

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

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
Establishing Just and Reasonable Rates for Local Exchange Carriers)	WC Docket No. 07-135
)	
High-Cost Universal Service Support)	WC Docket No. 05-337
)	
Developing an Unified Intercarrier Compensation Regime)	CC Docket No. 01-92
)	
Federal-State Joint Board on Universal Service)	CC Docket No. 96-45
)	
Lifeline and Link-Up)	WC Docket No. 03-109
)	
Universal Service Reform – Mobility Fund)	WT Docket No. 10-208

**HYPERCUBE TELECOM LLC’S REPLY IN SUPPORT OF ITS
PETITION FOR LIMITED WAIVER OF
THE COMMISSION’S CALL SIGNALING RULES IN 47 C.F.R. § 64.1601**

HyperCube Telecom, LLC (“HyperCube”) submits this reply to comments on its request for a limited waiver of the call signaling rules adopted in the above-captioned proceeding.¹ Only two parties filed comments on HyperCube’s petition, CenturyLink and a

¹ *Connect America Fund; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Lifeline and Link-Up; Developing an Unified Intercarrier Compensation Regime; Federal-State Board on Universal Service; A National Broadband Plan for Our Future; Universal Service Reform – Mobility Fund, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (“USF/ICC Transformation Order”).*

coalition of rural carrier associations.² Those comments supported HyperCube's waiver request with respect to MF signaling, and, with respect to the transmission of traffic using IP-signaling, raised concern only with the scope of the waiver requested. As shown below, however, the commenters' concerns are unfounded. HyperCube seeks a waiver in limited circumstances in which compliance with the new rules is not technically feasible due to the network technology deployed by the providers interconnecting with HyperCube and the lack of industry standards addressing the call scenario. Because HyperCube's waiver will enable routing of calls in the circumstances described and will avoid potential call completion failures, the waiver is in the public interest and should be granted.

I. THE COMMISSION SHOULD GRANT THE WAIVER WITH RESPECT TO MF SIGNALING

HyperCube demonstrated in its petition that it is not feasible to transmit the CPN or CN (if different) in the Automatic Number Identification (ANI) field to a downstream carrier that receives traffic from Hypercube over a Multi-Frequency (MF) facility.³ The MF equipment deployed in telecommunications networks was not designed to forward originating CPN or CN data to a terminating carrier in the MF ANI field, and HyperCube's terminating carriers interconnected via MF facilities are not capable of receiving the information in the ANI field at this time.

² Comments of CenturyLink, WC Docket 10-90 *et al.* (filed Aug. 9, 2012); Comments of the National Telecommunications Cooperative Association, *et al.*, WC Docket 10-90 *et al.* (filed Aug. 9, 2012) ("Rural Association Comments")

³ Waiver Petition at 6-7; *see USF/ICC Transformation Order* at ¶ 714; 47 C.F.R. § 64.1602(a)(2).

In their comments, both CenturyLink and the Rural Associations acknowledged this technical limitation and supported the waiver requested by HyperCube.⁴ Although the Rural Associations seek extensive conditions and limitations on a waiver, HyperCube agrees with Level 3 that the proposed conditions are more onerous than necessary to ensure proper call routing and billing.⁵ While HyperCube, which has long been a strong proponent of enhanced call signaling rules, could support industry-wide requirements to facilitate call flow and billing, no conditions are necessary here, where traffic is being handed to a downstream carrier for termination and the receiving carrier is already aware of the limitations of its own interconnection facilities. Accordingly, the Commission should grant HyperCube a waiver of the requirement to populate the ANI field on MF terminating traffic with the CPN or CN.

II. THE COMMISSION SHOULD ALSO GRANT HYPERCUBE'S REQUESTED WAIVER FOR IP-ORIGINATED TRAFFIC TO ALLOW IT TO INSERT PSEUDO NUMBERS OR OTHER BILLING INFORMATION WHEN DOING SO IS NECESSARY TO FACILITATE PROPER CALL ROUTING AND BILLING

As HyperCube explained in its petition, in certain limited circumstances, HyperCube cannot comply with the requirement to transmit the CPN or CN unaltered because such information is not available from the originating carrier or it is not technically feasible to transmit the information to the terminating carrier. HyperCube identified three specific instances where these limitations would prevent it from transmitting CPN or CN unaltered, and requested a waiver to provide information suitable to ensure that calls route properly and can be billed properly.

⁴ CenturyLink Comments at 2-3; Rural Association Comments at 2-3. Indeed, CenturyLink notes that it seeks a similar waiver with respect to its own traffic. CenturyLink Comments at 3 & n.4.

⁵ See Level 3 Reply Comments, WC Docket 10-90 *et al.*, at 3-4 (filed May 29, 2012).

In their comments, CenturyLink and the Rural Associations express concern that this portion of the waiver request is either not sufficiently explained or is overly broad. The commenters misapprehend the waiver request, however. As discussed below, HyperCube requests a waiver only in defined circumstances, and then only to the extent necessary to facilitate proper routing and billing. In all instances, the information HyperCube proposes to transmit is consistent with industry call routing and billing standards.

