

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of

The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers

PS Docket No. 11-82

**REPLY COMMENTS OF VONAGE HOLDINGS CORPORATION**

Vonage Holdings Corp. ("Vonage") submits these reply comments to reiterate its position regarding the Commission's proposed outage reporting requirement for interconnected VoIP.<sup>1</sup> Vonage, like many commenters in this proceeding, believes that the Commission's proposal is not supported by the record or by the recent Executive Order, "Regulation and Independent Regulatory Agencies."<sup>2</sup> Rather than propose a true outage reporting requirement, moreover, the Commission has proposed to implement quality of service ("QoS") reporting. Those QoS metrics are not justified – they will not accurately capture outages, and the Commission lacks the authority to mandate QoS reporting. Even if such metrics could capture true service outages in some circumstances, they are unworkable for most providers today, and will only become more unworkable in the future. If the Commission extends outage reporting to interconnected VoIP providers, it must do so only for true outages – loss of call capability – on a provider's own

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<sup>1</sup> *The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, Notice of Proposed Rulemaking, 26 FCC Rcd. 7166 (2011) ("NPRM").

<sup>2</sup> Exec. Order No. 13,579, 76 Fed. Reg. 41587 (July 11, 2011).

network facilities. And any outage reports it collects must be held confidential, as are outage reports today under Part 4.

**I. THE RECORD DOES NOT SUPPORT EXTENSION OF OUTAGE REPORTING REQUIREMENTS TO OVER-THE-TOP INTERCONNECTED VOIP PROVIDERS.**

The record in this proceeding shows that there is no basis for extending outage reporting requirements to over-the-top interconnected VoIP providers. Numerous commenters point out that the proposed rules fail to recognize the significant differences between traditional networks and IP networks, including the core technological differences as well as the different market forces that operate on these providers. In addition, the Commission’s proposal is inconsistent with the recent Executive Order, “Regulation and Independent Regulatory Agencies.”<sup>3</sup>

**A. Interconnected VoIP Carried Over the Public Internet Operates Very Differently Than Legacy Communications Services.**

The proposed requirements fail to recognize the fundamental differences between traditional, circuit-switched legacy networks and IP-based networks. As a result, the proposed outage reporting requirements would not only be unnecessary but would also be exceedingly burdensome.

Traditional notions of what constitutes an “outage” in the legacy circuit-switched environment cannot be applied to “packetized” over-the-top interconnected VoIP.<sup>4</sup> As several commenters noted in in this proceeding, interconnected VoIP service is “packetized.”<sup>5</sup> Communications are chopped into “packets” that are then routed over the fastest available routes

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<sup>3</sup> *Id.*

<sup>4</sup> *See, e.g.*, Comments of Sprint Nextel Corporation at 2, PS Docket No. 11-82 (filed Aug. 8, 2011) (“Sprint Nextel Comments”).

<sup>5</sup> *See, e.g.*, Comments of CenturyLink at 5, PS Docket No. 11-82 (filed Aug. 8, 2011) (“CenturyLink Comments”); Comments of CTIA – The Wireless Association at 3-4, PS Docket No. 11-82 (filed Aug. 8, 2011) (“CTIA Comments”).

to the destination.<sup>6</sup> This is in contrast to legacy circuit-switched networks that dedicate circuits between parties.<sup>7</sup> Disruptions along any of the various network paths a packet travels will not necessarily interrupt the communication because most packets are still successfully delivered.<sup>8</sup> Vonage harnesses this flexibility and innate redundancy to provide reliability not available over dedicated networks. It has also designed its systems to tolerate the latency, jitter, and packet loss that are intrinsic to packet-switched networks, including the public Internet.

