 2004). “Sending The Right Signals: Promoting Competition Through Telecommunications Reform.” A Report to the US Chamber of Commerce.

³⁴ Pociask, Stephen B. (2003) “Building a Nationwide Broadband Network: Speeding Job Growth,” *TeleNomic Research*. See also Crandall, Robert; Jackson, Charles; and Singer, Hal. (2003). “The Effect of Ubiquitous Broadband Adoption on Investment, Jobs and the U.S. Economy,”

³⁵ Brough, Wayne. (2003). “State Economies Can Benefit from Broadband Deployment.” *Freedom Works*.

Such job creation would come at an important time. Although job creation in 2004 was positive, the rate of job growth continued to be lower than seen in past economic recoveries. Just last month, the American economy generated 56,000 jobs, about half the number expected.³⁶

Moreover, the U.S. economy is facing structural challenges that may imperil long-term growth. The federal government incurred a deficit of \$319 billion during fiscal year 2005, following a record budget deficit of \$413 billion in fiscal year 2004. The Congressional Budget Office has predicted a ten-year deficit total of nearly \$1.4 trillion.³⁷ That forecast assumes no change in either tax or spending policies. A growing national debt resulting from sequential budget deficits is, of course, traditionally associated with higher interest rates and lower economic growth.³⁸

At the same time, the U.S. trade deficit appears to be intractable. The U.S. current account deficit, the broadest measure of U.S. trade flows, while decreasing slightly in the second quarter of 2005, still stands at a staggering \$195.7 billion, which is 6.3 percent of the nation's GDP.³⁹ In one month, from August to September of this year, the international trade deficit in goods and services increased from \$59.3 billion to \$66.1 billion.⁴⁰ The United States is now the world's largest debtor⁴¹ – borrowing \$1.8 billion in foreign savings every.⁴²

The threat is obvious: A withdrawal of foreign financing would threaten our equity markets and drive up interest rates to the detriment of economic growth.

In these circumstances, action to improve long-term economic growth and job creation is a clear national priority. Broadband deployment offers to create a new networked infrastructure that can move the nation towards those goals.

And there is clearly room for improvement. Cisco recently noted that the United States has fallen from 4th to 11th in broadband penetration.⁴³ Although observers

³⁶ U.S. Department of Labor (4 November 2005). Employment Situation Summary. And "U.S. October Payrolls Rise 56,000, Trailing Forecast," Bloomberg.com, November 4, 2005.

³⁷ Congressional Budget Office. (January 2005). The Budget and Economic Outlook: Fiscal Years 2006 to 2015.

³⁸ Orszag, Peter. (5 January 2004). "Sustained Budget Deficits: Longer-Run U.S. Economic Performance and the Risk of Financial and Fiscal Disarray." Paper presented at the AEA-NAEFA Joint Session, Allied Social Science Associations Annual Meetings, The Andrew Brimmer Policy Forum, "National Economic and Financial Policies for Growth and Stability."

³⁹ Bureau of Economic Analysis, U.S. Department of Commerce. (16 September 2005). "U.S. Current-Account Deficit Decreases in Second Quarter 2005." BEA 05-41. <http://www.bea.gov/bea/newsrel/transnewsrelease.htm>.

⁴⁰ Bureau of Economic Analysis, U.S. Department of Commerce. (November 10, 2005) "Trade Gap Widens in September 2005: U.S. International Trade in Goods and Services."

⁴¹ Sen. Sarbanes Comments On Senate Budget Resolution For Fiscal Year 2006. (14 March 2005)

⁴² Cooper, James. (24 Jan. 2005). "U.S.: Profits Should Stay Perfectly Presentable." BusinessWeek Online.

⁴³ High Tech Policy Guide, (January 2005) Cisco Systems.

disagree on the precise reasons that other nations have deployed broadband more quickly than the United States, there is little doubt that a broadband gap actually exists. Indeed, in Japan, customers can get a 100mbps connection for \$38US per month.

Moreover, the fact that the nation is financially strapped makes it all the more important that the next round of network infrastructure be financed by private capital. This has not always been the case. Public support of network infrastructures such as the transcontinental railroads and the federal highway system has boosted economic growth. At this moment in time, however, the goal of economic growth through the construction of broadband networked infrastructure must rely, to the maximum extent possible, on private investment. And there is simply no network infrastructure on the horizon that can plausibly match broadband deployment as a stimulant to long-term growth and job creation. So encouragement of private investment in broadband networks stands as an important tenet of macro-economic policy in the early years of the 21st Century.

The historic goals of ubiquity and competition need not be discarded, however. Indeed, as the following sections will attempt to demonstrate, both are important in their own right and as mechanisms that, properly applied, can stimulate faster broadband deployment. But, for the beginning of the next generation of national communications policy, it is vital that they be joined with economic growth as a fundamental driver of policy. It is the application of this trilogy – economic growth, ubiquity and competition – that yields the core principles that should guide governmental policy towards broadband.

III. Four Principles for Governmental Action in the Age of Broadband

This section will present, then discuss in greater detail, the four principles that should be critical to a coherent strategy of governmental action that achieves the three critical goals of the Broadband Age: Building the new infrastructure of economic growth; fostering ubiquitous deployment and maintaining competitive forces. Across the board, government should:

- **Incentivize Ubiquitous Investment**

Our purpose is clear: we want networks to build out as far and as fast a competition will take them. So the starting point is to structure a system that encourages risk-taking in business models, technology and value-creation. That argues against governmental barriers to entry – either explicit or, through the additive impact of requirements in multiple jurisdictions, implicit. But, because competition may not yield all of the investment and deployment that will be valuable to society as a whole, we must consider pro-competition means of incentivizing additional investment and deployment through transparent, neutral and focused means. A strong market orientation here should not be seen as a mere ideological reaction. Rather, we stand at a moment in time in which there is growing evidence of competition in the nascent broadband market, additional evidence that more competition will emerge shortly, and a great deal of uncertainty about the trajectory of broadband technologies and markets. If, to use Schroedinger's thought experiment, we cannot tell if the cat is alive or dead, then we better design a system that can accommodate both states of existence. And that argues for a system that is very, very short on prospective, prescriptive rules.

- **Treat Similarly Situated Entities Similarly**

What may seem to be a hackneyed version of the Constitution's Equal Protection Clause is, in fact, fundamental. Why? Because there are few worse things that government can do than to distort competition and investment by constructing a slalom course of regulatory arbitrage. Such regulatory distinctions are usually either the product of past historical outcomes (like the separately regulatory distinctions between cable and telephony) or the well-motivated intent to encourage some seemingly "nascent" service. But distinctions, once enshrined, are hard to undo and it simply makes no sense to give a competitive boost to one business because it is taxed or regulated differently from a competitor who is providing the same service to the same set of customers – at least from the perspective of the customers. The history of access charges in telephony – and the decades of attempts to scheme around them in one way or another – is a lesson that should not be forgotten.

There is also a positive governmental lesson to be drawn from this principle. Although we should eschew a rigid, prescriptive approach that attempts to carefully engineer unknowable outcomes, there is an important place for neutral “rules of the road” that establish standards for all competitors. Perhaps the best example is governmental spectrum policy, which is a fundamental underpinning of wireless deployment. Similarly, traditional goals such as consumer protection and disability access.

- **Restrain Abusive Market Power When (and if) It Occurs**

The Telecommunications Act of 1996 conflated the essential purpose of competition policy, which is the preservation of competitive markets, with old-styled means of prescriptive regulation, which was born of an era that featured “natural” monopolies. Starting on a blank piece of paper, that approach can be avoided. There is ample evidence from the past to suggest that horizontal or vertical concentration in aspects of the broadband marketplace could emerge in the future. We do not have to debate now whether or not they will appear because we are not currently creating a host of new rules to manage competition. But we must create the processes that will allow for effective intervention if market distortion runs rampant. Traditional antitrust remedies are ill-suited for the fast-moving, broadband marketplace as it moves from regulation to competition. Indeed, all the reasons that lead some commentators to argue that governmental innovation is unnecessary (because technological markets are fast-moving) also support the belief that any effective governmental action that is required must move as quickly and nimbly as possible. This paper will, therefore, suggest a new administrative mechanism for the issuance of case-by-case, interim orders, backed by an appropriate standard of judicial review.

- **Ensure That Government Exercises Any Authority in a Manner that Learns and Responds**

Government will have something to do. But how should that “something” be done? First, we need a government that can “learn” from the rapidly-evolving environment. That argues against a long series of rigid rules that can’t easily be either improved or eliminated. Indeed, a set of sunset requirements (on legislative and regulatory action) is critical. That way, the government can “learn” and then “respond” accordingly.⁴⁴ Of course, the “government” that acts must be at the right level of sovereignty. Given the current prospects for broadband, that will tend to favor a federal role over inherently interstate (and international) markets in contravention to state and local implementation of competition policy.

⁴⁴ One can anticipate the objection that we don’t want governments to “learn” and “respond” because that will invite too much governmental intervention. That would seem to be a short-sighted objection. As long as government has some potential role to play, we are advantaged if its actions are more intelligent and more flexible than if, through the appearance of an unforeseen crisis, hosts of new prescriptive rules of long-last duration are created.

