In the Matter of
Preserving the Open Internet
Broadband Industry Practices

COMMENTS OF THE FIBER-TO-THE-HOME COUNCIL
ON THE FURTHER INQUIRY INTO TWO UNDER-DEVELOPED ISSUES IN THE
OPEN INTERNET PROCEEDING

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The Fiber-to-the-Home Council ("FTTH Council" or "Council"), through its undersigned counsel, hereby respectfully submits its comments to the Federal Communications Commission ("Commission") in response to the September 1, 2010 Public Notice of Further Inquiry in the above-captioned proceedings. The FTTH Council is a non-profit organization established in 2001 with more than 200 members. Its mission is to educate the public and government officials about fiber-to-the-home ("FTTH") and to promote and accelerate FTTH deployment and the resulting quality of

1 Public Notice, Further Inquiry Into Two Under-Developed Issues In the Open Internet Proceeding, DA 10-1667, rel. Sept. 1, 2010 ("Public Notice of Further Inquiry").
2 In the Matter of Preserving the Open Internet, GN Docket No. 09-191, and Broadband Industry Practices, WC Docket No. 07-52, Notice of Proposed Rulemaking, Rel. Oct. 22, 2009, ("Open Internet NPRM"). (These two dockets are collectively referred to in these comments as "Open Internet Proceedings.")
3 A more complete description of the FTTH Council, its activities, and its members can be found on the organization’s website: http://www.ftthcouncil.org.
life enhancements that FTTH networks make possible. The FTTH Council's members represent all areas of the broadband access industry, including telecommunications, computing, networking, system integration, engineering, and content-provider companies, as well as traditional service providers, utilities, and municipalities. As such, they are very familiar with the architecture, construction, and operation of communications networks, and, in the Open Internet Proceedings, the Council has submitted extensive comments on network engineering, operations, and services. For purposes of this filing, the Council consulted with engineers and network managers from four of its service provider members: EATEL (Louisiana), GVTC Communications ("GVTC") (Texas), Jackson Energy Authority ("JEA") (Tennessee), and Toledo Telephone Company ("Toledo Telephone") (Washington).

I. INTRODUCTION AND SUMMARY

In these comments, the FTTH Council focuses on one of the two underdeveloped issues in the Public Notice of Further Inquiry: specialized services and the question of "how to maintain the investment promoting benefits of specialized services while protecting the Internet's openness." The Council demonstrates herein that there is no evidence to justify any of the concerns raised in the Public Notice of Further Inquiry about broadband providers using specialized services to harm the provision of broadband Internet services and therefore no basis upon which to adopt any policy proposed in the notice. Further, while the Commission briefly recognizes that specialized services "may

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5 Public Notice of Further Inquiry, at 2.
drive additional private investment in networks and provide consumers new and valued services, only in passing does it inquire into the harm that would be caused to investment, innovation, and growth in the capacity and performance of broadband Internet services and other service offerings by adoption of any of its proposed policies. In brief, the policies proposed by the Commission are so intrusive that they would produce substantial harm to investment and deployment of all-fiber networks. In addressing issues concerning access to broadband Internet service, the Council believes it would be much more productive for the Commission to pursue an expansive growth agenda, whereby incentives are provided to develop high-performance next-generation networks with enormous capacity so that no concerns about bandwidth limitations, even though they are remote, should ever arise.

**II. SPECIALIZED SERVICES ARE MUCH IN DEMAND BY A VARIETY OF CUSTOMERS, ARE CONSTANTLY EVOLVING IN RESPONSE TO THESE DEMANDS, AND IMPROVE NETWORK EFFICIENCY**

In prior comments in the *Open Internet Proceedings*, numerous parties attested to the fact that because today’s sophisticated networks have such enormous capabilities and efficiencies, they can provide a great many differentiated services, including broadband Internet access and specialized services, for a wide variety of users. Numerous parties also discussed how the diverse array of services provide revenues to

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6 Id.

