May 31, 2012

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***VIA ELECTRONIC FILING***
Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re:     CC Docket No. 01-92 and WC Docket No. 07-135
         *Ex Parte* Presentation

Dear Ms. Dortch:

On May 30, 2012, representatives from the ATIS Next Generation
Interconnection Interoperability Forum (NGIIF) met with representatives from the
Federal Communications Commission's (FCC) Call Completion Task Force to
discuss NGIIF's work on call completion issues.

During the meeting, ATIS provided a summary of aggregated data from its survey
of long distance carriers regarding call completion issues.  This detailed data
includes information from some of the largest wireline and/or wireless carriers in
the U.S.  The NGIIF explained that the information from the survey will be used
to facilitate the group's work on call completion issues.

ATIS NGIIF provided an update on the NGIIF's development of an industry
handbook, which includes input from rural carriers and others received during the
NGIIF's open industry workshops and via the NGIIF's call completion website
that is open to rural carriers, NGIIF members and other industry stakeholders.
The handbook will address issues such as the management of underlying carriers;
existing standards and/or guidelines relevant to long distance call completion/call
termination; signaling; transmission quality; routing; network congestion; trouble
reporting and contact directories.  It was noted that the NGIIF has made
significant progress on the handbook and hopes to substantially complete its work
during the next NGIIF face-to-face meeting in July.

The NGIIF also reported that it is working to add interexchange carrier (IXC)
carrier-to-carrier contact information to the existing NGIIF Service Provider
Contact Directory (SPCD).  The NGIIF plans to contact additional carriers and
expand on an existing list of such contacts provided by the FCC so that this list
may be used to report problems related to call completion/call termination issues
between carriers.

*Standards that Drive the Business of Communications*

Finally, the NGIIF explained that it is looking forward to working collaboratively with the associations representing rural carriers to gain additional information about the association's National Call Completion Test Project. NGIIF noted that summarized test data from this project was recently shared with NGIIF members.
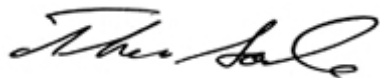
Attending this meeting on behalf of the FCC were representatives from the Wireline Competition Bureau (WCB), Public Safety and Homeland Security Bureau (PSHSB) and Enforcement Bureau (EB). The following were in attendance in person or via phone: Terry Cavanaugh, Acting Chief, Investigations and Hearings Division, EB; Margaret Dailey, Attorney, EB; William Dever, Chief, Competition Policy Division, WCB; Richard Hovey, Telecommunications Systems Specialist, Communications Systems Analysis Division, PSHSB; Christopher Killion, Attorney, EB; and Henning Schulzrinne, Chief Technology Officer.

Attending this meeting on behalf of the ATIS NGIIF were: Amy, Straton, NGIIF Co-Chair, (Member Technical Staff-Network, Verizon Wireless); Robin Meier, NGIIF Co-Chair (Sr. Tech Support Analysis Network, Global Engineering Support, Network Operations - Mobility, AT&T); Penn Pfautz (Director Product Development, AT&T Access Management); Veronica Lancaster, ATIS Director; and Tom Goode, ATIS General Counsel.

One copy of this letter is being filed electronically for inclusion in the public record of the above-referenced proceeding.

If there are any questions about this matter, please contact the undersigned.

Sincerely,

Thomas Goode
General Counsel


Attachment

# Next Generation Interconnection Interoperability Forum (NGIIF)

**Presentation to FCC**

*Initial Findings and Observations on Call Completion/Call Termination Originating Carrier Survey Responses*

*May 30, 2012*

1

# Overview of NGIIF Originating Carrier Survey

- The NGIIF sought information from originating carriers regarding circumstances related to any long distance call completion/call termination issues that they were made aware of or were facing. This survey was from the perspective of long distance calls originating on their network and/or handed off to another carrier's network for termination to a rural carrier.

- In March and April 2012, the NGIIF sent requests to 47 originating carriers, including NGIIF members.
  - 6 responses were received to the online survey questions.
  - Responding companies include some of the largest communications companies and provide wireline and/or wireless service to the vast majority of US consumers.
  - In some cases, responses reflect input covering multiple operating companies and/or service networks.

- ATIS staff removed company identifying information before sharing results with NGIIF members.

- Rate of response to this survey (12%), while greater than the response to rural carrier survey, was not as high as hoped.

# Specific Call Completion/Call Termination Areas Of Concern – Question 1

- Long distance providers were asked if their subscribers, or interconnecting originating/terminating local carriers, or other intermediary carriers, informed them that they have experienced any of the rural long distance call completion/call termination issues below.
    - The calling party hears ringing but the called party hears nothing (or there is an unusually long call set-up time)
    - The called party's phone rings, but the called party hears dead air when the call is answered
    - There is extremely poor quality on answerable calls
    - The calling party hears local busy tone
    - The calling party hears fast or network busy, or hears a network failure announcement
    - Other – provide detail about the type of problem being experienced
- 6 responses were received - 5 answered "yes," 1 answered "no."

# Specific Call Completion/Call Termination Areas Of Concern – Question 1 (cont'd)

- Detailed responses provided in supplemental slides. Highlights are noted below:
  - As an intermediate provider of tandem services, a respondent noted that it may not receive reports as originating carriers may.
  - A respondent noted that there is no defined geographic identification of a "rural" area for long distance.
  - 2 respondents noted that they have telephone numbers (TNs) to allow RLECs to report call completion/call termination problems, and have investigated all reported problems so reported.
  - In the "other" category, a respondent noted that it experienced several call completion/call termination issues, such as dead air, rings twice goes to music, ring no answer when caller knows the called party has voice mail.

