

Before the  
Federal Communications Commission  
Washington, DC 20551

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

**Comments of Alcatel-Lucent**

Alcatel-Lucent (“ALU”) welcomes the Federal Communications Commission’s (“FCC”) further inquiry into the issues of managed or Specialized Services<sup>1</sup> and the application of open Internet rules to mobile wireless Internet access in the above entitled docket. ALU is a global leader in next generation Internet technology on both wired and wireless platforms. Specific to this inquiry, as a leading IP solutions and infrastructure provider for Internet Service Providers (“ISPs”) and networks in the U.S. and the world, ALU is particularly well-suited to thoroughly discuss and provide insight concerning the Specialized Services issues in the FCC’s Open Internet proceeding that need further development.

I. **Specialized Services Include Both Operator-Driven and Consumer-Driven Services.**

In defining Specialized Services, the FCC can either establish a specific definition for Specialized Services and codify how these services are

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<sup>1</sup> See Public Notice, *Further Inquiry into Two Under-Developed Issues in the Open Internet Proceeding*, DA 10-1667 (rel Sept. 1, 2010) (“Public Notice”). Consistent with the FCC’s Public Notice, these comments will use the term Specialized Services to include managed services discussed earlier in this proceeding and in ALU’s comments.

differentiated from broadband Internet access service, or it can simply narrowly define broadband Internet access service that effectively exempts Specialized Services from all or many of the rules governing broadband Internet access service. ALU is supportive of either approach so long as the ultimate impact of the FCC's rules does not interfere with the development of the nascent Specialized Services market.

In its original January 14, 2010, comments in this proceeding, ALU provided the following definition of Specialized Services:

"From an engineering viewpoint, "managed services" are those services that have some level of guaranteed quality of service, thereby differentiating them from services or applications that run on "best effort" high-speed Internet access, for which no specific guarantees are provided. Managed services include one or several of the following characteristics: (1) guaranteed (low) packet loss, (2) guaranteed (low) packet delay, (3) secure connectivity or (4) guaranteed bandwidth."<sup>2</sup>

In these same comments and subsequent reply comments, ALU explained that Specialized Services are not limited to a finite number of operator-driven services, which are often offered in a vertically-integrated manner, but such services also include a wider variety of consumer-driven services. With consumer-driven Specialized Services, the user can enhance almost any application or service on the Internet to perform with certain performance characteristics (e.g. increased reliability, quality, security) on demand. These capabilities will often be achieved through the "Applications Enablement" initiative, where an application or service can call out the Application Programming Interfaces ("APIs") of the ISP enabling the application or service to meet the performance characteristics

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<sup>2</sup> Comments of Alcatel-Lucent ("ALU Comments"), at 12.

demanded by the consumer. Applications Enablement offers consumers a clear alternative in addition to prepackaged Operator-driven services.

While an Internet Service Provider will not provide contractual guarantees addressing the performance of its best efforts class of Internet access, the characteristics specified in the suggested Specialized Service definition enable an ISP to make representations concerning the performance and security of the Specialized Services being offered. In order to meet the characteristics outlined in the definition, an ISP must deploy the appropriate technology in its own network, ensure other ISPs that handle the traffic will guarantee the same, and possibly arrange for application providers to engage directly with its APIs. Each of these scenarios requires significant upfront and continuous investment and a business plan that will ensure an acceptable return on these investments is realized.

II. Specialized Services Are Not A Threat to Best Effort Internet Access.

In the Public Notice, the FCC outlined three general areas of concern about how to maintain the investment-promoting benefits of Specialized Services while protecting the Internet's openness. These concerns focus on the possibilities that Specialized Services will be offered to supplant broadband Internet access service and bypass consumer protections, that a disproportionate level of network capacity will be dedicated to Specialized Services to the detriment of broadband Internet access, and that service

providers will vertically-integrate content and applications in an anti-competitive manner.

