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September 30, 2004

Marlene H. Dortch, Esq.  
Secretary  
Federal Communications Commission  
445 - 12th Street, SW, Room 8B201  
Washington, DC 20554

RECEIVED  
SEP 30 2004  
Federal Communications Commission  
Office of Secretary

Re: IP-Enabled Services  
WC Docket No. 04-36  
Vonage Petition for Declaratory Ruling  
WC Docket No. 03-211  
Notice of Oral Ex Parte Communication

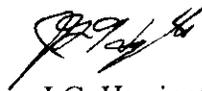
Dear Ms. Dortch:

I am writing this letter to report that on September 29, 2004, Alexander Netchvolodoff, Senior Vice President of Public Policy of Cox Enterprises, Inc., Alexandra Wilson, Vice President, Public Policy, of Cox Enterprises, Inc., To-Quyen Truong of this office and I, acting on behalf of Cox Communications Inc. ("Cox"), met with Jeffrey Carlisle, Chief of the Wireline Competition Bureau, Michelle Carey, Deputy Chief of the Bureau and Tom Navin, Chief of the Competition Policy Division of the Bureau. During the meeting, we discussed issues relating to the appropriate jurisdictional assignment for voice over IP services as provided over managed IP networks. The points discussed during the meeting are summarized on the attached document, which was provided to the participants. During the meeting, the participants also referred to an excerpt from a Cox white paper on voice over IP services, which was attached to Cox's comments in this proceeding.

In accordance with the requirements of Section 1.1206 of the Commission's rules, the original and three copies of this letter are being submitted to your office on this date and copies of this letter are being sent to Mr. Carlisle, Ms. Carey and Mr. Navin.

Please inform me if any questions should arise in connection with this letter.

Sincerely,



J.G. Harrington  
Counsel to Cox Communications, Inc.

Attachment  
cc (w/o attach.): Jeffrey Carlisle, Esq.  
Michelle Carey, Esq.  
Tom Navin, Esq.

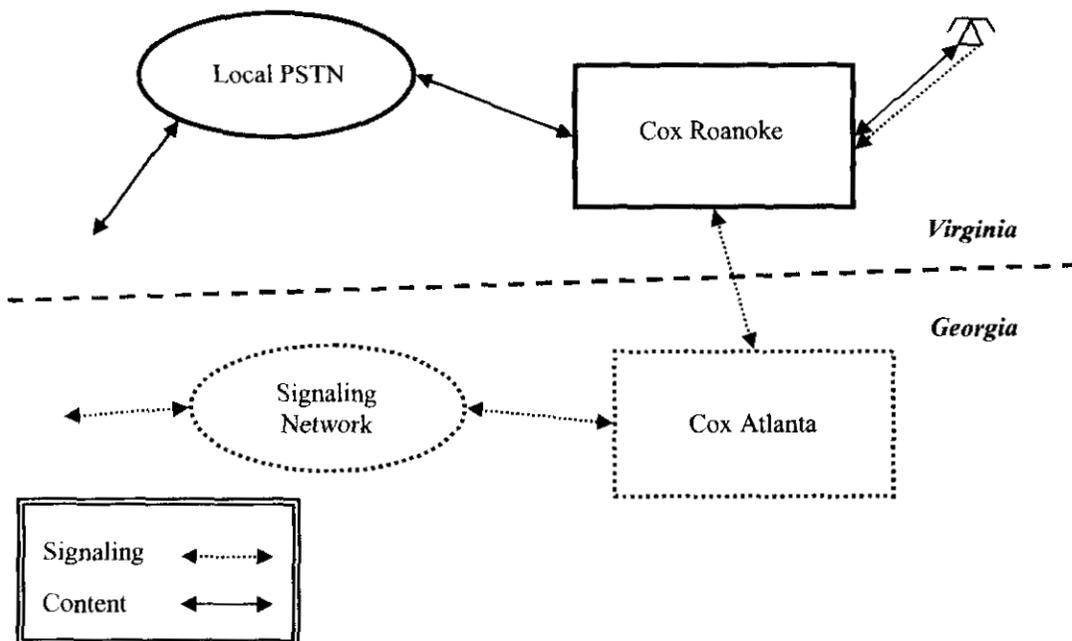
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## VOICE OVER IP – INTERSTATE ANALYSIS

Policy makers considering voice over IP typically have viewed these services as using fundamentally new technology that is intrinsically interstate. The record in this proceeding includes analyses that consider the jurisdictional issue through the prism of court and agency precedent developed for a traditional circuit-switched world. The following is an outline of a new, bottom-up analysis that begins with the unique topology of IP networks and the voice services provided over them, and considers jurisdictional issues in light of the underlying statutory language of the Communications Act. As described below, this analysis demonstrates that, as a matter of network architecture and functionality, voice over IP services provided over managed IP networks have integral interstate components that cannot be separated from any intrastate components. As a result, these voice over IP services are jurisdictionally interstate.

