

**STATE OF NEW HAMPSHIRE**  
**BEFORE THE**  
**PUBLIC UTILITIES COMMISSION**

**DT 09-044**

**New Hampshire Telephone Association  
Petition for an Investigation into the Regulatory Status of  
IP Enabled Voice Telecommunications Services**

**INITIAL BRIEF OF THE RURAL CARRIERS OF THE  
NEW HAMPSHIRE TELEPHONE ASSOCIATION**

NOW COME the incumbent carriers (excluding affiliates of FairPoint Communications, Inc.) of the New Hampshire Telephone Association, a New Hampshire voluntary corporation<sup>1</sup> (the “RLECs”), and hereby submit the following Brief in connection with the Petition for Investigation into the Regulatory Status of IP Enabled Voice Telecommunications Services.

**I. INTRODUCTION**

New entrants, in particular affiliates of Comcast Corporation (collectively, “Comcast”) and Time Warner Cable, Inc. (“TWC”) are offering an IP enabled fixed voice service in New Hampshire over their cable facilities (“Cable VoIP”). The Cable VoIP providers have claimed, among other things, that these Cable VoIP services are outside the jurisdiction of, and free from any regulation by, this Commission. Accordingly, Comcast and TWC have commenced offering Cable VoIP services in New Hampshire, including service that originates and terminates in New Hampshire, without seeking any authorization from this Commission to commence business as a public utility. As a result, the NHTA companies operate under conditions in which they are

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<sup>1</sup> Bretton Woods Telephone Company, Inc.; Dixville Telephone Company; Dunbarton Telephone Company, Inc.; Granite State Telephone, Inc.; Hollis Telephone Company, Inc.; Kearsarge Telephone Company; Merrimack County Telephone Company; Wilton Telephone Company, Inc.

subject to the full regulation of the Commission while competing against fully unregulated and well financed competitors for identical services. This structure is arbitrary, discriminatory and utterly without statutory or policy justification.

Cable VoIP service constitutes “owning, operating or managing ... plant or equipment ... for the conveyance of telephone ... messages ... for the public “ under RSA 362:2. To the extent that the service includes communications between points in New Hampshire, the provision of this service requires a franchise from this Commission under RSA 374:22 and RSA 374:22-g. Where Cable VoIP service uses the facilities of the RLECs to complete calls in New Hampshire outside the RLEC local calling areas, Cable VoIP service constitutes toll service requiring the payment of intraLATA access charges. The Commission should determine that Cable VoIP service is telephone service requiring a New Hampshire franchise. Cable VoIP providers like Comcast and TWC should be required to obtain certification and, upon receipt, comply with New Hampshire’s utility statutes and the rules and orders of this Commission.

**II. CABLE VOIP IS SUBJECT TO STATE REGULATION AS A TELECOMMUNICATIONS SERVICE.**

**A. Cable VoIP Service is a Public Utility Service Under RSA 362:2.**

RSA 362:2 defines a public utility and specifically identifies telephone service. The pertinent part states:

The term “public utility” shall include every corporation, company, association, joint stock association, partnership and person, their lessees, trustees or receivers appointed by any court, except municipal corporations and county corporations operating within their corporate limits, owning, operating or managing any plant or equipment or any part of the same for the conveyance of telephone or telegraph messages . . . for the public. . . .

Cable VoIP service is, in all important respects, telephone message service that is subject to regulation by this Commission, and comports in all respects with the federal definition of telecommunications service.<sup>2</sup> The Communications Act defines a telecommunications service as:

the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.<sup>3</sup>

The term telecommunications is also defined as:

the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.<sup>4</sup>

**B. Cable VoIP service offers transmission between or among points specified by the user.**

Comcast or TWC voice customers dial the number of the entity that they want to reach.<sup>5</sup>

The voice call is then routed through the network to reach the telephone of the customer whose number was dialed, regardless of whether the called number is a Cable VoIP customer or not.

Although information other than the telephone number (LRN or IP address) may be used by the network to direct the call, ultimately the telephone number is the one used and known to the

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<sup>2</sup> The American Heritage Dictionary, Fourth Edition defines the term "telephone" as "[a]n instrument that converts voice and other sound signals into a form that can be transmitted to remote locations and that receives and reconverts waves into sound signals." Since there is no New Hampshire specific definition of "telephone message," this standard understanding of the term adequately describes the fixed VoIP service under investigation. "[W]e first examine the language found in the statute and where possible, we ascribe the plain and ordinary meanings to words used." *State v. Cobb*, 143 N.H. 638, 643 (1999).

<sup>3</sup> 47 U.S.C. §153(46).

<sup>4</sup> 47 U.S.C. §153(43).

<sup>5</sup> TWC Digital Phone LLC Responses to First Set of NHTA Data Requests Approved by Staff 1-13. ("A TWCDP cable VoIP Service customer using a conventional telephone initiates a call by dialing the telephone number of the called party.") ("TWC Staff Response"); *see also* Comcast's Responses to First Set of NHTA Data Requests Approved by Staff 1-13 ("Comcast Staff Response").

customer.<sup>6</sup>

**C. Cable VoIP service conveys information of the customer's choosing.**

The calling party is able to converse with the called party. The voice is understood on both ends of the call without modification. This is the basic service that is of issue in this proceeding. Other services may be added on top of this basic service, but this does not change the nature of the basic service itself.<sup>7</sup>

**D. There is no change in form or content of the information sent or received by a Cable VoIP service.**

The content the customer is sending over the network consists of a voice message.<sup>8</sup> The voice is heard on both ends of the call. The form of the call at the originating and terminating ends of the call is also not changed. In most normal usage, the call originates from an analog CPE device and is received at the called party location on an analog CPE device.<sup>9</sup> Therefore, the form of the information at both ends of the call is the same analog format at the customer owned device.<sup>10</sup>

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<sup>6</sup> Prefiled Direct Testimony of Valerie Wimer on Behalf of the New Hampshire Telephone Association, October 9, 2009 at 17:21-18:4 (“Wimer Direct”). Comcast Staff Response 1-12 (i). (“the soft switch conducts an internal subscriber database inquiry and determines that the *telephone number* is assigned to another Comcast VoIP customer.”) (emphasis added); Comcast Staff Response 1-12 (iii). (“The first is to the local number portability database (LNP) to determine whether the number has been ported and if so to which carrier.”)

<sup>7</sup> Prefiled Direct Testimony of Douglas Meredith on Behalf of the New Hampshire Telephone Association, October 9, 2009 at 7:18-21 (“Meredith Direct”).

<sup>8</sup> Comcast Staff Response 1-1 (“Comcast’s CDV and BDV services allow customers to communicate the voice content of their choosing to a person or entity that has been assigned and is using a telephone number.”). TWC Staff Response 1-1 (“TWCDP’s Cable VoIP services provide customers with the ability to engaged in real-time, two-way voice communications with any other person or entity that is assigned a standard telephone number.”).

<sup>9</sup> In very few cases the CPE may be digital or SIP based.

<sup>10</sup> Wimer Direct 18:15-19:3.

What happens to the signal on its way through the network is not material to this analysis. All networks change the analog format into a different type of signal in the middle of the call. The network may use digital, optical, or IP formats within the network but return the call to the same analog form as originated by the customer owned CPE.

**E. Comcast and TWC offer Cable VoIP services to the public for a fee.**

Both Comcast and TWC have websites that promote their voice service to residential and business customers.<sup>11</sup> Although their service is limited to certain geographic areas (as is the case with other telephone utilities, such as the RLECs), all customers within those areas are offered service at a standard rate and under the same terms and conditions.<sup>12</sup> There is a charge when a customer subscribes to the Cable VoIP service.<sup>13</sup>

**F. Cable VoIP Service is Functionally Identical to POTS.**

Cable VoIP service offers the same service as traditional telephone service, and is in fact marketed to the public in New Hampshire and elsewhere expressly and without qualification as a substitute for traditional land-line telephone service. Both Comcast and TWC have websites that promote their voice service to residential and business customers.<sup>14</sup> Although their service may be limited to certain geographic areas (as is the case with many CLECs in New Hampshire), all residential customers within those areas are offered service at a standard rate and under the same terms and conditions. (There are some specific business voice offerings from both Comcast and TWC that are more customized, but are still generally offered.)

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<sup>11</sup> See Exhibits Wimer Direct 1-1 and 1-2.

<sup>12</sup> Wimer Direct 20:6-20:11.

