

**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matters of	)	
	)	
911 Governance and Accountability	)	PS Docket No. 14-193
	)	
Improving 911 Reliability	)	PS Docket No. 13-75

**COMMENTS OF INTRADO**  
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**COMMENTS OF INTRADO**

Intrado Inc. and Intrado Communications Inc. (together, “Intrado”)<sup>1</sup> respectfully submit the following comments in connection with the Policy Statement (“Policy Statement”) and Notice of Proposed Rulemaking (“NPRM”) released and adopted November 21, 2014 by the Federal Communications Commission (“Commission” or “FCC”).<sup>2</sup>

**I. SUMMARY**

Intrado commends the Commission for its ongoing dedication to protect American lives and property. In sharing that commitment, Intrado vows to work with regulators and industry stakeholders through industry workshops and other means on the best path forward. Intrado generally supports the high level objectives outlined in the Policy Statement and recognizes the

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<sup>1</sup> Intrado is America’s leading provider of emergency communications technology and related services. Intrado has processed more than three billion 911 calls in the U.S. over several decades, and among its many “firsts,” Intrado was the first to deploy a next NG911 system in the U.S. which, to date, has successfully processed over forty million NG911 calls.

<sup>2</sup> In The Matters of 911 Governance and Accountability and Improving 911 Reliability, Policy Statement and Notice of Proposed Rulemaking, P.S. Docket 14-193 and P.S. Docket 13-75 respectively, adopted November 21, 2014, Released November 21, 2014 *available at* [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-14-184A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-184A1.pdf).

need for the industry to ensure 911 system reliability as the industry transitions to next generation 911 (NG911).<sup>3</sup>

The NPRM proposes to: (1) amend 47 C.F.R Part 12.4 to expand the definition of a Covered 911 Service Provider in a way that includes virtually all entities involved in the end-to-end 911 call process and to include new areas of certification by such providers;<sup>4</sup> (2) add Part 12.5 to require public notification for major changes in multi-state 911 networks and services and to require prior Commission approval for the discontinuance, reduction or impairment of existing 911 services;<sup>5</sup> (3) add Part 12.6 to require entities seeking to provide new 911 capabilities to certify as to their technical and operational capability to provide reliable service;<sup>6</sup> and (4) add Part 12.7 to designate certain 911 service providers to be primarily responsible for situational awareness and coordination with other service providers in the event of a 911 outage.<sup>7</sup>

The NPRM drives an extremely useful national dialogue, but its proposals are not without controversy, as two FCC Commissioners voted against the item and issued strong dissenting opinions.<sup>8</sup> Yet, even the dissenters recognize the need to ensure 911 system reliability, improve situational awareness and engender intergovernmental partnerships. Intrado concurs but does not agree with how the Commission seeks to accomplish these goals. Intrado agrees with the FCC's

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<sup>3</sup> For example, the Commission states at paragraph 35, "It is the policy of the Commission to encourage and support efforts by states and localities to deploy comprehensive end-to-end emergency communications infrastructure and programs, including seamless, ubiquitous, reliable 911 service." Intrado has steadfastly advocated for and supports federal guidance and support for state and local government. See, for example, *NextGen 911 Cooperative Governance*, Intrado, 2010. <http://www.intrado.com/PDF/next-generation-9-1-1-cooperative-governance>.

<sup>4</sup> NPRM, Appendix A (Proposed Rules), p. 35.

<sup>5</sup> NPRM, Appendix A, p. 38.

<sup>6</sup> NPRM, Appendix A, p. 40.

<sup>7</sup> NPRM, Appendix A, p. 40.

<sup>8</sup> NPRM, Dissenting Statements Of Commissioners Ajit Pai and Michael O'Reilly, *911 Governance and Accountability*, PS Docket 14-193; *Improving 911 Reliability*, PS Docket 13-75, pp. 55-59.

expressed desire to avoid a regulatory regime that risks confusion or incompatibility between federal and state authorities,<sup>9</sup> and Intrado cautions against regulation that could be ambiguous or overly broad, duplicative or unnecessary, or that could undermine industry standards, best practices, innovation or competition.

Intrado believes confidence in these transitioning 911 systems is best achieved by: recognizing that well-accepted NG911 technology standards are operating in a nascent market and are still evolving; recognizing the NPRM runs counter to NG911 standards and market realities and will impede NG911 deployments, and its associated costs will be passed on to PSAPs; recognizing the NPRM's proposals may have practical limitations and obstacles and could risk breaches in 911 system security; recognizing that 911 has never been a "one-size-fits-all" proposition, and even with its national implications, NG911 is no exception; facilitating development of NG911 best practices; facilitating existing state and local authority over 911 and NG911 services instead of imposing federal requirements; and collaborating with industry participants on the best path forward to achieve the objectives outlined in the Policy Statement.

## **II. AMENDMENT TO PART 12.4**

### **A. Expanding The Scope Of "Covered 911 Service Providers"**

The Commission proposes to amend Part 12.4 of its rules to expand the definition of a "Covered 911 Service Provider" such that any and all entities that provide 911-specific network infrastructure would be included in that definition but only to the extent that they provide specified 911 capabilities.<sup>10</sup> The proposal represents a sweeping shift in 911 governance, is

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<sup>9</sup> NPRM, para. 36, p. 16 where the FCC states that it seeks "...to avoid the risk of confusion and incompatibility that would arise from a patchwork of potentially inconsistent standards."

<sup>10</sup> NPRM, para. 41-42, p. 18.

offered, in part, in response to outages that occurred under routine conditions, and is linked to the Commission's assertion that its current rules do not address evolving risks to reliable and resilient 911 service in the increasingly complex 911 ecosystem of multiple providers and transitioning technologies. The proposal would expand and redefine the scope of covered entities regardless of whether or not they provide services under a direct contractual relationship with a PSAP.

The Commission seeks comment on: the existing duties of agents and sub-contractors of Covered 911 Service Providers; the feasibility of extending certification requirements to such entities; and whether a carrier and its subcontractor should both be required to certify their respective reasonable measures taken to maintain reliable 911 service given that both entities could be collaborating on their 911 capabilities.<sup>11</sup>

### **1. The Increasing Number And Diversity Of NG911 Services And Providers**

Intrado agrees with the Commission's observation that the increasing number and diversity of entities offering NG911 services represents a change to historic 911 regulation of a single provider system, and Intrado commends the FCC for recognizing the challenges associated with this change. Such challenges typically accompany innovation and transition, and fortunately, the public safety industry has recognized and welcomed them by, among other responses, creating supply and demand for a NG911 market and by instituting an evolving functional specification: the NENA i3 Solution<sup>12</sup> which the Commission has endorsed<sup>13</sup> and the

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<sup>11</sup> *Id.* See also, footnote 102, p. 19.

<sup>12</sup> *Detailed Functional and Interface Specification for the NENA i3 Solution – Stage 3*. NENA 08-003, Version 1.0 Public Review Version, December 22, 2010 (NENA 08-003).

<sup>13</sup> See, for example, "Pursuant to the Next Generation 911 Advancement Act of 2012 (Pub. L. No. 112-96 (2012)), Legal and Regulatory Framework for Next Generation 911 Services, Report to Congress and Recommendations,"

market has embraced. Among the goals of i3-compliant systems is to provide reliable, universal NG911 service in an environment increasingly comprised of more and diverse providers. The transition to NG911, reflected in the i3 standard, represents the most complex, sweeping change to 911 since its inception and dwarfs the changes needed to integrate wireless and VoIP 911. Changes needed for contemporary NG911 deployments are equally as complex and might also need to be sweeping, but this fact does not lead to the conclusions reached in the NPRM.

