

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

<i>In the Matter of</i>	)	
	)	
Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications	)	PS Docket No. 15-80
	)	
New Part 4 of the Commission's Rules Concerning Disruptions to Communications	)	ET Docket No. 04-35
	)	
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
	)	

**COMMENTS OF VONAGE HOLDINGS CORPORATION**

Brendan Kasper  
Senior Regulatory Counsel  
VONAGE HOLDINGS CORP.  
23 Main Street  
Holmdel, NJ 07733  
(732) 444-2216

Brita D. Strandberg  
Yuxi Tian\*  
HARRIS, WILTSHIRE & GRANNIS LLP  
1919 M Street, NW, 8<sup>th</sup> Floor  
Washington, DC 20036  
(202) 730-1300

*Counsel to Vonage Holdings Corp.*

\*Admitted only in New York; Supervision under  
Jonathan Mirsky, a member of the D.C. Bar

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## I. INTRODUCTION

Vonage Holdings Corp. (“Vonage”) provides interconnected VoIP services in the highly competitive consumer and business communications markets. To succeed in attracting and maintaining customers, Vonage must offer reliable, high quality service. Vonage is cognizant of the many choices its customers have for IP-based calling services and knows that its customers can and do switch providers when Vonage does not deliver dependable service. Thus, Vonage competes, in part, by designing its service to function well on the public, best-efforts Internet, tolerate difficult network conditions, and work smoothly on facilities that Vonage itself does not control.

Service quality is critical to Vonage’s business, so Vonage supports the Federal Communications Commission (“FCC” or “Commission”) in its efforts to monitor communications networks and understand outages.<sup>1</sup> However, the Commission’s recently proposed changes to outage reporting requirements for interconnected VoIP providers in its Further Notice of Proposed Rulemaking (“Further Notice”) would not further the Commission’s goals of “ensur[ing] reliable, resilient, and secure interconnected VoIP service for America’s consumers and businesses.”<sup>2</sup> The Commission’s proposals do not reflect the technological realities of providing interconnected VoIP service and would not yield useful information in minimizing outages and improving service quality. Instead, the FCC’s suggested rules would impose heavy costs on Vonage and other providers and discourage innovation at the edge of the network.

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<sup>1</sup> See *Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, et al.*, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, 31 FCC Rcd. 5817 (2016) (“FNRPM”).

<sup>2</sup> FNRPM, 31 FCC Rcd. at 5881 ¶ 160.

The Further Notice’s proposed changes would lead to inaccurate and overinclusive outage reporting, particularly if the Commission adopts performance metrics as a measure of an “outage.”<sup>3</sup> As was the case in 2011, when the FCC first suggested the idea of using service quality metrics to determine outages for VoIP services, this approach remains unworkable due to the variability between different types of VoIP services—such as over-the-top versus fixed—and different VoIP codecs used to provide service.<sup>4</sup>

The Further Notice would also require over-the-top VoIP providers to continue to report on facilities that they do not own or control and even suggests going further by requiring VoIP providers to “take steps contractually or otherwise” to address their lack of visibility into the those facilities.<sup>5</sup> Requiring such reporting has little practical value since over-the-top VoIP providers have no ability to take corrective action to address problems on the underlying broadband network. Further, reporting on outages caused by issues on the broadband networks has proven to be fraught with practical difficulties, including extensive time needed to gather the data. In addition, these requirements harm competition by creating a barrier to entry in the VoIP market, as only larger providers with more resources to dedicate to such burdensome outage reporting would be able to operate in the market. While this reporting arguably had some value when there was no outage reporting by broadband providers, the Commission has now proposed having broadband providers report on their own network outages.<sup>6</sup> Instead of continuing down

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<sup>3</sup> FNPRM, 31 FCC Rcd. at 5884 ¶ 166.

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

<sup>5</sup> FNPRM, 31 FCC Rcd. at 5882 ¶ 163.

