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In order to ensure that it compiles an accurate and complete record of the call completion rates to rural locations, Comcast recommends that the Commission modify certain aspects of its proposed monitoring program. Specifically, the Commission should exclude call attempts from the call answer rate calculation that cannot be reasonably characterized as either failed calls to rural local exchanges or failed calls for which the originating service provider was responsible. These calls include, among others, call attempts that are handed back to the upstream provider, auto-dialer traffic, calls that are delivered but not answered, and calls to toll free numbers (where the toll free service provider controls call routing). Further, the Commission should make certain that the threshold it adopts for call answer rate reports is high enough to ensure a statistically valid sample. The Commission also should recognize that a call completion problem may not be caused by the originating or intermediate service provider. To that end, it should adopt parallel, though more limited reporting requirements for carriers that terminate traffic in rural areas, including tandem switch operators.

In addition to adopting reasonable reporting obligations that concern past performance, the Commission should implement measures that will assist originating and terminating service providers in proactively addressing call completion issues. In particular, the Commission should require rural incumbent local exchange carriers (“LECs”) to make available to originating and intermediate service providers test lines that will enable the latter two groups of providers, on a real time basis, to test calls transmitted to rural areas. The Commission also should adopt its proposed ring signaling integrity requirements.

## II. THE COMMISSION'S GENERAL APPROACH TO REPORTING, RECORDKEEPING, AND RETENTION APPEARS TO BE SOUND.

The Commission seeks comment on whether to require the first facilities-based provider in a call-delivery chain to report and/or retain certain information regarding call attempts, including the calling party number, called party number, date and time, any intermediate provider to which the call attempt was handed off, the operating company number (“OCN”) of any rural carrier to which the call attempt was going,<sup>2</sup> whether the call attempt was interstate, and whether the call attempt was answered.<sup>3</sup> As outlined below, Comcast does not object to these requirements. The requested information, however, is commercially sensitive and, consequently, should be treated as confidential under the Commission’s rules. In addition, because, as the Commission acknowledges, the current system of intercarrier compensation is the primary cause of the current rural call completion problems, these reporting requirements should sunset no later than the end of the transition to a bill-and-keep regime.

*Proposed Reporting Requirements.* Comcast already collects the call detail information proposed in the *Notice* for every originating Comcast interexchange call as part of the company’s internal service quality program. As the Commission recognizes, collecting and retaining this information allows Comcast to “analyze rural call

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<sup>2</sup> The Commission has indicated that it will provide a rural call answer rate report template that will include a list of the rural OCNs covered by the reporting program. *Id.* at n.46. The FCC’s timely publication of this list will contribute to the smooth implementation of the reporting process.

<sup>3</sup> *Id.* ¶¶ 20, 22.

performance relative to overall performance” and “to distinguish the performance of intermediate providers in delivering calls to rural areas.”<sup>4</sup>

Comcast uses these data to ensure that its consumers receive the quality of voice service that they expect and can demand in a competitive marketplace. Comcast collects and actively monitors performance metrics for every intermediate interexchange provider with whom it contracts and regularly meets with each carrier to review their results, both in total and for rural routes in particular. If a particular interexchange service provider’s completion performance on a route or routes falls below prescribed levels, Comcast requires the carrier to undertake immediate remedial actions on the affected route or routes. If the problem is not corrected, Comcast ceases to deliver traffic destined for the route(s) at issue to that carrier.<sup>5</sup>

Comcast, therefore, does not oppose the Commission’s proposal to require reporting for calls delivered to rural local exchanges. With respect to the mechanics of filing, originating voice service providers should be required to file reports on a quarterly basis, showing the call detail information for each month during the applicable quarter. The reports should be due thirty days after the close of the applicable quarter. Such an approach appropriately balances the burden on providers and the need to ensure that the measurement data are provided in a timely fashion and do not mask call routing failures that may be obscured by less frequent reporting.

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<sup>4</sup> *Id.* ¶ 16.