Intrado also agrees with Chairman Wheeler's statement that, "The introduction of new technologies forces us to change the way we think about [IP-based NG911] services, and introduces new vulnerabilities that we cannot ignore."<sup>14</sup> In fact, several years ago, while leading the development of, and transition to, NG911, Intrado was alerting policy makers to the challenges posed to America's emergency communications system by an openly-architected 911 system.<sup>15</sup> And, Intrado has long held and expressed the view that appropriate regulatory oversight of an evolving, competitive 911 system will continue to be appropriate - - including a requirement that 911 system service providers - - whose products and services become critical

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Feb. 22, 2013, sections 3.1.2, 4.1.3.1, 4.2.1.2, 4.2.2.1, and 4.2.3.1. While endorsing i3, the FCC recommends that Congress not set standards but instead provide incentives for development of improved technologies.

<sup>14</sup> NPRM, Statement of Chairman Tom Wheeler, p. 51, *911 Governance and Accountability*, PS Docket 14-193; *Improving 911 Reliability*, PS Docket 13-75. Intrado does not agree, however, with the unfounded statement (blindly parroting the Commission's assertion about "sunny day" outages) made by the National Association of State Utility Consumer Advocates (NARUCA) in its comments which claim, "The changes have increased the number of potential failure points in the delivery of 911 calls." See, *Comments of the National Association of State Utility Consumer Advocates on Notice of Proposed Rulemaking*, P.S. Docket No. 14-193, P.S. Docket No. 13-75, p. 1. The vulnerabilities Intrado referred to in its House testimony was about terrorists and hackers exploiting an openly-architected system. There are far more legacy selective routers and associated ALI systems in the U.S. - - and thus one would argue more "failure points" - - than equivalent NG911 components (approximately 100 times more). Plus, there is no evidence in the record to suggest that having fewer elements (which aggregate functionality) manifests in failure points or causes service disruptions.

<sup>15</sup> See, for example, Hearing Before The Subcommittee On Telecommunications and The Internet Of The Committee On Energy And Commerce, U.S. House Of Representatives, 110<sup>th</sup> Congress First Session, On H.R. 3403, Issues In Emergency Communications: The 911 Modernization And Public Safety Act of 2007, Testimony Of Craig W. Donaldson, Senior Vice President, Intrado, September 19, 2007 available at <http://www.gpo.gov/fdsys/pkg/CHRG-110hhrg44392/html/CHRG-110hhrg44392.htm>

system components - - must be able to demonstrate their qualifications in order to be allowed access to integral parts of that system.<sup>16</sup> In advancing the principle it referred to as “qualified access” to the system, Intrado has always believed the challenge that accompanies this principle is to determine the *degree* to which a provider must demonstrate its qualifications and to measure competence while avoiding impediments to market entry and innovation.

The Commission bases its proposals, including the amendment to Part 12.4, on the fundamental belief that “...the increasing diversity of entities offering or planning to offer NG911 services increases the challenge of ensuring that all providers of such service will be capable of meeting appropriate standards of reliability and accountability[;]”<sup>17</sup> that “...market forces alone may be insufficient to prevent catastrophic impacts stemming from unchecked aggregation of function into one or two locations across multiple state boundaries[;]”<sup>18</sup> and that “IP-based 911 networks are more geographically diverse than their legacy counterparts and are likely to provide more services such as 911 call routing and ALI across multiple states and jurisdictions.”<sup>19</sup> Intrado takes exception to many of the premises used by the Commission in its proposals and is concerned about how the Commission addresses these historic changes - - particularly in relation to evolving technology standards and a nascent competitive NG911 market - - and given the lack of federal authority and conflicts with state law.

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<sup>16</sup> See, for example, Intrado comments In the Matter of Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver Of Part 52 of the Commission Rules, CC Docket No. 99-200, in which Intrado takes the position relative to access to pANI numbering resources used for 911 call routing, “States have a vital interest in regulating the manner in which E9-1-1 call routing is accomplished in their states ... [and] accordingly, the users of such resources should demonstrate a high level of integrity and be subject to the requirements for licensing and/or certification in those states where such requirements apply.” This position was taken before the FCC made recommendations to Congress about NG911 governance and effectively was fodder for the “backstop” principle described therein.

<sup>17</sup> NPRM para. 57, p. 24.

<sup>18</sup> *Id.*, footnote 122.

<sup>19</sup> NPRM, para. 13, p. 8.

Two years ago, in its recommendations to Congress on a legal and regulatory framework for NG911, the Commission touted the benefits of aggregating functionality and increasing geographic diversity that are inherent in the NENA i3 standard and related system architecture - - referring to these features as supportive of “...enhanced flexibility and resiliency in network design, because [the architecture] does not require system components to be in close geographic proximity to each PSAP and because it provides multiple alternatives for rerouting emergency communications to avoid congestion or outages.”<sup>20</sup> The NG911 system deployed in the state of Washington (associated with the April 2014 outage cited extensively in the NPRM and used as a principle basis for its proposals) aggregated functionality and utilized geographic diversity in a manner fully compliant with the i3 standard, yet the NPRM leaves unanswered the question of why the Commission - - only two years after its Congressional recommendation - - now refers to such an i3-compliant architecture as “unchecked” and potentially “catastrophic.” Intrado does not assume that the Commission now believes this fundamental principle in the i3 standard is flawed. Instead, Intrado suggests that this contradiction in the Commission’s position represents an opportunity to recognize that the i3 standard has not had adequate time to evolve - - and similarly that the industry has not had adequate time to develop best practices - - to address these novel NG911 service issues.

In its 2010 National Broadband Plan (NBP), the FCC recommended that Congress give the agency federal jurisdiction and oversight for the “development and transition to NG911 networks” while explicitly declaring that states should retain their existing, undiluted authority over the 911 system and related services inclusive of E911 and NG911.<sup>21</sup> Later, in its 2011

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<sup>20</sup> *Id.*, section 3.1.2.

<sup>21</sup> Connecting America: The National Broadband Plan (NBP), March 16, 2010, Section 16 (public safety communications), p. 326, available at <http://www.broadband.gov/plan/>.

Notice of Proposed Rulemaking regarding a framework for NG911 deployment (which refers to its previous 2010 Notice of Inquiry on that subject), the Commission again validates the fact that “[s]tate, Tribal and local governments are the primary administrators of the legacy 911 system...”<sup>22</sup> In its recommendations to Congress on a legal and regulatory framework for NG911 services, the Commission again validates state and local authority over “...the structure and provision of 911 service by PSAPs ... typically a state law matter, with some states further delegating aspect of 911 governance to the local level.”<sup>23</sup> These governance pronouncements have been captured in federal law.<sup>24</sup> The National Association of Regulatory Utility

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<sup>22</sup> See, Framework for Next Generation 911 Deployment, PS Docket No. 10-255, Notice of Inquiry, 25 FCC Rcd 17869 (2010); and In the Matters of Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, PS Docket No. 11-153 and Framework for Next Generation 911 Deployment, PS Docket No. 10-255, Notice of Proposed Rulemaking, Adopted Sept. 22, 2011, Rel. Sept. 22, 2011.

<sup>23</sup> *Id.*, para. 3.2.1. Congress has not acted on the FCC’s recommendations or otherwise given the agency authority over the 911 system or its attendant services, yet it should be pointed out that the FCC has maintained and carefully expressed its opinion that it has a “governance” role in 911 (e.g., see paragraphs 3.2.1 and 3.2.2) and thus implied it has authority over 911 services - - citing Congressional authority to facilitate and encourage NG911 deployments, citing various peripheral federal statutes that have 911 as a subject matter, and sometimes citing to its own rules, but always stopping short of providing a compelling explanation as to where one can find the Congressional grant of federal authority over the 911 system and services governed by state and local governments.