<sup>6</sup> FNPRM, 31 FCC Rcd. at 5863 ¶ 107 (“[W]e reaffirm our belief that mandatory reporting requirements would have a positive effect on the reliability and resiliency of broadband networks.”).

the flawed path of having over-the-top VoIP providers report on outages caused by broadband networks, the Commission should take this opportunity to focus VoIP outage reporting obligations on only outages caused by facilities owned or controlled by the VoIP provider.

## **II. PERFORMANCE METRICS DO NOT YIELD USEFUL OUTAGE DATA.**

Using “performance metrics”—such as latency, throughput, and packet loss—as a measure for reporting outages will not produce data that would be helpful to the Commission’s goal of ensuring reliable voice communications. Those metrics cannot be standardized across different providers due to technological variations in each provider’s network and services; thus, the FCC cannot set any kind of meaningful “threshold” for an outage that would be applicable to every provider. Instead, the FCC should use platform availability as the focus of any outage reporting requirements.

### **A. There is no “standard” performance degradation that corresponds with a service outage.**

Vonage has designed its service to minimize the customer impact of underlying network performance. Other providers necessarily approach this challenge in different ways, using different codecs, network design, and the like, with the result that different services perform differently even in identical network environments. Indeed, the last time the Commission sought to revise outage reporting requirements for VoIP, providers responded with near unanimity that performance metrics should not be used,<sup>7</sup> and Vonage noted then that “there are no industry

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<sup>7</sup> Reply Comments of AT&T, at 7, PS Docket No. 11-82 (filed Oct. 7, 2011); Comments of the American Cable Association, at 7, PS Docket No. 11-82 (filed Aug. 8, 2011); Comments of the Alliance for Telecommunications Industry Solutions, at 11, PS Docket No. 11-82 (filed Aug. 8, 2011); Comments of CenturyLink, at 4, PS Docket No. 11-82 (filed Aug. 8, 2011); Comments of CTIA—The Wireless Association, at 8, PS Docket No. 11-82 (filed Aug. 8, 2011); Comments of the Telecommunications Industry Association, at 6, PS Docket No. 11-82 (filed Aug. 8, 2011); Comments of Time Warner Cable, Inc., at 2, PS Docket No. 11-82 (filed Aug. 8, 2011); Comments of USTelecom, at 7-8, PS Docket No. 11-82 (filed Aug. 8,

standards” for using performance metrics as a proxy for outages.<sup>8</sup> This remains true. Measuring throughput, latency, and packet loss, therefore, would not provide any worthwhile data for preventing outages, because a particular “threshold” for each metric would correspond with a different end-user experience depending on the provider: a certain threshold could mean subpar call quality on one provider’s network but have a minimal impact on call quality on a different provider’s network. Reporting based on performance metrics would thus be both overinclusive and underinclusive, rendering any data effectively meaningless.

Further, the Commission should not *want* to impose a hard standard for these metrics on VoIP providers. In the VoIP marketplace, providers compete to ensure their services perform well in difficult conditions, and are constantly improving their services by improving network design and taking advantage of more advanced codecs.<sup>9</sup> Setting an inflexible performance metric threshold would short-circuit this competition, disrupting the virtuous cycle of innovation and investment that the FCC has deliberately sought to encourage with its broadband policies.<sup>10</sup> Vonage has worked hard to ensure that its service remains resilient despite variations in underlying network performance of the public Internet and broadband connections that it does not control. Under the Commission’s proposal, Vonage would report a constant or near-constant “outage,” when Vonage’s customers would not actually experience any significant degradation

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2011); Comments of Verizon and Verizon Wireless, at 20-23, PS Docket No. 11-82 (filed Aug. 8, 2011); Comments of XO Communications, LLC, at 10, PS Docket No. 11-82 (filed Aug. 8, 2011).

<sup>8</sup> 2011 Vonage Comments, at 9.

<sup>9</sup> Chad Brooks, *VoIP for Business: Why It Makes Sense*, Business News Daily (Mar. 29, 2016), <http://www.businessnewsdaily.com/8924-voip-for-business.html>.