IIIA. Incentivize Ubiquitous Investment

As a general matter, we prefer market-based investment as the spur to the deployment of broadband networks because we believe that capital markets can best fund this investment, that the force of end-user choice can best determine which networks are most efficient in delivering which services to which devices and that the combined impact of private-sector decisions will be “smarter” in finding the best pathway towards deployment than any governmental entity can be. It’s not that the private sector will necessarily be more insightful than policymakers in predicting the contour of the coming broadband market; it’s just that their failure does not preclude others from experimentation and success. Thus, a healthy skepticism about the ability of any one entity to “get it right”, requires that some or many private entities have the opportunity to “get it wrong”. Indeed, because investment in nationwide broadband networks will have to come from the private sector, the public policy of broadband deployment is dependent upon the success of private market decisions. Moreover, and to the extent that some public investment is added to the mix, it is important to ensure that public money is not needlessly substituted for private dollars.

From this comes an obvious conclusion: Government should establish a regime that encourages the private sector to do its job well. That requires, at the outset, adoption of policies that encourage entry and investment in broadband networks. And, while every potential investment objective is not necessarily good public policy (see Section IIIC below), attaining the goal of economic growth does presume that private businesses will have the freedom to offer capital markets a real return on risky investments.

Competition is escalating for the provision of high-speed internet access, the precursor to true broadband. Cable and telecom companies are now in direct competition; offering several high-speed internet options for consumers – indeed each is doing relatively well in the advanced services delivery business. With bundled offerings of voice, data, and video, cable is seen as the leader in providing ubiquitous delivery. However, with telecoms investing \$10 billion⁴⁵ in fiber-optic networks and moving towards the offering Internet Protocol Television or, IPTV, the appearance of significant competition for the provision of multi-media broadband networks obviously exists.

A recent report by Pricewaterhouse Coopers suggests that by 2007, phone companies and video providers will be engaged in a fierce fight for customers.⁴⁶ But the potential competition from other providers suggests that the broadband market will not be limited to just those competitors. For example, both Verizon and T-Mobile offer Wi-Fi on the go, or hot spots in most public locations, such as

⁴⁵ Lieberman, David. (25 Jan. 2005). “Cable Could Rule if it Plays its Cards Right.” USA Today.

⁴⁶ “Big Bets for the U.S. Cable Industry: Key Opportunities for Future Revenue Growth.” (25 Jan. 2005). PricewaterhouseCoopers.

airports or coffee shops. And the re-allocation of the current analog TV spectrum will provide additional resources for wireless broadband networks. In addition, the FCC has made rulings favorable to the deployment of broadband over powerlines (BPL), which provides a new type of service by using electric utility companies' powerlines to provide high-speed internet services.

In sum, there is significant reason to believe that the broadband network market will be born into competition.

The most obvious objection to this approach begins with the words "Yes, but..." To be sure, it can be said, private investment must lead the way but private investment cannot control all of government's decisions – that's why we have a government.⁴⁷ And the most common formulation of the "but" is to assert that some or all broadband networks should be subject to governmental regulation that applies a common carrier regime, or applies the "unbundling" rules of the Telecommunications Act of 1996 or mandates "open access" to a network.

The reasons in favor of governmental action to mandate openness stem from a series of distinct disciplinary sources.⁴⁸ The "end-to-end" principle of internet architecture argues for a simple network with intelligence in multiple locations at its edge. Some economists worry that "first mover advantage" will turn into unstoppable market dominance. Some social theorists postulate that open networks will fuel a vibrant marketplace of ideas, furthering the goals of the First Amendment. And lawyers debate the potential applicability of antitrust principles.

Society is a mix of open and closed spaces. Public parks and private residences (except on days when their owners host an "open" house). Public transportation and private automobiles. Public radio (which doesn't preclude the exercise of editorial control over the speech that is broadcast) and proprietary content (which doesn't keep pay-per-view from being offered to anyone who wants to buy it).

In a rough way, one could speculate that society needs both open spaces and closed spaces in order to produce a maximum output of innovation (and from that, productivity gains, job creation and economic growth). Open spaces, like Linux, serve as critical enabling technologies. Closed spaces, attractive for capital investment, incentivize the movement of private capital.

⁴⁷ One is reminded of James Carville's comment in the early '90s, when the Clinton Administration was confronting the implications of high long-term interest rates arising from continuing budget deficits, who said, "When I come back I want to come back as the bond market, because then you can intimidate everybody."

⁴⁸ Sallet, Jonathan. (2003) "Just How Open Must An Open Network Be For An Open Network To Be Labeled Open." First Monday. http://www.firstmonday.dk/issues/issue8_3/sallet. The core contention of that article, which is beyond the scope of this paper, is that the concepts of "open" and "closed" are more complicated than commonly thought and must be understood both by reference to specific disciplinary justifications and by understanding the "perspective" from which openness is sought, by which one can distinguish, for example, between the interests of an end-user, a competitive network provider and an upstream content provider.

In addition, one might believe that, in a democratic society, a vibrant marketplace of ideas requires a similar combination: open forums in which diverse ideas can be exchanged along with private (perhaps in the sense of “anonymous”, perhaps in the sense of “owned”) voices who take advantage of those open forums.

Openness is no stranger to the world of communications. Indeed, it may be that the original impetus for the deployment of dial-up access was strengthened by the fact that internet service providers could reach prospective customers over the open platform of local telephone service. Other examples, usually bound to the existence of significant market power and/or scarcity of alternative channels, abound.

A government’s approach to the question of open and closed networks should be informed by the following analysis:

- Engineering principles are best understood by engineers and therefore, to the maximum extent possible, governments should find ways to refer engineering issues to groups or formal bodies of engineers for resolution by consensus
- Private sector actors themselves are best positioned to understand the economic incentives that they face and, therefore, economic decisions should be left in the first instance to network owners. Although, of course, the best final resolution of issues with economic impacts, such as the ubiquity of access, may require governmental attention.
- In the area of social freedom, the presumption should be in favor of the “speaker” — for diversity of thought is peculiarly the product of multiple individual decisions.

In this space, at this time, this template does not support the creation of broad new rules of “openness” for broadband networks. From an engineering perspective, multiple networks using multiple engineering principles are being built and, as with WiMax, where common standards are required, existing engineering consortia seem to be making progress without additional governmental involvement. From an economic perspective, and as discussed above, the marketplace appears to be building competitive vitality of the kind that will push competitors to provide, in total, a diverse set of choices and, in particular, an incentive to open their own networks. The last point is important. As the embrace of Linux by large corporations like IBM and Sun demonstrate, openness can be an important tool of competition. Thus, the bet should be on competition – although effective mechanisms must be in place if that bet does not pay off. (See Section IIIC).

The goal of social discourse deserves separate discussion. Indeed, society benefits in this context not just from a choice of networks per se but because broadband is a content-based enterprise that can facilitate a vibrant marketplace

of ideas. That is why governmental action in the past has emphasized the importance of a diversity of views. For example, when the Supreme Court upheld the constitutionality of “must-carry” rules that require the carriage on cable systems of local broadcast signals, the majority opinion emphasized that broadcast television “by tradition and use for decades now has been an essential part of the national discourse on subjects across the whole broad spectrum of speech, thought, and expression.”⁴⁹ In his concurrence, Justice Breyer expressly discounted an economic rationale, emphasizing that:

The statute's basic noneconomic purpose... reflects what "has long been a basic tenet of national communications policy," namely that "the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public." Turner, supra, at 663 (quoting United States v. Midwest Video Corp., 406 U.S. 649, 668, n. 27 (1972) (plurality opinion) (quoting Associated Press v. United States, 326 U.S. 1, 20 (1945) (internal quotation marks omitted)); see also FCC v. WNCN Listeners Guild, 450 U.S. 582, 594 (1981). That policy, in turn, seeks to facilitate the public discussion and informed deliberation, which, as Justice Brandeis pointed out many years ago, democratic government presupposes and the First Amendment seeks to achieve. Whitney v. California, 274 U.S. 357, 375-376 (1927) (Brandeis, J., concurring).... Indeed, [the Court's earlier decision in] Turner rested in part upon the proposition that "assuring that the public has access to a multiplicity of information sources is a governmental purpose of the highest order, for it promotes values central to the First Amendment." 512 U.S., at 663 .

For the Justices in the majority, a critical element of the rule rested on an assessment of the impact of economic power on diversity of speech. The majority emphasized evidence that “cable operators had considerable and growing market power over local video programming markets”⁵⁰ and that “[v]ertical integration in the industry was also increasing,”⁵¹ suggesting that the entity with market power (cable in this instance) would have “systemic reasons” for disadvantaging the entity that wished to speak broadly (local broadcasters in this instance). Justice Stevens, concurring, emphasized that “the policy judgments made by Congress in the enactment of legislation is intended to forestall the abuse of monopoly power,” and even Justice Breyer, who otherwise eschewed an anticompetitive rationale, stressed that cable “constitutes a kind of bottleneck that controls the range of viewer choice (whether or not it uses any consequent economic power for economically predatory purposes).”⁵²

⁴⁹ Turner Broadcasting v. FCC, U.S. 512 US 622 (1997).

⁵⁰ Cable TV Consumer Protection Act of 1991: Hearing on S. 12 before the Subcommittee on Communications of the Senate Committee on Commerce, Science, and Transportation, 102d Cong., 1st Sess., 259 (1991) (statement of Edward O. Fritts) (App. 1253); see also Defendants' Joint Statement of Evidence Before Congress 9, 10 (JSCR) (App. 1252-1253).

⁵¹ JSCR ¶197 (App. 1332-1333). §2(a)(5); Senate Report, at 24-29

⁵² 520 U.S. at 225: 227-28.