<sup>13</sup> *Id.* 20:14.

<sup>14</sup> See Exhibits Wimer Direct 1-1 and 1-2.

Like the RLECs, Comcast and TWC both offer customers the ability to make calls and receive calls from any other telephone number. Many of the companies have rate plans that have unlimited local calling and a limited amount of toll calling for a flat rate.<sup>15</sup> In addition, Comcast and TWC offer bundles of voice services that allow customers to have unlimited local and long distance calling, just as RLECs such as Granite State Telephone, Inc. and the TDS Companies<sup>16</sup> do. All of the companies also offer a list of several standard calling features such as call forwarding, call waiting, and call rejection.<sup>17</sup>

The end user experience in making and receiving calls is the same for Cable VoIP and regulated local exchange service from the RLECs. When customers make a call, they pick up a phone, hear a dial tone, and dial the number of the person they want to call. When the called party answers the phone, the two parties talk. The customers hear the same audio indicators such as a busy signal, call waiting tone, and other signals to communicate the call status with the caller. The end users take no additional or different actions in placing and receiving Cable VoIP calls than they do with regulated local exchange calls.<sup>18</sup>

In short, while Cable VoIP may differ in the specific technology used to provide it, the service the customer receives is telephone service.

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<sup>15</sup> See Comcast Frequently Asked Questions, Exhibit Wimer Direct 1-1, and TWC Digital Phone Calling Plans, Exhibit Wimer Direct 1-2.

<sup>16</sup> Hollis Telephone Company, Inc., Kearsarge Telephone Company, Merrimack County Telephone Company, and Wilton Telephone Company, Inc.

<sup>17</sup> Wimer Direct 4:7-14.

<sup>18</sup> *Id.* 5:5-11.

**G. Cable VoIP Service is Architecturally Comparable to POTS.**

Regardless of whether it is a traditional PSTN call or a Cable VoIP call, there are five primary functional elements of any telephone call: customer premises equipment (“CPE”) (which, in the majority of cases, is a telephone handset), loop, switching, signaling and transport. In most instances, a customer-owned telephone handset is used to transmit dialed telephone numbers and voice messages to the network.<sup>19</sup> The dialed telephone numbers are used to designate the called party and determine how to route the call.<sup>20</sup> The telephone handset is connected to a loop over which the voice call is transmitted to a switching center, often with the aid of some sort of intermediate transmission equipment. The switching equipment determines how to route the voice call based on software instructions acting on the dialed telephone number. The voice call is connected either to a customer on the same switch or to another switch that serves the location associated with the dialed number. If the call is between switching centers, or what is known as an inter-switch call, the call will travel over one or more interoffice transport trunks and through one or more switches until it reaches the switch connecting to the loop of the terminating telephone set. The call is sent down the loop to the terminating customer’s telephone set and the telephone set rings. If the terminating customer answers the ring, the two customers can talk. The entire transmission is usually mediated by a signaling function.<sup>21</sup>

While these functions are the same in the abstract, the manner in which the functions are performed at a technical level varies with the particular technology used. For example, digital circuit switches function differently than analog circuit switches. Packet switches function

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<sup>19</sup> *Id.* 7:8-20.

<sup>20</sup> The switch uses the telephone number either directly or indirectly, e.g. in some cases the telephone number is translated into an IP address for routing. *Id.* 7:8-20.

<sup>21</sup> Wimer Direct 7:8-20.

differently than circuit switches.<sup>22</sup> Nonetheless, while the actual method of performing the calling functions differs, the overall result is the same: voice calls are originated and terminated in real time across a distance.<sup>23</sup>

### **1. Customer Premises Equipment**

CPE for residences are telephones and modems that customers can purchase from any retail outlet or from the service provider.<sup>24</sup> The vast majority of customer-owned residential telephones use analog transmission, and are used interchangeably with Cable VoIP and regulated RLEC service. Businesses may use a wider array of CPE beyond telephones, such as key systems, PBXs, routers and a multitude of other devices that connect both voice and data devices to the network. Business systems are often digital and increasingly are IP packet based, but nevertheless still interface with the network in a non-IP format.<sup>25</sup>

With advancements in technology, other items of equipment have been finding their way onto a customer's premises, although they typically are not owned or controlled by the customer. For example, when implementing Fiber to the Home (FTTH), the RLECs will provide an Optical Network Unit ("ONU") (described below) and a battery to supply backup power during a during a commercial power failure. The battery is located within the premises but specified, owned and maintained by the RLEC. In addition, some telephone companies will provide equipment on the

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<sup>22</sup> A circuit-based digital signal dedicates an entire channel to the call for the full duration of the call. A packet signal breaks the call into small pieces, or "packets," and transmits the packets separately. Each packet in a call can take a different path to the end point and does not monopolize the path for the duration of the call. Because of these characteristics, packet switching usually requires fewer facilities. *Id.* 7:22-8:4.

<sup>23</sup> *Id.* 7:22-8:4.

<sup>24</sup> Many service providers sell analog or digital telephones. In addition, over-the-top providers such as Vonage sell IP CPE directly to customers. Once this equipment is sold, it is owned and maintained by the customer. *Wimer Direct* 8:13-9:4

<sup>25</sup> *Id.* 8:13-9:4.

customer premises such as a frame relay assembler/disassemblers or routers in order to provide services to the customer.<sup>26</sup>

Similarly, Cable VoIP providers have a device called an embedded Multimedia Terminal Adaptor (“eMTA”) that is located on the customer premises but is not specified, owned or maintained by the customer.<sup>27</sup> Just as an ONU adapts the analog telephone signal into light pulses, the eMTA adapts the analog telephone signal for transmission as IP packets on the network.<sup>28</sup>

## **2. Loop**

“Loop” is the term that describes the facilities and equipment located in the field that provide the connection between the customer’s location and the associated switching center. In place of the twisted pair copper wire traditionally used by RLECs (or, sometimes, Fiber to the Home (“FTTH”)), Cable VoIP service is provided over a hybrid fiber-coax (“HFC”) loop facility.<sup>29</sup> All three loop technologies connect to switching and transmission electronics in a centralized location. For the RLECs this will be at the central office (“CO”) serving the customer’s premises, while for Cable VoIP, it is typically at the head end location of the cable system.<sup>30</sup> Before reaching that point, however, both coax and copper loop technologies employ

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<sup>26</sup> *Id.* 9:8-14.

<sup>27</sup> TWC Staff Response 1-5. (“TWCDP owns the eMTA and makes it available to the customer at no additional charge.”); Comcast Staff Response 1-2. (“The eMTA is owned by Comcast’s cable affiliate.”)

<sup>28</sup> Wimer Direct 9:16-19. Comcast Staff Response 1-5. (“The eMTA reformats the analog voice signals created by the handset into the IP packets for routing on the CDV network”); TWC Staff Response 1-5. (“[T]he eMTA is used to convert the customer’s voice communications from analog to IP format in order to then transmit those communications over Time Warner Cable’s broadband network.”)

<sup>29</sup> Wimer Direct 10:2-8.

<sup>30</sup> *Id.* 10:10-12.

connections at intermediate locations in the field that are closer to the customer. At these locations, the electrical signals are converted into optical signals, after which they carried the rest of the way over fiber. This field location and its associated equipment is called a “Node” in the HFC network and “Digital Loop Carrier” (“DLC”) equipment in the RLEC network. In addition to performing the electrical-to-optical conversions, the DLC equipment has the additional capability to multiplex individual customer transmissions together into a larger bandwidth trunk and can multiplex voice, data and video into a single signal. The bandwidth of the facility leaving the DLC to the CO is traffic engineered to handle the capacity of the voice, data and video being transmitted. Many DLCs also convert analog or digital signals into an IP signal.<sup>31</sup> One twisted copper pair coming into the DLC will be dedicated to a single customer and carry all the voice, data, and video for that customer from the DLC.

The coax loop performs the same function but works somewhat differently. Coming to the HFC node, the coax capacity is shared by all the customers served by that coax cable. (Note also that there is no bandwidth on the coax cable that is specifically dedicated to any one customer.)<sup>32</sup>

Instead of using a DLC, some of the RLECs have installed FTTH, where an optical fiber cable is deployed all of the way between the switching location and the customer’s premises. Electronics comprising an ONU are placed at the customer premises to change the optical digital signal to electrical. This device will also separate the various services of voice, data, and video delivered from the fiber into separate streams to be utilized by the customer’s CPE, e.g. modem,

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<sup>31</sup> Wimer Direct 10:14-11:1.