<sup>10</sup> *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601 at 5604 ¶ 7 (2015) (“Open Internet Order”).

of their service.<sup>11</sup> The Further Notice would thus punish Vonage and other innovative providers for offering services that can tolerate poor performance metrics.

**B. The FCC should use platform availability as the basis of outage reporting requirements.**

Instead of performance metrics, the Commission should use platform availability as the focus of outage reporting requirements. Platform availability measures whether end users can access a provider's platform. This metric would allow meaningful apples-to-apples comparisons between providers—when a provider's platform is out, its service is out, and this is true of every VoIP provider.

Also, using platform availability puts the focus for outage reporting on the end-user experience, which should be the primary concern for any reporting framework.<sup>12</sup> Where using a certain “threshold” in performance metrics will not affect service experience uniformly for end users, an end user will always experience an actual outage when the provider's platform is unavailable.

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<sup>11</sup> See FNPRM, 31 FCC Rcd. at 5884 ¶ 169 (“[S]ervice degradation occurs whenever there is: (i) an average packet loss of 0.5 percent or greater; or (ii) average round-trip latency of 100 ms or greater . . .”).

<sup>12</sup> See 47 C.F.R. § 4.5 (defining an “outage” as “a significant degradation in the ability of an *end user* to establish and maintain a channel of communications a result of failure or degradation in the performance of a communications provider's network) (emphasis added); see also FNPRM, 31 FCC Rcd. at 5883-84 ¶ 166.

### **III. PROVIDERS SHOULD NOT BE REQUIRED TO REPORT ON FACILITIES THEY DO NOT OWN OR CONTROL.**

The Commission should not require providers to report on facilities that they do not own or control. Such a requirement would entail significant practical obstacles to reporting. VoIP providers like Vonage do not have direct access to information about networks outside of their control, and Vonage does not continuously monitor the performance of those networks. Obtaining that information would impose enormous burdens on providers and would not reduce VoIP outages, as VoIP providers would not have the means to improve facilities that they neither own nor control. Furthermore, the FCC's proposed shorter time for reporting of 120 minutes from an outage would be completely unworkable for reporting on facilities that Vonage does not own or control. Vonage would need much more time to gather data on those facilities.

#### **A. There are significant practical obstacles to reporting on facilities that Vonage does not own or control.**

The FCC's proposed outage reporting requirements impose an unreasonable burden on VoIP providers in terms of obtaining the relevant data. Vonage does not have direct information about the availability of Internet Service Provider ("ISP") networks. Indirect information on the condition of ISP networks, such as through analog telephone adapter ("ATA") deregistrations, has proven to be imperfect and does not provide reliable information about outages in ISP networks. First, Vonage's experience has been that our ATAs do not necessarily continuously deregister during an ISP outage, which makes it appear that there is no continuing outage. In addition, it is difficult to separate an ISP outage from the background noise. Many ATAs are deregistered at any given time in the normal course; it is difficult to identify deregistrations that may signify an underlying broadband outage. For example, if 200,000 ATAs are normally deregistered, it would be very difficult to determine that 2,500 of those ATAs have been

disconnected for 6 hours because of a broadband outage resulting in the loss of 900,000 potential user minutes.

In addition, Vonage does not have data about downstream providers, network elements, and software that it does not own or control. By requiring VoIP providers to report that data, the Commission would force VoIP providers to bear the reporting costs for services they do not offer, shifting costs from ISPs to VoIP providers. Vonage would have to develop methods to capture data on networks it does not own or control—information that Vonage does not have access to for any independent business reason. If Vonage found a way to obtain that data somehow, it would still be less accurate than if the FCC acquired it directly from the affected providers. Vonage also would not be able to act on the data it obtained from other providers, as it would have no way to improve the affected network and prevent future outages.<sup>13</sup> Thus, it would be more efficient and effective for the FCC to seek data on affected facilities directly from the responsible providers as it has proposed in the Further Notice.