Recently, the FCC decided not to appeal a federal ruling vacating several of the Commission's rules on media ownership. Congressional efforts in its last session to overturn the decision on cross-ownership limits was almost brought to the Senate floor⁵³ and it is possible that the issue will be reconsidered by the FCC and taken up in this Congress. The overturned rules would have allowed a company to own a newspaper, three TV stations, eight radio stations and a cable system in one city. Of critical importance in this context is the presence of "diversity" of content as a leading rationale for limiting media concentration. Both Republicans and Democrats alike have strong thoughts on media ownerships issues affecting diversity. Republican Senator Snowe has argued that more content does not necessarily guarantee "diversity and localism and competition."⁵⁴ Senator Dorgan has also said that "When the number of people and corporations who control what 293 million Americans see and hear in the media shrinks to just a relative handful, democracy suffers."⁵⁵

At the moment, the emerging broadband market does not seem poised to eliminate diversity of content. There have been well-founded concerns in the past about practices in which some internet service providers have appeared to discriminate on the basis of content,⁵⁶ but, perhaps because of public-interest and governmental scrutiny or perhaps because of the impact of competition (or both); there is little current evidence of such practices. Thus, the question would seem to call for vigilance but not new content-based rules.

What form should that vigilance take? One good example can be found in the recent formulation by the Federal Communications Commission of its four principles of entitlements for consumers "to encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet":

1. Entitled to access the lawful Internet content of their choice;
2. Entitled to run applications and use services of their choice, subject to the needs of law enforcement;
3. Entitled to connect their choice of legal devices that do not harm the network; and
4. Entitled to competition among network providers, application and service providers, and content providers.⁵⁷

⁵³ S.1046 Preservation of Localism, Program Diversity, and Competition in Television Broadcast Service Act of 2003 (Reported in Senate) Introduced 5/13/03.

⁵⁴ Ahrens, Frank. (3 June 2003) "FCC Eases Media Ownership Rules; Party-Line Vote Clears Way for More Consolidation." The Washington Post

⁵⁵ Labaton, Stephen. (23 June 2004). "Senate Votes To Restore Media Limits." New York Times.

⁵⁶ The High-Tech Broadband Coalition has strongly articulated concerns about "troubling restrictions" placed on ISPs and that cable modems should be regulated not as a 'telecommunications' service but as an 'information service.' That coalition has asked the FCC to monitor cable modem services and to promote free and open competition in the marketplace.

⁵⁷ FCC Policy Statement FCC 05-151 (23 September 2005).

Similar views in favor of the maintenance of an open internet have been voiced by respected public-interest groups⁵⁸ and high-technology companies.⁵⁹ Indeed, there seems little doubt that the existence of a technologically-advanced data network open to innovation at its edges has been a significant driver of both economic and social values. It will be important, therefore, to continue governmental oversight of the impact of operating practices of internet networks on the diversity of content. In a similar circumstance, the FCC in January 2005 found an ISP, Madison River Communications, liable for \$15,000 for blocking customer access to a VOIP provider.⁶⁰

The exception to the rule against rules comes from the impact of vertical integration on video programming. There the Congress and the FCC have applied non-discrimination requirements; especially where one network provider has exclusive access to so-called “must have” programming,⁶¹ typically regional news or sports programming that is owned by a video network provider. That has justified both the so-called “program access rules”⁶² applicable to cable systems and specific conditions imposed by the acquisition of a majority interest in DirecTV by NewsCorp.⁶³ Although the video programming market may change dramatically in the coming years, the FCC has extended the reach of program access rules until at least 2007, upon the finding that:

Without the prohibition on exclusivity, programmers that are affiliated with cable operators would have the incentive and ability to favor their cable affiliates over other cable operators and other competitive MVPDs, and this favoritism would result in the failure to protect competition and diversity...the prohibition continues to be necessary to preserve and protect competition and diversity in the distribution of video programming.⁶⁴

At the present time, some cable operators are employing the so-called “terrestrial loophole”, by transmitting over landlines certain programming such as sports

⁵⁸ Bill of Citizens' Media Rights (26 January 2005). Center for Creative Voices in the Media.

⁵⁹ Net Coalition. <http://www.netoclaition.org>

⁶⁰ FCC Docket DA 05-543 In the Matter of Madison River Communications http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-543A2.pdf

⁶¹ The Commission has recognized that regional sports networks (RSNs) are “sought-after and non-duplicable.” See In the Matter of: Implementation of the Cable Television Consumer Protection and Competition Act of 1992 – Development of Competition and Diversity in Video Programming Distribution: Section 628(c)(5) of the Communications Act: Sunset of Exclusive Contract Prohibition, Report and Order, CS Docket No. 01-290, FCC 02-176 (rel. June 28, 2002) at ¶ 32.

⁶² Cable Act of 1992 (47 U.S.C. §548 (c)(2))

⁶³ General Motors Corporation and Hughes Electronics Corporation, Transferors and the News Corporation Limited, Transferee, for Authority to Transfer Control. FCC Memorandum and Order. (19 December 2003) FCC 03-124 http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-330A1.doc

⁶⁴ FCC Report and Order on Extension of Program Access Exclusivity Rules. FCC 02-176 (13 June 2002)

content – an outcome that avoids application of the program access rules. In these circumstances, it would seem imprudent for the creation of new principles to disrupt the continued application of the current rules against discriminatory treatment of content, where, as here, they have been recently reviewed and renewed and where they have an specified end point.

The title of this principle argues for incentivizing “ubiquitous” deployment of broadband markets. But what if private deployment turns out not to be ubiquitous? What should be the public-policy response?

It is now well-established that the expansion of networks creates increasing returns, sometimes called “network effects” or “network externalities.”⁶⁵ For example, Metcalfe’s law postulates that the addition of each new user to a network increases the value of the network on a geometric scale. Whether Metcalfe’s law is mathematically precise (and some experts believe that it overstates the value to the network), the general conclusion that the value of the network grows faster than its number of users suggests that network expansion contributes positive economic value to society.⁶⁶ That means that society has an interest in expanding the reach of broadband networks. Moreover, because a critical goal of broadband policy is to increase economic growth and job creation in the United States, the creation of a broadband network assumes characteristics of a “public good” whose value to society is larger than the value that can be captured by any private network provider. For this, as well as the traditional distributional issues that have supported “universal service” policies, it is prudent to consider whether government should provide financial support to expanded use of broadband networks.

There are circumstances in which such governmental action would provide a positive economic and social return to society. But any such action should proceed on a basis quite different from traditional universal service subsidies.⁶⁷ That program, traditionally focused on rural services, assumed the existence of a single copper network whose costs would, on a continuing basis, be higher than in non-rural areas. We should not leap to the conclusion that broadband network deployment would have precisely the same characteristics.

Thus, any governmental action in this area should follow the following principles:

1. Public money should not be substituted for private investment. The last outcome we want is to subsidize with scarce public funds investment that private capital markets are eager to fund. That means that we need to understand how quickly and how far broadband infrastructure has already and is likely to be deployed before we decide on a system of public support to fill in network “gaps”.

⁶⁵ Roller and Waverman (2001)

⁶⁶ Shepard, Steven. (2002). *Communications Convergence*. New York: McGraw-Hill: 221.

⁶⁷ The future of those subsidies is discussed separately in Section IV.

2. Incentives are preferred to mandates. Because we are counting on private investment to shoulder the major burden of broadband deployment, we should be reluctant to mandate specific deployment plans. Metcalfe's law suggests that network providers will be able to capture increasing value (if not all of the possible value) from network expansion and we should allow network effects to do their job to the maximum extent possible.
3. Deployment should be the focus, not the monthly cost of services. Unlike traditional telephony universal service, incentives for broadband should focus on the initial deployment. So, for example, Senator Rockefeller introduced the Broadband Internet Access Act,⁶⁸ which was designed to provide a temporary, two-tiered tax incentive to stimulate new investment in broadband infrastructure. The legislation would appropriately award a 10 percent tax credit to companies providing high-speed internet access as well a 20 percent credit for "next generation" broadband investments in rural and residential areas.
4. The Cheapest Technology Should Be Supported. The topology of copper may not predict the manner of deployment of wireless and/or satellite services. Wireless broadband may be much cheaper to deploy in rural areas, for example, than fiber or coaxial networks. The footprint of satellite does not distinguish between rural and urban areas. The use of "reverse auctions"⁶⁹ would help target the most efficient use of any public funds.
5. Support for Low-Income Consumers Should Be Targeted and Portable. Some people will be unable to afford broadband connectivity and powerful arguments will be advanced as to the benefits that both they and society will receive from their participation in the broadband economy. To the extent such support is created, it will be important to ensure it goes where it is needed and that it is not unnecessarily tied to any particular network or kind of service. So, for example, broadband vouchers would permit low-income consumers the freedom to choose – and change.

In sum, the core proposition is that governmental action to encourage the ubiquitous deployment of broadband networks should start with the belief that regulation is not the correct means of encouraging private investment. This is not a matter of "de-regulation", it is a new and fundamental conclusion: That we are moving into an Age of Broadband, that there is considerable evidence of both present and potential competition, along with economic incentives that will drive the deployment of broadband networks and, therefore, we simply do not face the

⁶⁸ The Broadband Internet Access Act of 2001 was co-sponsored by the following Republican Senators: Hatch, Helms, Burns, Brownback, DeWine, Craig, Thomas, Roberts, and Enzi.