<sup>32</sup> *Id.* 11:3-11.

TV, or phone. It also converts the signals from digital or IP to analog for the voice service, so that it will be compatible with the analog telephone. The ONU performs the same functions for voice as the Cable VoIP eMTA, except that it is usually located on the outside of the premises while the eMTA is located inside the premises.<sup>33</sup>

### 3. Switching

Just as with loop plant, several technologies can be used for switching voice calls. Comcast and TWC use IP-based, packet switching “soft switches.” Most telephone companies use digital electronic circuit switches, but some are also migrating to soft switches. For example, Granite State uses a soft switch for its regulated voice service.<sup>34</sup>

Digital circuit switches, like those still used by Dunbarton, Dixville, the TDS Companies, and Bretton Woods, can directly interface with either an analog or a digital loop.<sup>35</sup> Soft switches can interface to a digital loop (packet-based or not), but generally do not have analog interfaces. The soft switch then converts the signal into IP packets.<sup>36</sup> In either case, the soft switch or digital circuit switch then determines where the call needs to be routed to reach the called party. If the call is to another customer of the same carrier on the same switch (an “on net” call), the carrier will complete the call without interfacing to any other carrier or switch. Calls that

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<sup>33</sup> *Id.* 11:13-22.

<sup>34</sup> *Id.* 12:2-6. Comcast Staff Response 1-12, TWC Staff Response 1- 12.

<sup>35</sup> If a loop connects to the switch through a DLC arrangement, the DLC performs the conversion.

<sup>36</sup> Wimer Direct 12:8-16. For some Cable VoIP providers, this conversion is performed in the “Media Gateway” component, which may be a separate piece of equipment or, as with Comcast, may be part of the soft switch. In either case, the actual switching and signaling functions are in the “main” portion of the switch.). TWC Staff Response 1-22. (“The Media Gateway Device is not part of the soft switch.”); Comcast Staff Response 1-22. (“The media gateway is a component of the soft switch . . . “).

involve passing the call to a different carrier (“off net” calls) are handled differently.<sup>37</sup>

Comcast describes the differences between circuit switched technology and packet switching technology as if there is a distinction that determines whether the traffic is POTS or not. Contrary to Comcast’s testimony, POTS calls can and increasingly do use both circuit and packet technologies.<sup>38</sup> As described above, the regulated network also includes packet switching technologies, and IP technologies specifically. For example, as previously mentioned, Granite State has deployed a soft switch and IP loop equipment that performs all the same internal routing translation functions as described by Comcast.<sup>39</sup>

Comcast and TWC both also emphasize that their dial tone is generated by the eMTA, rather than the end office switch, as if this is a new or unique concept. In fact, the DLC and FTTH equipment used by the RLECs also generate a dial tone from the DLC and ONU equipment in the field and not from the switch. From a technical perspective, dial tone generation is irrelevant to any discussion of modern network architectures. It is now offered only as a convenience to customers.<sup>40</sup>

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<sup>37</sup> Wimer Direct 12:18-13:3.

<sup>38</sup> *Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities*, CC Docket No. 02-33, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 ¶ 37 (2005) (“Packet-based technology is now deployed throughout wireline networks and is used in many circumstances, including increasingly to perform the switching and routing functions associated with POTS . . .”).

<sup>39</sup> Prefiled Direct Testimony of David Kowolenko and Beth Choroser on Behalf of Comcast Phone of New Hampshire and its Affiliates, Oct. 9, 2009 at 14-17 (“Comcast Direct”).

<sup>40</sup> Prefiled Reply Testimony of Douglas Duncan Meredith and Valerie Wimer on Behalf of the New Hampshire Telephone Association, Dec. 4, 2009 at 14:6-11 (“Meredith/Wimer Reply”).

#### **4. Transport**

The vast majority, if not all, of interoffice transport is on optical fiber. Until the last few years, the optical standard was Synchronous Optical Network (“SONET”). As more voice traffic becomes packet based instead of circuit switched, and as data traffic increases, fiber networks have been migrating to Ethernet or IP standards. Many traditional POTS providers now use IP transport for their voice traffic.<sup>41</sup>

While the public Internet can be used to provide interoffice transport for voice and data traffic, the carrier has little, if any, control over the quality of the connection and may not be able to give voice traffic priority over data traffic. If there is traffic congestion, voice packets can be delayed and the voice quality can be degraded. Comcast and TWC do not use the public Internet for Cable VoIP service. Instead, they provide voice services with dedicated bandwidth on their private networks.<sup>42</sup>

#### **5. Signaling**

Signaling consists of the instructions that monitor the status of the call, alert the user of incoming calls, transmit routing information and change routing of the call using criteria both from the dialed digits and other information. Signaling includes tones to give status to the customer (like dial tone or ringing), passing of dialed digits through the network, and information from external sources, such as caller name to be added into the call. Until the 1980’s the signaling traveled the same path as the telephone call and was referred to as “in-band signaling.” In the 1980s, the Signaling System 7 (“SS7”) network was implemented that allows

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<sup>41</sup> Wimer Direct 13:19-14:1.

<sup>42</sup> Wimer Direct 14:3-9. Comcast Staff Response 1-3. (“From the eMTA to the CMTS Comcast reserves dedicated bandwidth for its VoIP services. After passing through the CMTS, CDV/BCV traffic continues to be transmitted as a dedicated service.”); TWC Staff Response 1-11. (“Voice and Data packets use segregated bandwidth. Voice communications are not routed over the public Internet.”)

the signaling to take a different path from that of the actual call, i.e. out-of-band signaling. The SS7 signaling network is packet-based. It has the ability to verify that an end-to-end connection exists and whether the line is busy prior to setting up the connection to the called party. The SS7 network also allows information from external third party databases to be added to the network. For example, the local number portability database, which tells the originating carrier which terminating carrier serves a customer with a ported number, is an SS7 network database that returns a Location Routing Number (LRN) to the requesting switch. The call is then routed not to the original terminating telephone but to the LRN. Other SS7 network databases enable customer-unique features such as calling name delivery, time-of-day routing, or routing of calls to different locations based on the originating location, and other consumer-based services. Comcast, TWC and the RLECs all use SS7 signaling.<sup>43</sup>

Cable VoIP routing has some of the same characteristics as SS7 signaling. Cable VoIP traffic is routed based on the IP address associated with the calling and called parties. When a customer places a call, the network references a table to find the address of the equipment where the call should be directed. Unlike the Uniform Resource Locators (“URLs”) associated with public websites, the IP addresses of the equipment are not known to the public and are only used internal to the network, just as the LRN address returned from the LNP database is not used by end users.<sup>44</sup>

When packets are used to transmit the Cable VoIP call, signaling information is included in the “header” of each packet because each packet can take a different path to the destination. The information in the header includes information such as the type of service, identification, source address, destination address, protocol, and packet life. This information may be updated

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<sup>43</sup> Wimer Direct 14:12-15:12.

<sup>44</sup> *Id.* 15:14-19.

on each segment of the call. If a packet is lost or arrives too late, the system employs error correction to help improve the voice quality.<sup>45</sup>

In its testimony, Comcast describes its number translation databases as domain name server (“DNS”) databases, and tries to contrast them with traditional functions associated with SS7 networks (and presumably the various translation databases attached to such networks, e.g. SCP, LIDB, LNP, etc.).<sup>46</sup> However, this is a distinction without a difference. According to Comcast, their Cable VoIP service uses DNS and an ENUM-like database associated with IP addresses to translate ten-digit phone numbers into IP addresses.<sup>47</sup> While claiming that they “do not route traffic based on NANPA numbers,” this is contradicted by Comcast’s description of how its databases associate IP addresses with ten-digit telephone numbers (obtained from NANPA through a LEC partner)<sup>48</sup> and translate these numbers into numerical IP addresses in order to route calls on an end-to-end basis.<sup>49</sup>

The essence of the process used by Comcast is no different than the process used by the RLECs for translating the dialed number into routing information. Contrary to Comcast’s claims,<sup>50</sup> it is not similar to the World Wide Web DNS look-up. Comcast only uses internal databases,<sup>51</sup> whereas DNS addressing ultimately uses external third-party databases to translate an alphanumeric web address, i.e. URL, to a public numeric IP address. In the case of Comcast and the RLECs, the dialed telephone number is not an alphanumeric URL, and any translated

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<sup>45</sup> *Id.* 15:21-16:4.