**B. Requiring reporting on facilities that a VoIP provider neither owns nor controls harms competition and innovation.**

As discussed above, reporting on outages caused by issues on facilities not owned or controlled by a VoIP provider is not a straightforward or trivial effort. The effort that over-the-top VoIP providers have to put into trying to gather information and report on such outages increases the cost of entry into the VoIP market—a market where low barriers to entry and fierce competition have unquestionably led to substantial consumer cost savings and benefits. The proposals in the Further Notice, like requiring VoIP providers to “take steps contractually or

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<sup>13</sup> Vonage discloses to its customers that Vonage services do not function in the event of a broadband outage. These disclosures appear to be effective as Vonage customer care calls do not spike in response to broadband outages.

otherwise” to address their lack of visibility into broadband networks, will greatly exacerbate the negative impact of this reporting. Adding this requirement would exponentially increase the barrier to entry in the VoIP market as every small over-the-top VoIP provider will have to figure out how to get information on the cause of an outage on broadband from the myriad broadband providers that offer service somewhere in the United States. This would likely ensure that only large companies are able to offer VoIP service, which would be a substantial change for the current environment where it is relatively easy to provide over-the-top VoIP service.

Moreover, requiring over-the-top providers to report outages caused by failures on broadband networks that the providers do not own or control is inconsistent with the FCC’s approach to broadband and edge services generally. In its *Open Internet Order*, the FCC rightly focused on the tremendous benefits that flow from access to broadband services, including the proliferation of edge services that run over broadband networks.<sup>14</sup> The Commission likewise recognized that network providers “have both the incentive and the ability to act as gatekeepers,” with respect to edge services.<sup>15</sup> The FCC’s proposed regulatory approach here would contradict the findings in the *Open Internet Order* by shifting responsibility for network reporting from the gatekeepers to edge providers, and thereby undermining incentives to innovate at the edge to adapt to network conditions.

**C. For over-the-top services, the 120-minute reporting deadline is not enough time.**

The Further Notice suggests “tighten[ing] the timeframe for interconnected VoIP providers to notify the Commission of an outage from 24 hours to 120 minutes.”<sup>16</sup> While

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<sup>14</sup> *Open Internet Order*, 30 FCC Rcd. at 5625-26 ¶ 76.

<sup>15</sup> *Id.* at 5608 ¶ 20.

<sup>16</sup> FNPRM, 31 FCC Rcd. at 5882-83 ¶ 163.

Vonage would be able to meet this deadline for reports on its own facilities, it would not be able to acquire the necessary information to make reports on other facilities, if the FCC so requires. As noted previously, Vonage does not have visibility into networks it does not own or control, and it might not even be aware that an outage has occurred on other networks or the underlying broadband service within 120 minutes. After discovering such an outage, Vonage would then have to collect the data needed to file an outage report, and it is highly unlikely that Vonage would be able to do so under such a tight deadline.

#### **IV. CONCLUSION**

Vonage agrees with the FCC that resilient, high quality networks are important to consumers and businesses. Vonage has developed its own network to be as reliable as possible for its customers regardless of the performance of underlying facilities controlled by other providers. But the Commission must be careful to adopt outage reporting rules that yield accurate data and encourage network reliability; on those points, the proposals in the Further Notice miss the mark. The Commission should instead use platform availability as a measure of outages, and it should not require providers to report on facilities that they do not own or control, especially under prohibitive deadlines.

Respectfully submitted,



Brendan Kasper  
Senior Regulatory Counsel  
VONAGE HOLDINGS CORP.  
23 Main Street  
Holmdel, NJ 07733  
(732) 444-2216

Brita D. Strandberg  
Yuxi Tian\*  
HARRIS, WILTSHIRE & GRANNIS LLP  
1919 M Street, NW, 8<sup>th</sup> Floor  
Washington, DC 20036  
(202) 730-1300

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