# Specific Call Completion/Call Termination Areas Of Concern – Question 2

- Long distance providers were asked how their subscribers were informed about rural long distance call completion/call termination issues.
- 6 responses were received. Responses by category are below (respondents could check more than 1 option).
  - By your customers: 2 respondents
  - By customers of other carriers: 1 respondent
  - By other carriers: 4 respondents
  - By others: 3 respondents provided the following sources –
    - The ATIS NGIIF
    - Associations, FCC, and State Commissions
    - Provided contact information to NECA to share with its members, and were contacted by one carrier using that process.
    - 1 respondent noted that there is no definition of the "rural" geography related to long distance.

# Specific Call Completion/Call Termination Areas Of Concern – Question 3

- Long distance providers were asked if they have an established customer trouble report resolution process.

- 6 responses were received – all indicated "yes."

# Specific Call Completion/Call Termination Areas Of Concern – Question 4

- Long distance providers were asked what was the total number of trouble tickets for their company during January 2012 relating to long distance call completion/call termination issues with rural carriers.

- 6 responses were received:
  - A respondent noted that there is no breakdown in its data of what issues the trouble tickets related to, and no relation in its data to originating or terminating carrier. There were 3118 total trouble tickets for its entire IXC operations for January 2012 out of 4.295 billion MOUs of traffic that month.
  - 3 other respondents noted that the total number is zero, unknown, or not available.
  - A respondent noted that the total number is 1.
  - A respondent noted that the total number is 11.

# Specific Call Completion/Call Termination Areas Of Concern – Question 5

- Long distance providers were asked to use the number of trouble tickets from Question 4 and, if their data allows, to indicate the number of trouble tickets their company received related to the following problems.

- 6 responses were received. The responses by category were:
  - The calling party hears ringing but the called party hears nothing:
    - A respondent answered 1.
    - A respondent answered 10.
  - The called party's phone rings, but the party hears dead air:
    - A respondent answered 1.

# Specific Call Completion/Call Termination Areas Of Concern – Question 5 (cont'd)

- 3 respondents provided information via the text box under "other." Detailed information is provided in the supplemental slides. Highlights are located below:
    - A respondent noted that its repair ticket tracking does not align with the categories with those in Question 5.
    - A respondent noted receiving only 1 trouble ticket from an RLEC via the TN for carrier-to-carrier contact. The specific issue encountered was Post Dial Delay (PDD) found to be related to the RLEC's terminating end user having its number call forwarded to a new location.
    - A respondent noted that it does not have a method for culling out complaints specific to rural carriers, but is seeking a way to identify rural specific troubles.

# Specific Call Completion/Call Termination Areas Of Concern – Question 6

- Long distance providers were asked what step(s) or process(es) they used to investigate the rural long distance call completion/call termination issues that were identified.

- 6 responses were received. Detailed information is provided in the supplemental slides.  Highlights are located below:
  - A respondent noted that, in one case, the terminating LEC had not updated routing per the LERG. In several other cases, it turned out that the complaining customer was not PIC'd to the carrier for long distance service.
  - A respondent noted that it follows a standard procedure to remove an impacted route from service until verification that trouble has been cleared.
  - A respondent provided specific details regarding its trouble reporting process including routing. If an underlying carrier is found to be, they are removed from the path and are only re-instated after testing.
  - A respondent provided its detailed RLEC trouble reporting process.

# Specific Call Completion/Call Termination Areas Of Concern – Question 7

- Long distance providers were asked if they were able to determine a root cause(s) of the rural long distance call completion/call termination issues.

- 6 responses were received.
  - 2 respondents answered "no."
  - 3 respondents answered "yes."
  - 1 respondent answered "n/a."

# Specific Call Completion/Call Termination Areas Of Concern – Question 8

- Long distance providers were asked whether they knew or could approximate the number of the determined root causes identified in Question 7.
- 6 responses were received. Detailed information is provided in the supplemental slides; highlights are below:
  - Long distance carrier or other intermediate carrier network or facility problem/practice:
    - A respondent answered "all."
  - Other:
    - A respondent noted that its repair ticket closing determination does not align with the categories in the NGIIF survey.
    - A respondent noted PDD resulting from call forwarding.
    - A respondent noted making test calls to the terminating location that had previously failed to verify service quality is restored.

# Specific Call Completion/Call Termination Areas Of Concern – Question 9

- Long distance providers were asked if they encountered challenges in trying to resolve rural long distance call completion/call termination issues.

- 6 responses were received - 4 answered "yes" and 2 answered "no."

# Specific Call Completion/Call Termination Areas Of Concern – Question 10

- Those long distance providers that answered "yes" to Question 9 were asked to describe the challenges.

- 6 responses were received. Detailed information is provided in the supplemental slides; highlights are below:
  - A respondent noted that there is no defined geographic identification of a "rural" area for long distance, a lack of information in tracking the call, and frustration in trouble reporting not being timely.
  - A respondent noted being unable to establish a direct connection with some rural carriers.
  - A respondent cited the CPNI rules as a challenge.
  - A respondent noted repeat failures, intermittent trouble conditions, and fewer routes to some destinations.

# Specific Call Completion/Call Termination Areas Of Concern – Question 11

- Of the trouble tickets identified in Questions 4/5, long distance providers were asked to explain how they resolved the identified call completion/call termination issues (i.e., the calling party hears ringing but the called party hears nothing, the called party's phone rings but the party hears dead air, extremely poor quality, local busy tone, fast/network busy, or other)

- 6 responses were received; detailed information is provided in the supplemental slides; highlights are below.

  - In situations when the calling party hears ringing but the called party hears nothing (or there is an unusually long call set-up time)

    - A respondent noted that it works with intermediate and underlying carriers to clear complaints.

    - A respondent provided details about its trouble reporting process, including the removal of an underlying carrier (if involved).

    - A respondent noted that it works with the RLEC and the RLEC terminating end user.