When a service disruption does occur in one part of an IP-based network, an affected service provider may not be aware of it, or have any visibility into its severity or cause.<sup>9</sup> It would, therefore, be exceedingly difficult, if not impossible, for providers like Vonage to comply with the proposed outage reporting requirements, particularly where they require reporting of outages on underlying networks, in such situations. Though Vonage knows at all times the status of its own network elements, it does not – and indeed, cannot – monitor the underlying broadband networks over which its service travels, any more than it can monitor the status of the PSTN networks it connects to.

As Vonage pointed out in its comments in this proceeding, over-the-top interconnected VoIP providers – and, indeed, IP-based communications providers of all kinds – already face market-based incentives to provide reliable communications in the most challenging conditions.<sup>10</sup> Interconnected VoIP is a competitive service and providers that do not provide reliable, quality service, lose customers easily. This very different market structure means that

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<sup>6</sup> See, e.g., CenturyLink Comments at 5; CTIA Comments at 3-4.

<sup>7</sup> See, e.g., CenturyLink Comments at 5; CTIA Comments at 3-4.

<sup>8</sup> CTIA Comments at 4.

<sup>9</sup> *Id.* at 4-5.

<sup>10</sup> Comments of Vonage Holdings Corp. at 4, PS Docket No. 11-82 (filed Aug. 8, 2011) (“Vonage Comments”).

mandatory outage reporting requirements that were necessary in the legacy circuit-switched environment are not necessary for interconnected VoIP.

Imposing mandatory outage reporting requirements on providers like Vonage ignores the fundamental technological and market differences between legacy circuit-switched networks and IP networks. It also overlooks how those differences enable over-the-top interconnected VoIP providers to maintain a high quality, reliable service. The record is clear that mandatory outage reporting for those providers would not affect IP network reliability and may, in fact, have a detrimental effect on providers, as they divert resources away from improving their service to attempting to collect unnecessary outage data.<sup>11</sup>

**B. Mandatory Outage Reporting Is Inconsistent With Executive Order No. 13,579.**

Executive Order No. 13,579, “Regulation and Independent Regulatory Agencies,” requires independent regulatory agencies to undertake a consideration of costs and benefits before imposing any new regulation.<sup>12</sup> Numerous commenters have pointed out that the proposed outage reporting requirements fail to meet this standard.<sup>13</sup> The Executive Order requires that the Commission first determine if its proposed rules meet a basic cost-benefit

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<sup>11</sup> See, e.g., Sprint Nextel Comments at 5-6, 8.

<sup>12</sup> Exec. Order No. 13,579, 76 Fed. Reg. 41587 § 1(a); see also Comments of the Alliance for Telecommunications Industry Solutions at 8, PS Docket No. 11-82 (filed Aug. 8, 2011) (“ATIS Comments”); Comments of MetroPCS Communications, Inc. at 2, PS Docket No. 11-82 (“MetroPCS Comments”); Comments of T-Mobile USA, Inc. at 2, 6-7, PS Docket No. 11-82 (filed Aug. 8, 2011) (“T-Mobile Comments”).

<sup>13</sup> See MetroPCS Comments at 3 (“In effect, at a time when the Commission, in compliance with the Executive Orders, should be reviewing the existing outage reporting rules to determine whether the benefits outweigh the significant burdens, the NPRM proposes to do just the opposite by extending the rules to whole new categories of service without a clear determination that the benefits to be gained from requiring the outage reports outweighs the substantial burden.”); see also ATIS Comments at 8; CTIA Comments at 5.

analysis *before* imposing outage reporting on interconnected VoIP providers.<sup>14</sup> As T-Mobile notes, that includes recognizing that “the existing Part 4 reporting requirements are much more burdensome than the Commission originally intended.”<sup>15</sup> Vonage agrees.

The proposed rules would create an environment in which many providers, Vonage included, are in a near-constant “outage” state.<sup>16</sup> Providers would have to allocate precious resources to collecting this “outage” data; the Commission would be inundated by reports of “outage” conditions that do not represent actual outages. And, as discussed above, these burdens are unlikely to be offset by any competing benefit, as there is no evidence that outage reporting will improve network reliability.<sup>17</sup> In the absence of a showing that the costs do not outweigh the benefits, the Commission should refrain from imposing its Part 4 rules on over-the-top interconnected VoIP providers.