<sup>5</sup> *See, e.g.*, Letter from Mary McManus, Comcast Corporation, to Marlene H. Dortch, FCC Secretary, CC Docket No. 01-92, WC Docket No. 07-135 (Jan. 18, 2013).

*Confidentiality of Data.* The Commission asks whether the information that will be provided should be treated as confidential or open to public inspection.<sup>6</sup> The company-specific, detailed traffic data to be filed clearly are commercially sensitive and are not otherwise available to the public or Comcast’s competitive rivals.<sup>7</sup> Consequently, this information is entitled to blanket confidentiality protection under the Commission’s rules and precedent.<sup>8</sup>

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<sup>6</sup> NPRM ¶ 21.

<sup>7</sup> 5 U.S.C. § 552(b)(4); 47 C.F.R. §§ 0.457(d) and 0.459; *see also, e.g.*, 18 U.S.C. § 1905 (prohibiting disclosure “to any extent not authorized by law” of “information [that] concerns or relates to the trade secrets, processes, operations, style of work, or apparatus, or to the identity, confidential statistical data, amount or source of any income, profits, losses, or expenditures of any person, firm, partnership, corporation, or association”); *Critical Mass Energy Project v. NRC*, 975 F.2d 871, 878 (D.C. Cir. 1992) (*en banc*) (recognizing the importance of protecting information that “for whatever reason, ‘would customarily not be released to the public by the person from whom it was obtained’”) (citation omitted).

<sup>8</sup> Specifically, just as the Commission has done in other contexts in which sensitive data must be reported, the Commission should find that the rural call completion reports are presumed to be confidential. *See, e.g.*, 47 C.F.R. § 4.2 (finding that outage reports “will be presumed to be confidential”); *Review of the Emergency Alert System*, Third Report and Order, 26 FCC Rcd 1460, ¶ 1 (2011) (requiring that “test data received from EAS Participants be treated as presumptively confidential”); *The FCC’s Public Safety & Homeland Security Bureau Launches Disaster Information Reporting System (DIRS)*, Public Notice, 22 FCC Rcd 16757 (2007) (“Because the information that communications companies input to DIRS is sensitive, for national security and/or commercial reasons, DIRS filings shall be treated as presumptively confidential upon filing.”). Alternatively, the Commission should, at a minimum, permit carriers to request confidential treatment via a “check box” on the reporting form rather than having to submit a formal request for confidential treatment with every filing. *See, e.g.*, FCC Form 499-A (Telecommunications Reporting Worksheet (Reporting Calendar 2012 Revenues)), Line 605 (permitting filers to “certify that the revenue data contained [in the form] are privileged and confidential” and “request nondisclosure of the revenue information contained herein. . . .”); FCC Form 477, Instructions for Local Telephone Competition and Broadband Reporting, at 5, Item 9 (2013) (regarding filings due Mar. 1, 2013) (permitting filers to “[u]se the option buttons to indicate whether non-disclosure is requested for some or all of the information in th[e] submission”).

*Length of Reporting Requirements.* The Commission should adopt a specific date for ending any reporting requirements adopted in this proceeding. As the Commission notes, its reform of the intercarrier compensation regime ultimately will “address the root causes of many rural call completion problems.”<sup>9</sup> Specifically, the transition to a bill-and-keep methodology will eliminate any economic incentives to reduce the intercarrier compensation rate differential in the delivery of toll traffic. The Commission, thus, should sunset any reporting obligations *no later than* the end of the prescribed transition period. Indeed, it bears mention that rate-of-return carriers under the FCC’s plan will be required as of July 1, 2016 to assess a default rate of \$0.005 for terminating switched access and reciprocal compensation.<sup>10</sup> Consequently, the Commission may want to consider whether such a substantial reduction from the pre-transition rates is sufficient to blunt the incentives that appear to have contributed significantly to rural call completion problems. If so, the Commission should eliminate the reporting obligations prior to the end of the bill-and-keep transition.

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<sup>9</sup> NPRM ¶ 37.