# Specific Call Completion/Call Termination Areas Of Concern – Question 12

- Long distance providers were asked if their company routes traffic to other carriers (sometimes referred to as least-cost routers, e.g. DA-12-154A1, or underlying carriers) to terminate long distance calls destined to rural areas.

- 6 responses were received.
    - A respondent answered "no."
    - 4 respondents answered "yes."
    - A respondent noted that its company utilizes a combination of direct IXC, underlying carrier and ILEC interconnections.

# Specific Call Completion/Call Termination Areas Of Concern – Question 13

- For those long distance providers that responded "yes" to Question 12, they were asked if they track and/or manage the performance of these other carriers.

- 6 responses were received – all indicated "yes."

# Specific Call Completion/Call Termination Areas Of Concern – Question 14

- Those long distance providers that responded "yes" to Question 12 were asked to describe how they track and/or manage the performance of these other carriers.

- Detailed information is provided in the supplemental slides; highlights are below:
  - A respondent noted that its company's contracted IXC providers are responsible for a positive resolution.
  - A respondent noted tracking via trouble tickets per million, SS7 or SIP release messages, and call completion rates.
  - A respondent noted that it uses automated systems, trouble tickets, customer complaints to detect call looping. It also engages in periodic discussions with underlying carriers.
  - A respondent provided specific details regarding the testing and contracting process for adding potential new underlying carriers prior to being approved.
  - A respondent noted that its contracts require monthly reporting, and that it conducts periodic testing, and removes vendors fail to comply with terms.
  - A respondent noted capturing metrics from network elements, holding regular meetings to review performance, and removing vendors not meeting expectations.

# Specific Call Completion/Call Termination Areas Of Concern – Question 15

- Long distance providers were asked if they have contractual terms and conditions for these other carriers that address performance parameters.

- 6 responses were received.
  - A respondent answered "no."
  - 5 respondent answered "yes."

# Specific Call Completion/Call Termination Areas Of Concern – Question 16

- Long distance providers that responded "yes" to Question 15 were asked to provide a generic description of the contractual terms and conditions. (If non-disclosure concerns, please generalize).

- 6 responses were received. Detailed information is provided in the supplemental slides; highlights are below:
  - A respondent noted that its company's contracted IXC providers are responsible for a positive resolution.
  - A respondent noted having testing requirements and contracts including service level agreements (SLAs). Details were provided regarding underlying carrier trouble tickets and resolution. Failure to meet performance requirements and failure to properly route/identify traffic treated as a breach of agreement.
  - A respondent noted having contractual terms that address delivery of applicable signaling information, flow down of call processing obligations to downstream carriers, notification to Originating Carrier if other carrier becomes aware of misuse of call delivery information, and routing restrictions to manage potential looping activity.
  - A respondent noted having SLAs related to call handling/tickets/routing.
  - A respondent noted having contracts that allow it to terminate at will.
  - A respondent provided an outline of its contract terms.

# Specific Call Completion/Call Termination Areas Of Concern – Question 17

- Long distance providers were asked if they have established any best practices or procedures for managing these other carriers.

- 6 responses were received– all indicated "yes."

# Specific Call Completion/Call Termination Areas Of Concern – Question 18

- Those long distance providers that responded "yes" to Question 17 were asked to e-mail to ATIS if they had any best practices, procedures, or other information to share with the industry.
- 3 responses were received. Detailed information is provided in the supplemental slides; highlights are below:
  - A respondent noted having private contractual agreements.
  - A respondent noted using trouble tickets, customer complaints, and automated systems to identify and correct call looping issues. Specific details regarding process provided in supplemental slides.
  - A respondent provided a list of bullets outlining best practices in the supplemental slides related to: limiting the number of intermediate providers; no routing back to original provider;  crank-back on failure to find a route; maintaining sufficient direct termination capacity; not terminating and re-originating calls; DMoQs; not manipulating signaling (CPN); inheritance of restrictions; intercarrier process requirements; and requiring proof of concept testing

# Specific Call Completion/Call Termination Areas Of Concern – Question 19

- Long distance providers were asked if they follow industry best practices, standards, guidelines, etc. pertaining to the routing of long distance traffic.

- 6 responses were received – all indicated "yes."

# Specific Call Completion/Call Termination Areas Of Concern – Question 20

- Long distance providers were asked if they were willing to participate in virtual workshops to address rural long distance call completion/call termination issues, and share specific details or generalized examples to assist in the determination of the root cause(s).

- 6 responses were received – all indicated "yes."

# NGIIF Action Plan

# NGIIF Issue #029, Call Termination/Call Delivery Job Aid and/or Handbook

- NGIIF Work Effort Since Last Update:
  - Significant progress has been made on the handbook, which will address issues such as:
    - Management of underlying carriers
    - Existing applicable standards and/or guidelines relevant to long distance call completion/call termination
      - Signaling
      - Transmission quality
      - Routing
      - Network congestion
    - Trouble reporting and contact directories
    - Existing regulatory environment
  - The NGIIF requested further input from rural companies, rural associations and workshop attendees on the last several workshops. To date, very little input has been received.
  - NGIIF anticipates completing work on the handbook at the July 2012 face-to-face NGIIF meeting.
  - New standards, technical reports, and/or guidelines may result as the NGIIF continues to investigate root causes.

## Issue #033, Add IXC Carrier-to-Carrier Contact Information Field to the Service Provider Contact Directory

- During the work of Issue #029, it was determined that IXC carrier-to-carrier contact information should be added to the current NGIIF contact directories. The FCC provided an initial IXC carrier-to-carrier contact list, but contacts provided were from a limited number of companies.

- The NGIIF agreed to resolve this issue by adding additional fields to the Service Provider Contact Directory (SPCD) for IXC carrier-to-carrier contacts. This contact information and other details may be used to report problems related to call completion/call termination issues between carriers. The NGIIF has updated the SPCD instructions and form to include the IXC carrier-to-carrier contact information within the SPCD. The initial plan of the NGIIF is to contact additional carriers and expand on the list provided by the FCC.