ALU appreciates the FCC's concern and fully supports an Open Internet, but ALU strongly believes that Specialized Services are an asset, not a threat, to the well being of the Internet. The business model for delivery of broadband Internet access services in the U.S., where the consumer typically pays a flat monthly fee for unlimited bandwidth at a particular speed, has reached its maximum utility. ISPs need to invest in their networks in order to meet increasing demand, but as ALU illustrated in the Traffic Revenue Paper<sup>3</sup> submitted in this docket, the current business model will not produce sufficient revenue to justify this investment. The choice before ISPs is whether to execute a new business model to justify the necessary investment or limit the growth in bandwidth demand through price increases and caps. Obviously, the latter scenario is not in the best interest of the nation and runs contrary to the mission of the National Broadband Plan and its goal of 100 Mbps service to 100 million homes by 2020.

Best efforts broadband Internet access service is best served, from a capacity and business perspective, when Specialized Services are widely deployed. First, from a business continuity and growth perspective, it is in the best interest for ISPs to continue to promote a broadband Internet access service to serve existing markets, which provide the broad platform for new and attractive applications and services. Essentially, the "next best thing" is going to develop via the broadband Internet access service channel,

whereas the Specialized Service channel will work with more established application developers that can enter into a different business model.

Second, the deployment of Specialized Services will provide increased network capacity for best efforts broadband Internet access services. As illustrated in the Traffic Revenue Paper, when an ISP offers a Specialized Service with guaranteed performance levels it will primarily attract users of real-time applications that are highly sensitive to jitter.<sup>4</sup> By migrating these high-bandwidth applications to the Specialized Services channel, additional capacity for the best effort broadband Internet access service will be made available. Moreover, as the ISP realizes additional revenue from the Specialized Services, the ISP will invest a portion of this revenue in expanding network capacity, which will benefit both classes of service.



**Increase in network capacity over time for two scenarios: Best Effort services only and Managed + Best Effort Services.**

**Left: Total Network Capacity; Right: Best-Effort Capacity<sup>5</sup>**

<sup>3</sup> ALU Comments at 8 & Attachment, “Analysis of the impact of traffic growth on the evolution of Internet access” (“Traffic Revenue Paper”).

<sup>4</sup> Traffic Revenue Paper at 14.

<sup>5</sup> Traffic Revenue Paper at 17.

Finally, while the FCC expresses concern about the potential for service providers to harm the market through anti-competitive conduct, there has been no showing by the Commission or a participating party that existing competition or antitrust laws are insufficient to address such behavior. Broadband ISPs enjoy no exemption from these competition laws, and given that they are participants in a competitive market, they should not be subject to a standard distinct from any other market, unless it is clearly demonstrated that existing laws are insufficient.

III. **Disclosure of Information Concerning Specialized Services is an Acceptable Policy Approach, but the Other Policy Approaches Discussed in the Public Notice Will Inhibit Specialized Services.**

At this point in the development of Specialized Services, the only agreeable policy principle offered by the Commission in the Public Notice is disclosure of information sufficient to enable consumers and the FCC to evaluate the impact of Specialized Services in the market. If necessary, the FCC could consider requiring ISPs disclose certain characteristics of its Specialized Services to the Commission and/or consumers in order to better appreciate how these services impact competition and consumers. Such a condition would inform consumers of the capabilities and limitations of the ISP's service and would be consistent with the transparency framework discussed in the Open Internet NPRM and in Alcatel-Lucent's Reply Comments.<sup>6</sup>

The other five policy approaches are problematic and could impede some of the benefits associated with Specialized Services.

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<sup>6</sup> ALU Reply Comments at 8.

