

December 10, 2013

**By Electronic Filing**

Ms. Marlene Dortch  
Secretary  
Federal Communications Commission  
445 12th Street N.W.  
Washington, D.C. 20554

Re: GN Docket No. 13-5 (IP Transition), WC Docket No. 10-90

Dear Ms. Dortch:

As Chief Executive Officer of YMax Communications Corporation, I am submitting this letter for the Commission's record as it considers how best to facilitate a transition from legacy network architectures to an all-IP network.

YMax already operates an all-IP network (except for the facilities used for interconnection with non-IP networks) and strongly supports the FCC's efforts to guide and accelerate the transition of legacy networks to an all-IP architecture. We realize, though, as the FCC does, that this transition will take time. As the national Broadband Plan recognized, the United States must ensure that "as IP-based services replace circuit-switched services, there [needs to be] a smooth transition for Americans who use traditional phone service and for the businesses that provide it."<sup>1</sup> In order to promote this transition, the Commission will need to eliminate regulatory "disincentives to migrate to all-IP networks."<sup>2</sup>

During the transition, those carriers (like YMax) that have adopted IP technology will continue to be required to interconnect with others that are still in the transition process.<sup>3</sup> Carriers should not be penalized for implementing advanced technology quickly by being forced to bear excessive interconnection costs. Nor should carriers who still employ legacy TDM technology be rewarded for the slower pace of their conversion. In particular, incumbent carriers that control bottleneck last-mile facilities should not be permitted to exploit that control by insisting upon unreasonable or inefficient interconnection arrangements. Therefore, it is crucial that the Commission continue to regulate inter-carrier interconnection terms, and work with State

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<sup>1</sup> *National Broadband Plan*, p. 59.

<sup>2</sup> *National Broadband Plan*, p. 142.

<sup>3</sup> 47 U.S.C. § 251(a)(1).

commissions to ensure that interconnection disputes subject to Section 252 of the Act can be arbitrated quickly, inexpensively, and fairly.

### **IP Interconnection Should be Mandatory**

The Commission took an important step in the *USF/ICC Transformation Order* when it established that incumbent LECs are required to negotiate in good faith regardless of the underlying technology.<sup>4</sup> Consistent with this decision, the FCC should now explicitly find that IP interconnection is required for all IP-based services, regardless of how they are classified - "packetized voice" traffic, "IP voice" traffic, or simply "VoIP,"<sup>5</sup> or interconnected VoIP or one-way VoIP services. For that matter, the same obligation should apply to non-IP legacy voice services.

For incumbent LECs subject to section 252, the terms and conditions of interconnection should be subject to arbitration before State commissions. Without the ability for competitors to seek arbitration, the incumbents will have little incentive to negotiate fairly. This was the reason Congress adopted sections 251 and 252 in the first place. There is no reason to deviate from the negotiation and arbitration framework set forth in the 1996 Act for IP interconnection. For other carriers, the Commission should require IP interconnection under Section 251(a)(1) through appropriate rulemaking. If a carrier wants to continue to use outdated TDM technology to serve its own customers, that is its business; but other providers should not be required to bear any extra cost to interchange traffic with those legacy carriers.

There is no reason that the obligation to interconnect in IP should be limited to any particular type of VoIP services, whether it be facilities-based, managed VoIP, IP in the middle services or "over the top" VoIP services. All these services provide significant benefits to consumers through a low-cost and efficient voice service that is more reliable and provides better voice quality. Mandatory IP interconnection for all of these services and any future services IP-based voice services benefits consumers and is in the public interest.

Moreover, nothing in the section 251 interconnection obligations requires a provider to own the facilities that are used to deliver the traffic. Rather, under the statute, interconnection rights apply to any telecommunications carrier that seeks interconnection for the "transmission and routing of telephone exchange service and exchange access." Further, the definitions of "telecommunications," "telecommunications service," and "telecommunications carrier" in Section 3 of the Act

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<sup>4</sup> *Connect America Fund et al.*, FCC 11-161, Report and Order and Further Notice of Proposed Rulemaking, WC Docket Nos. 10-90 et al. (rel. Nov. 18, 2011) ("*USF/ICC Transformation Order*").

<sup>5</sup> *USF/ICC Transformation Order* ¶ 1345.

are all based on the service functionalities provided to customers, and make no distinction regarding either the technology used or the owner of the underlying facilities.<sup>6</sup> Accordingly, whether a carrier uses private or dedicated facilities or the public Internet to deliver IP-based traffic should have no bearing on that carrier's rights to IP interconnection. The public Internet now provides the largest bandwidth and most reliability.