# NECA, NTCA, WTA, and OPASTCO National Call Completion Test Project

- In March, NGIIF became aware of a National Call Completion Test Project planned by NECA, NTCA, OPASTCO and WTA (the "Rural Associations") to determine the scope of their members' call completion issues.

- On March 26, NGIIF reached out to the Rural Associations offering to collaborate in the performance of this test and to seek additional information about the call procedures used.

- On March 28, the Rural Associations responded:
  - That they were not in a position to release more specific details on the call procedures or a list of test call numbers;
  - To offer to provide aggregated test data to NGIIF and engage in further discussions; and
  - While declining ATIS NGIIF's offer to participate in the call completion test, to offer to engage in further discussions about how ATIS members and others can participate in future test call initiatives.

# NECA, NTCA, WTA, and OPASTCO National Call Completion Test Project (cont.)

- Summarized test call data was recently shared with the NGIIF regarding the National Call Completion Test Project conducted by the Rural Associations.
    - The NGIIF looks forward to working with the Rural Associations involved in this and future efforts.
    - The NGIIF plans to send reply correspondence to the Rural Associations to facilitate a dialogue regarding the test project, resulting data, and next steps.
    - Several NGIIF member companies indicated that they have contacted the Rural Associations to obtain detailed data for their respective companies, including specific call details and any trouble ticket identification numbers.

# NECA, NTCA, WTA, and OPASTCO National Call Completion Test Project (cont.)

- The NGIIF has reviewed the summary data and will be seeking additional clarifying information on:
    - Test project methods and procedures
    - Differentiation between rural and non-rural test calls
    - Sampling methodology
    - Carrier selection methodology
    - The location of the voice mail platform (if any) in relationship to the call termination
    - Action taken when termination issues arose
    - Controls used
    - Differences between 2011 and 2012 test methodology

# Any questions or feedback?

# Supplemental Slides

# Specific Call Completion/Call Termination Areas Of Concern – Question 1

- Detailed responses:

- Yes, my company is primarily an intermediate provider of tandem services and, as such, the Company does not receive reports as originating carriers may. My company will provide responses based upon its role.

- As an IXC, we receive calls from our customers regarding their long distance repair issues, some such as those listed above. However, there is no defined geographic identification of a "rural" area for long distance. For reporting provider to provider issues we have a TN set up. Some of the above issues are reported to us by other carriers there. Also, we provided a single point of contact for the Rural Call Completion Task Force at the FCC, which was included in the FCC's list from their workshop. Some rural providers have reported items listed above there as well. We have received some inquiries from terminating local carriers regarding concerns over individual call flows, and we have investigated those instances and will continue to do so.

- In September of 2011, Originating Carrier created a new process by which Rural Local Exchange Carriers ("RLEC") could contact a specific toll free number to report issues of the type above experienced by the RLEC's subscribers. That process was notified to the Federal Communications Commission ("FCC") and subsequently, Originating Carrier believes, to various RLECs. It is described in detail in response to Question 6, below. Originating Carrier's responses in this survey are based on the issues submitted by RLECs to Originating Carrier utilizing that new process in January 2012 (see also responses to Questions 4 and 5). The specific issue Originating Carrier encountered was Post Dial Delay ("PDD"). Calling party, i.e., an originating carrier's subscriber experienced PDD when calling the RLEC terminating end user, i.e., the called party. Because Originating Carrier had put in place the process described in response to Question 6, the RLEC contacted Originating Carrier to assist in resolving the issue. Originating Carrier's Global Maintenance group worked with RLEC to determine the issue to be related to the RLEC's terminating end user having their number call forwarded to a new location (a call center in North Carolina). Note, when call forwarding feature is used along with inband signaling, additional delay is introduced into the call setup time. Additionally, Originating Carrier determined the issue was not a result of Originating Carrier's network, as the call did not traverse the Originating Carrier's network.Yes

- Dead air - no ring Rings twice goes to music Ring no answer No answer when caller knows the party has voice mail

# Specific Call Completion/Call Termination Areas Of Concern – Question 5 (cont'd)

- Detailed responses received via the text box under "other":
  - A respondent noted that the repair ticket tracking done in their systems does not align with the categories above. In addition, not all of their regional systems track the same categories. Thus, they can't tally for each of the shown conditions.
  - A respondent received one (1) ticket during January from an RLEC via the process described in answer to Question 6. The specific issue encountered was Post Dial Delay ("PDD"). Calling party, i.e., an originating carrier's subscriber experienced PDD when calling the RLEC terminating end user, i.e., the called party. The RLEC contacted the originating carrier to assist in resolving the issue via a carrier to carrier contact number and the carrier's Global Maintenance group worked with RLEC to determine the issue to be related to the RLEC's terminating end user having their number call forwarded to a new location. Note, when call forwarding feature is used along with inband signaling, additional delay is introduced into the call setup time. Additionally, the carrier determined the issue was not a result of its network, as the call did not traverse the carrier's network.
  - A respondent indicated that it does not have a method for culling out complaints specific to rural carriers but has requested a list of NPA/NXX from NECA and are seeking a way to make system changes so we can identify rural specific troubles.

# Specific Call Completion/Call Termination Areas Of Concern – Question 6

- Long distance providers were asked what step(s) or process(es) they used to investigate the rural long distance call completion/call termination issues that were identified.

