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Transcom

# “Phone to Phone” IP Service Provided by Non-Carriers

# ESPs Do Not Provide “Telephone Toll Service” and Do Not Use “Exchange Access”

- To be “Telephone Toll Service” it must first be “telephone service.” Act § 153(48).
- “Exchange Access” applies only to “Telephone Toll Service.” Act § 153(16).
- ESPs do not provide “telephone service”; they use telephone service.
- Enhanced/Information services are provided “via” telecommunications and are not themselves telecommunications. Act § 153(20); 47 CFR § 64.702(a).

# Only Carriers are Required to Transmit CPN to Facilitate Caller ID; ANI and Charge Number Should Be Used for Billing and Routing

- There is no requirement that non-carriers transmit ANI, CPN or Charge Number. 47 C.F.R. § 64.1601(a).
- § 64.1601(a) and the definitions of ANI, CPN and Charge Number in § 64.1600(b), (c) and (d) demonstrate that the intent of the requirement to transmit CPN is to support Caller ID; CPN is not mentioned as useful for billing or routing. ANI and Charge Number are used for billing and routing.
- VoIP providers prefer to pass CPN when they receive it and it is feasible to pass CPN.
- This is a “service” issue to ESP customers who want Caller ID to identify the user who originates a call that is processed using VoIP.
- There are many times when the ESP does not receive CPN.
  - Calls traversing MF interconnection.
  - Calls originating over WATS dedicated lines.
  - Calls originating from H.323 or SIP phones.

“True” ANI/CPN/Charge Number can be the ESP’s “local” or Charge Number; it is not “Pseudo” or “False” ANI/CPN”

- ESPs are “End Users.”
- ESPs are assigned E.164 addresses (which include ANI, CPN and Charge Number) by the LEC that provides local termination service to them, just like all other end users.
- There is no violation if the ESP’s ANI, CPN and/or Charge Number is transmitted instead of the person who makes a call that is processed using VoIP and locally terminated by one or more LECs.

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“False” ANI/CPN”

- Consider a residential end user with Call Forwarding (User 2) who forwards a call from User 1 to User 3. User 1 and User 3 are in the same local calling area. User 2 is in a different state than Users 1 and 3. The call is circuit-switched.
- **User 1’s** CPN and CNAM will be displayed on User 3’s Caller ID.
- **User 2’s** ANI and Charge Number will be inserted in the SS7 stream.
- **User 2** will be assessed interstate toll, and the call will be treated as an interstate call, even though on an end to end basis it could be considered to be “local” especially if one uses CPN to determine jurisdiction and liability for access.
- The LECs use CPN for Caller ID. They use ANI and Charge Number for billing and routing.

# Non-Carrier ESPs are exempt from switched access charges

- An ESP that is not also a carrier uses telecommunications but does not provide telecommunications or telecommunications service. *Stevens Report* (FCC 98-67) ¶ 41.
- Non-Carrier ESPs are end users and exempt from switched access charges under 47 CFR §§ 69.2(m) and 69.5(a).
- Carriers are subject to switched access charges under 47 CFR. § 69.5(b).

# If access does not apply...

- Then why worry about alleged activities related to access avoidance?

VoIP service is an enhanced and/or information service when a non-carrier provides the VoIP service

- IP-based providers, including IP-based voice service providers, process data, convert it from one form to another, add protocol information, process protocols, and perform a number of other tasks that meet the definition of enhanced service. These services are not “pure transmission capability” nor “transparent in terms of ... interaction with customer-supplied information.” There is a change in form and a change in content.

# VoIP service is an enhanced and/or information service when a non-carrier provides the VoIP service

- Suppression and compression techniques commonly used in VoIP include detecting whether a signal contains voice sound, and transmitting only those portions determined to be voice. They delete silence and inject “white noise” and they also delete “non-voice” sounds.
- Neither of these functions occur on traditional U.S. domestic voice systems: both silence and non-voice sounds are transmitted.
- Thus, VoIP processes actually interact with information created by the originator of a message, analyze its content, remove unnecessary (non-voice) portions, inject new content and pass the changed result on to the message’s recipient.
- This process therefore employs “computer processing applications that act on the ... content ... of the subscriber’s transmitted information.” It also involves the deletion of information, which, under the *Communication Protocols* case, makes it an enhanced service.