First, HyperCube requested a waiver for SIP-terminated calls where HyperCube's terminating carrier is unable to receive the CPN or CN information.⁶ HyperCube explained that because SIP has no standardized concept of a CN, HyperCube cannot pass the CN to the subsequent carrier in all instances. In such instances the CN field may be populated with a pseudo-North American Numbering Plan number or other number. While such numbers are inserted to allow traffic from these numbers to be properly jurisdictionalized and billed by the terminating carrier, they nevertheless are not a CN, as that term is defined in the rules. As a result, a waiver is necessary to allow HyperCube to insert this call routing information.

CenturyLink and the Rural Associations assert that it is possible to transmit CPN or CN information in some IP protocols. HyperCube does not dispute that *some* carriers may be able to receive this information, but that assertion misses the point. Because there are no standardized interfaces (or, as the Rural Associations acknowledge, because there are "several" standardized approaches), not all terminating carriers are capable of receiving the information in the same way. HyperCube supports many of the SIP termination protocols, including SIP-T and RFC 5503, and uses these termination protocols when its partner carrier has the same capabilities. If HyperCube has interconnected with a provider in a manner that allows it to pass

⁶ HyperCube Petition at 4-5.

the CPN or CN field unaltered, HyperCube will do so (and does not require a waiver). However, some of HyperCube's terminating carriers lack the equipment necessary to receive traffic transmitted in this manner. For these providers, it is not technically feasible to pass traffic in the manner contemplated by the call signaling rules, and HyperCube thus requests a waiver to pass information in a way that will allow the call to be completed and billed.

Second, some VoIP providers routing calls to HyperCube lack equipment capable of populating the CPN or CN field properly when they originate calls. In these instances, HyperCube typically receives a call stream where the signaling information in the relevant fields is blank. If HyperCube were to pass the information along unaltered – *i.e.*, blank – there is a real possibility that the call may not complete or will appear as “phantom” traffic to the receiving carrier. In order to avoid these negative outcomes, HyperCube requested a waiver to insert a billing telephone number associated with the originating carrier into the CPN or CN fields.⁷ Such information will allow the terminating carrier to process and bill the call properly.

CenturyLink speculates – without any evidence – that this waiver may facilitate improper masking of wireless traffic.⁸ HyperCube, however, does not request a waiver for wireless traffic. HyperCube's request only addresses *interconnected VoIP* traffic. Moreover, HyperCube requests a waiver in order to alter the CPN and CN fields by inserting information necessary for the terminating carrier to properly bill the traffic – a common practice in the industry. Indeed, ATIS industry standards permit a downstream carrier to populate the jurisdictional information parameter (JIP) when the originating carrier is unable to do so.⁹

⁷ HyperCube petition at 5.

⁸ CenturyLink Comments at 3 (discussing “wireless insertion”).

⁹ ATIS-0300011, Network Interconnection Interoperability (NIIF) Reference Document: Part III, Installation and Maintenance Responsibilities for SS7 Links and Trunks, version 10.1, at 9.5 (“Where the originating switch cannot signal JIP it is desirable that the

Third, HyperCube identified limited instances where, in order to pass traffic to a terminating provider that HyperCube knows lacks the capability to handle the information, HyperCube will be required to alter or strip the call detail in order to complete the call.¹⁰ HyperCube explained that this would occur if there is a privacy restriction with the signaling information and it is known to HyperCube that the equipment of the next carrier in the call flow inhibits or ignores the proper use of the privacy bit. Importantly, in these circumstances, HyperCube would only strip the information upon the request of its terminating carrier, and then only in order to ensure that the privacy indicator is not subverted. In these narrow circumstances, the public benefit of altering the call signaling information (*i.e.*, to respect the privacy request made by the caller) outweighs any need to transmit terminating call information unaltered. It is in the public interest to allow HyperCube to modify the call stream in this manner.

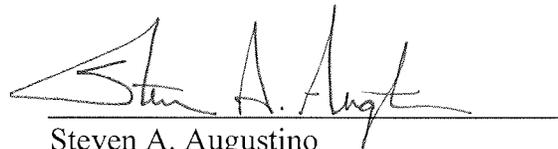
subsequent switch in the call path populate the JIP using a data fill default associated with the incoming route”).

¹⁰ HyperCube petition at 5-6.

III. CONCLUSION

For the reasons provided in HyperCube's petition and as explained above, the Commission should grant HyperCube's request for a waiver of the Commission's newly-adopted call signaling rules. HyperCube has requested a waiver of the call signaling rules in limited circumstances, and then only in order to provide call routing information that is consistent with industry standards. Because the limited waivers will facilitate proper routing and billing of calls, the waiver is in the public interest and should be granted promptly.

Respectfully submitted,



Steven A. Augustino
KELLEY DRYE & WARREN LLP
3050 K Street, NW
Suite 400
Washington, DC 20007
tel: (202) 342-8612
fax: (202) 342-8451

Robert W. McCausland
Senior Vice President,
Regulatory and Government Affairs
HYPERCUBE TELECOM, LLC
3200 W. Pleasant Run Road
Suite 300
Lancaster, TX 75146
tel: (469) 727-1640

Date: August 24, 2012