- 6 responses were received. Details below:
  - A respondent indicated that 7 issues were not reproducible, 3 were alternatively routed to another carrier, and 1 was not found in our call records
  - A respondent indicated that, while it did not find any rural call completion trouble tickets, its personnel did troubleshoot a number of problems that were referred to it outside of the normal repair procedure. In one case, the terminating LEC had not updated routing per the LERG and, in several other cases, it turned out that the complaining customer, although one of the carrier's local service customers was not PIC'd to the carrier for long distance service.
  - A respondent answered N/A

# Specific Call Completion/Call Termination Areas Of Concern – Question 6 (cont'd)

- A respondent indicated:
  - "Standard procedure for sectionalizing what route is impacted, attempt to duplicate the reported trouble, if replicable reporting same to intermediate provider to troubleshoot and removing the impacted route from service until verification that the trouble has been cleared. Carriers do not provide what they found as an issue on their network or if it was on a subsequent network in the call flow. They contact us to restore the route. If we had TNs to place test calls to from the terminating carriers we would be better able to verify resolution."

- A respondent indicated:
  - "Again, there is no defined geographic identification of a 'rural' area for long distance. Where there is an issue with the performance of any of our customer's long distance service, and they contact us, we open a trouble report ticket, the issue is determined and documented, and troubleshooting takes place. If the issue is related to routing, the route path is reviewed and may be changed, and tested for efficacy, to allow the customer's traffic to flow. If an underlying carrier is involved in the problem, they are removed from the path, and a ticket is opened with the underlying carrier – they must address the issue to resolution, test their fix, notify us and test with us before we will re-instate them to be used for processing calls, and close our ticket with them. The original customer issue is worked, tested, confirmed with, and closed with, the customer."

# Specific Call Completion/Call Termination Areas Of Concern – Question 6

- A respondent indicated:
  - "Originating Carrier has a documented RLEC trouble reporting process providing information required to open a ticket and the trouble reporting number. See below for the process.
    - PROCESS CRITICAL: Handling RLEC callers Effective September 2011, Originating Carrier began receiving calls from RLECs on a toll free number dedicated to this process. Originating Carrier's Technical Service Technicians (TST) will hear a whisper identifying the caller as an RLEC. They will be calling in to report voice trouble and may have residential Automatic Number Identification (ANI) as an identifier. Note that these callers may or may not have a service from Originating Carrier but they are calling Originating Carrier because they believe that a specific call or call may have passed through Originating Carrier's network. Please follow process below for RLEC ticket handling.
    - Ticket Creation: NON-validated ticket 1. Create GENERAL ticket 2. Open ticket using COMPANY NAME 3. Include the following information in the ticket: o Name and reach number of the end user/customer reporting trouble. o Call example details if available. o Date and time call was placed if available. o Description of problem encountered, including any recorded message. o Is the problem placing or receiving calls? o Can the RLEC or customer replicate the problem? o If the customer was placing a call from his/her wireless device, did the call go through and was then dropped, or did it not go through at all? o Name and reach number of company (RLEC) reporting trouble o PIC or LPIC of the originating customer if available 4. Update Keywords field with: RLEC 5. Transfer ticket to the Originating Carrier Repair Center (VOICE.DOMESTIC-LD) for normal fault isolation process. A technician will provide updates and contact the RLEC for additional information or testing as required. For the ticket identified in responses to Questions 4 and 5, Originating Carrier performed call through testing with the RLEC and terminating end user, and discussed changes that occurred (i.e., the RLEC terminating end user having their number call forwarded to a new location) prior to the calling party experiencing PDD."

# Specific Call Completion/Call Termination Areas Of Concern – Question 8

- Long distance providers were asked whether they knew or could approximate the number of the determined root causes identified in Question 7 that are a result of any or all of the options below.
  - Originating customer premise equipment
  - Originating local company equipment or facility problem/practice
  - Long distance carrier or other intermediate carrier network or facility problem/practice
  - Terminating local company equipment or facility problem/practice
  - Terminating customer premise equipment
  - Feature or network use issues
  - Other (Please explain or share any additional details regarding root cause(s) that you can in the text box below or via e-mail link)
- 6 responses were received.

# Specific Call Completion/Call Termination Areas Of Concern – Question 8 (cont'd)

- The following reflects answers for each category:
  - Originating customer premise equipment
  - Originating local company equipment or facility problem/practice
  - Terminating local company equipment or facility problem/practice
  - Terminating customer premise equipment
  - Feature or network use issues
    - No respondents provided answers for the above 5 categories.
  - Long distance carrier or other intermediate carrier network or facility problem/practice:
    - A respondent answered "ALL".
  - Other:
    - A respondent answered that 1 trouble ticket is attributable to this category.

# Specific Call Completion/Call Termination Areas Of Concern – Question 8 (cont'd)

- The following responses were received via the text box:
  - A respondent answered "unknown".
  - A respondent answered "The repair ticket closing determination categories in our systems do not align with those above. In addition, not all of our regional systems track the same categories. Thus we can't tally for each of the above conditions."
  - A respondent answered "One (1) ticket with PDD issue resulting from call forwarding."
  - A respondent answered "N/A".
  - A respondent answered "Since the troubles are cleared after referral to the intermediate carrier, and we do not obtain root causes from them when they say the route is restorable, we generally have to trust them or make test calls to the terminating location called by our customer that had previously failed, to verify service quality is restored."

# Specific Call Completion/Call Termination Areas Of Concern – Question 10

- For those long distance providers that answered "yes" to Question 9, they were asked to describe any challenges faced in a text box.

- 6 responses were received.
  - 2 respondents answered "N/A".
  - A respondent answered that it was "unable to establish a direct connection with some rural carriers and had to rely on third parties and multiple transit networks".
  - A respondent provided the following answer:
  - "Again, there is no defined geographic identification of a "rural" area for long distance. In investigating long distance repair issues, there is often a lack of information to use in tracking down the call, and this is especially the case where the information comes from a third party. The key is to begin with the carrier the customer is PIC'd to. Sometimes it is not the customer's local service provider. Another issue is that the report needs to be timely. The best thing a customer can do is to open a trouble ticket right away with their long distance carrier. In addition, it is important that intermediate carriers are as open as possible in attempting to determine the root causes of quality issues and/or misrouted traffic. We have made attempts to be open with our vendors and terminating LECs in finding the root causes and suggest that this can be a way to quickly resolve issues."