<sup>24</sup> See, Middle Class Tax Relief and Job Creation Act of 2012, Pub.L. No. 112-96, Title VI, Subtitle E, Section 6509(3)(A) where Congress confirms the importance of “... recognizing existing state authority over 9-1-1 services.” See also, House Report 106-025, 2 (106<sup>th</sup> Congress 1999-2000) that explains the Committee recognizes “...many states currently administer effective 9-1-1 systems” and “that most of the actual implementation of E9-1-1 systems will be at the local level.” The report further specifies that it was not the Committee’s intent to supersede any state 9-1-1 laws; rather it was intended as encouragement for state/federal cooperation to coordinate state plans to upgrade 9-1-1 systems. See, Subtitle E which collapses the definitions of basic 911, Enhanced 911 and Next Generation 911, now all deemed to be “911 service” (with NG911 Services being defined in Title VI, sec 6001). See also, letter dated November 14, 2014 from James Bradford Ramsay, NARUC General Counsel, to Marlene H. Dortch, Secretary, FCC, Notice of Written and Oral *Ex Partes* filed in the proceedings captioned: In the Matter(s) of Wireless E9-1-1 Location Accuracy Requirements, PS Docket 07-1114; PSHSB Inquiry Into Circumstances of Major 9-11 Outage Centered in Washington State April 9-10, 2014, PS Docket 14-72. See also, Pub. L. No. 110-283, 112 Stat. 2633, Section 6 (h). the NET 911 Act, where Congress tasked the FCC to work collaboratively with state and local public safety organizations, industry members and the E-9-1-1 Implementation Office to develop best practices.

Commissioners (NARUC) recently confirmed state authority over public safety and 911 services<sup>25</sup> and did so in the context of the Commission’s own words found in the NPRM:

“State regulators and local emergency response agencies play critical roles in ensuring that 911 is available when needed and that every 911 call will be answered, and it is undoubtedly in the public interest that the Commission should work in close partnership with these stakeholders to carry out its responsibility.”

NARUC reflects on the Commission’s acknowledgement by adding, “We appreciate and agree with these FCC statements which correctly characterize Congressional allocations of authority in the 1996 Act.”<sup>26</sup>

In the NPRM, the Commission states that the purpose of the present rulemaking is not to supplant state action but rather to encourage and support efforts by states,<sup>27</sup> yet the substance of the NPRM’s proposals contradicts that disclaimer as well as prior expressions of federal policy, because the NPRM proposes a number of federal rules to regulate the 911 system and associated services operated by 911 system service providers under state regulation. By regulating an expanding, federally-defined group of “Covered 911 Service Providers” (which includes incumbent and competitive 911 system service providers), Intrado is concerned that the NPRM lacks specifics about the unavoidable interplay, and the likely conflict, between the proposed federal 911 service rules and states’ existing 911 service rules that govern those same 911 system service providers. Yet, Intrado believes there are important roles the FCC could play in NG911

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<sup>25</sup> See, Reply Comments of the National Association of Regulatory Utility Commissioners, *In the Matter of Ensuring Customer Premises Equipment Backup Power for Continuity of Communications*, Federal Communications Commission, PS Docket No. 14-174; *Technology Transitions*, GN Docket No. 13-5; *Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers*, RM-11358; *Special Access for Price Cap Local Exchange Carriers*, WC Docket No. 05-25; *AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, RM-10593.

<sup>26</sup> *Id.*, p. 6.

<sup>27</sup> NPRM, para. 38, p. 17.

deployments. For example, if the Commission’s “backstop” recommendation to Congress<sup>28</sup> were to be narrowly applied, Intrado could support a Congressionally-approved, reasonable program overseeing NG911 system service providers in which all of them, private *and public*, would demonstrate their capabilities based on industry-developed standards; and unless Congress determined otherwise, oversight would be limited to those state jurisdictions that have no such certification process of their own.<sup>29</sup>

The NPRM is also silent on the manner in which the proposed rules, some of which are quite technical in nature, would interact with minimum technical standards<sup>30</sup> and the authority that FirstNet<sup>31</sup> has relative to ESInets (emergency services IP networks) which Congress has said must interoperate with the National Public Safety Broadband Network (NPSBN) - - an integral and expanding component of the national emergency services ecosystem. The FCC proposes to restrictively govern, end-to-end, a substantial and integral portion of that ecosystem, yet there is no mention in the NPRM of the juxtaposition of the NPSBN (or its related Congressional mandates) with the Commission’s proposed rules. To give serious consideration to any proposal that has such wide-spread national implications for America’s public safety ecosystem, those

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<sup>28</sup> See, Section 4.1.2.2, Report to Congress and Recommendations, Feb. 22, 2013.

<sup>29</sup> Most states continue to have certification procedures for communications service providers. Not all are easily applicable to the NG911 environment - - a topic that has yet to receive sufficient national debate or action concerning changes needed by states to facilitate NG911 deployments.

<sup>30</sup> See, section 4.1.5.6 (ESInets), *Minimum Technical Requirements for Nationwide Interoperability*, as mandated to be developed by the FCC Interoperability Board under Sec 6203 of the Middle Class Tax Relief and Job Creation Act of 2012 Act - - which development was completed in May, 2012. The FCC’s Interoperability Board, with oversight by its Public Safety and Homelands Security Bureau, developed minimum tech standards for nationwide interoperability for NPSBN based on LTE - all mandated under the Act. ESInets must conform to these minimum requirements for interconnection.

<sup>31</sup> The First Responder Network Authority is housed in the National Telecommunications and Information Agency (NTIA), U.S. Department of Commerce, and is comprised of a fifteen-person board with broad powers to design, build and operate the NPSBN. FirstNet holds the single 700 MHz spectrum license dedicated to the NPSBN.

proposals should at least mention, if not fully address, the NPSBN and the regulatory interplay with FirstNet.

At paragraph 34 of the Policy Statement, the Commission states,

“As IP-based 911 service providers transition to architectures that extend beyond the boundaries of any state and implement network changes that may affect quality of service on a regional or national scale, consistent and collaborative governance is not just good governance, but essential to maintaining the vital public benefits of 911.”

Intrado concurs in principle, and although coordination to date between federal and state legislators and regulators has not eliminated disparate treatment of differing technologies used for 911 services nor resolved dual governance questions, Intrado believes dual participation in the advancement of 911 via cooperative federalism remains a viable option.<sup>32</sup>

Intrado anticipates that some parties will view the Commission’s proposals for increased federal oversight as appropriate or will welcome the proposals - - with little question as to their underlying authority - - presumably because of the positive results promised in the NPRM. As expressed herein, Intrado supports efforts to improve the reliability of the 911 ecosystem but cautions such commenters to remain vigilant to the consequences of overlapping, unnecessary or unauthorized regulations. Intrado believes that most, if not all, of the positive results promised in the NPRM can be achieved more efficiently and quickly if the Commission provides guidance and supports industry initiatives focusing on reliability.

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<sup>32</sup> Cooperative federalism has been described as a regulatory structure in which a federal statute provides for state implementation of federal policy. *See*, Philip J. Weiser, Towards A Constitutional Architecture for Cooperative Federalism, 79 N.C. L. Rev. 663, 668 (2001)(“Although there is no precise definition for which regimes fit the cooperative federalism model, the Supreme Court has suggested that this term best describes those instances in which a federal statute provides for state regulation or implementation to achieve federally prescribed policy goals.”) *See*, also, *NextGen 911 Cooperative Governance*, Intrado 2010. <http://www.intrado.com/PDF/next-generation-9-1-1-cooperative-governance>. *See*, also, R. Seth Davis, Conditional Preemption, Commandeering, and the Values of Cooperative Federalism: An Analysis of Section 216 of EPACT, 108 Col. L. Rev. 406, 412 (2008).