7 See e.g., Comments of AT&T Inc., *Open Internet NPRM*, filed Jan. 14, 2010, at 41, and the *Open Internet NPRM*, ¶ 150.
support the construction and upgrading of these networks. The FTTH Council concurs with these comments.

In response to market demands, members of the FTTH Council that operate networks provide many specialized services, which are generally viewed as offerings requiring Quality of Service ("QoS") assurances and potentially enhanced security. These services can be pre-established ("off the rack") and taken by many users or designed specifically for a single user (custom). The functionalities provided for specialized services include such capabilities as: Bandwidth Allocation – Fixed or Dynamic; Service Redundancy; and, Service Restoration. In addition, users of specialized services generally demand Service Level Agreements with penalties for non-performance. Finally, as noted by Alcatel-Lucent in its comments in response to the Open Internet NPRM, these characterizations of a specialized service do not "depend on whether the service is carried over a private network, a virtual private network, the public Internet, or even whether the service is IP-based."9

Examples of specialized services provided by Council members abound:

Toledo Telephone in Washington provides a 10 Mbps VLAN service, which includes Internet access, for a medical institution with multiple locations in its territory, and it is in discussions with this customer to upgrade the service to add functionality and provide enhanced QoS.

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8 See e.g., Comments of Verizon and Verizon Wireless, Open Internet NPRM, at 78 ("Verizon Comments").
9 Comments of Alcatel-Lucent, Open Internet NPRM, filed Jan. 14, 2010, at 13. Alcatel-Lucent then adds a key point about the provision of specialized services: "Notably, the Commission recognized this reality as well, as the Notice itself asks whether services with assured quality of service 'should be more properly understood as managed or specialized services rather than broadband Internet access services?' The answer is yes."
JEA in Tennessee offers small business users a series of pre-established specialized services with higher QoS guarantees. It also recently developed a specific dedicated bandwidth service with much more extensive QoS for the City of Jackson’s wireless public safety network. This service permits the wireless network to be linked in multiple locations to JEA’s FTTH network, and JEA segments all traffic from the public safety network and provides security management for all transmissions.

GVTC in Texas fashioned a creative solution for a customer that required connectivity between two sites but had no physical transmission link in place. Rather than construct a new wireline facility, it developed a transparent IP LAN service within its network that enabled this connectivity at the local access level without using network routers. GVTC is now planning to provide a suite of business class services with tiers of Service Level Agreements, business portals, and increased visibility into customer networks.

Moreover, even while these FTTH network operators were developing and providing specialized services, they were greatly expanding their broadband Internet access service performance capabilities both at the access layer (dedicated) and transport layer (shared). At the access layer, because of FTTH’s enormous capacity, it is relatively easy (although far from costless) to upgrade performance capabilities, and higher speed offerings are constantly being rolled out – with top speeds today in the range of 100 Mbps. But, these providers also have been greatly increasing performance capabilities at the transport layer (and concomitantly, their investments) because of the rapid growth in Internet traffic:

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10 The National Broadband Plan cites a report by an analyst at the Columbia Institute for Tele-Information suggesting that the major wireline broadband providers invested $20 billion in 2008 and were expected to invest $18 billion in 2009. (Omnibus Broadband Initiative, FCC, Connecting America: The National Broadband Plan, GN Docket No. 09-51, Mar. 2010, at 38 (“National Broadband Plan”).

11 Transport capacity is generally provided by FTTH network operators on a shared basis, engineered to provide efficient, high quality service. Should providers be required to allocate specific amounts of transport capacity (bandwidth) to broadband Internet access services (such as by requiring providers to build additional capacity, provide dedicated bandwidth, or lower the oversubscription ratio) and these amounts differ from...
Toledo Telephone a short time ago only had a DS-3 connection to the Internet. Today, it has two links, each capable of handling 100 Mbps, on a OC-48 transport facility. It plans to use that same infrastructure to double its speed early next year and then move to utilize the full, gigabit capacity of the facility.