# Specific Call Completion/Call Termination Areas Of Concern – Question 10 (cont'd)

- A respondent answered "Because of CPNI rules we were unable to provide the identity of the LD PIC for the calling customer to the complaining rural carrier in the instances in Question 6 above."

- A respondent answered "Repeat failures, intermittent trouble conditions, fewer routes to some of these destinations. For several months, we have identified providers that terminate with quality and we have locked those routes in place. They are not offered for bid in the reverse auction process."

# Specific Call Completion/Call Termination Areas Of Concern – Question 11

- Long distance providers were asked of the trouble tickets identified in Questions 4 and 5, please generally explain how your company resolved the following rural long distance call completion/call termination issues:
  - The calling party hears ringing but the called party hears nothing (or there is an unusually long call set-up time)
  - The called party's phone rings, but the party hears dead air when the call is answered
  - There is extremely poor quality on answerable calls
  - The calling party hears local busy tone
  - The calling party hears fast or network busy, or hears a network failure announcement
  - Other – provide detail about the type of problem being experienced
- 6 responses were received.

# Specific Call Completion/Call Termination Areas Of Concern – Question 11 (cont'd)

- The following reflects answers for each category:
  - The calling party hears ringing but the called party hears nothing (or there is an unusually long call set-up time)
    - 2 respondents answered "N/A"
    - A respondent answered "My company resolved the issues listed above by working with intermediate and underlying carriers."
    - A respondent answered "Where there is an issue with the performance of any of our customer's long distance service, and they contact us, we open a trouble report ticket, the issue is determined and documented, and troubleshooting takes place. If the issue is related to routing, the route path is reviewed and may be changed, and tested for efficacy, to allow the customer's traffic to flow. If an underlying carrier is involved in the problem, they are removed from the path, and a ticket is opened with the underlying carrier – they must address the issue to resolution, test their fix, notify us and test with us before we will re-instate them to be used for processing calls, and close our ticket with them. The original customer issue is worked, tested, confirmed with, and closed with, the customer."
    - A respondent answered "Originating Carrier worked with the RLEC and the RLEC terminating end user to determine what caused the PDD."

# Specific Call Completion/Call Termination Areas Of Concern – Question 11 (cont'd)

- The called party's phone rings, but the party hears dead air when the call is answered
    - 2 respondents answered "N/A"
    - A respondent answered "Where there is an issue with the performance of any of our customer's long distance service, and they contact us, we open a trouble report ticket, the issue is determined and documented, and troubleshooting takes place. If the issue is related to routing, the route path is reviewed and may be changed, and tested for efficacy, to allow the customer's traffic to flow. If an underlying carrier is involved in the problem, they are removed from the path, and a ticket is opened with the underlying carrier – they must address the issue to resolution, test their fix, notify us and test with us before we will re-instate them to be used for processing calls, and close our ticket with them. The original customer issue is worked, tested, confirmed with, and closed with, the customer."

# Specific Call Completion/Call Termination Areas Of Concern – Question 11 (cont'd)

- There is extremely poor quality on answerable calls
  - A respondent answered "These complaints have been cleared by our intermediate LD providers."
  - A respondent answered "Where there is an issue with the performance of any of our customer's long distance service, and they contact us, we open a trouble report ticket, the issue is determined and documented, and troubleshooting takes place. If the issue is related to routing, the route path is reviewed and may be changed, and tested for efficacy, to allow the customer's traffic to flow. If an underlying carrier is involved in the problem, they are removed from the path, and a ticket is opened with the underlying carrier – they must address the issue to resolution, test their fix, notify us and test with us before we will re-instate them to be used for processing calls, and close our ticket with them. The original customer issue is worked, tested, confirmed with, and closed with, the customer."

# Specific Call Completion/Call Termination Areas Of Concern – Question 11 (cont'd)

- The calling party hears local busy tone
  - A respondent answered "N/A"
  - A respondent answered "Not one of the experiences reported to us."
  - A respondent answered "Where there is an issue with the performance of any of our customer's long distance service, and they contact us, we open a trouble report ticket, the issue is determined and documented, and troubleshooting takes place. If the issue is related to routing, the route path is reviewed and may be changed, and tested for efficacy, to allow the customer's traffic to flow. If an underlying carrier is involved in the problem, they are removed from the path, and a ticket is opened with the underlying carrier – they must address the issue to resolution, test their fix, notify us and test with us before we will re-instate them to be used for processing calls, and close our ticket with them. The original customer issue is worked, tested, confirmed with, and closed with, the customer."

# Specific Call Completion/Call Termination Areas Of Concern – Question 11 (cont'd)

- The calling party hears fast or network busy, or hears a network failure announcement
  - A respondent answered "N/A"
  - A respondent answered "Not one of the experiences reported to us."
  - A respondent answered "Where there is an issue with the performance of any of our customer's long distance service, and they contact us, we open a trouble report ticket, the issue is determined and documented, and troubleshooting takes place. If the issue is related to routing, the route path is reviewed and may be changed, and tested for efficacy, to allow the customer's traffic to flow. If an underlying carrier is involved in the problem, they are removed from the path, and a ticket is opened with the underlying carrier – they must address the issue to resolution, test their fix, notify us and test with us before we will re-instate them to be used for processing calls, and close our ticket with them. The original customer issue is worked, tested, confirmed with, and closed with, the customer."

# Specific Call Completion/Call Termination Areas Of Concern – Question 11 (cont'd)

- Other – provide detail about the type of problem being experienced (text box)
  - 3 respondents answered "N/A"
  - A respondent answered "My company resolved the issues listed above by working with intermediate and underlying carriers."