## 2. Risks Of Confusion and Incompatibility Arise With Regard to State Law.

Following is one example of Intrado's concern about how both federal and state oversight of 911 services would be accomplished: if a state or local authority wants to procure a NG911 product or service which doesn't meet the Commission's expectations, i.e., where a Covered Service Provider hasn't certified the product or service to the FCC's satisfaction, how will that circumstance be handled? Will the Commission prevent a provider from offering the product or service and thus, directly or indirectly, prevent that jurisdiction from buying or deploying it? The state of Vermont has expressed its views on this topic by stating, "We believe that it is not necessary or advisable to implement a federal structure that would have the effect of dictating to jurisdictions what they can and can't do to best serve their constituents."<sup>33</sup>

The Commission states, "Together, [the Commission's 911 rules] reflect the principle that all service providers in the chain of 911 services - - from origination to completion - - must be accountable for reliable service and responsive in the event of an outage" (emphasis added).<sup>34</sup> Intrado disagrees with this statement. If meant as a legal conclusion, it fails to recognize the respective roles and legal obligations associated with two distinct parts of the emergency communications ecosystem, i.e., *access to 911* (provided by originating service providers, including some that are regulated by the Commission as interstate services, e.g., wireless and VoIP providers) and the *dedicated 911 system* itself (operated by 911 system service providers regulated by the states).

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<sup>33</sup> Letter to Marlene H. Dortch, Secretary, Federal Communications Commission, from David Tucker, Executive Director, State of Vermont Enhanced 9-1-1 Board, p. 1, *911 Governance and Accountability*, PS Docket 14-193; *Improving 911 Reliability*, PS Docket 13-75. This question was also raised by Commissioner Pai. See, NPRM, Dissenting Statement Of Commissioner Ajit Pai, pp. 55-57, *911 Governance and Accountability*, PS Docket 14-193; *Improving 911 Reliability*, PS Docket 13-75.

<sup>34</sup> NPRM, para. 19, p. 10.

Putting aside the legal disagreement, the statement is also plagued by practical challenges, some of which are brought on by the FCC's own policies. A government ESInet operator is not responsible under the Commission's reliability and reporting rules,<sup>35</sup> so the Commission's own objective - - reflected in the above policy statement - - cannot be fulfilled. In a market where ESInets are increasingly deployed and the ecosystem increasingly interconnected, how can end-to-end reliability be accomplished when only private-sector providers' systems carry a federal assurance of reliability? As a related example, if the "911 NOC provider"<sup>36</sup> (discussed in more detail below) seeks to gather information from the government ESInet operator during an outage in order to enhance situational awareness and transparency as required by the NPRM, the 911 NOC provider will be severely hampered in its duties, because the government ESInet operator is exempt from the Commission's rules. If the government ESInet operator has itself caused an outage, other service providers, as well as the 911 NOC provider, will be substantially hampered in their federal reporting obligations. This would materially undermine the Commission's goal of situational awareness and transparency, and the overall objective of reliability in the "chain of 911 services" is thwarted.

The Commission states,

"... as 911 networks evolve, other entities may take on the 911 transport responsibilities that ILECs have historically provided. For example, in an NG911 environment, the 911 transport function may be performed by an ESInet provider that receives 911 traffic from originating service providers and directs the traffic to PSAPs served by the ESInet. In such cases, we envision that the ESInet provider would assume the 911 NOC provider role."<sup>37</sup>

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<sup>35</sup> 47 C.F.R. 12.4(a)(4)(ii)(A).

<sup>36</sup> See, NPRM, para. 66, p. 27.

<sup>37</sup> NPRM, para. 67, p. 27.

If a government agency is acting as its own system integrator for NG911 services but has no transport facilities of its own, it will obtain facilities from vendors, and those facilities might fall under the Commission's definition of a 911 special facility.<sup>38</sup> In this scenario, which entity would be responsible for compliance with the Commission's 911 NOC provider rules ... the vendor or the government operator? The vendor is not likely to see itself as the ESInet provider (and instead as just a facilities provider); it would likely view the government agency in that role. Yet, the government agency is exempt from the Commission's rules. Must the vendor assume that it isn't just selling transport but is considered by the FCC as the ESInet provider and therefore must serve as a 911 NOC provider?

Specifically with regard to the Commission's goal of accountability across the entire 911 ecosystem, who is the government-provided ESInet operator accountable to when that operator is also the procuring agency (which has a vested interest in defending the selection of itself as the service provider)? It is accountable to itself, and that isn't real accountability. If that agency, or its private industry subcontractors, doesn't hold itself accountable when things go wrong, is it the FCC's intent to do so, and if so, under what law?<sup>39</sup> How will the Commission's proposals be reconciled with state laws that control government-provided ESInet provisioning as part of 911 service? How is the Commission's policy objective met across the entire 911 ecosystem without "all service providers in the chain of 911 services" being held accountable? This says nothing of the unlevel playing field created by the Commission's recent Reliability Order<sup>40</sup> - - repeated in

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<sup>38</sup> Rules 4.5(e) and 49(f)(4).

<sup>39</sup> This may be a state or local question, but the Commission repeatedly states that end-to-end reliability is of critical importance and that the FCC is the agency that needs to close the gaps in governance and accountability; yet the FCC's proposal leaves open this giant gap in reliability and accountability.

<sup>40</sup> In the Matter of Improving 911 Reliability, P.S. Docket No. 13-75, Reliability and Continuity of Communications networks, Including Broadband Technologies, Report And Order, Adopted December 12, 2013, Rel. December 12, 2013.

the NPRM - - that subjects only private sector service providers to federal law. These are just a few of the concerns raised by the NPRM. Intrado believes the Commission should gather significant industry input on these topics to determine if rules are appropriate or even feasible.

At paragraph 34 of the Policy Statement, the Commission states, “Where there are multi-state aspects of the 911 architecture or technology trends that may increase the risk of failure or cause confusion to PSAPs and end-users, the Commission must, and will, take a leadership role in resolving such risks and confusion.” FCC leadership is appropriate, but Intrado is concerned that it may not be realistic for the FCC to put itself in the position of actively mediating between and among more than six thousand PSAPs, more than three thousand counties, and more than fifty states and territories.<sup>41</sup> The Commission clearly believes, as does Intrado, that increased innovation and competition in the 911 ecosystem bring tremendous potential to enhance the functionality and utility of 911 and that these transitions must be managed in a manner that maximizes the availability, reliability and resiliency of the 911 network and that ensures the accountability of all regulated participants in the 911 communications ecosystem.<sup>42</sup> However, the balance between innovation and management is delicate under the best of circumstances, and it is even more precarious when the “network” at issue is, in reality, numerous dedicated 911 systems operated by state and local authorities.

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<sup>41</sup> The Commission might see this as a temporary situation, at least with respect to the number of PSAPs, i.e., the Commission is pressing the issue of PSAP consolidation via its Task Force For Optimum PSAP Architecture. At the group’s first meeting on January 26, 2015, FCC Commissioner O’Reilly and PSHS Bureau Chief Simpson ask the group to give serious consideration to the notion of a single, national PSAP which raises a number of separate questions, for example: who would oversee that national PSAP? And, why would the Commission be expressing *concerns* about aggregating functionality across multiple states in connection with 911 call routing and delivery while simultaneously *promoting* the idea of aggregating functionality across multiple states in connection with 911 call taking? *See, infra*, FCC Seeks Nominations By November 7, 2014 For Membership On New Task Force On Optimal Public Safety Answering Point Architecture, DA-14-1481, October 10, 2014; and *see*, FCC Announces Membership Of The Task Force On Optimal PSAP Architecture, DA-14-1913, December 31, 2014.