JEA’s transmission link to the Internet in 2005 was only capable of handling 300 Mbps. Today, the capacity on that link has increased by 500%, and next year the link will have sufficient capacity to transmit at 2 Gbps.

GVTC recently increased its backbone infrastructure from a 1 “Gig” ring to two, redundant 10 “Gig” rings. Today, it provides Internet access with two links capable of transmitting at 2.5 Gbps.

Finally, not only are these providers responding to market forces in offering these services, they understand there are substantial efficiencies to providing them simultaneously over a unified network. This translates into lower costs for all services, as well as to the ability to upgrade or deploy new performance capabilities more rapidly. This is a positive environment for users and network providers, and the Commission, because it has a relied principally on market forces to drive investment, should take credit for providing the policy foundation to facilitate this activity. Of course, the Commission and the FTTH Council share the objective of accelerating investment and growth in network performance. However, this can and should be achieved principally by government adopting additional incentives and removing barriers, concepts that are largely included in the National Broadband Plan.

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current industry standard practices, cost for providers (and prices for users) are likely to increase.
III. WITH THE ADVENT OF THE COMMISSION’S PRO-MARKET POLICIES, THE SUCCESSFUL DEVELOPMENT OF BROADBAND INTERNET ACCESS SERVICES HAS BEEN DRIVEN BY THE PRIVATE SECTOR

For over a century, telecommunications networks in the United States have been built almost exclusively through private investment. Private telecommunications providers have invested hundreds of billions of dollars to construct these facilities, and they continue to invest additional billions annually to maintain and upgrade that infrastructure for the provision of broadband Internet access services.12 As noted in the National Broadband Plan, “Due in large part to private investment and market-driven innovation, broadband in American has improved considerably in the last decade. More Americans are online at faster speeds than ever before.”13 This conclusion is supported in the Commission’s OBI Technical Paper No. 4, which states, “Historical speed growth indicates a doubling of speed roughly every four years for broadband technologies…Importantly, this speed increase has continued as strongly in the last few years as it did with the introduction of widespread broadband in the late 1990s.”14 As noted above, the Commission’s pro-market policies, which were first adopted over thirty years ago, have played a key role in fostering these investments. By removing barriers to entry and then limiting its involvement as competition grew, the Commission sowed the seeds for network growth and responsiveness to user demands.

12 See, n. 10.
13 National Broadband Plan at 3.
It is especially noteworthy that while the government created the Internet, private network operators created broadband Internet access services and have constantly improved the performance of these services. The simple yet important fact is that the Commission has not adopted regulations mandating the offering of a broadband Internet access service by any network provider nor mandating the performance of such service — let alone mandating the technology, network configuration, or network operations by which such service is provided. That means a network operator today in theory could choose not to offer a broadband Internet access service or chose to offer it with limited capabilities. Yet, except in areas where the private sector business case is not viable, broadband providers have not done so. Instead, they have rolled-out robust broadband Internet access services — proof that the market is working. Further, the fact that network operators are doing so while offering specialized services is proof that the Commission’s pro-market policies are working, and thus it should not adopt any regulations to limit the offering or provision of specialized services.

Of course, because of the great benefits of broadband, the National Broadband Plan indicated that it wanted private-sector entities and others to deploy networks with even greater performance, and it adopted the “100-Squared” objective. However, the National Broadband Plan did not mandate that broadband providers construct facilities to meet this goal. Rather, the plan relies largely on the current momentum of private-sector deployment which would be supplemented by greater

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15 In areas unserved by broadband Internet access service, it is not unreasonable for the Commission to tie the acceptance of government funding to the deployment of broadband infrastructure and overall performance mandates. At the same time in these areas, the National Broadband Plan has not sought to recommend that the Commission dictate technology, network configurations, or network management practices.
disclosure of broadband performance by providers. The FTTH Council proposed that the National Broadband Plan include additional investment incentives, and it continues to believe these would accelerate the deployment of next-generation, all-fiber networks.