# Specific Call Completion/Call Termination Areas Of Concern – Question 14

- For those long distance providers that responded "yes" to Question 12, they were asked to describe how they track and/or manage the performance of these other carriers:
  - A respondent answered "If one of my company's contracted IXC providers experiences call-termination failures to a rural carrier, they are responsible for a positive resolution. "
  - A respondent answered "Trouble tickets per million, SS7 or SIP release messages, and call completion rates."
  - A respondent answered "Originating Carrier uses trouble tickets and customer complaints to monitor other carriers' service and will engage in periodic discussions with carriers if the trouble ticketing process and/or customer complaints indicate multiple, unresolved issues. Originating Carrier also has automated systems in place to detect call looping, and will temporarily suspend use of other carriers pending resolution of call looping issues."

# Specific Call Completion/Call Termination Areas Of Concern – Question 14 (cont'd)

- A respondent answered "Again, there is no defined geographic identification of a "rural" area for long distance, and our tracking does not generally apply geographic distinctions to trouble tickets, such as urban or rural. An underlying carrier can be used for any route. My company uses underlying carriers to augment our capability to complete calls to all locations, along with our own network. Potential new underlying carriers are carefully reviewed and tested, along with working through our contract requirements, prior to being approved. Testing includes validating the underlying carrier trunks, ensuring test traffic flows, verifying the routing plans to avoid looping, checking for post dial delay, echo, voice quality, correct call information, fax and modem functions and routes, performance in busy hour, and more. We test from TDM and IP origination and across the underlying carrier network from our network locations. Once an underlying carrier has successfully completed the testing, our engineers update the routing system and bring them in for use in our network gradually. A determination is made for an initial first office where the underlying carrier will be used. This use is monitored for at least 2 weeks, with our engineers working with theirs if there are any concerns. Once the underlying carrier has performed appropriately in the first office routing to additional offices is done in accordance to an agreed to migration plan. Once the underlying carrier is migrated into the network, performance tracking initiates."

# Specific Call Completion/Call Termination Areas Of Concern – Question 14 (cont'd)

- A respondent answered "We do route calls to one alternative carrier for a limited set of traffic but the traffic involved is not generally destined for rural areas. We require our vendors to self report on the DMOQ's in our contract with them (see answer to Question 16) on a monthly basis. We also periodically conduct our own tests as a spot check. We have "zero tolerance" policy with respect to deviations: the offending vendor is removed from our routing until compliance can be verified."

- A respondent answered "We use their metrics and compare them to metrics we are able to capture from our network elements. We have regular meetings with the carriers and review service performance. If they are missing our expectations they are subject to be removed from the routing and removed from the reverse auction bidding process. The ultimate SLA is the total loss of revenue. Our contracts allow us to terminate at will and we let our suppliers know if they do not consistently meet our quality expectations we will not continue to use them as a supplier."

# Specific Call Completion/Call Termination Areas Of Concern – Question 16

- Long distance providers that responded "yes" to Question 15 were asked to provide a generic description of the contractual terms and conditions. (If non-disclosure concerns, please generalize).

- 6 responses were received.

# Specific Call Completion/Call Termination Areas Of Concern – Question 16 (cont'd)

- A respondent answered "If one of my company's contracted IXC providers experiences call-termination failures to a rural carrier, they are responsible for a positive resolution. "

- A respondent answered "SLAs related to call handling/tickets/routing."

- A respondent answered "Originating Carrier has contractual terms that address delivery of applicable signaling information, flow down of call processing obligations to downstream carriers, notification to Originating Carrier if other carrier becomes aware of misuse of call delivery information, and routing restrictions to manage potential looping activity. These are negotiated general terms and conditions and will vary by carrier."

- A respondent answered "Our contracts allow us to terminate at will and we let our suppliers know if they do not consistently meet our quality expectations we will not continue to use them as a supplier."

# Specific Call Completion/Call Termination Areas Of Concern – Question 16 (cont'd)

- A respondent answered "We have testing requirements (see response to number 14), and our contracts include service level agreements. My company tracks all of our underlying carrier trouble tickets per million minutes of use, trouble causes of concern, and answer seizure ratios. My company meets with all of our underlying carriers monthly, reviewing the trouble tickets we have that involved them, concerns from those, and their answer seizure ratio results. Where issues are noted, our underlying carrier is expected to address those and improve their performance. My company unequivocally requires its vendors to route traffic properly and not take actions that change signaling information or disguise the nature of the traffic being carried. My company would view both failure to meet performance requirements and failure to properly route and identify traffic as a breach of its agreements with its vendors."

# Specific Call Completion/Call Termination Areas Of Concern – Question 16 (cont'd)

- A respondent answered "Our contract terms require: •Use of no more than one additional vendor •Vendor must bind any subcontracted vendor to the terms & conditions of the primary vendor's contract with us •Vendor may not loop traffic back to us, either directly on indirectly, but if unable to complete a call must release it back to us so we can complete it •Vendor must not alter CPN or other signaling parameters •Vendor must not represent traffic as other than US-originated long distance traffic •Vendor must not attempt to avoid access charges by representing traffic as "enhanced" •Vendor must comply with all applicable laws •Vendor must indemnify us with regard to all of the above conditions •Vendor must successfully complete pre-service proof of concept testing •Vendor must monitor call completion and call quality performance and report results on a regular basis."

# Specific Call Completion/Call Termination Areas Of Concern – Question 18

- For those long distance providers that responded "yes" to Question 17, they were asked if they have any best practices, procedures, or other information that they would like to share with the industry, and to provide them via e-mail to ATIS.

- 3 responses were received.

# Specific Call Completion/Call Termination Areas Of Concern – Question 18 (cont'd)

- A respondent answered "By private contractual agreements."