<sup>10</sup> *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing an Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, ¶ 801 (2011).

**III. THE CALL ANSWER RATE SHOULD BE CALCULATED AND EVALUATED IN A MANNER THAT ACCURATELY REFLECTS AN ORIGINATING SERVICE PROVIDER’S RURAL CALL COMPLETION PERFORMANCE.**

The Commission generally proposes to calculate the call answer rate as the “number of call attempts that result in an answer divided by the total number of calls.”<sup>11</sup> The Commission then apparently intends to use the call answer rate as the “basic measure of call completion performance” to “aid enforcement action in connection with providers’ call-completion practices as necessary.”<sup>12</sup> As explained below, the Commission should exclude from this calculation certain classes of traffic that cannot reasonably be characterized as either failed voice calls to rural locations or calls for which the originating service provider was responsible. In addition, the Commission should consider establishing a minimum monthly reporting threshold higher than 100 call attempts per rural LEC because the traffic volume under that level may not be high enough to ensure a statistically valid sample.

**A. Categories of Call Attempts Included in the Call Answer Rate**

If the Commission decides to calculate a call answer rate based on the Answer Seizure Ratio (“ASR”), it should exclude from that calculation several categories of call attempts that would distort the results. As an initial matter, the Commission should adopt its proposal to exclude call attempts that are handed back to the upstream provider from the data collection and reporting requirements. The Commission correctly recognizes

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<sup>11</sup> *NPRM* ¶ 27.

<sup>12</sup> *Id.* ¶¶ 3, 27.

that excluding these call attempts will help to “avoid double-counting such multiple attempts for the same call.”<sup>13</sup>

The Commission also should exclude auto-dialer traffic. As the Commission notes, the retail business customers that typically initiate auto-dialer traffic “have call completion expectations and capacity requirements that are different from those of residential and business callers.”<sup>14</sup> Indeed, many auto-dialers are programmed in a manner that may result in a high number of failed call attempts for reasons other than interexchange carrier performance (*e.g.*, auto-dialers programmed to hang up before a call attempt can be answered).

The Commission likewise should exclude calls to toll free numbers,<sup>15</sup> because the originating service provider has no control over how such calls are routed to the terminating end user. As a practical matter, the originating service provider of a toll free call simply has no way to implement remedial measures if problems are detected. Consequently, the delivery rate for such calls to rural locations should not be considered in evaluating the originating service provider’s performance.

Finally, the Commission should exclude “User” cause values such as “unallocated number,” “user busy,” “no user responding” (*i.e.*, ring no answer), and “number changed.”<sup>16</sup> The Commission’s aim is to address “failed or degraded calls [that]

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<sup>13</sup> *Id.* ¶ 28.

<sup>14</sup> *Id.* ¶ 26.

<sup>15</sup> *Id.* ¶ 30.

<sup>16</sup> *Id.* ¶ 29. As the Commission notes, a terminating provider signals a “cause value” after each call, successful or unsuccessful. Cause values are classified into three general categories indicating the nature or origin of the event: (1) Call Completed; (2) User; and (3) Network.

undermine the integrity of the nation’s telephone networks. . . .”<sup>17</sup> Calls that are properly routed to the called locations, but then, for example, simply are not answered by the end user clearly are not relevant to an assessment of the efficiency of the public switched network in completing calls and, consequently, should not be considered in an assessment of an originating service provider’s call completion performance.

Rather than devising ways to exclude these various categories of call attempts from an ASR-based call answer rate calculation, the Commission should consider using a different metric to evaluate an originating service provider’s performance. Specifically, the Commission may wish to use the Network Effectiveness Ratio (“NER”) to provide the desired empirical assessment.<sup>18</sup> While similar to ASR, the International Telecommunication Union notes that the “NER is designed to express the ability of networks to deliver calls to the far-end terminal” and “excludes the effects of customer behaviour and terminal behaviour.”<sup>19</sup> As a result, NER may be a more useful call

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<sup>17</sup> *FCC Launches Rural Call Completion Task Force to Address Call Routing and Termination Problems in Rural America*, News Release (rel. Sept. 26, 2011), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-309841A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-309841A1.pdf).

