

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

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In the Matter of	)	
	)	
Preserving the Open Internet	)	GN Docket No. 09-191
	)	
Broadband Industry Practices	)	WC Docket No. 07-52
_____	)	

**COMMENTS OF COVAD COMMUNICATIONS COMPANY**

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## **Executive Summary**

Covad Communications Company submits its comments on a number of issues concerning the implementation of rules to guide service providers network management practices. Covad supports an open Internet, and as one of the nation's largest independent providers of broadband services, Covad has an acute interest in the Commission's development and codification of rules that would apply to broadband Internet service providers, especially in light of the Recovery Act's goal of promoting broadband affordability and availability, which is widely expected to increase consumer demand for broadband services. The Commission should focus its efforts on developing rules that both provide an open Internet experience for end users, and allow service providers to ensure that other users' critical communication services are not disrupted.

The Internet depends on rules that ensure the availability of the transmission capacity to offer content and services to consumers. To prevent the discrimination that is at the heart of network neutrality concerns, the Commission should maintain competitive markets for transmission services over the incumbent local exchange company ("ILEC") networks and make certain that competitive providers ("CLECs") can interconnect to the ILEC networks pursuant to nondiscriminatory and reasonable terms and conditions so that content coming from a CLEC is treated no differently than the ILEC's own traffic. There is no basis for the ILECs' assertion that deregulation and "closed" networks yields to more investment and job creation. Rather, policies that make available wholesale last mile transmission facilities will spur additional investment by both ILECs and CLECs in competition with one another and lead to job creation throughout the telecom industry. There should not be "gatekeepers" to the Internet. In particular, open access broadband policies relative to the ILECs' copper and emerging fiber-based broadband networks

will move forward toward the goals of bringing affordable, high quality broadband services and an open Internet to all Americans.

Covad supports the creation of a flexible framework that will ensure that broadband Internet service providers can manage their networks efficiently and effectively to maximize the end user experience, and to meet its customers' needs and expectations. While packets of data may look the same, the underlying functionality that they deliver changes from service to service. VoIP and video communications, for example, require high service thresholds to ensure that latency or other network disruptions do not interrupt the communication. In addition, in order to maximize and enhance the end user's experience based on application performance, end user's should have the ability to proactively optimize their network performance and manage bandwidth based on their highest priority applications. The Commission's rules, therefore, must provide carriers flexibility to administer their networks in a reasonable manner to ensure that services that require higher-level quality receive that quality, end user's have the ability to prioritize and predict reliability for sensitive applications, and to address other concerns such as network congestion before they cripple end-user service quality. "Managed" or "Specialized" services, in this regard, should be defined and regulated in a manner that encourages, rather than discourages, innovation and investment. Allowing providers to differentiate treatment of traffic over the network based on specific end user priorities and latency requirements for real-time applications, such as voice, for example, is appropriate for such services.

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**COMMENTS OF COVAD COMMUNICATIONS COMPANY**

**I. INTRODUCTION AND SUMMARY**

Covad Communications Company (“Covad”) respectfully submits its comments in response to the Notice of Proposed Rulemaking released by the Federal Communications Commission (“FCC” or “Commission”) issued in the above-referenced dockets on October 22, 2009 (“NPRM”).<sup>1</sup> The NPRM requests comment on a number of issues concerning the implementation of rules to guide service providers’ network management practices. Specifically, the Commission seeks “to identify the best means to achieve our goal of preserving and promoting the open Internet ... in a manner that will protect the legitimate needs of consumers, broadband service providers, entrepreneurs, investors, and businesses of all sizes that make use of the Internet.”<sup>2</sup>

As one of the nation’s largest independent providers of broadband services, Covad has an acute interest in the Commission’s development and codification of rules that would specifically apply to broadband Internet service providers, especially in light of the Recovery Act’s goal of promoting broadband affordability and availability, which is widely expected to increase

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<sup>1</sup> See *Preserving the Open Internet, Broadband Industry Practices*, Notice of Proposed Rulemaking, GN Docket No. 09-191 & WC Docket No. 07-52 (rel. Oct. 22, 2009) (“NPRM”).

<sup>2</sup> NPRM, ¶ 10.

consumer demand for broadband services.<sup>3</sup> Covad supports an open Internet. The primary issue for the Commission should be how to provide an open Internet experience for end users without disrupting other users' critical communication services. To meet this goal, Covad supports the creation of a flexible framework that will ensure that broadband Internet service providers can manage their networks efficiently and effectively to maximize the end user experience, and to meet its customers' needs and expectations. Such a framework should recognize technological realities inherent with certain forms of communications, and should also recognize the special nature of certain "Managed" or "Specialized" Services.