<sup>42</sup> *Id.*, Policy Statement, para. 34.

### **3. Geographic Diversity**

“Legacy” systems and networks include traditional wireline, wireless and VoIP 911 call routing and location information. Arguably, they are as geographically diverse as IP-based, NG911 call routing and location determination. The legacy E911 system was first established as a dedicated system to aggregate, route and deliver wireline 911 calls with ALI to the appropriate PSAP. This dedicated 911 system continues to be a wireline system at its core which over time has accommodated the addition of wireless and VoIP technologies to provide access to the dedicated 911 system for the benefit of wireless and VoIP subscribers. This dedicated wireline 911 system is comprised of hundreds of selective routers located and organized by region throughout the U.S., all of which are supported by less than fifty selective routing/ALI databases which themselves - for decades and to this day - have been geographically diverse from the selective routers they serve, and they have resided in multiple states. Originating wireless and VoIP 911 systems involve mobile switching centers, mobile positioning centers, soft switches and VoIP positioning centers, all of which are also geographically diverse residing in multiple states and jurisdictions – and are used for 911 call routing and ALI. Frequently, a legacy 911 call (wireline, wireless or VoIP) that is made in state A (although typically terminating in the same state as an intrastate call) gets its routing instructions and ALI from a device located in state B - - not unlike what occurs with NG911 systems. The degree to which this out of state routing and caller location information delivery occurs depends on the technology, but particularly with respect to wireless and VoIP 911, geographic diversity is similar to that of NG911 in terms of the number of components in place for routing and location. Intrado suggests that, when using geographic diversity and aggregation of functionality as a basis for rulemaking,

the difference between NG911 and legacy 911 is not as distinct or as significant as the Commission has assumed.

Further, legacy configurations using geographic diversity and functional aggregation have proven to be highly reliable, and there is little disagreement in the industry that the transition from legacy to IP-based technology, along with its well-accepted practice of geographic diversity and aggregation of functionality, represents “...one of the most noteworthy fundamental improvements towards increased resiliency due to the nature of IP.”<sup>43</sup>

The Commission recently established a Task Force On Optimal Public Safety Answering Point Architecture (TFOPA) and has already announced its members - - the objective of which is, in part, to “... study and report findings and recommendations on Public Safety Answering Point structure and architecture in order to determine whether additional consolidation of PSAP infrastructure and architecture improvement would promote great efficiency of operations, safety of life, and cost containment ...”<sup>44</sup> Among its duties, TFOPA will evaluate “Optimal PSAP system and *network configuration* in terms of emergency communications *efficiency, performance, and operations functionality*” (emphasis added.)<sup>45</sup> Presumably, the Commission seeks a better understanding of the degree to which PSAPs intend to use of ESInets as part of their overall system architecture; whether PSAPs will configure their systems and networks to include geographic diversity and/or aggregation of functionality; and whether PSAPs consider such configurations inefficient or lacking in reliability. Intrado supports the Commission’s

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<sup>43</sup> Comments of the Telecommunications Industry Association at page, 3; In the Matter of Inquiry into Circumstances of Major 911 Outage Centered in Washington State On April 9-10, 2014, PS Docket No. 14-72.

<sup>44</sup> *Id.*, Task Force On Optimal Public Safety Answering Point Architecture.

<sup>45</sup> *Id.*, at page 1. Intrado also recommends that the Commission encourage TFOPA to study and make recommendations on disaster planning to ensure call completion, inasmuch as PSAPs have a vested interest and should be involved in such planning.

effort<sup>46</sup> and believes TFOPA will produce very helpful information and recommendations at the conclusion of its two-year mission - - and perhaps earlier. If the Commission is intent on promulgating NG911 rules notwithstanding the many reasons to not do so, action should be deferred until TFOPA's reports and recommendations can be made part of the record and assimilated by the Commission.

Nonetheless, it is appropriate for the Commission to both promote and lead collaborative, public/private efforts to prepare for more services that are inherently part of the NG911 vision (which are not included in legacy 911 today, e.g., rich data) and that may be provisioned over diverse geography that aggregates functionality.

#### **4. Vicarious Liability Laws As A Basis For Amending Rule 12.4**

The Commission bases its authority to amend Rule 12.4 on: “[w]ell-established legal principles [that] ordinarily make principals or employers vicariously liable for the acts of their agents or employees in the scope of their authority or employment;”<sup>47</sup> and on Section 217 of the 1996 telecom Act which holds common carriers responsible for the acts and omissions of their employees and contractors.<sup>48</sup> The Commission also concludes that “...beyond questions of legal liability - - which often take significantly longer to resolve - - PSAPs and service providers alike must have accurate information and clear expectations for whom to contact if something goes wrong, when every second matters and unnecessary delays put public safety at risk.”<sup>49</sup>

Intrado agrees with the Commission's conclusion about the need for PSAPs and service providers to have accurate and timely information during an outage. Intrado takes no position on

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<sup>46</sup> An Intrado employee has been selected as a member of TFOPA.

<sup>47</sup> NPRM, para. 18, P. 9.

<sup>48</sup> 47 U.S.C. §217.

<sup>49</sup> NPRM, para. 18, p. 9.

the Commission's interpretation of common law and statutory principles regarding vicarious liability (where principals are responsible for the conduct of their agents, not *vice versa*) so long as that interpretation - - which appears to rely heavily on the Commission's additive statement (beginning with "beyond questions of legal liability") - - is not intended to expand the application of these common law or statutory principles or to substitute for appropriate administrative action.

Regarding the Commission's specific question of whether a carrier and its subcontractor should both be required to certify their respective reasonable measures taken to maintain reliable 911 service, Intrado again suggests that existing vicarious liability laws should not be expanded or used as a substitute for regulatory rulemaking. The Commission is proposing to expand the definition of a Covered 911 Service Provider (which might have the effect of including certain providers that are agents of Covered 911 Service Providers), and that administrative proposal should succeed - - or not - - on its own merit and not be boot-strapped by vicarious liability laws.

Intrado believes that, as a matter of policy construct, only the entity with a direct responsibility to the PSAP should be responsible for certification and that agents of regulated providers should not be regulated. To the extent the agent of a Covered 911 Service Provider provides some or even all of the functionality that a Covered 911 Service Provider uses for its 911 service, Intrado believes Covered 911 Service Providers will properly represent their agents' services in the certification process such that both parties' certification is unnecessary. If both were required to certify, the process would be duplicative, inefficient and create little or no value. It would also tend to interfere with commerce by forcing providers to change how they do business with each other, and it would require a great deal of coordination between various contractors and between providers and their customers to ensure consistency of reporting and

certification - - all of which would require added resources - - the cost of which would likely be borne by PSAPs. In Intrado's opinion, such an effort would do little, if anything, to advance the Commission's goal of reliability.

## **B. Reasonable Measures For Providing Reliable 911 Service**

The current Rule 12.4 (b) states in part, "All covered 911 service providers shall take reasonable measures to provide reliable 911 service..." with respect to circuit diversity, central-office backup power and diverse network monitoring.<sup>50</sup> Under the FCC's proposal, a sweeping array of additional measures targeted at NG911 systems, networks and services would be required of Covered 911 Service Providers in order to certify compliance with best practices or reasonable alternatives. By way of example, these measures include: certifying whether IP-based 911 architecture is geographically distributed, load-balanced and capable of automatic reroutes to backup equipment in the event of hardware, network, software or database failure; and the "proper" prioritization of critical system and network alarms (this, in addition to current requirements for physical diversity of monitoring facilities). The Commission also proposes that newly-included Covered 911 Service Providers certify that they have an outage notification process in place to notify PSAPs of disruptions in 911 service within time frames specified in Part 4 of the Commission's rules. This proposal includes a requirement, "to ensure that outage notifications are provided swiftly and accurately in the event of an emergency, covered 911 service providers should confirm PSAP contact information and test notification plans periodically."<sup>51</sup>

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<sup>50</sup> 47 C.F.R. §12.4 ("Provision of reliable 911 service") - Reliability of covered 911 service providers.