Further, Section 251 is itself technology neutral and the Commission's rules implementing IP interconnection should be consistent with that framework. The 251 interconnection requirements do not vary based on whether one or both of the interconnecting providers is using TDM or IP technologies, or network facilities that are either owned or part of the public domain.<sup>7</sup>

Finally, mandatory IP interconnection for all IP-based voice services is in the public interest. IP-based voice service already has become the preferred substitute for traditional analog voice services by both consumers and businesses. As the deployment of this technology rapidly becomes ubiquitous, it is crucial that the Commission explicitly mandate that IP interconnection duties extend to *all* telecommunications services regardless of the technology or ownership of facilities and not just some arbitrary subset.

### **Imposition of Costs for TDM-based Interconnection**

In the Further Notice of Proposed Rulemaking section of the *USF/ICC Transformation Order*, the Commission proposed that if an ILEC "that has deployed an IP network receives a request to interconnect in IP, but instead requires TDM interconnection, the costs of the IP-TDM conversion would be borne by the carrier that elected TDM interconnection." Requiring TDM interconnection is blatantly anti-competitive and unreasonable, and imposes a host of unnecessary costs on competitors that ultimately are passed through to consumers. Thus, YMax supports this proposal; however, the FCC must explore the details of TDM interconnection, where a majority of the costs may be hidden. Conversion of TDM-to-IP or IP-to-TDM is simply one small facet of the extraordinary, unreasonable and inefficient costs that are foisted on IP-based carriers like YMax by legacy carriers who continue to insist to deliver traffic in TDM format. The legacy carriers should bear *all* additional costs related to TDM interconnection, not just conversion costs.

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<sup>6</sup> The definition of "telecommunications service" is quite explicit on this point, stating that the term includes the offering of telecommunications to the public "regardless of the facilities used." 47 U.S.C. § 153(46). Similarly, the definitions of "telephone exchange service" and "exchange access" are each technology-neutral.

<sup>7</sup> *USF/ICC Transformation Order* at ¶ 1342.

In order to interconnect in TDM, IP-enabled voice service providers have to invest in dedicated circuit-switched trunking facilities that are far less efficient than the IP-based facilities used for packet-switched IP interconnection. They usually are forced to buy these circuits from the same companies denying them IP interconnection. They also have to maintain separate dedicated circuits to dozens or hundreds of ILEC switches just so that capacity will be ready if and when a call is placed to an ILEC customer served by any one of those switches or a call is received from an ILEC customer served by any one of those switches. The cost of these dedicated circuit facilities far outstrips the cost of the equipment at the end of the circuit that does the TDM-IP conversion. None of this would be necessary using current IP technology; carriers would exchange packets over an IP interface at minimal expense and with superb voice quality, security and redundancy. There would be no need for excess dedicated capacity on any individual route as long as the overall capacity of the IP facilities is sufficient for the aggregate traffic volume.

Therefore, the FCC should adopt a rule that all carriers will be required, by default, to exchange voice traffic over an IP interface at a minimal number of points (as discussed in the following section). Any carrier that refuses to interconnect over an IP interface must pay for all transport of traffic between the IP-based provider's network and the legacy carrier's TDM switch. The legacy carrier is free to convert signals into TDM format on its side of the IP interface, at its expense, as long as it does not impose any additional cost on the other carrier by doing so.

### **Points of Interconnection for IP Networks**

One of the most significant costs of TDM interconnection is the requirement that competitors interconnect at multiple and unnecessary locations, typically based on the legacy circuit-switched network topology, using obsolete concepts like LATAs and Tandem Serving Areas. Because of the universal nature of the Internet, these multiple points of interconnection ("POIs") are not necessary for IP-based interconnection. The Commission's IP-based interconnection rules should establish a default rule that limits an ILEC (at the holding company level) to requiring IP-based interconnection at no more than two POIs in the United States. These POIs may, but need not, be places where the ILEC is physically present; carriers may prefer to interconnect indirectly by transiting over a third party's IP network. This will allow even rural ILECs to interconnect with other carriers nationwide at a very reasonable cost. AT&T, Verizon and Sprint and most other nationwide carriers already have these POIs and they are currently being used.

While parties may agree on other arrangements, no carrier should be compelled to interconnect at more than two points. Not only is this proposal logical based upon existing Internet architecture and the efficiency of IP networks, but it is consistent with the existing marketplace. Indeed, YMax currently has established IP interconnection with three of the largest carriers in the U.S. through only 2 interconnection points per carrier. YMax further understands that these same carriers have similar, if not identical,

arrangements with other competitors. Accordingly, establishing a default rule of no more than 2 POIs for IP interconnection is consistent with the market and will impose no burden on telecommunication carriers that are required to interconnect in IP.

### **Conclusion**

IP-based interconnection is technically feasible, is already taking place among many carriers, and is more efficient than TDM interconnection. The FCC should require IP-based interconnection for all voice services and prohibit legacy carriers from imposing additional costs on their competitors by insisting on TDM interconnection.

Sincerely,

*/s/ electronically signed*

Gerald Vento  
President and Chief Executive Officer