## **II. THE COMMISSION’S PROPOSED METRICS CANNOT BE JUSTIFIED.**

Imposing reporting requirements pegged to quality of service (“QoS”) measures would not accurately capture outages in IP-based networks and would exceed the Commission’s authority. Furthermore, even if the Commission had the authority to impose QoS reporting, the metrics it proposes will not work in today’s environment and are even less likely to work in the future.

### **A. The Commission Does Not Have the Legal Authority To Adopt QoS Metrics.**

As Vonage explained in its comments in this proceeding, and as other commenters, including CenturyLink and CTIA, detail, the proposed QoS metrics in the *NPRM* will not

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<sup>14</sup> See, e.g., Comments of the National Cable & Telecommunications Association at 4, PS Docket No. 11-82 (filed Aug. 8, 2011).

<sup>15</sup> T-Mobile Comments at 7.

<sup>16</sup> See, e.g., CTIA Comments at 10.

<sup>17</sup> See, e.g., T-Mobile Comments at 6-10.

measure outages.<sup>18</sup> While recognizing that an outage should include the complete loss of ability to complete calls, the Commission also proposes collecting information on “loss of generally-useful availability or connectivity.”<sup>19</sup> Such reporting, however, is vastly different from that required of wireline and wireless communications providers. Further, the measures the Commission proposes – packet loss, latency, and jitter – do not relate to actual outages, but are instead measures of call quality.<sup>20</sup> Collection of such QoS information simply will not indicate when a VoIP customer loses the ability to make an emergency call. For this reason alone, the proposed metrics cannot be adopted under the guise of adopting “outage reporting” rules.

Similarly, to the extent that the FCC relies on record support for outage reporting, that record cannot be used to justify the adoption of reporting requirements that would capture non-outage and even non-degradation conditions.<sup>21</sup> The Part 4 rules were intended to “address communication system vulnerabilities and help prevent future outages.”<sup>22</sup> And the *NPRM* only cites reporting of true outages – the inability to make or receive a call – as support for its proposal to extend those requirements to interconnected VoIP.<sup>23</sup> But in its proposal, which relies on QoS metrics, the Commission has pointed to no record evidence that reporting on call *quality* metrics will help prevent future call *outages*.

Finally, as detailed by AT&T and CTIA,<sup>24</sup> the Commission has failed to establish that it has legal authority under the Communications Act to impose QoS reporting requirements on interconnected VoIP providers. The Commission states that its authority arises from Section

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<sup>18</sup> See Vonage Comments at 7-9; CenturyLink Comments at 6; CTIA Comments at 8-9.

<sup>19</sup> *NPRM* at ¶ 27.

<sup>20</sup> See, e.g., CTIA Comments at 8-9.

<sup>21</sup> See Vonage Comments at 9.

<sup>22</sup> *NPRM* at ¶ 15.

<sup>23</sup> *Id.* ¶ 11.

<sup>24</sup> See CTIA Comments at 12-16; Comments of AT&T Inc. at 1-9, PS Docket No. 11-82 (filed Aug. 8, 2011) (“AT&T Comments”).

615a-1 of the Communications Act,<sup>25</sup> but as noted by AT&T, “Congress did not intend to expose VoIP Providers to every manner of federal regulation that could with a little regulatory creativity be associated with 911 Service.”<sup>26</sup>

**B. The Proposed QoS Metrics Do Not Recognize the Current State of VoIP Technology or Accommodate Future Technological Developments.**

Today, IP-based services vary widely in their ability to tolerate packet loss, latency, and jitter. Thus any metric that is low enough to capture all true outages will invariably require those providers that have built systems with a greater tolerance for such disruptions to vastly overreport. The result will be an influx of unnecessary and irrelevant information to the Commission and an increasing burden on those providers that have most successfully minimized their networks’ likelihood of suffering a true outage.