<sup>51</sup> NPRM, para. 46, p. 20.

The FCC also seeks comment on whether certification requirements should address: system cyber security and supply chain risk management;<sup>52</sup> the scope of information and communications that should be reasonably expected from various entities in the 911 ecosystem (including those with direct contractual relationships with PSAPs and those that provide service on a vendor or sub-contractor basis); and the extent to which certification should reflect reasonable measures to detect and disseminate real-time outage information.<sup>53</sup>

### **1. NG911 Best Practices That Serve As Substantive Obligations**

The gravamen of Rule 12.4 is less about “reasonable measures” and more about what has turned out to be substantive obligations to provide “reliable 911 service” in various ways. While Rule 12.4(b) appears to only establish a certification requirement, in practice, it prescribes substantive reliability obligations using “reasonable measures” as a way of determining whether service is reliable. Put another way: the Commission has already imposed, and proposes to impose many more, substantive 911 obligations on 911 service providers under the guise of a certification program.<sup>54</sup> This is true because, in order for a provider to truthfully certify that it is taking reasonable measures to provide reliable 911 service, it must *actually implement* those measures. And, while the Commission’s intent to hold providers responsible for failure to perform the measures is arguably implicit, the NPRM proposes to make the obligation explicit.

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<sup>52</sup> NPRM, para. 43-45, pp. 19-20.

<sup>53</sup> NPRM, para. 46-47, pp. 20-21.

<sup>54</sup> Commissioner Pai previously raised this point in connection with the Commission’s Reliability Order. In his dissent, found at pages 80-82 of the Order, the Commissioner states, “...while the Order claims to adopt a certification scheme, it in fact adopts extremely prescriptive and mandatory standards. Take new rule 12.4(b). This rule requires 911SSPs to ‘take reasonable measures to provide reliable 911 service.’ This sounds anodyne in theory. But in practice, it gives the Commission carte blanche to fine 911 SSPs that do not comply with whatever particular practices the Commission demands.” Report and Order, In the Matter of Improving 911 Reliability, P.S. Docket 13-75; Reliability and Continuity of Communications Networks, Including Broadband Technologies, P.S. Docket 11-60, Adopted Dec. 12, 2013, Rel. Dec. 12, 2013.

Language in the current reliability Order states, in part, “If a Covered 911 Service Provider *does not conform with* the elements ... above with respect to 911 service ...” - - while the Commission now proposes to change that language to say, “If a Covered 911 Service Provider *has not implemented all of* the elements ... above with respect to 911 service ...” The difference is not insignificant.

This proposal represents substantive federal regulation of the 911 system and attendant services, and Congress has not given the Commission that authority. Instead, Congress has authorized the Commission to “...work cooperatively with public safety organizations [and] *industry participants ... to develop best practices* [for] network diversity requirements, call-handling in the event of call overflow or network outages [and] certification and testing requirements” for services to PSAPs (emphasis added.)<sup>55</sup>

Chairman Wheeler states, “[The FCC] must encourage these new capabilities through 911 governance policies that support and reward innovation while ensuring that sufficient protections are in place so that Americans can be sure 911 will work when they need it to work.”<sup>56</sup> Intrado agrees, in principle, and believes those governance policies should manifest in the form of leadership and guidance given to state and local governments and as pronouncements about which NG911 best practices are needed.

Again, putting aside questions of legal authority to regulate 911 services, Intrado is troubled by the ambiguous way the rule would operate. Covered 911 Service Providers are given two choices: (1) implement specified best practices, or (2) implement reasonable alternative measures. Failure to do one or the other exposes the provider to a claim of non-compliance.

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<sup>55</sup> Wireless Communications and Public Safety Act of 1999, Pub. L. 106-81, §6(h), *as amended by* New And Emerging Technologies 911 Improvement Act of 2008, Pub. L. 110-283, §101(2).

<sup>56</sup> *Id.*, NPRM, Chairman Wheeler’s Statement, p. 51.

Under the Commission’s rules and proposed rules, the only objective means by which a Covered 911 Service Provider can certify that it is taking reasonable measures to provide reliable 911 service is to certify that it is honoring industry best practices. Best practices are, at best, high level principles that don’t lend themselves to explicit obligations. And, taking the “reasonable alternative” path inherently requires a subjective analysis by the Commission relative to what is a reasonable alternative.

In the NPRM, the Commission has appropriately identified some crucial areas of concern for an IP-based 911 architecture (e.g., load balancing, geographical distribution, automatic reroutes, prioritization of critical network alarms, etc.). In 2012, CSRIC III reported on 1,022 legacy E911 best practices, some of which are tangential, generic or perhaps an “equivalent” to a best practice in a NG911 environment,<sup>57</sup> but none of which, in Intrado’s view, adequately address NG911 characteristics or are sufficiently on point with the crucial areas raised in the NPRM (that largely target NG911 services); nor are they precise enough to substitute as regulations. Some of the items of concern expressed in the NPRM aren’t addressed at all by the CSRIC III report or elsewhere, so additional NG911 industry best practices are needed. Among the information the Commission would consider in its analysis of whether a provider certification meet a best practice, or whether an alternative measure is reasonable, includes review of the applicability of best practices, but since there are insufficient NG911 best practices today, Intrado is concerned with the method the Commission apparently intends to use for determining, either objectively or subjectively, whether a provider is in compliance with certification obligations and/or service reliability. Such a method leaves far too much subjective discretion.

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<sup>57</sup> Communications, Security, Reliability and Interoperability Council (CSRIC), Working Group 8, E9-1-1 Best Practices, Final Report, December 2012.

Intrado believes that any proposal in the NPRM to create an enforceable rule that depends on, or in any way is tied to, existing or future NG911 best practices is premature - given that they are insufficient or non-existent - - and because the rule may be unenforceable. Before regulated entities are held accountable for complying with rules and regulations, they must be given sufficient notice and detail of what is required of them.<sup>58</sup> Under the Commission’s proposal, it is difficult to imagine what those requirements look like absent reasonable and relevant NG911 best practices. And even with NG911 best practices, which typically are general prescriptions, it is difficult to see how they would be explicit enough to effectively serve as regulations.

Other areas are also concerning. The current Rule 12.4(a)(4)(i) defines a Covered 911 Service Provider, in part, as:

“...any entity that provides 911, E911, or NG911 capabilities such as call routing, automatic location information (ALI), automatic number identification (ANI), *or the functional equivalent of those capabilities*, directly to a public safety answering point (PSAP), statewide default answering point, or appropriate local emergency authority as defined in §§64.3000(b) and 20.3 of this chapter (emphasis added).”<sup>59</sup>

This sweeping definition explicitly includes NG911 “capabilities” and implicitly includes any NG911 “equivalent” of the enumerated legacy capacities. The Commission is well suited to provide guidance on what it considers a critical “capability,” and Intrado welcomes the Commission’s opinion on what is an appropriate “equivalent,” but Intrado strongly urges the Commission to not unilaterally impose such vague concepts or act without first involving the industry in such determinations. Intrado again recommends that the Commission facilitate a

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<sup>58</sup> See, U.S. Constitution, Fifth Amendment, Due Process Clause: “No person ... shall ... be deprived of life, liberty, or property, without due process of law” applicable to the federal government; see also, Administrative Procedures Act, 5 U.S.C. § 553 - Rule Making, requires adequate notice and opportunity to be heard; see also, generally, Question Of Materiality: Why the SEC’s Reg. FD is Unconstitutionally Vague, A. Kappas, Nicholas, 45 N.Y. L. Sch. Rev. 651 (2001-2002).