<sup>18</sup> International Telecommunication Union, *ITU-T Recommendation E.425 Internal Automatic Observations*, at 1.5 (2002), <http://www.itu.int/rec/T-REC-E.425-200203-I/en>. That ratio is calculated as follows:

$$\frac{\textit{Seizures Resulting in Answer Message or User Failure}}{\textit{Total Seizures}}$$

<sup>19</sup> *Id.* The NER may prove simpler to implement for both service providers and the Commission, as there would be no need to define, track, and exclude certain categories of call attempts before calculating a call answer rate. Because an NER calculation measures a network’s performance in completing calls and ignores end user behavior, certain types of calls that should be excluded from a call answer rate calculation based on the ASR, such as user busy and ring no answer, would be included in an NER-based calculation because they involve instances where a network has successfully delivered calls to their intended locations.

completion metric, since it measures the percentage of call failures that can be ascribed to *network* problems.<sup>20</sup>

### **B. Call Threshold for Calculating and Reporting the Call Answer Rate**

The Commission proposes that originating providers measure the call answer rate for each rural OCN to which 100 or more calls were attempted during a calendar month.<sup>21</sup> Although Comcast has the capability to provide the requested reports for any OCN to which it delivered 100 long distance calls in a month, that sample size may be so small that it will not provide a reliable benchmark for identifying rural areas that are experiencing more significant call completion problems than those that non-rural areas experience.

The Commission correctly has noted in the past that findings may not be statistically significant because of a small sample size<sup>22</sup> and that “small sample sizes may limit the usefulness of these data in analyzing differences . . . and differences over

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<sup>20</sup> The inability of the ASR approach to distinguish between calls not completed to a terminating location and calls that are completed, but simply not answered, may not be problematic as long as one compares completion rates between areas with similar calling patterns. Such comparisons may become more questionable if the areas have different calling patterns, because then the ratio of, for example, calls completed but not answered, to total failed call attempts may differ among the areas (*e.g.*, rural versus urban).

<sup>21</sup> *NPRM* ¶ 20.

<sup>22</sup> *Deployment of Advanced Telecommunications Capability to All Americans*, Eighth Broadband Progress Report, 27 FCC Rcd 10342, ¶ 72 (2012); FCC Wireless Telecommunications Bureau, *Final Programmatic Environmental Assessment of the Antenna Structure Registration Program*, WT Docket Nos. 08-61 and 03-187, at 5-17 (rel. Mar. 13, 2012), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-312921A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-312921A1.pdf) (“[T]he sample sizes . . . were very small, which casts into question the reliability of these findings.”); FCC Wireline Competition Bureau, *Telephone Penetration by Income by State*, at 3 (rel. Aug. 6, 2009), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-292593A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-292593A1.pdf) (“the small sample sizes caused by a larger number of categories would result in unreliably large sampling variability”).

time.”<sup>23</sup> With smaller sample sizes, there is more likely to be a concern regarding whether the characteristics of the sample reasonably represent the population or whether the call answer rate reported substantially overstates or understates the magnitude of a rural call completion issue. The Commission should carefully consider whether a benchmark of 100 calls appropriately minimizes these concerns while ensuring that reports are filed on call completion rates to all OCNs that receive a meaningful volume of toll traffic from an originating provider.

#### **IV. REPORTING OBLIGATIONS SHOULD APPLY TO BOTH ORIGINATING AND TERMINATING SERVICE PROVIDERS.**

The reporting requirements proposed in the *Notice* would apply solely to originating and, in some cases, intermediate voice service providers. In certain circumstances, however, those providers may be unable to deliver a long distance call to a rural point because of a problem affecting the terminating service provider’s network.<sup>24</sup> One industry publication correctly recognizes that “[i]t is understood that ‘call failures’ may occur at any point in the path a call takes, from the point of origination to the point of termination.”<sup>25</sup>

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<sup>23</sup> FCC Common Carrier Bureau, *Long Distance Market Shares, Fourth Quarter 1998*, at 22 (rel. Mar. 31, 1999), [http://transition.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCC-State\\_Link/IAD/mksh4q98.pdf](http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/mksh4q98.pdf).