<sup>46</sup> Comcast Direct 16:11-15.

<sup>47</sup> *Id.* 16:11-22, 17:1-4.

<sup>48</sup> *Id.* 5:5, 16:18.

<sup>49</sup> *Id.* 16:21-17:3.

<sup>50</sup> Comcast Direct 17:3-4.

<sup>51</sup> Comcast Staff Response 1-12, Exh. Wimer Direct 1-5.

addresses are internal to the network. If the call is terminated to a POTS provider, the telephone number is also used to route the call outside the VoIP provider network. A database lookup associated with a Cable VoIP call is no different from a translation in a regulated POTS call in which a table provides instructions on where to route a call.<sup>52</sup> When the LECs use IP equipment in their networks the exact same functions as described by Comcast are used for routing the POTS call.<sup>53</sup>

## **H. Conclusion**

Cable VoIP service conveys telephone messages as described in RSA 362:2 and has all the characteristics of a telecommunications service as this term is defined by the Communications Act. It is a paid service that is offered directly to the public. It is a voice transmission among points as specified by the user without a change in the form or content of the information as sent and received. There is nothing about Cable VoIP, architecturally, technically or practically, that distinguishes it from POTS. Cable VoIP is simply an evolution in technology. Voice networks have migrated from analog to digital and now the voice network is migrating to IP technologies. Small portions of the network have introduced IP voice. These segments are continuing to grow. As IP becomes a more mature technology for voice use, the circuit switched network will be slowly replaced until it is gone.<sup>54</sup> This migration is similar to the migration of

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<sup>52</sup> Meredith/Wimer Reply 12:8-13:12.

<sup>53</sup> Wimer Direct 16:13-17.

<sup>54</sup> For some industry players, this transition is unstoppable and cannot happen soon enough. *See e.g., Comment Sought on Transition from Circuit-Switched Network to All-IP Network*, NBP Public Notice #25, Comments of AT&T at 3 (Dec. 21, 2009) (“[The] [p]haseout of circuit-switched POTS service and the PSTN is essential to achieving universal access to broadband”) available at <<http://fjallfoss.fcc.gov/ecfs/document/view?id=7020354032>> (last visited Jan. 13, 2009.)

technology from an all analog network to a digital network.<sup>55</sup>

It should also be emphasized that authority over Cable VoIP service is not an extension of the Commission's traditional jurisdiction. In the past, the New Hampshire Supreme Court has held that the Commission does not have authority under RSA 362:2 to regulate industries that are merely "related" to statutory utility services.<sup>56</sup> However, Cable VoIP is not "somehow related" telephone service – it *is* telephone service, no different than other telephone services provided by regulated RLECs, ILECs and CLECs. Cases like *Omni Communications* "stand[] for the simple proposition that RSA 362:2 does not apply to industries that the legislature did not intend to be regulated."<sup>57</sup> However, where a service "conveys the telephone message for the benefit of its customers," the Commission is fully empowered to assert its jurisdiction.<sup>58</sup> In this case, NHTA is not recommending that the Commission expand its powers, but merely exercise its authority as directed by the legislature. The Commission's authority is defined by the characteristics of the companies and services it regulates – not the technology employed to provide those services.

### **III. THE NH PUC IS NOT PREEMPTED FROM REGULATING CABLE VOIP.**

#### **A. Preemption is not an Issue in This Investigation because Cable VoIP has a Definitely Discernable Intrastate Component.**

The authority of the Commission to regulate intrastate telecommunications is defined by the extent to which such state regulatory authority has or has not been preempted, whether by operation of federal statutory law, or through a lawful exercise by the FCC of its federal

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<sup>55</sup> Wimer Direct 16:21-17:4.

<sup>56</sup> See *Appeal of Omni Communications*, 122 NH 860 (1982) ("[T]he legislature did not intend to place all companies and businesses somehow related to railroads, telephone, telegraph, light, heat, and power companies under the umbrella of the PUC's regulatory power.") (paging services not within Commission jurisdiction); *Appeal of New England Cable Television Ass'n*, 126 N.H. 149 (1985) (cable television service not within Commission jurisdiction).

<sup>57</sup> *Appeal of Atlantic Connections, Ltd.*, 135 N.H. 510, 514 (1992).

<sup>58</sup> *Id.*, 135 N.H. at 512.

regulatory powers to oust state authority. Congress has created “a system of dual state and federal regulation over telephone service, grant[ing] to the FCC the authority to regulate ‘interstate and foreign commerce in wire and radio communication,’ while expressly denying that agency ‘jurisdiction with respect to . . . intrastate communication service. . . .”<sup>59</sup> Accordingly, the FCC is charged with regulating interstate and foreign commerce in wire and radio communication, while the authority to regulate intrastate communication service is expressly reserved to the states – and denied to the FCC.<sup>60</sup> Under this scheme, “state commissions can exercise their expertise about the needs of the local market and local consumers, but are guided by the provisions of the Act and by the concomitant FCC regulations. . . .”<sup>61</sup>

Given the dual-jurisdictional boundaries established by Congress as a matter of statutory law, the FCC historically has applied a geographic “end-to-end” analysis based on the physical endpoints of a communication to distinguish interstate from intrastate communications for purposes of establishing and enforcing its jurisdiction.<sup>62</sup> This “end-to-end” analysis has posed a problem when the end-points of a call using VoIP technology cannot be determined. The seminal case on this issue involved a dispute over the jurisdictional nature of the Vonage service. In its *Vonage Order*,<sup>63</sup> the FCC preempted the State of Minnesota from regulating Vonage’s digital VoIP service based on the “impossibility” exception of federal preemption law. The “impossibility” exception allows the FCC to preempt state regulation of a service that would

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<sup>59</sup> *Louisiana Pub. Serv. Comm’n v. F.C.C.*, 476 U.S. 355, 360 (1986) (statutory citations omitted).

<sup>60</sup> *See* 47 U.S.C. § 152.

<sup>61</sup> *Puerto Rico Tel Co. v. Telecomm’s Reg. Bd.*, 189 F.3d 1, 14 (1st Cir. 1999).

<sup>62</sup> *See, e.g., Bell Atl. Tel. Cos. v. FCC*, 206 F.3d 1, 3 (D.C. Cir. 2000).

<sup>63</sup> *In re Vonage Holdings Corp.*, WC Docket No. 03-211, Memorandum Opinion & Order, 19 FCC Rcd 22404 (2004) (“*Vonage Order*”).

otherwise be subject to dual federal and state regulation where it is impossible to separate the service's intrastate and interstate components as contemplated by the 1996 Act.<sup>64</sup> The FCC found that the geographic endpoints of communications using Vonage's "DigitalVoice" could not be determined with any certainty, thus making it "impossible" to know whether a specific communication was an intrastate communication subject to state regulation, or an interstate communication subject to federal regulation. "Without a practical means to separate the service, the Minnesota [PUC] Vonage Order unavoidably reaches the interstate components of the DigitalVoice service that are subject to exclusive federal jurisdiction."<sup>65</sup> Presented with the "impossibility" of jurisdictional separation, the FCC held that preemption of the Minnesota state regulations was warranted as these were deemed to conflict with "federal rules and policies governing *interstate* DigitalVoice communications."<sup>66</sup> The FCC then emphasized that "the practical inseparability of other types of IP-enabled services *having basic characteristics similar to DigitalVoice* would likewise preclude state regulation to the same extent as described herein."<sup>67</sup>

Cable VoIP, however, does not have "basic characteristics similar to DigitalVoice." Cable VoIP is a service that requires the end-user to use a geographically specific telephone number at a fixed location. Neither Comcast nor TWC list any type of mobile (or "nomadic") capability on their web portals or residential service agreements.<sup>68</sup> Like the RLECs, both Comcast and TWC offer only fixed service to their end users, so the origination location and termination location

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<sup>64</sup> Louisiana Pub. Serv. Comm'n, 476 U.S. at 368 (FCC can preempt state law "where compliance with both federal and state law is in effect physically impossible.")

<sup>65</sup> *Vonage Order* ¶ 23.

<sup>66</sup> *Id.* ¶ 31 (emphasis added).

<sup>67</sup> *Id.* ¶ 32.