The likelihood of overreporting is likely to only grow worse as service and applications riding on IP networks improve their tolerance of packet loss, latency, and jitter. As a consequence, the Commission’s proposed metrics (and the reports they trigger) will become even less meaningful and an even greater burden on providers and the Commission alike.

As Vonage and numerous other commenters have argued,<sup>27</sup> the only measure that will result in accurate outage reporting now *and* in the future is one that requires providers to report only on actual loss of calling capability on their own networks. Even commenters supporting extension of the outage reporting rules to interconnected VoIP are more interested in simple

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<sup>25</sup> 47 U.S.C. § 615a-1(a) (“It shall be the duty of each IP-enabled voice service provider to provide 9-1-1 service and enhanced 9-1-1 service to its subscribers in accordance with the requirements of the Federal Communications Commission...”).

<sup>26</sup> AT&T Comments at 4.

<sup>27</sup> See, e.g., T-Mobile Comments at 10-12; CenturyLink Comments at 7; Comments of Time Warner Cable, Inc. at 4-6, PS Docket No. 11-82 (filed Aug. 8, 2011).

“on/off” information and in information on “significant outage[s] on the public.”<sup>28</sup> Similarly, EU Commissioner Uffe Holst Jensen noted at the Commission’s Outage Reporting Workshop on September 8, 2011, that the EU focuses on “loss of integrity” or “significant impact on the operation of networks or services.” At the same workshop, Masaru Fujino, Ministry of Foreign Affairs of Japan, likewise noted that Japan has very high thresholds for immediate reporting requirements.

In contrast, the Commission’s proposed metrics would require reporting where there are insignificant impacts and no loss of communications integrity, as well as when those conditions occur on network elements not within the control of a given provider. As noted above in these reply comments, and in numerous comments in the record, such reporting would not only be extremely burdensome, but also is not guaranteed to capture the true outages the Commission cites in support of its proposed metrics. Vonage encourages the Commission, therefore, to focus not on proxies for outages, like the proposed QoS metric, but instead to require reporting only of actual loss of calling capability on a provider’s own network.

### **III. ANY OUTAGE REPORTS REQUIRED SHOULD BE CONFIDENTIAL.**

Vonage agrees with the overwhelming majority of commenters that outage reports should be confidential.<sup>29</sup> The Commission has previously concluded that national defense and public

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<sup>28</sup> See Comments of the New York State Public Service Commission at 6, PS Docket No. 11-82 (filed Aug. 8, 2011). Representatives of the NYSPSC reiterated their interest in true outage information at the Commission’s Outage Reporting Workshop on September 8, 2011.

<sup>29</sup> See, e.g., T-Mobile Comments at 12; ATIS Comments at 19; CenturyLink Comments at 22; Comments of the Telecommunications Industry Association at 11, PS Docket No. 11-82, (filed Aug. 8, 2011).

safety rationales support confidential treatment,<sup>30</sup> and nothing has changed that should alter that conclusion.

#### IV. CONCLUSION

The Commission should refrain from imposing its proposed mandatory outage reporting on over-the-top interconnected VoIP providers. Interconnected VoIP and other IP-based services operate very differently from legacy circuit-switched networks, and the Commission has not addressed those critical differences in its proposal. Nor has the Commission addressed the serious burden its proposal would impose on such service providers. The Commission's use of QoS measures as a proxy for outages is equally problematic, both as to the Commission's authority to and as to the actual utility of using such metrics. Though Vonage does not believe mandatory outage reporting is necessary, if the Commission must impose a reporting requirement, it should require reporting only of true service outages, and it should ensure that all outage reports remain confidential.

Respectfully submitted,



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<sup>30</sup> See *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd. 16830, 16834 (2004); T-Mobile Comments at 12.