<sup>59</sup> 47 C.F.R. 12.4(a)(4)(i)(A).

series of workshops on such topics and/or assign portions thereof to CSRIC before making decisions based on the Commission's current understanding of NG911.<sup>60</sup>

It is also worth noting: what used to be an entirely-voluntary exercise by the industry to establish 911 best practices has now been leveraged as a substitute for regulation.<sup>61</sup> It is unclear what future impact, if any, this might have on voluntary participation in the exercise of establishing best practices, but it is worth monitoring for any chilling effects. CSRIC IV, Working Group 7 (Legacy Network Best Practices Update), in its March 18, 2015 Status Report has already provided some insight into this topic. At page 5 of the report, it lists Key Recommendations including the following: "Compliance with the Best Practices should remain voluntary in nature as originally designed and should not be subject to further regulatory activity or mandates."

Best practice collaboration plays an important role. As recently as a month before the NPRM was released (in October, 2014), this Commission took the position that CSRIC should develop and refine a comprehensive set of best practices with respect to the NG911 transition,<sup>62</sup> and Intrado wholeheartedly concurs. Intrado is gratified to see that CSRIC's mission has been extended for another two year term and that CSRIC V will, among other things, analyze and

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<sup>60</sup> The U.S. is not composed of one standard 911 architecture or design, and for NG911, while ESInets and mobile services represent an increase in the penetration of IP into 911 networks, legacy components and hybrid configurations abound. While many parties would welcome and benefit from a concerted march to NG911, it has not occurred; yet early adopter requests to deploy should not be deferred in favor of a flash cut years down the road when all U.S. PSAPs are ready to make the transition.

<sup>61</sup> Converting best practices into substantive FCC rules may not be grounded in law. It is not clear if an advisory council like CSRIC and its recommendations or best practices are appropriate substitutes for the regulatory process.

<sup>62</sup> See April 2014 Multistate 911 Outage: Cause And Impact, Report And Recommendations, page 25, PS Docket 14-72, PSHS Docket Case File Nos. 14-CCR-0001-0007, October 2014, adopted by the FCC at its October 2014 open meeting.

make recommendations on NG911 best practices.<sup>63</sup> Intrado also suggests industry workshops are another appropriate way to gather valuable industry input on these topics.

## **2. The Standard For Accountability Cannot Be Ambiguous**

The Commission states, “While the current rule 12.4 only addresses reliability with respect to [circuit diversity, central-office backup power, and diverse network monitoring], we believe it would demonstrate better governance for this rule to require covered entities to take reasonable measures *generally* to ensure the reliability of 911 service, *with specific behavior identified within this rule as necessary to add more detail*” (emphasis added).<sup>64</sup> Intrado is concerned about the use of the word “generally” in the context of establishing explicit regulatory requirements. And we assume the phrase “specific behavior identified within this rule” refers to the additional proposed requirements for certification, but admittedly, Intrado is not sure that is what the Commission means and is also confused by the meaning of “...as necessary to add more detail.” Does that latter phrase suggest that the Commission’s proposed rule change is incomplete and that, if Rule 12.4 is amended, it would be subject to further, unilateral, Commission discretion or adjustment? In footnote 104 of the NPRM, the Commission goes on to state, “If the Commission determines to make rule 12.4 a general reasonableness standard, we would intend that this rule supplement any other rules that already contain a requirement to use reasonable measures.” If Rule 12.4 does not set forth a reasonableness standard today, then what standard applies today? The NPRM does nothing to make this clear.

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<sup>63</sup> Public Notice, DA 15-203, February 12, 2015, creates CSRIC V.

<sup>64</sup> NPRM, para. 44, p. 19.

The Commission states, “The American public must have confidence that 911 will work *every time* help is needed” (emphasis added).<sup>65</sup> Another stated policy goal underlying the Commission’s proposal to amend Part 12.4 is to “...*maximize* the availability, reliability, and resiliency of the 911 network...” (emphasis added).<sup>66</sup> These are concepts Intrado agrees with *wholeheartedly*. However, perfection is too vague and unreasonable to serve as a regulatory obligation. Does the Commission believe the standard for its reliability rules should be, or currently is, a strict liability standard? Regardless of the standard, what if a PSAP can’t or won’t pay for a technical solution that meets industry standards, and a service disruption occurs? Will the provider be held responsible even though the short-fall is attributable to the PSAP? And how do the Commission’s proposals for setting a federal standard align with state laws on this subject? Would a Commission’s reliability standard cause an “unfunded mandate” for local or state 911 authorities, for example, by a 911 service provider demanding that a PSAP purchase functionality that would allow the provider to certify compliance with the standard? Would the reliability standard as an unfunded mandate conflict with Congressional intent?<sup>67</sup>

### **3. Cyber Security And Supply Chain Risk Management**

With regard to the FCC’s inquiry into whether Rule 12.4 certification requirements should address 911 system cyber security and supply chain risk management, Intrado agrees that cyber attacks are generally of great concern to U.S. critical infrastructure but believes 911 system security and supply chain management falls squarely on the shoulders of service providers

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<sup>65</sup> NPRM, para. 3, p. 3.

<sup>66</sup> NPRM, para. 35, p. 16.

<sup>67</sup> Congress debated and considered updating the Unfunded Mandates Reform Act of 1995, P.L. 104-4, 2 U.S.C. §§ 1532-1535; *see*, (iii) Agency actions relevant to sections 202-205 of the Act. As an independent regulatory agency, the FCC is not subject to the Act. More information is found at <https://www.fas.org/sgp/crs/misc/R40957.pdf>.

operating in harmony with PSAPs. That is where the responsibility lies today as it has for many years. Moreover, there is no evidence in the record that cyber security or supply chain management issues were the cause of any known or cited 911 outages. In any case, absent Congressional authority, these items should not be the subject of FCC regulation.

This is not to underplay the importance of cyber security as there is ample evidence of the harm caused to communications networks by cyber attacks. This is also not to say there are no threats to 911 today. For several years, Intrado has stayed a step ahead of multitudes of daily attacks on its systems. Working with many others in the industry, Intrado has been a pioneer in the effort to protect America's 911 ecosystem from cyber and other attacks. Over those many years, Intrado has taken aggressive steps to protect its own systems from attack, cooperated with federal and state agencies and others in doing so, and it will continue to do so with or without a mandate. Intrado is confident that it is not alone in this regard and that communications services providers are keenly aware of the significance of cyber threats.

Intrado's experience suggests that government ESInet operators have a wide range of awareness and technical expertise to deal with threats specific to 911 systems and, while they take the issue seriously, may not have the resources to remain cutting edge. Chairman Wheeler and the Commissioners, along with Public Safety and Homeland Security Bureau Chief Simpson and his staff, are to be commended for having heightened awareness and offered meaningful guidance through CSRIC and other efforts.<sup>68</sup> Intrado agrees with the Commission's idea of referring to CSRIC these and other important matters<sup>69</sup> as that group's work in this area continues to be the best way to address these issues.

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<sup>68</sup> See, for example, CSRIC IV, Working Group 4, Cyber-security Risk Management and Best Practices, Cyber-security Framework for the Communications Sector, Final Report Presentation, March 18, 2015.

<sup>69</sup> NPRM, para. 47, p. 21.