<sup>68</sup> Wimer Direct 5:16-18.

can be – and are – identified. Indeed, it is instructive to note that both companies base their USF contribution on jurisdictional analysis of their customers’ calling information<sup>69</sup> and do not use the default proxy available to nomadic providers. Additionally, both state that the customer may not move the eMTA which, again, is not owned or controlled by the customer.<sup>70</sup>

Contrast this with Vonage’s service, with which customers are able to move from one location to another at any time. All that is needed is access to a broadband connection from any source such as cable modem service, DSL service, WiFi hot spot or a corporate network. The customer must also purchase or rent a terminal adapter to interface with the Vonage service, either from a third party or from Vonage. The terminal adapter is not provided as part of the service, as is the Cable VoIP eMTA.<sup>71</sup>

This fundamental character distinction was confirmed in the U.S. Eighth Circuit Court of Appeals review of the *Vonage Order*. Specifically, the court observed that when VoIP service is “offered as a fixed service rather than a nomadic service, the interstate and intrastate portions of the service can be more easily distinguished.”<sup>72</sup> The Court held that the FCC action focused exclusively on “nomadic VoIP” service and had not addressed a fixed VoIP service. Thus, while

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<sup>69</sup> See Comcast’s Responses to First Set of NHTA Data Requests 1-6 (“Comcast NHTA Response”); TWC Digital Phone LLC Responses to First Set of NHTA Data Requests 1-12 (“TWC NHTA Response”).

<sup>70</sup> See Exh. Wimer Direct 1-3, Comcast Service Agreement for Residential Customers (found at [http://www.comcast.com/MediaLibrary/1/1/About/PhoneTermsOfService/PDF/DigitalVoice/SubscriberAgreement/UnifiedLegal\\_CT-NH-ME-MA-NY-VT\\_18.pdf](http://www.comcast.com/MediaLibrary/1/1/About/PhoneTermsOfService/PDF/DigitalVoice/SubscriberAgreement/UnifiedLegal_CT-NH-ME-MA-NY-VT_18.pdf)) (“Comcast Residential Agreement”) (“You will not use the Comcast Equipment at any time at an address other than the Premises without our prior written authorization.” See Exhibit Wimer Direct 1-4, TWC residential service agreement (found at [http://help.twcable.com/html/twc\\_sub\\_agreement.html](http://help.twcable.com/html/twc_sub_agreement.html)) (“TWC Residential Agreement”) (“I will not, nor will I allow others to, open, alter, misuse, tamper with or remove the TWC Equipment as and where installed by TWC or use it contrary to this Agreement”).

<sup>71</sup> Wimer Direct 6:14-19.

<sup>72</sup> Minn. Pub. Utils. Comm’n v. FCC, 483 F.3d 570 (8th Cir. 2007).

Comcast and TWC would parlay the *Vonage Order* into a ubiquitous federal preemption of all VoIP service, the reach of the *Vonage Order* is not nearly so broad.<sup>73</sup>

Unlike Vonage, Comcast and TWC can distinguish between the interstate and intrastate components of their services – a significant distinction, since it represents the very scenario in which the FCC has stated its Vonage preemption ruling will not apply. In a proceeding concerning universal service funding that was convened after the Vonage case, the FCC elaborated on the scope of the preemption decreed in the Vonage Order that a provider:

[A]n interconnected VoIP provider with a capability to track the jurisdictional confines of customer calls would no longer qualify for the preemptive effects of our Vonage Order and would be subject to state regulation. This is because the central rationale justifying preemption set forth in the Vonage Order would no longer be applicable to such an interconnected VoIP provider.<sup>74</sup>

This language from the *USF Order* unambiguously recognizes that even in the case of interconnected VoIP providers (which Cable VoIP is not) who have the capability to track jurisdictional confines do not qualify for Vonage preemption and are therefore subject to traditional state telephone regulation. As the evidence in this investigation establishes that Cable VoIP is a fixed VoIP service with jurisdictional endpoints that can be tracked, there is a practical means by which to separate Cable VoIP communications into intrastate and interstate traffic. It necessarily follows, then, that intrastate Cable VoIP service lies beyond the reach of the FCC's

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<sup>73</sup> The court was asked specifically by the New York Public Service Commission to overturn the Vonage Decision because it believed the decision preempted its ability to regulate fixed VoIP services. The FCC replied to the court stating the issue of fixed VoIP was not ripe for judicial review. The FCC reasoned that because the order states “to the extent other entities, such as cable companies, provide VoIP services, we would preempt state regulation to an extent comparable to what we have done in this Order.” *Id.* at 576 (citing *Vonage Order* ¶ 32). The FCC further argued that “because the order only addresses services ‘having basic characteristics similar to Digital Voice,’ and does not specifically address fixed VoIP service providers,” then the NYPSC’s appeal was premature. *Id.* at 581. Based on the FCC’s representation, the court concluded the NYPSC’s challenge to the FCC’s order was not ripe for review. *Id.* at 582.

<sup>74</sup> *Universal Service Contribution Methodology*, WC Docket No. 06-122, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd 7518 ¶ 56 (2006).

power of preemption, and therefore remains subject to state regulation. Such a determination no more conflicts with federal rules and policies than the current scheme for distinguishing intrastate and interstate POTS traffic – itself based on the end-points of the calls.

It is important to note that this jurisdiction exists at an *intrastate* level regardless of what the FCC ultimately determines about VoIP at the *interstate* level. This investigation is strictly confined to the factual nature of the Cable VoIP services being offered in New Hampshire and the applicability of the term “telephone messaging” to these service offerings as a matter of New Hampshire state law. This inquiry into the factual support for applying a state statutory term does not implicate how federal law classifies these services. Nor is the matter of federal law classification necessary for purposes of preemption analysis in this case. This conclusion follows logically from the fact that the FCC itself did not treat this classification as necessary or dispositive to its preemption analysis in the *Vonage Order*, where the Commission preempted Minnesota state regulation of a jurisdictionally mixed VoIP service expressly without deciding whether that service was an information service or telecommunications service under federal law.

Noting that the “characteristics of DigitalVoice preclude any practical identification of, and separation into, interstate and intrastate communications for purposes of effectuating a dual federal/state regulatory scheme,” and that “permitting Minnesota’s regulations would thwart federal law and policy,” the FCC stated that it reached its decision to preempt Minnesota’s state telecommunications regulation “*irrespective of the definitional classification of DigitalVoice under the Act, i.e., telecommunications or information service, a determination we do not reach*

in this Order.”<sup>75</sup> Where jurisdictional separation is possible, no conflict exists with the FCC’s lawful exercise of regulatory jurisdiction, and thus no federal preemption attaches.<sup>76</sup>

**B. Cable VoIP has None of the Characteristics of Other Preempted Services.**

Even if the Commission finds that it is necessary to consider the federal classification of Cable VoIP service in its deliberations (which NHTA believes is not necessary), Cable VoIP still has none of the characteristics of services that have traditionally been preempted. As explained above, it is not solely an interstate calling service. Furthermore, it is not an “interconnected VoIP” service nor an information service.

**1. Cable VoIP is not “Interconnected VoIP.”**

Comcast has incorrectly asserted that the *Vonage Order* specifically applied to Cable VoIP service and, accordingly, Cable VoIP service is under the exclusive jurisdiction of the FCC.<sup>77</sup> However, this was not the holding of the *Vonage Order*. The *Vonage Order* only stated that other services that were *comparable to the Vonage service* would also be exempt from state regulation.<sup>78</sup> These comparable services, eventually labeled “interconnected VoIP,” were defined in the *Vonage Order* and codified at 47 C.F.R. § 9.3. Interconnected VoIP service is as “a service that:

- (1) Enables real-time, two-way voice communications;
- (2) Requires a broadband connection from the user’s location;
- (3) Requires Internet protocol-compatible customer premises equipment (CPE); and

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<sup>75</sup> *Vonage Order* ¶ 14 (emphasis added). Two years after issuing the *Vonage order*, this same issue of “definitional classification” arose in the context of the *USF Order*, where the FCC decided to establish universal service contribution obligations for interconnected VoIP service providers. The FCC chose to decide that case as well without resolving the classification issue with respect to interconnected VoIP. *USF Order* at ¶ 35 .

<sup>76</sup> *USF Order* ¶ 56.

<sup>77</sup> Comcast Direct at 11.

<sup>78</sup> *Vonage Order* ¶ 46. (“Moreover, for services having the same capabilities as DigitalVoice, the regulations of other states must likewise yield to important federal objectives.”)

(4) Permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.”