(A) Definitional. In this policy approach, the FCC would define broadband Internet access service and apply open Internet rules to all forms of this service. Specialized Services would be those services with a different “scope or purpose” than broadband Internet access services. ALU is concerned that the different “scope or purpose” standard would preclude a number of Specialized Services from coming online. As discussed in the January 14, 2010, filing, Specialized Services include one or several of the following characteristics: (1) guaranteed (low) packet loss, (2) guaranteed (low) packet delay, (3) secure connectivity or (4) guaranteed bandwidth.<sup>7</sup> Under this definition, almost any application or service available as a best effort Internet service could be made available to the consumer as a Specialized Service so long as the ISP could guarantee a higher level of security, bandwidth, packet delivery, etc. The strict definitional approach contemplated under a different “scope or purpose” standard could preclude an ISP from offering applications and services offered via broadband Internet access service as a Specialized Service with one of the value-added characteristics. This would preclude much of the Specialized Services market from developing, thus impacting the business case needed to justify the next generation of investment in broadband capacity.

(B) Truth in Advertising. In this approach, ISPs would be prohibited from marketing Specialized Services as a broadband Internet access service or as a substitute for such services. This prohibition is unjustified at this time as the Specialized Services market is fairly nascent and there is no apparent evidence that existing consumer protection laws would be

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<sup>7</sup> ALU Comments at 12.

insufficient. Moreover, ALU envisions Specialized Services, in some cases, to be substitutes and/or alternatives for broadband Internet access services. In the case of consumer-demanded Specialized Services, ALU envisions the addressable market as the applications and services available through broadband Internet access service. Through open APIs and other arrangements between ISPs and application developers, any application or service could be offered with characteristics that go beyond those currently available on best efforts Internet access. For example, an online video rental site that offers the service via broadband Internet access service could offer an alternate product as a Specialized Service where quality and download speed are improved. Such a service would provide a value-add for the user (presumably at a fee) and compete directly with the best efforts service but effectively maintains the same scope or purpose as the traditional service.

(D) Non-exclusivity in Specialized Services. In this policy approach, commercial arrangements with a vertically-integrated affiliate or a third party for the offering of Specialized Services would be on the same terms to other third parties. ALU is concerned that such a requirement is not justified at this time. Business plans and arrangements among consumers, ISPs and application developers for both operator-driven and consumer-driven Specialized Services are only now being developed and this policy approach would limit the flexibility and market viability of these plans. The FCC should not impose such a limitation in this market based on hypothetical concerns, rather it should allow the market to develop, determine if a problem develops that existing competition laws cannot

resolve, and then consider a narrowly-tailored remedy to the specific problem.

(E) Limit Specialized Service Offerings. This approach would allow ISPs to offer only a limited set of new Specialized Services, with functionality that cannot be provided via broadband Internet access service, such as a telemedicine application that requires enhanced quality of service. ALU is opposed to this approach because it narrowly defines acceptable Specialized Services in a manner that will not permit the market to develop based on consumer demand and sustainable business models. Such a finite approach is simply a snapshot in time where the FCC determines what is an acceptable application for enhanced treatment. Consumer demand for future Internet services cannot so easily be predetermined, and this approach could establish a finite list of acceptable Specialized Services that may prove obsolete in a short period of time.

(F) Guaranteed Capacity for Broadband Internet Access Service. This policy approach would require ISPs to offer a consistent level of network capacity for broadband Internet access services, regardless of the Specialized Services being offered. Such an approach presumes that Specialized Services are a threat to the network capacity for broadband Internet access services, but as stated earlier the deployment of Specialized Services should increase the network capacity for all Internet services. Specialized Services will attract many of the real-time, bandwidth intensive applications from the best efforts channel and will provide a new source of revenue for network investment. This dynamic effect will allocate network capacity resources in a much more efficient manner based on consumer

demand and the requirements of the applications and services demanded. The analysis offered in the Traffic Revenue Paper clearly demonstrates that the proper remedy is not a static allocation of de minimus network capacity, rather the widespread deployment of Specialized Services.

ALU appreciates the FCC's ongoing analysis of these issues and agrees that proper and effective policymaking will require a thorough understanding of the market for Internet services, including the Specialized Services being offered. The FCC should recognize Specialized Services as valuable alternatives to best effort Internet services, efficient means to properly allocated finite broadband access resources and a vital element in driving the next generation of investment in broadband facilities.

Respectfully Submitted,

ALCATEL-LUCENT

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