<sup>24</sup> Letter from Sharon Gillett, Chief, Wireline Competition Bureau, FCC, and James Arden Barnett, Jr., Chief, Public Safety and Homeland Security Bureau, FCC, to Thomas Goode, General Counsel, Alliance for Telecommunications Industry Solutions, 26 FCC Rcd 16454 (2011) (noting that “*some . . . call completion concerns . . . are under the control of originating carriers and intermediate providers within the call path*”) (emphasis supplied).

<sup>25</sup> Alliance for Telecommunications Industry Solutions, *Intercarrier Call Completion/Call Termination Handbook*, at 4.3.5 (2012), available at: <http://www.atis.org/docstore/product.aspx?id=26780> (“ATIS Handbook”).

In order to develop a comprehensive record, therefore, the Commission should require terminating service providers in rural areas to file quarterly reports that document the number of long distance calls delivered to the reporting provider on a monthly basis and the number of calls completed to the called locations on their networks. In addition, terminating carriers should provide quarterly reports that show the monthly availability of local loops, end office switches, and, if applicable, tandem trunk groups.<sup>26</sup> Third-party tandem switching service providers that deliver traffic to rural exchanges similarly should be required to furnish quarterly reports on both the number of calls that they received each month destined for rural exchanges and the number of calls handed off to the terminating local exchange access provider as well as their tandem trunk group availability. Filing such reports should impose little, if any, burden on a provider that actively monitors its network. The information provided, however, would help to identify rural exchanges that have experienced network service problems that may have prevented the termination of interexchange calls.

Moreover, acquiring data from both the originating and terminating provider will further two of the Commission's stated goals in this proceeding – enacting measures that “improve the Commission's ability to monitor the delivery of long-distance calls to rural

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<sup>26</sup> Network availability could be reported and assessed using simple formulae such as the following:

$$\text{Local Loop Availability} = \frac{\text{Sum of all hours available per customer loop}}{\text{Number of customer loops} \times \text{Number of hours per month}}$$

$$\text{Switch Availability} = \frac{\text{Sum of all hours available per switch}}{\text{Number of switches} \times \text{Number of hours per month}}$$

$$\text{Tandem Trunk Group Availability} = \frac{\text{Sum of all hours available per LD TG DSO}}{\text{Number of LD TG DSOs} \times \text{Number of hours per month}}$$

Availability would be calculated only for local loops, switches, and tandem trunk groups that are in service.

areas” and gathering data that would prove useful in any needed enforcement action.<sup>27</sup>

Only by assessing the network on an end-to-end basis and obtaining accurate and complete data can the Commission identify the source of a rural call completion problem in a specific situation and take appropriate action.

**V. THE COMMISSION SHOULD REQUIRE ALL RURAL CARRIERS TO INSTALL A TEST LINE IN EACH OF THEIR END OFFICES.**

The majority of the measures proposed by the Commission in the *Notice* are backward-looking performance metrics. While these measures may be useful in identifying rural call completion problems after they have occurred, the Commission also should consider implementing proactive measures that will help carriers to identify, test, and address call completion problems on a real-time basis. Most notably, all rural carriers should be required to install, at a minimum, a Milliwatt test line in each of their end offices so that originating and intermediate service providers on an ongoing basis can test the reliability of their voice service to those rural areas. The availability of this testing capability would enhance an originating service provider’s ability to monitor the service quality on the routes over which its interexchange traffic is transmitted and address technical issues on a timely basis.

The use of test lines is hardly novel. Traditional test lines, including Milliwatt lines, have been in place for many years.<sup>28</sup> Test lines allow originating service providers on their own initiative to check on their ability to complete calls to a distant exchange

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<sup>27</sup> *NPRM* ¶ 3.