The Cable VoIP services provided by Comcast and TWC are not interconnected VoIP because they do not meet all of these criteria. First, their services are not amenable to the broadband connection that the FCC envisioned when establishing the rule. In the *Vonage Order*, it stated that, as to the service at issue “[i]n marked contrast to traditional circuit-switched telephony, however, *it is not relevant where that broadband connection is located or even whether it is the same broadband connection every time the subscriber accesses the service. Rather, Vonage’s service is fully portable*; customers may use the service anywhere in the world where they can find a broadband connection to the Internet.”<sup>79</sup>

Comcast and TWC admit, however, that their Cable VoIP services are not portable to “any” broadband connection; their services do not operate on any broadband connections but their own.<sup>80</sup> In other words, their Cable VoIP services are fixed services that are not nomadic, as Vonage’s is.<sup>81</sup> The same broadband connection must be used every time the subscriber accesses the Cable VoIP service. Thus, Cable VoIP service is not “fully portable” and the Comcast and TWC Cable VoIP services do not conform to the definition of an interconnected VoIP service in regard to that aspect of the broadband connection.

Cable VoIP service does not conform to the CPE requirement of the definition either. In the *Vonage Order*, the FCC observed that:

Customers may choose among several different types of specialized CPE. (1) a Multimedia Terminal Adapter (MTA), which contains a digital signal processing unit that performs digital-to-audio and audio-to-digital conversion and has a

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<sup>79</sup> *Id.* ¶ 5. (emphasis supplied).

<sup>80</sup> Comcast NHTA Response 1-4(c); TWC NHTA Response 1-6.

<sup>81</sup> *See* Wimer Direct at 5; Exh. Wimer Direct 1-3.

standard telephone jack connection; (2) a native Internet Protocol (IP) phone; or (3) a personal computer with a microphone and speakers, and software to perform the conversion (softphone).<sup>82</sup>

In contrast, the Comcast and TWC Cable VoIP services do not provide that “customers may choose among several different types of CPE.” Comcast and TWC claim that the eMTA is CPE, despite the fact that it is owned by Comcast/TWC and the customer has no control over the device. However, from the customer perspective, the analog telephone used to originate the call is the one and only CPE device for the voice service. In the case of the Cable VoIP services provided by Comcast and TWC, the customers cannot select their eMTA and do not own the eMTA. Furthermore, native IP phones do not work with these services,<sup>83</sup> nor do “soft phones.” Therefore, the eMTAs provided by Comcast and TWC do not qualify as the specialized CPE that is an element of the definition of an interconnected VoIP provider.

The analytical underpinning of the *Vonage Order* is that that state regulators are preempted from regulating Vonage-type services due to the inseparability of state and interstate service. This decision is based principally on one of the salient features of the Vonage service – that it is “fully portable” with the only requirement that the end-user customers have a broadband connection upon which they may use an “over-the-top” application. This portability led the FCC to conclude there is no “practical way to sever Digital Voice into interstate and intrastate communications.”<sup>84</sup>

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<sup>82</sup> *Vonage Order* ¶ 6.

<sup>83</sup> Wimer Direct at 6:6-7; Comcast Staff Responses 1-2, 1-5, 1-8; TWC Staff Responses 1-2, 1-5, 1-8.

<sup>84</sup> *Vonage Order* ¶ 31.

**2. Cable VoIP is not an Information Service.**

**a. Brand X does not Support Comcast's Claims that VoIP is an Information Service.**

The Communications Act defines the term information service as:

the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.<sup>85</sup>

An information service can be described as a layer of information processing information in addition to an underlying telecommunications service. The basic telecommunications service is used to access an information service. The most recognizable example of this is voice mail service. Voice mail is a component service added to a basic underlying telecommunications service that provides a means to acquire, store and process information received via the basic telecommunications service.<sup>86</sup>

At the outset, it is crucial to note that FCC has, despite numerous entreaties, *not* declared VoIP an information service. The Commission has never preempted state authority over fixed VoIP services, nor has it ever made a final determination as to whether interconnected VoIP services qualify as telecommunications or information services.<sup>87</sup> Nevertheless, the Commission

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<sup>85</sup> 47 U.S.C. §153(20).

<sup>86</sup> Meredith Direct 7:9-15.

<sup>87</sup> See e.g., *IP-Enabled Services*, WC Docket No. 04-36, Report and Order, 24 FCC Rcd 6039, at n.21 (2009) (stating that “[t]he Commission to date has not classified interconnected VoIP service as a telecommunications service or information service as those terms are defined in the Act, and we do not make that determination today”) (“*VoIP Discontinuance Order*”); *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Report and Order and Further Notice of Proposed Rulemaking, FCC 09-105 ¶ 12 (rel. Dec. 2, 2009) (noting that “the Commission has not yet classified interconnected VoIP service as either a telecommunications service or an information service”).

has “nibbled” at the edges of this issue, steadily and inexorably extending traditional Title II common carrier requirements to interconnected VoIP providers.<sup>88</sup>

In spite of this, Comcast argues that the *Brand X*<sup>89</sup> decision affirmed that IP-based service cable offerings are information services that are not be subject to traditional telecommunication common carrier regulation.<sup>90</sup> However, the decision did not reach this conclusion. *Brand X* only addressed whether the underlying cable modem transmission service was so integrated with the Internet access service to make it reasonable to describe the two functions as a single service. The Court found that a cable modem transmission service is functionally integrated with the Internet access service so as to be considered a single service offered to the public. As such, the

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<sup>88</sup> See e.g., *USF Contribution Order* ¶¶ 35, 46-49; *VoIP Discontinuance Order* ¶¶ 9-12. See also, *Communications Assistance for Law Enforcement Act and Broadband Access and Services*, ET Docket No. 04-295, RM-10865, First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd 14989 ¶¶ 8-10 (2005) (determining that the “telecommunications carrier” definition in CALEA includes facilities-based broadband Internet access and interconnected VoIP providers under that Substantial Replacement Provision of that Act) (“CALEA Order”), *aff’d sub nom. American Council on Educ. v. FCC*, 451 F.3d 226 (D.C. Cir. 2006); *Telephone Number Requirements for IP-Enabled Services Providers*, WC Docket No. 07-243, Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, 22 FCC Rcd 19531 (2007) (extending number porting requirements to obligations to interconnected VoIP providers); *Assessment and Collection of Regulatory Fees for Fiscal Year 2007*, MD Docket No. 07-81, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 15712 (2007) (applying regulatory fee obligations to interconnected VoIP providers); *Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities*, WT Docket No. 96-198, Report and Order, 22 FCC Rcd 11275 (2007) (extending disability access requirements to interconnected VoIP providers); *Telecommunications Carriers’ Use of Customer Proprietary Network Information and Other Customer Information*, CC Docket No. 96-115, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 6927 (2007) (extending the application of the CPNI rules to providers of interconnected VoIP service); *E911 Requirements for IP-Enabled Service Providers*, WC Docket No. 05-196, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245 (2005) (requiring providers of interconnected VoIP service to supply E911 capabilities to their customers).

<sup>89</sup> *Nat’l Cable and Telecomms. Ass’n v. Brand X Internet Services*, 545 U.S. 967 (2005) (“*Brand X*”).

<sup>90</sup> Comcast Direct 10:20-11:1-2.

single integrated service was classified as an Internet access service. For this reason, a cable company is not required to offer its cable modem transmission service as a separate unbundled service, since the bundled Internet access service is an information service. The FCC applied this rationale to RBOC DSL service and wireless broadband Internet access as well, and now RBOCS and CMRS providers are no longer required to offer the transmission component of the DSL service as a common carrier service either.

To emphasize, *Brand X* was an unbundling case, not a jurisdiction or classification case. Having accepted that the service carried on the transmission component was an information service, the court made a determination that the transmission component was not a common carrier service for unbundling purposes. The court did *not* reach the opposite conclusion, i.e. that because the transmission component was a cable modem service, then it was by definition an information service. This would have been fallacious reasoning. Just because *some* cable transport is considered an information service (due to the specific service to which it provides access) does not mean that *all* cable modem transport is an information services. Thus *Brand X* is irrelevant to this investigation.