## **II. THE COMMISSION SHOULD OPEN THE TRANSMISSION NETWORK TO COMPETITION**

The Internet depends on rules that ensure the availability of the transmission capacity to offer content and services to consumers. To prevent the discrimination that is at the heart of network neutrality concerns, the Commission should maintain competitive markets for transmission services over the ILEC networks and make certain that competitive providers CLECs can interconnect to the ILEC networks pursuant to nondiscriminatory and reasonable terms and conditions so that content coming from a CLEC is treated no differently than the ILEC's own traffic. There is no basis for the ILECs' assertion that deregulation and "closed" networks yields to more investment and job creation. Rather, policies that make available wholesale last mile transmission facilities will spur additional investment by both ILECs and CLECs in competition with one another and lead to job creation throughout the telecom industry. There should not be "gatekeepers" to the Internet. In particular, open access broadband policies

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<sup>3</sup> See generally American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

relative to the ILECs' copper and emerging fiber-based broadband networks will move forward toward the goals of bringing affordable, high quality broadband services and an open Internet to all Americans.

### **III. THE COMMISSION SHOULD REMAIN FLEXIBLE ON NETWORK MANAGEMENT ISSUES**

#### **A. Internet Traffic Is Expected to Increase Dramatically**

The growth in broadband traffic demands over recent years -- and the demands that broadband will place on legacy networks -- are striking. And, carriers expect their traffic loads to rise due in part to the various stimulus programs aimed at drawing more Americans to the Internet. Thus, the foundation of any successful network neutrality policy must rest not only upon the preservation of end-user choice and freedom, but it must also include a means for service providers to actually meet broadband consumers increasing expectations and demands.

It is clear that broadband, at sufficient service levels, can lead to increased economic opportunity and prosperity. Small businesses are the engine of innovation and job creation in the United States and small business access to broadband will continue to produce significant economic opportunity and growth in the United States.<sup>4</sup> However, small business adoption will not lead to increased economic growth if service providers cannot guarantee a level of broadband service necessary to operate highly sensitive business applications. Carriers need the necessary tools to ensure that networks and applications meet those consumer needs.

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<sup>4</sup> As recently recognized by Congresswoman Nydia Velazquez, Chairwoman of the U.S. House Small Business Committee, “[t]echnology is often called the great equalizer of the business world. If done properly, increasing access to broadband will allow small firms to compete with big companies. It will also create new opportunities for small businesses - all while connecting our country with the fastest means of communication. We’ve come a long way since the days of dial-up. New investments in broadband can take that progress one step further, and allow America’s small businesses to help rebuild our economy.” Statement of Rep. Nydia Velazquez, Chairwoman, House Committee on Small Business, “Bridging the Digital Divide: The Role of Small Firm in Expanding Broadband Access” (Oct. 28, 2009), available at: <http://www.house.gov/smbiz/Statements/2009/broadband-investment.html>.

## **B. Some Classes of Services Require Diligent Administration**

An “open Internet” is a fundamental expectation of the broadband consumer, including business consumers. However, consumers also expect their broadband service to work, and to get what they pay for. Consumer expectations also change with the broadband Internet device or application used and with the type of traffic that is being delivered. Voice over Internet Protocol (“VoIP”) users, for example, foremost desire low latency and delay, so that the conversation can proceed without technical disruptions. In addition, business users want the ability to secure end-to-end control of sensitive applications, such as video, by proactively differentiating traffic across a limited bandwidth circuit. As the Commission establishes rules on how carriers deliver these services, it should recognize that consumer expectations vary between the applications and types of data utilizing the broadband access service and that many businesses will want to prioritize various types of traffic differently based on specific business needs. In some cases, prioritization may be other critical applications, such as business management (ERP or CRM) applications, that require high levels of network performance. The important aspect is that the end users are given the choice and flexibility as to how they want their traffic treated rather than having no choice.

While “a packet is a packet,” the reality is that certain applications require higher-level packet prioritization than others in order to meet the technical requirements necessary to provide the end user with a functional service. If a network congestion issue occurs, it will be vital for a small business that sensitive applications not compete for bandwidth with less important applications that have been assigned a lower priority by the end user. Network priority settings will allow delivery and latency targets to be met in order to ensure that the performance of mission-critical real-time applications continue flawlessly.

### **C. Carriers Require Flexibility To Meet Traffic Demands**

The Commission has proposed the following definition of “reasonable network management:”

Reasonable network management consists of: (a) reasonable practices employed by a provider of broadband Internet access service to (i) reduce or mitigate the effects of congestion on its network or to address quality-of-service concerns; (ii) address traffic that is unwanted by users or harmful; (iii) prevent the transfer of unlawful content; or (iv) prevent the unlawful transfer of content; and (b) other reasonable network management practices.<sup>5</sup>

The Commission’s rules must ensure that broadband service providers have the flexibility and technical discretion to ensure that all end user services function properly. Covad respectfully suggests that any rules adopted by the Commission recognize that customer expectations can vary with the technology used, and some networks and services require reasonable administration to function properly, while others do not. As such, the FCC’s rules must be flexible to accommodate technical considerations, and must give broadband service providers the discretion to make technical decisions on how to deliver the best Internet experience for all of their customers. For example, the FCC’s rules must remain flexible enough to allow for legitimate management of data over the carrier’s network so as to provide the quality of service expected by consumers for the product or service they are using, whether it be e-mail, video, voice, videoconferencing, file transfer, or otherwise. While basic, fundamental rules should apply to all service providers, Covad recognizes that certain technologies and services require increased management to ensure that data traffic flows smoothly.