<sup>28</sup> See generally, e.g., Alliance for Telecommunications Industry Solutions, *NGIIF Reference Document Part V – Test Line Guidelines* (providing telecommunications carriers with guidelines for test lines and assignment of test line numbers).

without involving their customers. Such lines also facilitate the resolution of a service quality problem after notice by the called party.<sup>29</sup>

Indeed, the Alliance for Telecommunications Industry Solutions (“ATIS”) already has recommended that service providers publish test numbers as a best practice “so that originating carriers can make test calls to test call quality proactively and to test when any customer or carrier refers a call quality issue to the originating provider.”<sup>30</sup> As ATIS correctly notes, “Without such capability, the originating provider can only test its portion of the network and must rely upon the third party IXC to test its portion of the network that may be involved in the call flow.”<sup>31</sup> Although ATIS is continuing to work on the adoption of an industry standard that focuses primarily on the mechanics of using test lines, there is no reason for the Commission to delay requiring rural carriers to install such lines. A requirement to have test lines in place will spur the industry to reach agreement expeditiously regarding how best to use the lines to detect and address rural call completion issues.

## **VI. THE COMMISSION SHOULD ADOPT THE PROPOSED RING SIGNALING INTEGRITY REQUIREMENTS.**

The Commission should adopt its proposal to “prohibit both originating providers and intermediate providers from causing audible ringing to be sent to the caller before the

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<sup>29</sup> ATIS Handbook at 6.2 (discussing the use of test lines for call completion trouble resolution in cases where the problem has been reported by the called party).

<sup>30</sup> *Id.* at 6.1.2.5.

<sup>31</sup> *Id.* (“Circuit networks comprising carrier services may experience trouble conditions that cannot be isolated by each carrier testing and maintaining its own services.”)

terminating provider has signaled that the called party is being alerted.”<sup>32</sup> As the Commission observed, this practice leads to a greater call failure rate because it prevents calls that are not completed from being handed back to the preceding provider so that they can be transmitted over an alternative route.<sup>33</sup> Moreover, the consumer placing such a call does not realize that the interexchange carrier is taking much longer than normal to complete the call.

Transmitting an audible ringing before a call has been delivered to the terminating location is flatly inconsistent with numerous industry signaling standards and definitions. Those publications unambiguously establish that an audible ringing indication should be provided to the caller only after the terminating provider signals that the called line is free and the called party is being alerted. As ATIS notes in its *Inter-carrier Call Completion/Call Termination Handbook*, “When ring back is presented to the caller, in the absence of receipt of the proper SS7 or SIP message, the caller may infer that the phone they are calling is ringing when in fact it is not.”<sup>34</sup>

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<sup>32</sup> *NPRM* ¶ 41.

<sup>33</sup> *Id.* ¶ 39.

<sup>34</sup> ATIS Handbook at 4.1.5.1. *See also* Alliance for Telecommunications Industry Solutions, *ATIS Telecom Glossary*, <http://www.atis.org/glossary/definition.aspx?id=2065> (last visited May 13, 2013) (defining “ringback signal” as “a signal . . . provided to a caller to indicate that the called-party instrument is receiving a ringing signal”); Internet Engineering Task Force, *RFC 3960 Early Media and Ringing Tone Generation in the Session Initiation Protocol Initiation (SIP)*, at 3.2 (2004), <https://tools.ietf.org/html/rfc3960#section-3.2>.

## VII. CONCLUSION

For the foregoing reasons, if the Commission is moving to impose reporting requirements, it should adopt appropriately designed reporting requirements for originating service providers, calculate a service provider's call answer rate in a way that accurately reflects its call completion performance in rural areas, and require rural local exchange providers and tandem switching providers serving rural areas to meet limited reporting obligations. The Commission also should implement measures designed to reduce rural call completion difficulties by, for example, requiring the provision of test lines in rural exchanges and prohibiting false audible ringing.

Respectfully submitted,

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