⁶⁹ Ikeda, Nobuo, and Lixin, YE. (2 March 2002, revised December 2003). "Spectrum Buyouts: A Mechanism to Open Spectrum." Japan Research Institute of Economy Trade and Industry. <http://economics.sbs.ohio-state.edu/lixinye/Research/spectrum.pdf>

economic circumstances that motivated the imposition of common-carrier regulation, the traditional telecom oversight of “natural monopolies” or the more recent desire to unbundled incumbent networks. In other words, “regulation” should always be viewed as an answer, never the question, and our current understanding of the economics of broadband network deployment simply does not include the kinds of circumstances in which prescriptive, economic regulation has traditionally been employed.

IIIB. Treat Similarly-Situated Entities Similarly

1. What Must Go

The previous principle demonstrates that a new broadband policy regime should establish a broad, open field in which broadband networks can deploy technologies free from the kind of prescriptive regulations that were justified over the past century by limited competition in communications markets.

That new approach must, however, take cognizance of the continuing impact of statutes and regulations that, often imposed long ago and for a series of distinct reasons, provide an inadvertent advantage to some broadband networks merely because they are owned by a company that exists under some earlier sector-specific regulation.

This is a fundamental principle. A government that encourages ubiquitous deployment must also be a government that removes unjustified barriers to the operation of broadband networks. And nothing is more unjustified than the disproportionate impact of a governmental policy that, having been bypassed by events, now provides artificial incentives.

The history of communications regulation has been focused on networks – an approach that is sustainable only as long as networks offer mutually exclusive sets of services as was the case when voice was a singular aspect of the telephone networks and paid television programming could be found only on cable networks. In a world of IP networks where services are merely applications, this principle requires that governmental actions be reformed so that they are technologically neutral.

The most obvious example comes when earlier policy was based on an outmoded concept of the product markets. So, for example, the United States government imposed a 3% excise tax on telephony in order to pay for the Spanish-American War. The mere fact that this war was won more than a century ago might seem to be reason enough to repeal this levy. But the point here is different. A century ago, voice-based services were confined to a single kind of network. Indeed, product markets were defined by the nature of the network over which they were carried – telephone networks carrying voice,

broadcast stations carrying free media, cable and then satellite networks carrying paid television programming.

But today, as a consequence of the familiar notion that “bits are bits”, there is nothing about voice services that confines them to a network owned by something called a telephone company. Not only have some cable networks deployed circuit switched telephony over their separate facilities, but the advent of VOIP services, including through such new providers as Vonage and Skype, is rapidly disassociating voice services from any particular network.

A natural reaction by a government in search of revenues is to ask, why isn't all of this “telephony”? And, indeed, a notice published by the Treasury Department in 2004 set off a flurry of speculation that the federal government would attempt to extend the reach of this excise tax⁷⁰ – although in the resulting uproar Treasury Department officials were quick to deny any such intent.

But that reaction is insufficient. The goal should be to eliminate any governmental policies that provide an artificial advantage to one kind of broadband network over another.

Why? Because the temptation to engage in “regulatory arbitrage” will distort competition for no good effect. Private entities pay close attention to every possible cost advantage and they will, sensibly, base competitive strategies on any cost differential – whether or not justified by sound competitive strategy. Any doubters on this point should be referred to the history of access-charges as applied to telephone networks. Those charges were originally intended both as a means of subsidizing universal service as well as a mechanism to ensure that networks were legitimately compensated when they carry the traffic of other providers. Thus, long-distance networks have traditionally paid access charges when they deliver long-distance calls to local telephone networks to be terminated.⁷¹ These charges are not only network-centric (applicable only to the “telephone” network), they are also based on the geography of the users of the service – traditionally “intrastate” calls have been subject to higher access charges under various state laws than “interstate” calling subject to federal charges.

VOIP, of course, is rendering this regime irrelevant. First, and as noted above, voice services are no longer confined to voice networks. Second, end-users of a VOIP network are no longer confined to a single geographic location (they can originate VOIP transmissions from their laptops as they travel around the world) but, even more importantly, an IP network does not follow the “straight-line”

⁷⁰ Excise Taxes; Communications Services, (1 July 2004). IRS Announcement 2004-61

⁷¹ FCC First Report & Order In the Matter of Access Charge Reform Price Cap Performance Review for Local Exchange Carriers Transport Rate Structure and Pricing Usage of the Public Switched Network by Information Service and Internet Access Providers. Docket: FCC 97-158.

topology of a circuit-switched network, thus rendering it impossible to know whether a given transmission has crossed state lines.

The impact of VOIP on access charges has resulted in a dangerous dance – as telephone companies seek ways to gain cost advantages by moving voice transmissions over IP networks and regulators are forced to fit VOIP services into old regulatory classifications that were themselves created at a different time for different purposes.⁷² AT&T, for example, attempted to avoid the payment of access charges by placing its long-distance calls on an IP-network for the “long-haul” portion of the transmission. That was a naked, if understandable, attempt at regulatory arbitrage that the FCC rejected –as it had to do if it was to sustain the access-charge regime in its current form.⁷³

But the real problem is this: VOIP may or may not provide a better voice service than can be provided by circuit-switched networks but there is no reason that the government should take sides by conferring a cost advantage on one or the other. The application of this principle, therefore, requires the reformation or replacement of the access-charge regime so that it does not favor one form of voice service over another.

Explicit fees and taxes are not the only sort of competition-distorting policy, however. Another notable category concerns various forms of governmental certification before communications services are offered. Again, the concern is with the disproportionate impact on different providers because of distinctions that are irrelevant in the world of IP-networks. The geography of cable franchising areas, for example, is not necessarily coincident with the service areas of IP-networks currently being deployed. This raises the question whether geographically-based requirements on network deployment, sensible when applied to a local exclusive franchise, are sensible when applied to a competitive broadband network whose network may be both larger and smaller than previously-defined territories.

Indeed, regulations that depend on the nature of services may find they rest on implicit, but erroneous, assumptions. For example, press reports indicate that SBC and Verizon have adopted different strategies for the deployment of video programming over their broadband networks.⁷⁴ SBC will be offering IP-based video that permits end-users to select programming much as, today, a user visits a newspaper’s website to select which story he or she wishes to download. Verizon, on the other hand, has begun to offer video programming through a “bundle” of video “channels” that resembles traditional cable offerings.⁷⁵ It has

⁷² Bach & Sallet, [The challenges of classification: Emerging VOIP regulation in Europe and the United States](http://www.firstmonday.org/issues/current_issue/bach/index.html), http://www.firstmonday.org/issues/current_issue/bach/index.html

⁷³ FCC Order. In the Matter of Petition for Declaratory Ruling that AT&T’s Phone-to-Phone IP Telephony Services are Exempt from Access Charges. Docket No. 02-361. (21 April 2004)

⁷⁴ Latour Almar and Drucker Jesse. (31 January 2005) “SBC and AT&T are Holding Talks on an Acquisition.” Wall Street Journal.

⁷⁵ Verizon (26 October 2005) “Apple Valley Votes for Verizon Video Franchise.”

been suggested that Verizon, but not SBC's, services are governed by cable franchising rules that require the permission of local authorities before services can be offered. End-users can determine which form of broadband video they prefer, but their preference should not be driven by governmental requirements that distinguish based on the topology of technology.⁷⁶ The FCC's recently announced a proposed rule-making process to investigate whether municipalities are delaying the availability of new video services offered by telephone companies that want to compete with cable operators. In response, SBC contended, "Today's action by the FCC will expose how the cable companies use the franchising process to keep competitors out of the market. Without that competition, consumers face continual annual price hikes from the dominant cable companies, now up 40 percent over the past five years."⁷⁷

The FCC has taken a big step forward in its recent Broadband Reclassification Order, which applies to wireless broadband offerings the same regulatory definition ("information services") and therefore the same regulatory regime as was applied earlier to cable modem services. Chairman Martin, for example, explained his decision in terms of the principle stated here, saying that the Commission's Order "ends the regulatory inequities that currently exist between cable and telephone companies..."⁷⁸ Ending regulatory inequities of all types should receive prompt, comprehensive and rigorous governmental attention.

2. What Should Stay – Rules of the Road

As noted in the first principle, this paper's preference is for a regime that does not impose prescriptive economic regulation on the emerging broadband market. But there are some technologically-neutral forms of governmental action that can provide net public benefits – carefully circumscribed circumstances, in other words, in which the benefit to the public and to competition outweigh any disadvantages to the deployment of broadband services. The discussion of possible governmental incentives to spur the deployment of broadband to geographic regions that would not otherwise be reached is an example of a policy whose economic gains is intended to be greater than the fiscal burdens of the incentives. As mentioned before, this September, the Federal Communications Commission issued a policy paper recognizing the importance of the Internet on American's lives and therefore adopting principles to ensure open, affordable and accessible Internet for all consumers. This subsection notes three other areas in which a similar calculus appear to be present.

⁷⁶ It is important to note that this principle does not require the wholesale and immediate displacement of all cable franchising regulation as applied to incumbents. Several factors should be noted: First, existing cable franchising are contracts in which, presumably, mutual benefits have been conveyed. Second, there is a rational distinction, based on market power, between existing dominant providers and new entrants. Third, and as discussed in Section IV, one would expect reasonable transition rules would be a necessity in many instances.

⁷⁷ Reardon, Marguerite. (3 November 2005) CNET News.com.