# VoIP service is an enhanced and/or information service when a non-carrier provides the VoIP service

- The FCC has generally held protocol processing to be an enhanced service. Where data transmission systems were held to be basic services, such as in the *Frame Relay* case, the service was generally offered by a facilities-based common carrier that did not add or remove control information, but merely used it to route data across the network. In those cases, the customer, not the carrier, created protocol headers and trailers, gave them to the service provider for transmission across its lines, and removed them at the end. In IP-based voice services, the service provider packetizes the data and adds protocol data, then releases it for transmission. Thus, an IP-based voice service provider is involved in the addition, deletion, and processing of information in a manner not present in the *Frame Relay* case.
- IP-based voice services store data. At the transmission end, data is stored during the transmitter recording process, and again briefly during the encoding and compression processes. At the receiving end, incoming data is stored in a jitter buffer, to properly order the information and wait for late-arriving packets. This data storage is not caused by the congestion of the network or transmission priorities of the originator.

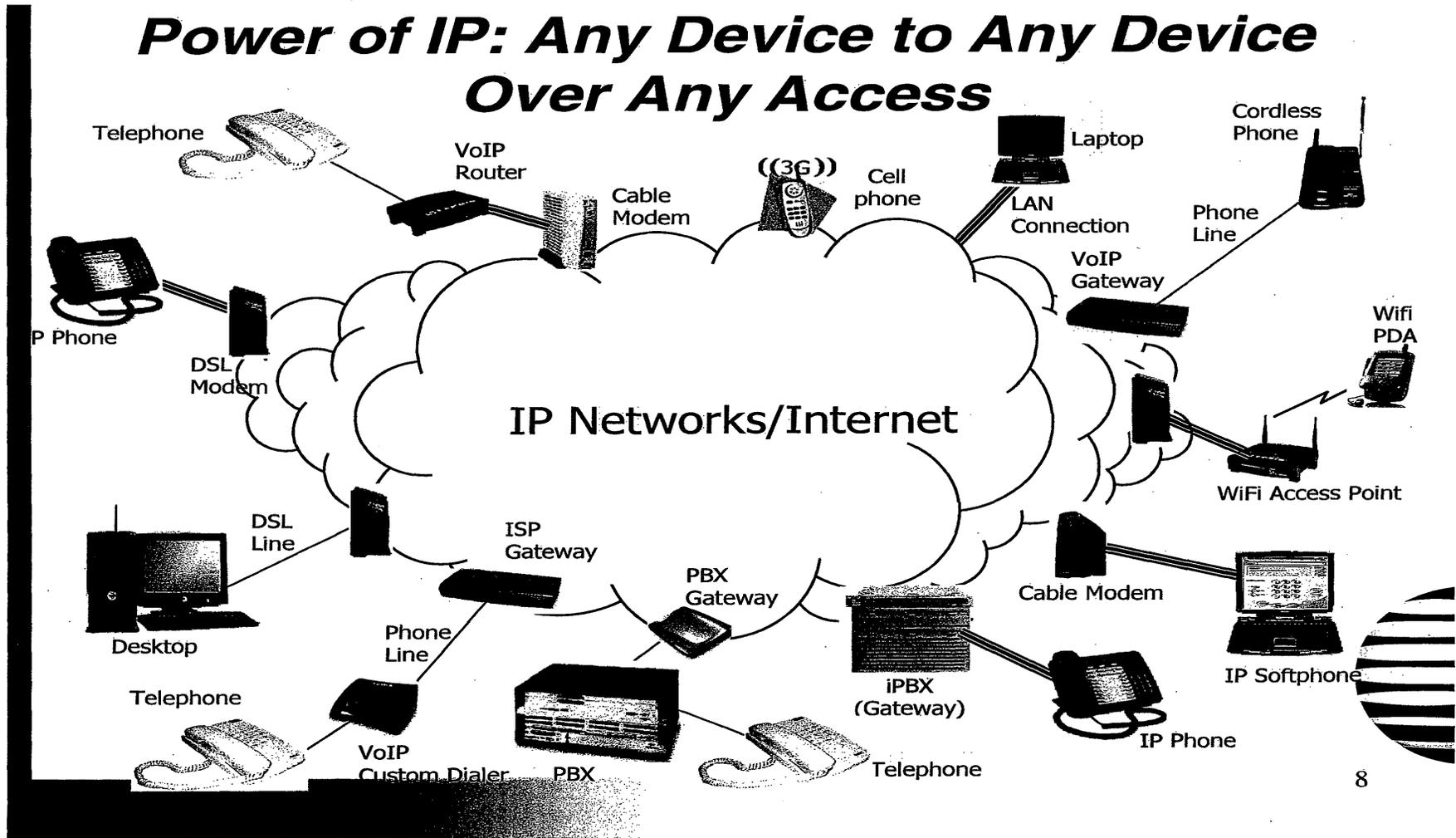
# VoIP service is an enhanced and/or information service when a non-carrier provides the VoIP service