### *Background*

- As provided by Cox over its privately managed IP network, interstate signaling is integral to all Cox voice over IP calls. Today, every Cox voice over IP call uses a signaling path that begins in one state and ends in another, regardless of the locations of the caller and the call recipient. Even in the expected final implementation of Cox's voice over IP deployment (which currently is underway), the vast majority of calls will have interstate signaling because Cox will have only a few softswitches located in national or regional data centers. This likely will be the case for all or nearly all other voice over IP providers as well. A simplified diagram of the Cox network is helpful to understanding the routing:



Many significant functions integral to the provision of service are performed at the national or regional data center, and hence involve interstate activity. Besides interstate signaling, these functions include call announcements (e.g., line busy); record-keeping (to support billing, diagnostic functions, call detail reporting, etc.); CALEA; voicemail recording, storage and retrieval, and other features such as \*67, conferencing, or call waiting. These activities occur between the call origination point and the softswitch and associated facilities located in the regional or national data center; they do not involve communication with the receiving end of the call.

- The extensive interstate activity involved in providing Cox's voice over IP service is a function of the underlying IP network. In contrast to circuit-switched networks (in which network equipment and related functionalities are located in a specific geographic location), the design of IP-based networks is not constrained by local geography. As a result, IP technology permits service providers to disperse critical functionalities, including switching and other intelligent features, throughout IP networks to achieve various cost and system efficiencies. Moreover, such providers similarly are able to offer one service that includes both local and long distance calling and a host of other features that can be supported from a centralized location.

### *Legal Analysis*

- The FCC has jurisdiction over all interstate "wire communications" under Section 2(a). "Wire communications" is defined in Section 3(52) to include "the transmission of . . . signals . . . between the points of origin and reception of such transmission, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivery of communications) incidental to such transmission." (Emphasis added.) The interstate *signaling* and other interstate activities integral to almost all voice over IP calls thus place these calls under FCC jurisdiction as interstate wire communications.
- The language used in Sections 2(b) and 221(b) – the two provisions that limit the FCC's jurisdiction – does not negate this conclusion. Section 2(b) gives the states jurisdiction only over "charges, classifications, practices, services, facilities, or regulations for or in connection with intrastate communication service by wire or radio of any carrier," while Section 221(b) gives the states jurisdiction over "charges, classifications, practices, services, facilities or regulations for or in connection with wire, mobile or point-to-point radio telephone exchange service or any combination thereof . . . in any case where such matters are subject to regulation by a State commission or by local governmental authority." These provisions never have been held to encompass signaling and other network functionality that is interstate. As a result, the legal theories that limit the FCC's jurisdiction under Section 2(b) and Section 221(b) to traditional circuit-switched telephone services that originate and terminate in different states do not control here.
- Voice over IP can be distinguished from circuit-switched service because of the way the signaling is and has been handled in circuit-switched service. Historically, circuit-switched signaling followed the call path, so there was no distinction between

the signaling and content routing. Even after the advent of out-of-band signaling, signaling typically remained intrastate for calls in which the caller and recipient were located in the same state and interstate for calls in which the caller and recipient were located in different states, so the jurisdictional analysis was not affected. This is true of nearly all circuit-switched implementations, including those involving a limited number of switches serving a wide area, because the signaling follows the same call path as the content.

- As a matter of both practicality and precedent, the FCC should not attempt to tease out some functionalities in a voice over IP call as interstate and others as intrastate. IP is unique in not being tied to geography. Although the content packets in certain voice over IP calls provided over managed IP networks may not cross state lines, the call cannot be completed without the use of interstate signaling and other interstate activities. The Communications Act – specifically, the Act’s definition of “wire communication” – does not allow the Commission to ignore these integral and critical interstate functionalities of the voice over IP call when performing the jurisdictional analysis. Moreover, assigning the sub-elements of a voice over IP call to different jurisdictional categories would be contrary to FCC and court precedents, which traditionally have examined voice services as integrated wholes when analyzing their jurisdictional nature.
- In other contexts, the traditional “whole service” approach to jurisdictional analysis has led the FCC to assert jurisdiction – and the courts to affirm – even when the result is federal regulation of purely intrastate communications. For example, under the inseverability doctrine, the FCC has taken jurisdiction over inside wire and customer premises equipment that support both interstate and intrastate services, and it has adopted the “10 percent” rule for mixed use private line services. While the FCC need not apply the inseverability doctrine here because the interstate signaling and related interstate functionalities are integral to the voice over IP service itself and independently establish the service as interstate wire communication, these cases are illustrative. Even if the Act did distinguish between content and signaling packets in its definition of “wire communication” (which it does not), giving states full power over the content packets in certain voice over IP calls would frustrate the FCC’s ability to regulate the inseverable interstate signaling (and related) functionality, especially if the FCC adopts regulations that are intended to create a uniform regulatory environment for IP-enabled services. Moreover, given the integration of the signaling and related functionality with the interstate and intrastate content components of the voice over IP service, it becomes even more difficult to divide the service into jurisdictionally separate piece parts. (Some examples of issues that might arise include varying state requirements for warnings or messages to be given to customers in the course of an attempted call; state-mandated dialing patterns for toll services; and “warm line” requirements for lines that are out of service.) Accordingly, principles of the mixed use doctrine apply in this situation as well, and voice over IP services provided over managed IP networks such as Cox’s broadband infrastructure are appropriately considered “interstate.”