⁷⁸ *Broadband Reclassification Order*, No. 05-150 (23 September 2005) (Statement of Chairman Martin) http://www.fcc.gov/Bureaus/Common_Carrier/Orders/1998/fcc98317.pdf

- Spectrum Allocation.** The very best “rules of the road” would seem to be those rules that are needed to create the road themselves. Thus, the creation of property rights on which competition and markets are dependent are perhaps the best example of technologically-neutral rules that government should enforce. Spectrum policy has traditionally served this end – ensuring that broadcasters could reach their audiences without being drowned in a “cacophony of sound.”⁷⁹ There is much innovative thinking going on about the way to allocate spectrum, including observations that past notions⁸⁰ of “interference” were based on then-current understandings of technology, not on the characteristics of spectrum itself.⁸¹ With the return of the analog spectrum, and spectrum for public safety uses, there is a lot of spectrum to be allocated and, of course, much activity is currently surrounding the creation of broadband wireless networks.⁸² Moreover, whether some portions of the spectrum are “licensed” or “unlicensed”, there seems to be little dissent to the proposition that the federal government must set the rules of engagement.
- Traffic Flow.** One network wishes to deliver traffic to another network in order to reach one or more end-users who are subscribed to the second network. That second network wishes to set terms of accepting the traffic. What happens next? Today, that depends whether the first network is delivering telecommunications services,⁸³ whether it is attempting to deliver bits to a cable network,⁸⁴ whether it is seeking to force the delivery of its broadcast programming,⁸⁵ or whether it is attempting to “peer” with another internet backbone network,⁸⁶ or whether an internet subscriber is using a high-speed connection to access an application.⁸⁷ Is there a place in a broadband world for a rule that, without giving the government the ability to regulate prices and without giving temporary possession of network facilities to a competitor,⁸⁸ simply states that broadband network providers must

⁷⁹ Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 375-77 (1969)).

⁸⁰ Herzel, Leo. (1951) "Public Interest' and the Market in Color Television Regulation," University of Chicago Law Review. Vol 18, pp. 802-16.

⁸¹ Werbach, Kevin. (15 Dec. 2003). “Radio Revolution: the Coming Age of Unlicensed Wireless.” New America Foundation and Public Knowledge.

⁸² WiMax Forum. <http://www.wimaxforum.org/about/faq/>.

⁸³ Section 251(a) of the Telecommunications Act of 1996 requires each telecommunications carrier, not just incumbents, to interconnect with other telecommunications carriers.

⁸⁴ Except as required by the terms of the AOL-Time Warner Merger Order, there is no general requirement that cable networks be open to alternative internet service providers. CS Docket No. 00-30

<http://www.fcc.gov/Bureaus/Cable/Orders/2001/fcc01012.pdf>

⁸⁵ The so-called “must-carry” rules noted above.

⁸⁶ “Peering” is conducted on a voluntary basis, although some networks have published the terms under which they will “peer” for free or offer paid transport to other internet backbone networks.

⁸⁷ FCC Docket DA 05-543 In the Matter of Madison River Communications

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-543A2.pdf

⁸⁸ In other words, none of the examples cited herein are akin to the unbundling requirements of the Telecommunications Act of 1996, Section 251c(3). The unbundling provisions give a competitor the right to obtain temporary property rights to portions of another company’s

facilitate the flow of traffic between networks in a commercially reasonable manner. There are at least three reasons to think so. First, the impact of Metcalfe's Law, discussed above, assumes that a network is "seamless" in the sense that each user can reach every other user. To the extent that Metcalfe's law and similar reasoning indicates that society benefits directly from increased network value, then economics may point to the value of an interconnection requirement. Second, to the extent that we are relying on the deployment of a new infrastructure to boost economic growth and job creation, we would have additional motivations to ensure that the network is, in its broadest sense, valuable to all end-users. Thus, it is particularly important to new networks that they be able to exchange traffic with older (and bigger) networks. The classic case is wireless – whose growth in the United States was clearly boosted by the requirement that wired networks accept their calls and send calls to their customers. Thirdly, there has been a traditional concern about the impact of traffic delivery to end-users who are receiving, but not originating, a transmission. In this context, think of the recipient of a VOIP transmission. Although the originator can presumably choose among networks, the recipient is dependent on the willingness of his or her network to process the VOIP transmission. That may indicate, at least in the short term, that the receiving network has a market position that justifies a neutral interconnection standard.⁸⁹

One important potential objection is that this sort of neutral interconnection requirement would inevitably require excessive governmental intervention. The history of simple interconnection requirements does not support that contention. As noted above, perhaps the most successful interconnection requirement is the "rule of the road" that allowed wireless to take advantage of the ubiquity of the wired network.⁹⁰ Similarly, the AOL-Time Warner Order, required that access be given to competing ISP's pursuant to voluntary arbitration without seeming to delay the deployment of advanced cable networks. As a historical matter, it is possible that implementation of simple interconnection requirement in the early years of the Twentieth Century, when competing networks in a single city refused to exchange traffic, could have avoided the rigidity that came from decades of living with a "regulated monopoly." One might even suggest that neutral traffic-exchange standards are a bulwark against the circumstances that can lead to excessive governmental involvement.

networks. By contrast, interconnection concerns only the movement of traffic without any change in ownership. This may be one of the few distinctions that is clear from the Telecommunications Act, which is why interconnection applies to all telecommunications carriers; the unbundling requirements were made applicable only to incumbents.

⁸⁹ The recent decision of the FCC upholding Vonage's ability to reach its customers could be viewed in this light. FCC Docket DA 05-543 In the Matter of Madison River Communications http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-543A2.pdf

⁹⁰ 47 U.S.C 332 (c)(1)(b)) No State or local government shall have any authority to regulate the entry or the rates charged by any commercial mobile service of any private mobile service...

The next set of research into this issue should inquire as to how interconnection can be achieved without the sort of prescriptive price regulation that would, itself, amount to forced “bill and keep”. The wireless example may be helpful here since it seems to have worked without controversy. Or, in the world of the internet, it may be fruitful to concentrate on the end user. In other words, it may be that the source of “interconnection” derives from the expectation of an end user that the purchase of internet connectivity subsumes within it the ability to use that connectivity in the manner that best suits the needs of the end user. The focus on consumer expectation appears, for example, to be the basis for the recent FCC Policy Statement discussed above.

- **Public Safety, Consumer Protection & Disability Access.** It is obvious that a series of public-interest standards serve social, as well as purely economic, outcomes. The requirements of public safety, protection of consumers against fraud and the ability of disabled persons to access broadband services are all examples. In the visually-impaired community, there is widespread belief that the communications technology industry is not designed with ease in mind and needs a structured approach which forces the issues, in terms of design, operating controls, and network interface.⁹¹ Similar obstacles exist for the disability and hearing-impaired communities. Without specifying their particular content, it is safe to say that technologically-neutral requirements in this area should be presumptively valid.

IIIC. Restrain Abusive Market Power When (and if) It Occurs

A fundamental component of the approach suggested in this paper is that the next generation of communications policy should eschew prescriptive regulation because, most fundamentally, the prospect of open, competitive markets is strong enough to justify a policy of non-interference. Indeed, given the importance of ubiquitous deployment, any unnecessary burdens would risk limiting the very national goals that should shape public policy.

Nonetheless, as noted earlier, the bet on competitive markets need not be absolute. Although the evidence of past economic concentration in communications markets is not sufficient to justify ex ante regulation of different markets, it is sufficient to act as a warning. Among the notable instances of industry concentration that provoked governmental action were the three Twentieth Century antitrust actions against AT&T, the principles of the FCC’s Computer Orders designed to protect competition in adjoining unregulated markets, the program access and must-carry rules; the allocation of wireless spectrum in a manner designed to lessen telephony concentration and the various “caps” on the national and local ownership permitted to broadcast

⁹¹ Schroeder, Paul. (11 Feb. 2005). The Telecom Act of 2005: Connecting Each to All in a Broadband World. Presentation by American Foundation for the Blind.

networks and cable companies that have figured so prominently in the recent debate over media concentration.

We hope that, because “bits are bits”, episodes of anti-competitive concentration have been tucked securely in our past. This subsection, however, contemplates two issues that need to be considered in the event we are wrong: (i) consideration of the appropriate legal standard to be applied and (ii) replacement of prescriptive regulation with agile administrative adjudication.

1. The Legal Standard to Guard Against Anti-Competitive Conduct

Congress has created a variety of legal standards to guard against anti-competitive conduct. Section 2 of the Sherman Act bars monopolization (or attempted monopolization). Stating a Section 2 claim does not, it must be emphasized, bar monopolies per se; it bars abusive conduct by monopolies. As the Supreme Court explained recently in dismissing an antitrust claim brought against an incumbent telephone company:

The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices—at least for a short period—is what attracts “business acumen” in the first place; it induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct.⁹²

In addition to this general standard, Congress has enacted specific statutes to confront specific competitive conditions in the communications sector. In so doing, Congress has gone significantly beyond the general standards of the Sherman Act. Among the specific standards that have been created in legislation or regulation are:

- The competitive checklist of Section 271 of the Telecommunications Act of 1996, establishing detailed standards to govern the entry of incumbent telephone companies into the long-distance market and the so-called “unbundling” requirements of Section 251, applicable to Incumbent Local Exchange Carriers,
- The specific numerical market caps for ownership of cable and television stations, including Congress’s decision in 2004 to lower the national television ownership cap from the FCC’s preferred limit of 45% to 39% (both higher than the previous cap of 35%),

⁹² Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, Llp, 540 U.S. 398 2004) (emphasis in original).