- Voice reconstruction to compensate for lost packets and transmission errors in a VoIP system makes it an enhanced service. Voice reconstruction is not the same as the “error control techniques” discussed in *Computer II*.
  - Conventional error correction techniques check incoming blocks of data for errors, and request the retransmission of those containing errors. Thus, the message finally delivered to the end user is exactly the same as the message that originated, even if some errors result during the original attempt to transmit the data.
  - The typical IP-based voice error detection and correction system differs in that it not only processes and transforms information, but uses the retrieval of stored data and the creation of new data that did not exist in the original to enhance the communication and fill in gaps caused by dropped packets or inadequate conversion or receipt of aural impulses at the originating microphone. When the ESP uses UDP (not TCP) between gateways, there is no retransmission request. The sound heard by the receiver is not exactly the sound originally transmitted, but rather portions of it have been created by the system to enhance the delivered sound. In the words of the *Communications Protocols* decision, this is a “creation” of information.

VoIP service is an enhanced and/or information service when a non-carrier provides the VoIP service

- The distinction between basic and enhanced services is whether the service provider offers a transparent communications path, or whether the provider uses computer processes to add value. IP-based voice systems add value by increasing efficiency and by providing a capability for integrating voice services with other forms of data and routing to alternative devices or addresses, including non-E.164 addressing schemes. IP voice services are therefore enhanced, or “value added,” services.

# ***Power of IP: Any Device to Any Device Over Any Access***



# CALEA, 911 and USF issues are separate from access charges

- CALEA depends on different definitions.
- 911 is more of a concern with “local” calls and not long haul calls.
- USF issues
  - FCC considering whether to impose USF assessments on ESPs.
  - ESPs pay passthroughs from carriers, so they contribute to USF.

## Summary:

There is a change – the call is “enhanced”

- There is a change in form from TDM/SS7 to IP, including header insertion and deletion.
  - The statute and rule require only a change in form, no “net” change is required under current law.
- There is a net change in content.
  - The sound that enters the originating handset microphone is not the same as the sound that exits the terminating handset microphone.
    - Information/sound is added.
    - New information is generated.
    - Information/sound is deleted.

# Additional information

- Statute and Rule Supplement
- Declaration of Chad Frazier providing further explanation of voice recognition routines.
- Deposition of Chad Frazier, taken in In re: Chapter 11 DATAVON, INC., et al, Case Number 02-38600-SAF-11 (U.S. Bankruptcy Court, N.D. Texas, Dallas Division), May 14, 2003.
- Memorandum of Law in Support of the (DTVN Liquidating) Trustee's Rule 12(b)(6) Motion to Dismiss Southwestern Bell Telephone, L.P.'s Administrative Claim.