- A respondent answered "As stated in answer to Question 14, Originating Carrier uses trouble tickets and customer complaints to monitor other carriers' service and will engage in periodic discussions with carriers if the trouble ticketing process and/or customer complaints indicate multiple, unresolved issues. Originating Carrier has also established automated systems to identify and correct call looping issues.
  - Originating Carrier proactively monitors its network to prevent and remediate quality issues resulting from inter-carrier looping in call routing scenarios.
  - Managers from Originating Carrier Long Distance Translations, Originating Carrier Long Distance Traffic Management (i.e., Operations), and Originating Carrier Trouble Repair Center play a key role in Originating Carrier's call routing program. The Long Distance Translations is responsible for making routing decisions. If a particular route results in call completion issues Originating Carrier would expect one of the following scenarios to occur:
    - Originating Carrier's traffic management systems may detect call looping via an automated network alarm.
    - The affected end user or RLEC may contact Originating Carrier and open a trouble ticket.

# Specific Call Completion/Call Termination Areas Of Concern – Question 18 (cont'd)

- With respect to automated call looping detection, call detail records across the Originating Carrier long distance network are evaluated in near real time to automatically detect voice calls which meet inter-carrier looping criteria. This alarming data is processed as follows:
    1. Originating Carrier remediation systems automatically remove the alternate call routing choice in some instances.
    2. In other cases, Originating Carrier's technician may receive an alarm and subsequently take action to remove the alternate call routing choice.
    - (Both of these actions are performed for all NPA NXXs associated with particular end offices.)
    3. Thereafter, calls destined to this same end office will route using trunking facilities which no longer use the alternate carrier that originally triggered the call loop.

- If a repeated quality issue is identified, Originating Carrier takes steps to ensure that the alternate carrier is removed from routing for those particular end offices until the situation is remedied to Originating Carrier's satisfaction.

- Other Remediation Steps include Originating Carrier proactively sharing its future call routing plans with some of its underlying carriers before implementing those routes in its network, to ensure the underlying carrier's networks can handle the traffic with the expected level of quality.

# Specific Call Completion/Call Termination Areas Of Concern – Question 18 (cont'd)

- A respondent answered with the following points:
  - Limit number of intermediate providers: As the number of providers handling a call grows so do call setup delay, potentially other impairments, and the opportunities for interworking issues to arise. Troubleshooting will also prove more difficult. A company has found it useful to limit call completion vendors to including no more than one additional provider (not including the terminating carrier) in the call.
  - No routing back to original provider: In some cases, least cost routing providers may actually purchase termination service from the IXC customer that is handing off the call to them in the first place. This behavior can result in looping as well as adding delay and other impairments in call setup. As the practice also frequently involves rate arbitrage it is undesirable for the contracting IXC for economic reasons as well.
  - Crank-back on failure to find a route: If a call completion vendor cannot find a route to the termination, it should release the call back to the original IXC in such a manner as to allow the IXC to terminate the call over its own facilities rather than killing the call as is the practice of some vendors.

# Specific Call Completion/Call Termination Areas Of Concern – Question 18 (cont'd)

- Maintain sufficient direct termination capacity: In conjunction with crank-back, it is important for the original IXC to maintain sufficient termination facilities that it can complete on its own traffic that a call completion vendor cannot. This is important for several reasons. First, given the incentives to maintain a lean network that LCR vendors face and their aggregation of loads from multiple IXCs, there is a greater chance that, on a moment-to-moment basis, they will not have capacity to complete a call. Second, maintaining its own termination capacity gives an IXC flexibility to quickly stop using a vendor should performance problems develop.

- Don't terminate and re-originate calls: Call completion vendors should not process calls so as to terminate and re-originate them as so doing may both affect the signaling information delivered to the called network/party and the likelihood of successful completion. Further, if termination/re-origination results in sending an answer indication back to the original IXC before the final called party answers, the caller may receive a ringing indication well before the called party is altered, leading to one of the problems reported by the rural LECs.

# Specific Call Completion/Call Termination Areas Of Concern – Question 18 (cont'd)

- DMoQs: IXCs need to establish DMoQs for their vendors to meet and require vendors to report on these metrics. IXCs also need to monitor these DMoQs directly. Some metrics that a company has found appropriate are shown as follows. Call Completion: Call Completion Rate, Call Cut-Off Rate, Post Dial Delay, and Post Answer Delay. Voice Quality: One-way voice path delay, Echo Cancellation, Mean Opinion Score, Loss, Idle Channel Noise, Signal to C-Notched Noise Ratio, Crosstalk, Clipping, and Signal to Total Distortion. FAX: Echo Cancellation, Packet Loss, Completion Rate, Error-Free Pages, and % of pages sent at top speed for completed transmissions. Voiceband Data: Support of Low Baud Rate Modems, i.e., TDD and POS, V.90 modem performance, V.34 modem performance, Echo Cancellation, Signal to C-Notched Noise Ratio, Phase Jitter, Envelop Delay Distortion, Signal to Total Distortion, Intermodulation Distortion, Frequency Shift, Phase Hits, Dropouts, and Impulse Noise.

- Don't manipulate signaling (CPN): Call Completion vendors should not manipulate signaling information, including especially Calling Party Number, so as to obscure proper jurisdiction for settlements.

# Specific Call Completion/Call Termination Areas Of Concern – Question 18 (cont'd)

- Inheritance of restrictions: Where a call completion vendor makes use of an additional vendor to reach the terminating carrier, the vendor contracting with the IXC should in turn manage their vendor to the same standards required by the original IXC.

- Intercarrier Process Requirements: Maintenance responsibilities for the service including contact points and escalation lists should be defined in advance. Expectations for repair times, status reporting intervals, and trouble ticket handling procedures should also be agreed to as part of the contacting process.

- Require proof of concept testing: Before offering live traffic to a call completion vendor an IXC should conduct proof of concept testing with the vendor to ensure compliance with call processing requirements and DMoQs.