- Program Access rules, now in effect until October 2007, for nondiscriminatory access by cable competitors to programming in which cable has a financial interest,⁹³
- “Must Have” programming: In its Order approving the acquisition by NewsCorp of a controlling interest in DirecTV, the FCC focused on so-called “must have” programming – content for which there is no close market substitute. Because the presence or absence of this sort of programming itself has a significant impact on the ability of providers to attract paid-television subscribers, the FCC applied both the standards of the program-access rules⁹⁴ and the further requirement of binding commercial arbitration⁹⁵ in order to ensure non-discriminatory access to this category of content.

In addition, Congress has created specific standards in the closely related field of merger review. Section 7 of the Clayton Act bars mergers whose impact “may be substantially to lessen competition, or to tend to create a monopoly.” The Federal Communications Commission has been given additional power, under the so-called “public interest” standard in its (sometimes overlapping) review of mergers. For example, the AOL/Time Warner merger plan was submitted to the FTC for antitrust review and to the FCC for license transfer review.⁹⁶ The FTC approved the merger with conditions relating to open access. The FCC approved the merger subject to a condition (among others) that mandated interoperability for future (but not present) generations of AOL's popular instant messaging (IM) service, based on the potential leveraging of merger assets together with current IM network effects into market power in next-generation IM services.⁹⁷

To the extent Congress does not legislate in special circumstances, it would be appropriate to vest administrative authority to bar anti-competitive conduct by entities with market power in order to bar distortion in the competitive markets deploying broadband networks. The critical question is, of course, what should be the precise requirements of that new legal standard. This paper will not

⁹³ FCC Report and Order In the Matter of: Implementation of the Cable Television Consumer Protection And Competition Act of 1992 Development of Competition and Diversity in Video Programming Distribution: Section 628(c)(5) of the Communications Act Sunset of Exclusive Contract Prohibition (28 June 2002).

⁹⁴ General Motors Corporation and Hughes Electronics Corporation, Transferors and the News Corporation Limited, Transferee, for Authority to Transfer Control. FCC Memorandum and Order. (December 19, 2003) Section 41. FCC 03-124

http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-330A1.doc

⁹⁵ General Motors Corporation and Hughes Electronics Corporation, Transferors and the News Corporation Limited, Transferee, for Authority to Transfer Control. FCC Memorandum and Order. (December 19, 2003) Section 222. FCC 03-124

http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-330A1.doc

⁹⁶ FCC Memorandum and order in the Matter of Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee. CS Docket No. 00-30. (22 Jan. 2001)

⁹⁷ “Network Effects and Merger Analysis: Instant Messaging and the AOL-Time Warner Case.” (June/July 2002) Telecommunications Policy. FCC CS Docket No. 00-30. (22 Jan. 2001)

attempt a definitive answer but we can identify some criteria that will helpfully inform our thinking:

- The standard need not be precisely the same as the Sherman Act. There is plentiful evidence of Congress creating specialized legal standards to further the goals of competition policy that are in addition to the Sherman Act; indeed the Supreme Court in its recent Verizon v. Trinko decision expressly contemplated just such a scheme,⁹⁸
- The standard must confront both vertical and horizontal threats – communications markets over the past 100 years have seen the ill-effects of both and it is simply not possible at this stage to contemplate what sort of anti-competitive abuse is likely to be most troubling (if any occur at all),
- The standard must not discourage investment. The creation of new, innovative products and services will often yield significant market share and above-market profits – they are a reward for innovation. But the legitimate rewards of innovation are not the same as the commercial benefits that can be accrued by a dominant firm through the execution of anti-competitive actions that restrict choice and limit innovation. Obviously, it is fundamental that capital and political markets both understand that the standard to be established will be utilized in exceptional, not ordinary, circumstances.
- The ability to bring new innovation to market must be protected. A debate is raging in antitrust circles about the showing that must be required in order to demonstrate abuse of market power. Of course, higher prices and limited output are strong demonstrations of market control. But innovation is, itself, a critical societal outcome that deserves protection. The exercise of market power can harm innovation by depriving consumers of new technologies (or by delaying their arrival), by deterring potential innovators, who fear the exercise of market power, and by limiting competition, which is the best means of producing technologies that benefit consumers.
- Diversity of content is important. The reasoning of the Turner Court is sound – “the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public.” And recent reiteration of the program-access requirements rest on the concern that access to content will have anti-competitive impacts absent governmental action. The internet, of course, offers the prospective solution – a world in which content is freely disseminated between virtually all possible speakers and all possible listeners. For that reason, among others, new prescriptive governmental action is not the right approach. In constructing a new case-by-case standard, however, there is no reason to disregard the learnings of the past – especially as they concern the ability of individuals in a democratic society to communicate free from bottleneck control of content.

⁹⁸ Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, Llp, 540 U.S. 398. (2004)

2. Replacement of Prescriptive Regulation with Agile Administrative Adjudication.

As noted above, the Telecommunications Act of 1996's over-reliance on regulatory prescription masked the impact of competition policy and focused debate on the presence or absence of regulation per se rather than on the more fruitful subject of competition and market structure. In other words, the manner in which the Act was written focused attention on the means, which should have been regarded only as tools, rather than the ends themselves.

At the same time, some have suggested over the course of the last decade that the regulatory structure should be eliminated and replaced with nothing more than the courts applying traditional caselaw standards of antitrust law. The fact that Congress has, again and again, imposed sector-specific remedies in various areas of communications law supports the view that the general propositions of antitrust law are not always sufficient to enforce requirements in the world of communications.

Moreover, and this is an important point, civil antitrust actions can be very slow. The IBM case⁹⁹ in the 1970's was finally dismissed in 1982 without a ruling on the merits. The litigation which resulted in the break-up of AT&T was filed in 1974 – its decree became effective just short of a decade later.¹⁰⁰ The court of appeals in the Microsoft case made a point of saying:

What is somewhat problematic, however, is that just over six years have passed since Microsoft engaged in the first conduct plaintiffs allege to be anticompetitive. As the record in this case indicates, six years seems like an eternity in the computer industry. By the time a court can assess liability, firms, products, and the marketplace are likely to have changed dramatically.¹⁰¹

Similarly, and as noted above, the FCC's unbundling rules were subject to litigation over a period of seven years.

The length of civil litigation is especially slow when measured by the standards of information technology. The popular notion of Moore's Law is one good example – predicting that the power of integrated circuits doubles every 18 months.

⁹⁹ U.S. v. International Business Machines 892 F.2d 1006 (1982)

¹⁰⁰ United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company. Plan of Reorganization. Civil Action No. 82-0192 December 16, 1982.

¹⁰¹ United States v. Microsoft Corp., No. 00-5212, Consolidated with 00-5213, United States Court Of Appeals For The District Of Columbia Circuit, 346 U.S. App. D.C. 330; 253 F.3d 34; 2001 U.S. App. LEXIS 14324; 2001-1 Trade Cas. (CCH) P73,321, February 27, 2001, Argued, June 28, 2001, Decided, Rehearing Denied August 2, 2001, Reported at: 2001 U.S. App. LEXIS 17137. Certiorari Denied October 9, 2001, Reported at: 2001 U.S. LEXIS 9509

The goal is to create an administrative-law system that captures the benefits of timely action with the benefits of case-by-case adjudication. Much discussion and additional research would be needed to create the exact parameters of such a system, but we would expect that it might have some or all of the following characteristics.

First, in the world of networks, administrative adjudication must have the ability to enforce quick, effective, and temporary orders to ensure that delay itself is not the cause of anti-competitive harm. Consider, for example, the circumstances in which one broadband network refuses to accept the traffic of another, claiming an impasse in commercial negotiations. Or in which a vertically-integrated content and cable provider refuses to provide its programming to a competitive fiber network, claiming exclusion from the program-access rules. Or in which, like the famous Disney-Time Warner impasse in 2000, ABC faced the prospect of being left off the major cable systems in New York and Los Angeles during the May sweeps.¹⁰² In cases like these, it should be a “short step” to a “quick look”. In other words, an aggrieved party should be able to obtain, very quickly, administrative review of the circumstance for the sole purpose of deciding whether a time-limited order should be granted to guard against the cognizable prospect of anti-competitive abuse. It is possible to imagine that, much like the distinction in civil litigation between a temporary restraining order and a preliminary injunction, the burden of persuasion would increase along with the length of time in which the administrative order would be in effect.

Second, the standard of judicial review would need to be carefully calibrated. The traditional notions of deference to administrative expertise seem these days to be applied with considerable inconsistency. The critical element of judicial review in these kind of case-by-case adjudications would be to recognize the central element of fact-finding in the application of general legal standards so as to invoke the time-honored notion that reviewing courts accord greater deference to a finding of fact than to a conclusion of law.¹⁰³

Third, the manner of administrative adjudication would have to be improved to meet these new responsibilities. Despite the long-standing notion of adjudicatory proceedings, the Federal Communications Commission has not, it seems, become very adept at dealing with contested facts. Speedy action assumes a process that is more flexible than full civil discovery and trial, but, to be valid, it would enforce a real system of fact-finding.

Fourth, the duration and scope of administrative action should be expressly established. Should an administrative adjudication last only an established period of time, say a year, in order to permit the institution of civil litigation before

¹⁰² Streisand, Betsy. (15 May 2000). “Pulling the Plug on ABC.” US News & World Report.