First, the term “reasonable” implies a degree of discretion on the part of network operators. As such, Covad supports a flexible standard, rather than an established and static set of rules, procedures or practices that define what may or may be “reasonable.” In sum, providers need discretion as to how to “reasonably” administer the networks in question.

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<sup>5</sup> NPRM, ¶ 135.

Second, Covad supports the adoption of “exceptions” to the general rules designed to provide carrier flexibility, especially with respect to management of network congestion. As the Commission recognizes, there are a number of situations that justify a broadband Internet access service provider acting inconsistently with the six open Internet principles proposed by the Commission (and not deemed “unreasonable”). One such example posited by the Commission: “if a broadband Internet access service provider’s network is or appears likely to become congested to such a degree that an individual user’s Internet access is noticeably affected, the broadband Internet access service provider may be justified in taking reasonable steps to reduce or mitigate the adverse effects of that congestion or to address quality-of-service concerns.”<sup>6</sup> Such a measure is not hypothetical. Covad and other broadband service providers must constantly monitor their networks to ensure that traffic is moving smoothly and efficiently. The Commission must provide carriers the tools necessary to address network congestion.<sup>7</sup> Such flexibility should not, however, be limited to situations when the congestion has already disrupted the communications of the end user; carriers must have the tools, and the regulatory certainty, to address congestion before it cripples a network or the user’s online experience. Importantly, the Commission recognizes that what constitutes congestion, and what measures are reasonable to address it, may vary depending on the technology platform for a particular

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<sup>6</sup> NPRM, ¶ 136.

<sup>7</sup> The Commission recognizes, for example, that “[a]lthough network operators may seek to alleviate congestion by increasing capacity, such actions would involve costs—in some cases large costs—and revenue opportunities might not justify the required investment. As a result, we must balance the need for incentives for infrastructure investment with the need to ensure that network operators do not adopt congestion management measures that could undermine the usefulness of the Internet to the public as a whole.” NPRM, ¶ 80. Covad respectfully submits that relieving congestion, as a network administrative tool, is in the public interest. Carriers should have the flexibility to ensure that two-way communications, such as two-way voice and video communications (which provide emergency services, telemedicine, and other critical functions), are able to transverse the network without being unduly disrupted by non-critical data packet transfer operations.

broadband Internet access service. It is simply impossible to fix specific rules to apply to all technologies, networks, and services to address network congestion issues. The Commission rules must remain flexible on this point.

Third, it is important that the Commission allow carriers to address, and maintain, quality of service by allowing carriers to administer their networks in a manner that protects the quality of service for those applications for which real-time quality of service is important. This includes implementing measures to prioritize classes of latency-sensitive traffic over classes of latency-insensitive traffic (such as prioritizing VoIP, and two-way streaming media traffic over, for example, file downloads, email, and other traffic that does not require real-time communication capability). The Commission has previously found that for a network management practice to be considered “reasonable,” it “should further a critically important interest and be narrowly or carefully tailored to serve that interest.”<sup>8</sup> Ensuring that voice communications, a primary means for users to reach emergency services, constitutes a critically important interest. Likewise, telemedicine and other telepresence applications, which customers can use in a host of ways for real-time communications, are also critical services that require management tools in order to function properly. As such, any rules adopted by the Commission must remain flexible enough to allow carriers to meet the needs of their customers, especially for real-time two-way communications services. Covad, for example, supports the incorporation into the Commission’s rules the fundamental recognition “that broadband Internet access service providers may take other reasonable steps to maintain the proper functioning of their networks.”<sup>9</sup> Technologies may change and customer usage patterns may change. Even as changes occur,

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<sup>8</sup> *Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications; Broadband Industry Practices; Petition of Free Press et al. for Declaratory Ruling that Degrading an Internet Application Violates the FCC’s Internet Policy Statement and Does Not Meet an Exception for “Reasonable Network Management,”* File No. EB-08-IH-1518, WC Docket No. 07-52, Memorandum Opinion and Order, 23 FCC Rcd 13028, 13055–56, ¶ 47 (2008).

<sup>9</sup> NPRM, ¶ 140.

however, carriers and end users (by proactively prioritizing applications) will be in the best position to determine how the best manage network flows in order to ensure that mission-critical applications perform flawlessly even in times of network congestion.