**b. Comcast's and TWC's ancillary information services do not act on the basic telecommunications service that they offer.**

Comcast and TWC make much of their web portals and website applications, implying that they imbue their Cable VoIP services with the characteristics of enhanced services. They describe features that allow the customer to manage their calls dynamically with services such as “Follow Me” or “Find Me,” receive voice mail messages on their email and manage their features, billing and other account information via their respective web portals.<sup>91</sup> These are not

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<sup>91</sup> See Comcast Staff Response 1-38, TWC Staff Response 1-38.

unique to Cable VoIP, however.<sup>92</sup> Granite State offers such services, and TDS has a web portal that allows customers to order services and provides on-line billing services. Comcast's and TWC's web portals allow customers to receive message and call notifications on devices other than the telephone and access their account information – but then so does Granite State.<sup>93</sup>

The web portals are unarguably enhanced services that provide customers an interface to the service provider's records and systems, but they are not components of the telephone messaging service itself. They provide a method for customers to directly manage their communications services without having to talk with a service representative.<sup>94</sup> None of these functions is required for a customer to originate or terminate calls, however. Whether they use this web portal or not, customers can still make and receive calls. Furthermore, they can receive paper bills and contact customer service representatives without access to the web portal.

The Cable VoIP services are in no way functions of or dependent on the additional capabilities of the web portal.<sup>95</sup> The enhanced features offered by Comcast and TWC are only incidental to the voice service, comparable to the voicemail arrangement discussed by the Court in *Brand X*.<sup>96</sup> These web portal services are like any other website. They can be accessed via a dial up connection or a broadband connection. Since these services are not in the actual voice call flow, and cannot be made part of the call, access to these services has no impact on the fact that the voice service provided by Comcast or TWC is a telecommunications service.<sup>97</sup> Indeed,

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<sup>92</sup> See Granite State website <[www.granitestatetelephone.com/telephone.php](http://www.granitestatetelephone.com/telephone.php)> and <[www.granitestatetelephone.com/sfh\\_mail.html](http://www.granitestatetelephone.com/sfh_mail.html)>.

<sup>93</sup> Wimer Direct 4:16-5:1.

<sup>94</sup> Wimer Direct 26:15-27:5.

<sup>95</sup> Meredith/Wimer Reply 9:9-18.

<sup>96</sup> *Id.* 9:5-6.

<sup>97</sup> Wimer Direct 27:10-13.

*Brand X* is very unsupportive of Comcast and TWC on this score. *Brand X* recognized that a telecommunications service that is priced or bundled with an information service is not automatically unregulated under Title II of the Communications Act. Specifically, the Court considered the example of voice mail bundled with telephone service. The Court found that there is a distinct, transparent transmission path for telephone service that is independent of the information storage capabilities represented by voice mail.<sup>98</sup> Therefore, the telephone service remains a telecommunication service subject to common carrier regulation while the associated voice mail service is considered an information service. This makes sense, because if the Court had not ruled in this manner, a regulated telephone company could simply bundle an information service with basic exchange service to avoid regulation.<sup>99</sup>

**c. There is no end-to-end protocol conversion.**

Furthermore, as explained above, while protocol conversions occur in both POTS and Cable VoIP networks, there is no end-to-end protocol conversion in a Cable VoIP call that would make it an information service.<sup>100</sup> Since the vast majority of calls are originated or terminated on analog phones and almost no networks are completely analog, there are some changes in the transmission format of the call between the calling and the called party. The call may change from analog to digital, from digital to IP packets, electrical to optical and back again several

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<sup>98</sup> *Brand X*, 545 U.S. at 998 (2005).

<sup>99</sup> *Id.*, 545 U.S. at 997-998. (“It is plain, for example, that a local telephone company cannot escape Title II regulation of its residential local exchange service simply by packaging that service with voice mail. . . . [the] ability to convey and receive information using the call is only trivially affected by the additional voice-mail capability.”).

<sup>100</sup> This end-to-end requirement was defined in the Frame Relay Order, which held that the “enhanced service definition applies only to end-to-end communication between or among subscribers. Thus communications between a subscriber and the network itself (e.g., for call setup, call routing, and call cessation) are not considered enhanced services.” *Independent Data Communications Manufacturers Association, Inc. and AT&T Petition for Declaratory Ruling*, 10 FCC Rcd 13717 para. 11 (1995).

times as it is routed through the network. The routing information may also change. Instead of routing based on the actual dialed telephone numbers, a location routing number associated with a carrier's switch or equipment IP addresses may be used. The exact protocols implemented depend not only on the carrier but also on the specific vendor equipment used.<sup>101</sup> *However, the changes in the form of the call are internal to the networks carrying the call.*

In cases where the call stays on-net in the Comcast or TWC network, Comcast or TWC change the form at the beginning of the call and change it back to the same format at the end of the call. Both Comcast and TWC have stated that this type of on-net call does not have any net change in form<sup>102</sup> and does not undergo a net protocol conversion.<sup>103</sup> At the very least, then, Comcast and TWC are providing a basic telecommunications service for these calls.<sup>104</sup> They cannot be described as interconnected VoIP, since they do not connect to the PSTN, and there is no protocol conversion or other enhanced service. Moreover, the number of these on-net calls is

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<sup>101</sup> Wimer Direct 16:8-17.

<sup>102</sup> *Id.* 19:18-20:2. Comcast Staff Response 1-26 (“Calls that do not leave the Comcast’s managed IP network do not experience net protocol conversion.”); TWC Staff Response 1-26 (“[A] call that remains on TWCDP’s network end to end will not undergo a net protocol change.”)

<sup>103</sup> Comcast Direct at 24:6-8; Comcast Staff Response 1-26, Exh. Wimer Direct 1-6 (“Calls that do not leave the Comcast’s managed IP network do not experience net protocol conversion.”); TWC Staff Response 1-26, Exh. Wimer Direct 1-6 (“A call that remains on TWCDP’s network end to end will not undergo a net protocol conversion.”).

<sup>104</sup> *Compass Global, Inc.*, File No. EB-06-IH-3060, Apparent Liability for Forfeiture, 23 FCC Rcd 6125 ¶ 18 (2008) (“[T]he fact that Internet Protocol is used exclusively as transport for the traffic has no bearing on whether these voice and data services are appropriately considered telecommunications service. The Commission has also said that services that are not so inextricably linked with information-processing capabilities, but are utilized by end-users of the service for basic transmission purposes, are telecommunications services and subject to Title II requirements.”)

substantial and will grow as the number of Cable VoIP customers grow.<sup>105</sup>

## **B. Other State Decisions**

Other states have reviewed the appropriate regulatory treatment of VoIP. Some state commissions deemed it prudent to await final FCC determination before addressing the issue.<sup>106</sup> In certain of these instances, the state commissions indicated an expectation that the FCC would soon decide the issue.<sup>107</sup> Other state commissions have been expressly prohibited from regulating VoIP services by their legislatures.<sup>108</sup>

However, in the past two years, as an increasing number of companies have transitioned to the VoIP platform to provide telephone service, several state commissions have initiated proceedings to determine the appropriate treatment of those services within their respective

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<sup>105</sup> Comcast provided a numerical response in Comcast NHTA Response 1-15(b). Based on Comcast Direct 4:10-11, Comcast Voice penetration is 29% of its cable customers. With this market share it is assumed that a high percentage of calls would remain on-net.

<sup>106</sup> See e.g., California Public Utilities Commission, *Investigation on the Commission's Own Motion to Determine the Extent to Which the Public Utility Telephone Service known as Voice over Internet Protocol Should Be Exempted from Regulatory Requirements*, Investigation 04-02-007, Opinion Closing Proceeding at 3 (June 15, 2006), available at <[http://docs.cpuc.ca.gov/word\\_pdf/FINAL\\_DECISION/57182.pdf](http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/57182.pdf)> (last viewed Jan. 14, 2010) (“*California PUC Opinion*”); Colorado Public Utilities Commission, *In the Matter of the Investigation into Voice Over Internet Protocol (VoIP) Services*, Docket No. 03M-220T, Order Closing Docket ¶ 3 (Dec. 17, 2003), available at <[http://www.dora.state.co.us/puc/DocketsDecisions/decisions/2004/C04-0004\\_03M-220T.doc](http://www.dora.state.co.us/puc/DocketsDecisions/decisions/2004/C04-0004_03M-220T.doc)> (last viewed Jan. 14, 2010) (“*Colorado PUC Order*”); Pennsylvania Public Utility Commission, *Investigation into Voice Over Internet Protocol as a Jurisdictional Service*, Docket No. M-00031707, Order at 4, 14-15 (May 24, 2004), available at: <<http://www.puc.state.pa.us/PcDocs/471346.doc>> (last viewed Jan. 14, 2010) (“*Pennsylvania PUC Order*”); Wisconsin Public Service Commission, *Petition of AT&T Wisconsin for Declaratory Ruling that its-verse Voice Service is Subject to Exclusive Federal Jurisdiction*, Docket No. 6720-DR-101, Temporary Order Deferring Decision at 3-4 (Sept. 17, 2009), available at <[http://psc.wi.gov/apps/erf\\_share/view/viewdoc.aspx?docid=120161](http://psc.wi.gov/apps/erf_share/view/viewdoc.aspx?docid=120161)> (last viewed Jan. 14, 2010) (“*Wisconsin PSC Temporary Order*”).