IV. NO INTERESTED PARTY HAS PROVIDED EVIDENCE OF HARM TO ACCESS TO THE INTERNET VIA BROADBAND INTERNET ACCESS SERVICES BECAUSE OF THE OFFERING OF SPECIALIZED SERVICES

In the Public Notice of Further Inquiry, the Commission describes three general areas of concern with the offering of specialized services by broadband providers: bypassing open internet protections, supplanting the open internet, and anti-competitive conduct.16 For each of these areas of concern, it cites as proof the prior comments of a number of interested parties in the Open Internet NPRM.17 While these prior comments are provided as examples, the Council assumes that they provide the best examples of harm and has reviewed them accordingly. As shown below, none of these comments provide any evidence of harm and are more in the form of brief speculation.

The following are the statements made by each of the interested parties alleging harm to end-users accessing the Internet from the provision of specialized services:

Netflix—“Netflix is concerned that network operators will use so-called managed services in a way that harms unaffiliated content or service providers that compete directly with services provided by the network operator, owing either to vertical integration…or resulting from competitive threats to their legacy ‘managed services’ business. This concern is heightened in light of the fact that such ‘managed services’ are offered over the same physical network as broadband Internet services.”

17 Id., n. 10, 11, and 12.
The Center for Democracy and Technology—"But if managed or specialized services were to begin to replace, squeeze out, or marginalize the Internet’s open model, the goals of this proceeding would be placed in serious jeopardy. There are at least two ways that managed or specialized services could crowd out Internet services. First, the Commission could allow such a loose definition of ‘managed or specialized services’ that broadband providers are effectively able to reclassify selected Internet traffic as ‘managed or specialized service’ traffic...Second, even if broadband operators keep their Internet access services and their managed or specialized services distinct, they could act in ways that steer subscribers to use or rely on the managed or specialized services instead of Internet access."\(^{18}\)

Vonage—"Vonage appreciates the Commission’s concern over whether it should exclude certain types of services from the requirements of the proposed open Internet principles. However, Vonage urges the Commission to proceed cautiously in this area to ensure that any exemption granted for Managed or Specialized Services not undermine the Commission’s goals of promoting innovation and competition. Without clear boundaries and limitations on what services should be included in these categories, broadband network providers could, for example, position their voice and video services as “Managed” or “Specialized,” exempting them from the Commission’s proposed principles."\(^{19}\)

Google—“Such services could be used as an ‘escape hatch’ for last-mile providers seeking to avoid open Internet obligations.”\(^{20}\)

Free Press—“[T]hese future potential services could introduce tremendous harm.”\(^{21}\)

Dish Network—“Vertically-integrated broadband providers easily could allocate large portions of their pipes to optimize their own online video services by squeezing competing movie and television services (e.g., DishOnline, Hulu, YouTube, Netflix) into a downsized Internet-portion of the pipe, thereby placing such services at a competitive disadvantage.”\(^{22}\)


\(^{19}\) Comments of Vonage Holdings Corp., Open Internet NPRM, filed Jan. 14, 2010, at 27.


Sony Electronics – "[T]he Commission should acknowledge the potential threat that managed services pose to the continued vitality and viability of the open Internet." 23

Independent Film & Television Alliance – "Experience in the broadcast and cable marketplace demonstrates that vertically integrated broadband networks will have and act on significant incentives to enhance managed networks to the detriment of non-managed networks in order to move customers to their greater revenue generating service offerings." 24

XO Communications – "The initial comments confirm that, unless properly constrained, managed services could function inappropriately as a 'loophole' permitting last-mile broadband providers operating under poorly defined 'managed' service to engage in discriminatory practices to undermine continuing investment in facilities to access the public Internet." 25