#### **IV. COVAD SUPPORTS FCC'S PROPOSAL TO TREAT "MANAGED SERVICES" DIFFERENTLY**

The Commission has proposed the development of a separate class of services called "Managed" or "Specialized" Services, and has requested comment on how to define such services and what rules should apply to them.<sup>10</sup> Covad agrees with the Commission that some services require different rules in order to "preserve[] and protect[] the ability of broadband providers to experiment with technologies and business models to help drive deployment of open, robust, and profitable broadband networks across the nation."<sup>11</sup> Covad also agrees that "[b]roadband providers' ability to innovate and develop valuable new services must co-exist with the preservation of the free and open Internet that consumers and businesses of all sizes have come to depend on."<sup>12</sup> In particular, business users want the ability to proactively manage network resources based on their specific application needs.

In recognition of the specialized nature of some services, Covad respectfully suggests that the Commission define "Managed" or "Specialized" Services in a manner that is flexible enough to accommodate advances in technology and the changing and company-specific needs of business users. For example, Covad provides an intelligent network platform, which offers various levels of Quality of Service ("QoS") and Class of Service ("CoS") options allowing business users to differentiate traffic across Covad's network and their limited bandwidth circuit in order to proactively manage bandwidth effectively and optimize application performance. QoS defines how quickly traffic will traverse the network, while CoS defines how quickly traffic gets onto the network. QoS and CoS can be tuned to support specialized application

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<sup>10</sup> See NPRM, ¶ 148.

<sup>11</sup> NPRM, ¶ 9.

<sup>12</sup> *Id.*

requirements.

End users can match QoS levels to their highest priority applications to meet network priority, delivery and latency targets in order to ensure optimized performance over Covad's network. For example, a "best effort" level of service is typically appropriate for consumer Internet service, while a higher level of QoS with increased packet delivery is more appropriate for business data applications (*i.e.* application hosting). An even higher level of priority is required for low latency and low jitter voice/data applications, while the highest level of priority, which provides the lowest possible jitter and latency, is appropriate for customers that require dedicated real-time traffic for video conferencing.

Likewise, CoS provides the end user the ability to prioritize their traffic types over their own circuits. For example, a low level of CoS is used for applications such as email that requires little to no packet prioritization in order to function properly. A higher priority is useful for applications such as general Internet Surfing, and an elevated level is appropriate for the routing of business-transaction data. An even superior level would allow end users to route packets to provide the quality of service for VoIP and video applications. Network control and related protocols may have the highest settings. In this manner, customers can mark their traffic with differentiated CoS levels based on the end user's requirements and ensure that the packets are managed appropriately onto the Wide Area Network. It also allows customers to manage their own network congestion, should the need arise.

These value-added service solutions are options based on consumer business requirements. While enhanced "management" or "specialization" may cost more, those costs are necessary to provide the appropriate level of service for the application that uses it. In the end, these managed services are designed to improve business revenues and as such are in demand in the wholesale, enterprise, and small business marketplace. Establishing categorization in this manner is not underhanded or "anti-consumer," rather it provides choices (and thus competition) in the marketplace, and thereby enables consumers to make rational economic decisions based on their desired level of service.

The managed services discussed above are subject to rapid innovation and competition, and ultimately drive consumer demand for broadband Internet services. As the Commission recognizes, “these managed or specialized services may differ from broadband Internet access services in ways that recommend a different policy approach, and it may be inappropriate to apply the rules proposed here to managed or specialized services.”<sup>13</sup> Covad supports the Commission’s proposal to distinguish these services from traditional broadband Internet access services as another measure to provide carrier flexibility.

## V. CONCLUSION

The Commission should undertake policies that ensure an open Internet, but also provide flexibility for carriers to provide the quality of service necessary for varying applications. While packets of data may look the same, the underlying functionality that they deliver changes from service to service. VoIP and video communications, for example, require high service thresholds to ensure that latency or other network disruptions do not interrupt the communication. In addition, in order to maximize and enhance the end user’s experience based on application performance, end user’s should have the ability to optimize their network performance and proactively manage bandwidth based on their highest priority applications. The Commission’s rules, therefore, must provide carriers flexibility to administer their networks in a reasonable manner to ensure that services that require higher-level quality receive that quality, end user’s have the ability to prioritize and predict reliability for sensitive applications, and to address other concerns such as network congestion before they cripple end-user service quality. “Managed” or “Specialized” services, in this regard, should be defined in a manner that encourages, rather than discourages, innovation and investment. Allowing providers to differentiate treatment of traffic

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<sup>13</sup> NPRM, ¶ 149.

over the network based on specific end user priorities as well as latency requirements of real-time applications, such as voice, for example, is appropriate for such services.

Respectfully submitted,

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