¹⁰³ Solove, Daniel J. “The Darkest Domain: Deference, Judicial Review, and the Bill of Rights.” 84 Iowa Law Review. 941 (1999)

that force of that order expires? Should the duration of power depend on which kind of anti-competitive injury to a broadband network is asserted?

Fifth, it would be very useful to consider whether government can be replaced by private processes for the execution of some of these functions. Recall the imposition of commercial arbitration in the DirecTV/NewsCorp Order in order to establish the price for access to “must-have” programming. Such commercial arbitration would have the advantage of not requiring governmental processes and, therefore, being further immune to political pressures. Commercial arbitration might be well-suited, for example, to administration of certain rules of the road.

In sum, a flexible and quick administrative process has significant advantages in place of the traditional choice between the Scylla of regulation versus the Charybdis of litigation. Such an approach should be explored as a better means of enforcing competition policy towards the newly-emerging broadband networks.

IIID. Ensure That Government Learns and Responds

We are used to applying a variety of verbs to the actions of governments. Regulates, adjudicates, oversees, overreaches, incentivizes, burdens, controls, even liberates. But the one not often associated with government is the verb “learns”. Part of that may be that we don’t believe that government is capable of learning; part may stem from the fact that government isn’t supposed to act unless it has already learned all that it needs to know.

But it is possible that, especially in a fast-moving world of technological and economic change, the most important requirement of governmental action in the emerging Age of Broadband is that it is constantly learning and monitoring its prior actions against new market, technological and social evidence as that evidence becomes available.

Section IIIA explained why, under current economic conditions, a rigid framework of prescriptive rules would not best serve our end in accomplishing the three critical governmental goals of economic growth and job creation, ubiquity and competition. And Section IIIC sketched out some important questions about how to construct a more agile, adjudicative process that can rapidly respond to any anti-competitive market abuse that may arise. In the system this paper has sketched out, the role of rules is limited to two main circumstances: (i) To act as the relatively benign “rules of the road” and (ii) To create the legal standards and legal processes by which government will restrain abuses of future market power.

The predilection against rules is supported by another set of considerations that have been analyzed by Professor Steven Weber and which derives from his

experience in analyzing issues of foreign policy; the following discussion owes its origin and much of its expression (although none of its errors) to his insights.¹⁰⁴

Rules can properly express fundamental values. So, for example, an overarching standard that stops abusive market domination is required in order to serve the goal of competition, just as constitutional principles form valid and enduring rules. Yet, over-reliance on rules raises its own set of dangers. Rules are, by definition and often by intent, slow moving. They can take a long time to create and, even more importantly, a very long time to modify. They can thus aid those who favor delay simply for the sake (or competitive advantage) of delay.

Even more importantly, rules, especially complicated, tactical rules, exist in a world in which “getting it right at the outset” is not achievable. That’s because rules do not anticipate – they simply represent the state of knowledge at one, fixed moment in time.

That is why rules tend to “fall behind” as our understanding of past and present trends grow more complex and as we experience more and more of the “future”. That is precisely happened, for example, with the regulatory classifications of “telecommunications” and “information” services – two definitions whose genesis lies in earlier, and very different, market conditions and whose use at the present is made almost laughingly irrelevant by the changes in technology and market conditions that has ushered in, to take one prominent example, widespread access to VOIP services.¹⁰⁵

Government should, to the maximum extent possible, use processes that allow it to understand, monitor and respond to new, and especially unanticipated, outcomes. It should constantly re-assess (without reaching a point of paralysis) what tactics are now the best means of reaching fundamental goals and implementing fundamental principles. It should constantly measure past processes against current circumstances. That means:

Government Should be Encouraged To Meet Its Goals Through Incentives, Not Prohibitions. Given a choice, governmental decision-makers should always be encouraged to attempt to influence outcomes through incentives that allow other decision-makers to make their own assessments of the pros and cons of action. That does not mean that government should pay for activities that the private sector would undertake in any event. But, as with the example of ubiquitous broadband deployment discussed above, where government feels the need to act, it will do much better to create reasons for action than to implement rigid mandates.

¹⁰⁴ Steve Weber is Professor of Political Science at the University of California, Berkeley and Director of its Institute for International Studies. The critique discussed above is the result of informal conversations he has generously held with the author of this paper.

¹⁰⁵ Although it is possible, but not certain, that the recent Supreme Court decision in Brand X will end the uncertainty that has long plagued this particular example. See fn. 11 supra.

Rules are not the same thing as incentives. Rules focus on what should not be done. Incentives create the circumstances in which people (or corporations or even governments) will take risks to get things done. There are, of course, many appropriate circumstances in which the proper role of government is to say “No” – criminal law is one example. But, here, where the whole purpose of the broadband enterprise is to encourage action by the private sector, the nature of rules fits uncomfortably against the purposes for which government acts. So, for example, moving from a strictly rule-based regulation of some institutional investments to the ‘prudent man’ rule opened up a wealth of experimentation that, along with many failures of course, stoked a revolution in the sophistication, depth, and overall success of U.S. financial markets.

In this manner, incentives are a more flexible and adaptive means of encouraging positive innovation than the simple creation of a culture of compliance. In addition, incentives are more suitable to experiments, which can be very important in discerning what works and what does not. Incentives can become hidebound themselves but, because they are dependent on cooperative ventures, they are more likely to provide data that permits continuous assessments of their effectiveness.¹⁰⁶

Legal Standards Should be Time-Tested. Where rules are created, such as the rules of the road that include traffic exchange and public safety, the rules should be subject to a sunset provision that requires the re-examination of their impact and, in particular, their unanticipated consequences. Is the benefit to society and the economy still outweighing any burdens the rules create? Have new economic trends created inadvertent arbitrage opportunities that are violating the prohibition against treating similarly-situated entities differently? Is a problem worse than anticipated, thus requiring stronger action? The assumption need not be that previous standards are now illegitimate. Rather, the goal is to ensure that old calculations have not been overtaken by events. The fact that the FCC now must engage in a series of Triennial proceedings to test the continued vitality of the working assumptions behind rules is a good example of the kind of process that can usefully be applied to governments at all levels, including Congress.¹⁰⁷

¹⁰⁶ This assumes that the incentives are not so overly-generous that they substitute for private investment – an outcome that may be harder to monitor because the system will seem to be working smoothly. The separate principle of transparency and “costing” which is discussed in this section should limit some of that danger.

¹⁰⁷ Section 251(d)(2) of the 1996 Act mandates that the FCC determine the specific network elements that incumbent LECs must provide to their competitors on an unbundled basis at cost-based rates. In December 2001, the Commission issued the Triennial Review NPRM seeking comment on how best to update its rules and make them more “granular” to reflect competitive conditions in different markets. On April 21, 2003, the Commission released its Triennial Review Order. Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 Deployment of Wireline Services Offering Advanced Telecommunications Capability. [CC Docket Nos. 01-338, 96-98, 98-147]

This principle can often be satisfied by an express sunset provision, which provides that governmental action will expire by a date certain. Similarly, there may be circumstances where the better approach is to create a “trigger” – an objectively verifiable circumstance that automatically leads further activity – much in the way that Congress has ordered broadcasters to cease analog transmissions and return 6 MHz of spectrum no later than either December 31, 2006 or when more than 85% of US television households can view digitally broadcasted television channels using either a digital television, set-top box, cable service, or satellite service.¹⁰⁸ Of course, the effectiveness of any trigger lies in its ability to be free from political and private manipulation.

Governmental Actions Must Be Transparent and, To the Extent They Involve Funding, Expressly Costed. Governments do not learn merely because their agents are smart and gather a great deal of information. In a democratic society, they often learn because the press, the public and other branches or levels of government beat them over the head. This type of dialogue, which not always pleasant, is extremely effective. But this form of “checks and balances” requires the free flow of information, both about the market sector and about governmental actions themselves. It will be important, for example, for government to collect, analyze and disseminate data about the development and deployment of broadband networks. That data will provide an important foundation for public dialogue and, depending on the conditions, for direct action by governments. Given the importance to the public of the deployment of broadband networks (the very reasons that justify a new legal regime), this task of government may prove to be one of its most important because, to put it simply, one cannot monitor what one cannot observe.

For example, this paper has argued that diversity of content is an important consideration and that government must carefully watch to see if the freedoms traditionally associated with the internet are being infringed. That monitoring function requires an understanding of the real impact of business practices themselves. Moreover, the dissemination and analysis of business practices may provide an extremely inexpensive form of deterrence of undesirable private action. But, if more is required, we will at least know that government intervention is based on fact, not ideology.

The question of “costs” is a separate, but very important, aspect of ensuring transparency. To the extent that governments provide subsidies or the like, it is critically important that they be sized to the public need and be entirely transparent to the public – so that citizens know precisely what they are paying for. This principle may have been less important in the past (thus generating the considerable debate about the history of subsidy flows in Twentieth Century telecommunications) but, at this moment, it is essential.

¹⁰⁸ Reform and Terrorist Prevention Act of 2004. Subtitle E—Public Safety Spectrum Sec. 7501 (2b) Digital Television Conversion Deadline

Governmental Authority Should Be Exercised At the Level that Best Corresponds To The “Challenge” That Government Faces: It is now axiomatic to say that the internet knows no borders and the recent FCC decision pre-empting state telecommunication regulation over VOIP services like Vonage’s demonstrates the appropriate way in which to apply this principle.¹⁰⁹ The nature of packet-switched networks is inherently incompatible with governmental oversight that rests on a belief that the geography of communications can be precisely mapped – a principle that, of course, also has implications for the ability of any national government to effectively oversee an inherently international network of networks.