As can be seen from these statements, none of these commenters provide any evidence that broadband providers are harming access to the Internet by virtue of the offering of specialized services. Instead, their allegations are based solely upon their assumptions or expectations of how broadband providers might act. Moreover, the fact that these commenters have produced no evidence of harm is most telling since today broadband providers operate in a “regulation-free” environment – a time when broadband providers would be expected to engage in any anti-competitive acts, assuming as the proponents of regulation do, that they have the incentive and ability to do so. Yet, the proponents of restricting or otherwise limiting the provision of specialized services provide no examples of harm, let alone any systematic evidence. Thus, the Commission

24 Comments of Independent Film & Television Alliance, Open Internet NPRM, filed Jan. 14, 2010, at 19.
has no basis on which to impose regulations limiting or in any way conditioning the offering of specialized services, most especially regulations as intrusive as those proposed by the proponents which would limit the type of specialized services or their performance capabilities.

V. **THE COMMISSION SHOULD PURSUE A GROWTH AGENDA FOR NETWORK INVESTMENT AND DEPLOYMENT**

With this *Public Notice of Further Inquiry*, the Commission brings into sharp focus two different policy premises. It can act as if the market for broadband Internet access service is relatively static and believe it somehow needs to ensure that limited resources are allocated equitably. In contrast, the Commission can adopt a growth agenda and seek to encourage and provide incentives for providers of broadband Internet access services to greatly expand the capabilities of their networks and for new entrants to make investments in networks. The FTTH Council strongly favors the latter approach and believes growth in the communications industry since the advent of the Commission’s pro-market policies provides hard evidence of the tremendous benefits that are achieved by following such an approach. The Council further notes that the *National Broadband Plan* proposes and the Commission is already pursuing a number of policies, including allocation of additional spectrum, institution of a ratings system for broadband performance and removal of pole attachment barriers, that head in this direction. Finally, the Council believes there are many other ways for the Commission to encourage and provide incentives, either directly or indirectly, for the investment to expand. It urges the Commission to use this as the focus of its efforts.
VI. **SHOULD THE COMMISSION ADOPT PROPOSED OPEN INTERNET REGULATIONS, IT SHOULD DEFINE BROADBAND INTERNET ACCESS SERVICE NARROWLY AND ESCHEW ANY DEFINITION OF SPECIALIZED SERVICES**

The FTTH Council supported the original open Internet policies adopted in the Commission’s 2005 *Broadband Policy Statement* and supports new action by the Commission to adopt them, assuming it has sufficient authority. In doing so, the Commission needs to define broadband Internet access service -- the service it is going to regulate -- and it should adopt a definition that is narrowly tailored to services with identified and proven market failures and thus does not result in regulation of other service offerings. To that end, the Council notes that many service providers use IP addresses for services that consumers would not normally consider to be Internet access services, and, as such, these service offerings should not be included in the definition. Finally, the Commission only needs to define the service it is intending to subject to regulatory requirements -- broadband Internet access service. In particular, because specialized services are a dynamic and evolving set of offerings and there is no evidence

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27 Verizon, for instance, notes that “many VoIP services used by enterprise customers draw on public IP addresses.” In addition, “more services increasingly integrate selected content or features from the Internet (e.g., the FiOS Widgets service, which allows users to access certain endpoints such as Facebook that are reachable using the Internet).” (Verizon Comments at 79.) *See also*, n. 9.
of market failure in regard to these services, there is no need to define them. They would simply be included in the category of non-broadband Internet access services.

VII. CONCLUSION

Decades ago the Commission saw the limits of a monopoly-regulated industry and the benefits of competition and embarked on a new policy paradigm: permitting market forces to work absent a showing of market failure. Under that rubric, many tens of billions of dollars have been invested annually in wireline networks capable of providing a wide variety of services, including broadband Internet access and specialized services, all of which provide revenues to support this investment. This lends credence to the Commission’s policies, and it should not change course and begin to regulate where there is no demonstrable showing of harm. As shown in these comments, that certainly is the case with the regard to specialized services. Instead, the FTTH Council urges the Commission to pursue a “growth” agenda, providing encouragement and incentives to the deployment of higher performing networks.

Respectfully submitted,

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