<sup>107</sup> See e.g., *California PUC Opinion* at 3; *Wisconsin PSC Temporary Order* at 3-4.

<sup>108</sup> See e.g., 26 Del. C. § 202(i) (2007); DC ST § 34-403 (2008); Fl. Stat. Ann. § 364.01 (2003); Ga. Code Ann. § 46-5-222 (2006).

states.<sup>109</sup> In fact, on December 10, 2009, the Hearing Officer for the VoIP proceeding in Vermont issued a recommended decision indicating that the telephone service provided by Comcast IP Phone, and any like service, qualified as a telecommunications service under state statute and, therefore, those services were subject to the state commission's jurisdiction.<sup>110</sup>

Similarly, in Massachusetts, the Massachusetts DTC has determined that facilities-based VoIP service providers satisfy the state's common carrier test and, therefore, are subject to the DTC's telecommunications service provider requirements.<sup>111</sup> Both of these actions are in accord with one of the recent *UTEX* decision, in which the FCC's Wireline Competition Bureau denied a petition to preempt a VoIP interconnection arbitration, explaining that states need not await Commission action with regard to VoIP issues but, instead, may rely on the "existing law" of the state in deciding the those issues.<sup>112</sup>

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<sup>109</sup> See e.g., *In re: Rulemaking to study the possible development of rules applicable to Voice over Internet Protocol (VoIP)*, La. P.S.C Docket No. R-28268 (docket refreshed on July 24, 2009); *Investigation into Whether Providers of Time Warner "Digital Phone" Service and Comcast "Digital Voice" Service Must Obtain Certificate of Public Convenience and Necessity to Offer Telephone Service*, Me. P.U.C. Docket No. 2008-421, (opened Oct. 21, 2008), final order pending; *Rulemaking Related to the Regulatory Treatment of Voice Over Internet Protocol Services*, Tx. P.U.C. Docket No. 37614, (opened Oct. 22, 2009); *Investigation into Regulation of Voice over Internet Protocol ("VoIP") Services*, Vt. P.S.B. Docket No. 7316 (opened May 16, 2007) ("*Vermont VoIP Investigation*").

<sup>110</sup> *Vermont VoIP Investigation*, Hearing Officer Proposal for Decision (Dec. 8, 2009).

<sup>111</sup> See e.g., *Comment Sought on Transition from Circuit-Switched Network to All-IP Network*, NBP Public Notice #25, Comments of the Massachusetts Department of Telecommunications and Cable, Dec. 21, 2009 (available at < <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020354092>> (last visited Jan. 13, 2009) ("*MDTC Comments*").

<sup>112</sup> See *Petition of UTEX Communications Corporation*, WC Docket No. 09-134, Memorandum Opinion and Order, DA 09-2205, 24 FCC Rcd 12573 ¶¶ 8, 10 (2009). See also *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 15 FCC Rcd 3696, 3844, ¶ 326 (1999) (noting the fact that some state commissions had required unbundling of dark fiber in the absence of the Commission having addressed that issue, and that those decisions had been upheld in federal court); *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Inter-Carrier Compensation for ISP-Bound Traffic*, 14 FCC Rcd 3689, 3704-05, ¶ 25 (1999) (finding that, under the requirements of section 251 and 252 of

### C. Conclusion

It is clear that there is no federal preemption preventing the Commission from regulating the telephone services offered by Comcast and TWC. The status at the federal level is that the FCC has not determined the jurisdictional nature of fixed VoIP services — whether they are telecommunications services regulated under Title II of the Act or information services regulated under Title I of the Act. In the meantime, this Commission is fully authorized to regulate intrastate fixed VoIP services offered within the state.

### IV. IT IS IN THE PUBLIC INTEREST FOR THE COMMISSION TO REGULATE CABLE VOIP IN THE SAME MANNER AS OTHER COMPETITIVE LOCAL EXCHANGE CARRIERS.

It is not in the public interest to treat two similarly situated competitors differently. While the RLECs have carrier of last resort responsibilities that other carriers do not -- duties meant to ensure the safety and convenience of all New Hampshire residents -- it is still imperative that this Commission establish, at minimum, the same regulatory oversight as applies to all other non-incumbent competitive local exchange carriers to ensure that the Cable VoIP customers' regulatory protections are consistent with those afforded to the customers, the competitors, and the public at large in the realm of traditional telephone service.

The communities served by both the RLECs and either Comcast or TWC will benefit from a regulatory regime in which all providers of voice services are subject to regulatory oversight by the Commission and all customers have equal access to the remedies that the Commission can provide. Customers will be assured of equal standing before this Commission

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the Act, state commission could arbitrate reciprocal compensation obligations for ISP-bound traffic, even in the absence of Commission guidance), *rev'd on other grounds*, Bell Atlantic v. FCC, 206 F.3d 1 (D.C. Cir. 2000).

and before their chosen provider regardless of what their choice of provider may be.<sup>113</sup>

If the Commission does not assert its authority over Cable VoIP, then there will be, at a minimum, at least two different regulatory treatments of residential landline telephone service based solely upon the technology used to deliver that service. In particular, residential consumers will be afforded differing protections simply by virtue of either the telephone provider they choose or the geographical location in which they happen to live. *This is not idle conjecture.* For example, despite the Massachusetts DTC's determinations to the contrary, certain providers that have or soon will be transitioning their circuit-switched systems to IP-based systems, including Verizon and Comcast, have unilaterally declared to the DTC that they are not subject to state regulation.<sup>114</sup> The Commission needs to carefully consider the potential consequences to consumers that may result from such an unworkable regulatory framework.

If the Commission determines that Cable VoIP service is telephone service requiring a

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<sup>113</sup> Meredith/Wimer Reply 2:11-3:7.

<sup>114</sup> *MDTC Comments* Attachment 2, Letter from Stacey L. Parker, Senior Director, Regulatory Affairs, Comcast, to Michael A. Isenberg, Director, Competition Division, Massachusetts Department of Telecommunications and Cable, at 3 (May 12, 2008); *MDTC Comments* Attachment 2, Letter from John L. Conroy, Vice President, Regulatory Massachusetts, Verizon, to Michael A. Isenberg, Director, Competition Division, Massachusetts Department of Telecommunications and Cable, at 3 (Aug. 19, 2009).

It should be noted that not all Cable VoIP providers are as strident in this view. In 2007, for example, MetroCast Cablevision of New Hampshire, LLC agreed with the Commission to register for CLEC status in New Hampshire, file a telephony rate schedule with the Commission, and comply with certain numbering resource obligations. DT 06-169, IDT America, Corp. and Metrocast Cablevision of New Hampshire, LLC Joint Petition for Expedited Relief in the Granting of Numbering Resources, Order No. 24,727 Approving Settlement Agreement (Jan. 26, 2007). Interestingly, and notwithstanding its position that Cable VoIP is not subject to Commission authority, Comcast strongly supported Metrocast's subsequent expansion of its CLEC registration into the territories of the RLECs. DT 08-130, Motion of Union Telephone Company to Rescind Authority Issuance for Procedures Consistent with Law, and for Rehearing, Letter from Cameron Kerry, Counsel to Comcast, to Debra Howland, Secretary NH PUC (Oct. 27, 2008).

New Hampshire franchise, Comcast, TWC and any other Cable VoIP providers should be required to obtain franchise authorization and, upon receipt, comply with New Hampshire's utility statutes and the rules and orders of this Commission. If, on the other hand, Cable VoIP service is not to be deemed a telephone service, fairness dictates that the Commission determine the distinguishing features that separate the fully regulated from the fully unregulated treatment of these virtually identical services so that the RLECs can explore reconfiguration of their networks and business plans to migrate their own services and compete on a more level playing field.

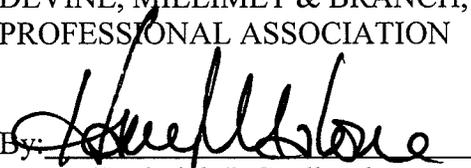
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