The issue of broadband deployment, although it will have important consequences at a state and local level, is similarly best suited for federal oversight. That is not simply because the networks are packet-switched – although that’s a powerful engineering rationale in and of itself – it is because the nature of the big questions presented tend to embrace national, and not simply state or local, consequences. Imagine if we were to fail to achieve each of the core governmental goals that have been outlined – failed to spur economic growth and job creation, failed to achieve ubiquitous deployment and failed to ensure the existence of competitive markets. Would we regard the impact to be of merely regional, state or local concern? To the contrary, we would likely conclude that the adverse impacts, even if felt more strongly in certain areas, were troublesome to the nation as a whole. Indeed, it would seem that placing responsibility at the appropriate level is compelled by the importance that government learn and respond – a precondition of which is that the appropriate form of governmental action has been engaged.

Assertion of national authority naturally leads to the question: What is left for state and local governments? To be sure there are legitimate consumer and public safety questions that belong within the province of state and local governments. And other examples can easily be found.

But there is a special point to be made about the value of state action. As noted above, one important aspect of learning is experimentation. Yet, the federal government may not be in the best position to try a variety of approaches towards fulfillment of core goals and key principles. States and local governments may be much better positioned. In this way, the historic “laboratory of the states” may provide the very best platform for testing new ways of achieving the goals of economic growth, ubiquity and competition. In the related area of incentivizing research and technology, for example, state efforts have been vital to national learning.¹¹⁰ But we should be wary of state and local

¹⁰⁹ FCC Memorandum and order. In the Matter of Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission. WC Docket No. 03-211.(12 Nov. 2004)

¹¹⁰ Bennett, Matthew. (March 2004) “A Nation of Laboratories: Broadband Policy Experiments in the States.” Alliance for Public Technology.

requirements that, as in the Vonage decision, adversely impact on the ability of competitors to enter or exit broadband markets.

Judicial Review Must Be Timely. The judicial branch rightly has resented intrusions on its independence, including the timeliness of its schedule for considering, and then deciding cases. But the simple fact is that the delay in appellate consideration of administrative actions is very significant – especially at a time of rapid change. Consider, for example, the litigation history of the initial rules the FCC issued to implement Section 251 of the Telecommunications Act.¹¹¹ Congress should consider expediting proceedings in order to ensure that litigation timelines, in and of themselves, do not materially impact competition.

Administrative Action Will Be Smarter When Administrative Agencies Focus on the Facts. Whatever the precise structure of government in the future, it is likely that there will be an administrative agency with significant responsibility. Two key functions suggested above include monitoring market developments and initial enforcement of competition-policy principles. But whatever administrative agencies do, they should do it better.

Experience with the FCC leads this observer to believe that the Commission does not use processes effectively to separate the factual wheat from the rhetorical chaff. Informal meetings in which both (or many sides) of an issue engage in a real give-and-take will over help decision-makers get to the heart of a matter quickly. Informal adjudication, in which parties present argumentation to a designated staff member, can also yield a better focus on what is at issue and the real reasons that underlie each party's position. Of course, as in the circumstance of applying antitrust-like standards, real adjudicatory processes are required. Other forms of process used at the state level can also help sharpen the controversies in question.¹¹² The basic goal is all the same – use processes that allow regulators to understand what is truly at issue by using adjudicative-style processes that best advance the learning process.

In sum, we want to encourage government to learn and to respond according to changing circumstances. We want government to find ways of implementing fundamental principles that can get “smarter” instead of increasingly obsolescent. This paper suggests a number of ways in which governmental processes and the allocation of governmental authority can encourage that kind of behavior. But, in addition, the responsibility falls on governmental officials themselves, in their day-to-day activities, to apply a sort of scientific method to their understanding of the world around them. Everything known must be continuously tested against the facts and, as new facts appear, the basis for governmental action must be tested against the new realities.

¹¹¹ FCC Wireline Competition Bureau Triennial Review. See: http://www.fcc.gov/wcb/cpd/triennial_review/

¹¹² Rowe, Bob, http://www.apr.org/confer/Bob_Rowe_slides_files/frame.html

IV. Transition Issues

All of this theory is well and good, an observer might say, but what about the big pending questions that Congress and the FCC are expected to confront – the future of universal service, the nature of inter-carrier compensation and the return of the broadcasters' analog spectrum, just to name three? And, of course, many consumers will continue to be served by copper networks for a substantial period of time, which implicates on-going regulatory matters.

From the perspective of this paper all of these are transition questions. That is not to say that they are un-important. It is simply to state that they will, at some moment in the foreseeable future, be overtaken by the new Age of Broadband. The current approach to universal service will be seen as quaintly linked to a particularly copper-network-centric approach to the provision of what will soon be understood to be voice “applications”. Inter-carrier compensation within the current structure of telecommunications will be subsumed within the larger context of exchange of IP traffic, which will also touch issues that sound, in today's nomenclature, like peering, the freedom of consumers to reach content on the internet and interconnection of data networks. The analog spectrum, once returned, will be important for the manner in which it is offered by government and used by network providers – with scarcely a nod backwards to the number of digital televisions that were purchased in 2004 to watch the Boston Red Sox win the World Series. And, of course, during the transition period, tens of millions of consumers will continue to be served on a circuit-switched network, which suggests the importance of securing good quality on that network even as we encourage investment in new technologies.

The point of this paper, in other words, is to consciously give these issues less attention than they normally receive – just for emphasis. Why? Because the goal is to offer a small counterweight to the short-term pressures that may make the future more difficult to perceive. By starting from the future, we will be better able to ensure that the resolution of transition issues is not made in a (temporal) vacuum.

And what does it mean that an issue is “transitional”? The hallmark of a transitional issue is that its purpose or execution is tied inextricably to the network-centric approach that characterized the past century of communications regulation. For example, if an issue concerns copper networks or “broadcast” spectrum per se then we can be reasonably certain it is going to be overtaken by a future in which broadband flows over many kinds of technological infrastructures.

No “solution” to a current “problem” should come at the long-term expense of broadband deployment. So, for example, one might consider that universal-service reform should not result in an increase of universal-service funding under the current network-centric system, that eventual impact of broadband

deployment be currently and constantly considered on the administration of current programs, that the expenditure of funds be entirely transparent and that the continuation of needed efforts not result in the long-term advantage of one sort of broadband network typology over another. None of this is to slight the purpose of universal service – which as this paper asserts is absolutely vital from both social and economic perspectives – it is simply to understand that political questions today must be solved today in ways that will accommodate a robust tomorrow.

Similarly, this paper has noted above some continuing issues of competition policy, like the recently-renewed program access rules, that should be not artificially disrupted without a searching examination of real competitive conditions. Indeed, a particular point in favor of their retention is that they were formulated with a conscious eye towards cross-platform competition, which is what we are seeking to incentivize.

It is, of course, the short-term issues that are often the most politically challenging – especially where investments have been made, business plans executed and social patterns of behavior established on the assumption that current policies will continue indefinitely. This is where policymakers need to take a clear-eyed approach to the sustainability of current policy. Where the advent of ubiquitous broadband networks will, by itself, undermine the implementation of current policy then it is very important that the old policy accommodate the new technology, rather than running the risk that the deployment of new technology is blocked by well-intentioned, but outdated, policy approaches.

V. Conclusion

This paper began with the observation that we have apparently reached a point of equipoise – a moment in which there is a rich understanding of what is wrong with the current “stovepipe” approach to network regulation but in which there is, simultaneously, a relatively slender consensus of what should be done about it. Perhaps that is caused by a failure to think rigorously about the purposes for which government is acting and by an accompanying failure to understand the conditions in which current policies were formulated.

It is time to open a dialogue about the purposes and principles for which government should act. That is because it is essentially impossible to judge the propriety of governmental action in the abstract – divorced from rationale and context.

This paper argues that the essential purposes of governmental action must be rethought and that, in particular, it is necessary to recognize that, in current economic conditions, economic growth and job creation are a critical goal of broadband policy.

That makes a difference – not displacing the traditional (and sound) goals of ubiquity and competition – but enlarging our understanding of the principles that should guide governmental action in trying to simultaneously achieve growth, ubiquity and competition.

And so the four principles of governmental action, although none of them are entirely novel, derive their power from the belief that they are uniquely suited to serve all three governmental purposes. A world in which government acts to incentive ubiquitous investment, in which it treats similarly-situated entities similarly, in which it restrains abusive market power and in which it continually assesses its tactics with a keen eye to what it can learn about the evolving broadband marketplace is a place in which the United States will be best able to achieve each of the goals to which this paper subscribes. The discussion above has attempted to explain why each serves this purpose. As a whole, these principles are well-suited to form a “charter” for governmental action.

And governmental reform is needed. The present regulatory regime cannot be squared with reality – present and future. Every day that it remains in existence is a day in which we risk deferring unnecessarily the gains that can come from the deployment of broadband networks.

Of course, each of these purposes and each of these principles can – and should -- spark a lengthy dissertation as to their origins, their formulation and, of course, the manner in which they can be best applied to specific circumstances. That is important work, without which this analysis cannot be considered complete. No doubt, the consideration of particular challenges will result in dialectical

improvement in the reasoning and expression of the ideas this paper contains. The purpose of this enterprise, however, has been less to provide the final word and more to stimulate the correct first questions that should govern the age in which true broadband connectivity is busy being born.