It is also worth noting that any system is only as secure as the protection designed and built into each of its parts, and the end-to-end 911 system involves PSAPs. PSAPs represent a wide range of individual - - and system-wide - - knowledge, preparedness and system reliability; and they are increasingly putting functionality in cloud networks and systems such that it isn't always clear where the demarc is for the PSAP (for determining security or other responsibilities), or what is included in the category of CPE (customer premise equipment), or what is appropriately called "network" - - interstate or otherwise. Generally, PSAPs don't always have the resources or expertise to keep pace with maximum efforts to secure their systems or mitigate cyber attacks. This raises the question of whether the Commission intends to hold Covered Service Providers responsible for cyber-functionality or cyber-security where they are shared with PSAPs. Intrado believes doing so would be unfair and inappropriate.

Intrado believes that these complicated issues are best addressed through industry collaboration using workshops and CSRIC.

### **III. PRESCRIPTIVE REGULATION WILL CAUSE MARKET FAILURE**

911 service is a "public good"<sup>70</sup> not unlike other government services. Provisioning a public good, particularly by establishing a monopoly service provider, is by definition a "market failure,"<sup>71</sup> because absent government intervention, the free market and its susceptibilities to the shifting dynamics of capitalism would not, at least initially, ensure the public's need for uninterrupted reliable service. In response to the public's need for 911 service decades ago, state legislators and regulators affirmatively facilitated a full-scale 911 market failure by granting incumbent carriers a regulated monopoly over 911 services. Then governments turned their

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<sup>70</sup> See, discussion and definition / unique qualities of a "public good" [http://en.wikipedia.org/wiki/Public\\_good](http://en.wikipedia.org/wiki/Public_good)

<sup>71</sup> See, [http://en.wikipedia.org/wiki/Market\\_failure](http://en.wikipedia.org/wiki/Market_failure)

attention to other important matters while the modernization of the 911 system proceeded across three dimensions simultaneously, i.e., technology, governance and funding - - with the tentacles of each reaching into and impacting the others. Over the ensuing decades, a technology gap grew between evolving commercial communications markets and the regulated 911 sector - - caused by the disincentives to innovate that accompany economically-regulated, rate-of-return monopolies<sup>72</sup> which in turn spawned 911 competition in the late 1990's.<sup>73</sup> Aided by technological advancements and a public safety market anxious to upgrade its aging systems, competitive 911 service provisioning has slowly taken root and in the process has mitigated the inherent market failure to the point where a robust, albeit nascent, market<sup>74</sup> is evolving to meet the public's need for consistent 911 service and obviating the need for a monopoly provider.

The 911 system has historically been provided largely by the private sector on behalf of the public sector using funds collected from the public. At stake in this public-private arrangement are deadly-serious public safety interests along with private sector interests in preserving a market environment where service providers can continue to innovate and provide life-saving services demanded by the public. Policy makers' challenge is to properly balance these interests. Trying to protect the public's safety but in the process underplaying the importance of accommodating private sector realities will only undermine both interests.

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<sup>72</sup> See, *9-1-1 Networks In The 21st Century – The Case For Competition* available at [www.intrado.com/PDF/9-1-1-networks-21st-century-case-competition](http://www.intrado.com/PDF/9-1-1-networks-21st-century-case-competition) .

<sup>73</sup> In 1997, the Texas Advisory Commission on State Emergency Communication, n/k/a CSEC, awarded to SCC Communications, n/k/a Intrado Inc., a contract to provide 911 selective routing and ALI management services which had historically been provided by Southwestern Bell Communications.

<sup>74</sup> The vast majority of U.S. public safety agencies have not transitioned to NG911. Some have reported that this is due to a lack of funding; see, for example, *Blue Ribbon Panel on 911 Funding, Report to the National 911 Program, Washington, D.C., October 2013* available at <http://www.911.gov/pdf/BlueRibbonPanel-911Funding-report-dec2013.pdf>; and others believe it may be because revenue from 911 fees and surcharges continues to be diverted for non-911 purposes. *Id.*, FCC's "Sixth Annual Report To Congress On State Collection And Distribution Of 911 and Enhanced 911 Fees and Charges."

The Commission believes that the NG911 market is suffering from unusual challenges associated largely with the IP technology transition and that the situation justifies immediate prescriptive federal regulation - - offering as justification, at least in part, the “unchecked aggregation of function into one or two locations across multiple state boundaries” which the Commission believes will cause “catastrophic impacts” which must be prevented.<sup>75</sup> Intrado believes history demonstrates that the challenges facing NG911, while technologically novel, are normal during technology transitions, and Intrado is fully committed to meeting and conquering those challenges. Intrado also believes the Commission misunderstands the status of NG911 technology and the harm that prescriptive regulation will have at this point. Under its own power since 1997 and at times against the odds, the 911 market has progressed toward true competition.<sup>76</sup> Imposing regulation at this time would only deepen the market failure by reversing the positive effects of 911 competition, re-instituting disincentives associated with a single provider system which will impede innovative momentum, and causing another technology gap.

All technology is evolutionary, and while the Commission should be informed by prior 911 technology transitions, Intrado believes the Commission’s proposals lack that perspective. Decades ago, when selective routing and ALI (which are commonly thought of as the central features of “enhanced 911” or “E911”) were introduced to basic 911, the industry was

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<sup>75</sup> *Id.*, *See*, also para. 37, p. 17, where the Commission’s states, “We cannot wait for future and potentially more catastrophic 911 system failures to consider these crucial questions – the stakes are too high.” In its comments, and without offering any explanation or evidence, NARUCA cites to the NPRM and again simply repeats what the Commission has claimed by making the following inaccurate statement: “The consolidation of critical resources in a small number of databases increases the risk of a catastrophic failure affecting numerous customers.” *Id.*, p. 1.

<sup>76</sup> Obstacles remain however, e.g., during the ongoing transition to NG911, state 911 monopoly tariffs and regulations cause perverse economic and technological results in a free market. Intrado believes that, rather than prescriptive regulation, the FCC should use its expertise to provide guidance on how such issues might be resolved and, where it has authority, to resolve problems, e.g., PSAPs paying twice for 911 call routing. This would facilitate NG911 deployments, accelerate retirement of legacy and hybrid solutions, which in turn will accelerate improvements in system reliability.

experiencing a technology transition not unlike other transitions before and since. Every technology transition undergoes service disruptions, and introducing selective routing to phone switches decades ago in order to enhance the 911 system was no exception. Some of the challenges included: voice degradation from the end office to the PSAP; End Office isolation; call routing to the wrong PSAP; network congestion; tandem to tandem interoperability problems; tandem failures with back-up plan failures; SS7 reliability; and trouble reporting and timely repair response. Similar issues occurred when wireless 911 and VoIP 911 systems were appended to the dedicated wireline 911 system. There is every reason to expect similar challenges in the transition to NG911 - - made even more challenging because it effectively involves a quantum-leap, technological replacement of the overall system and represents, by far, the largest and most complex shift in emergency communications since the introduction of selective routing with ALI systems over thirty years ago.

As discussed more fully below, aggregation of functionality coupled with geographic diversity across multiple states, in addition to being a cornerstone concept of the NENA i3 standard<sup>77</sup> - - and being representative of NG911 deployments - - are not novel concepts for America's 911 system. The Commission has never before used the concept as a basis for 911 regulation,<sup>78</sup> and there is no basis to do so now, inasmuch as there is no evidence in the record showing that aggregating functionality - - coupled, or not, with geographic diversity across multiple states - - is *the cause* of NG911 failures, or will *inherently* have catastrophic impacts, or

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<sup>77</sup> *Id.*, *Detailed Functional and Interface Specification for the NENA i3 Solution – Stage 3*.

<sup>78</sup> *See*, NPRM, para. 13, p.8 where it states, “IP-based 911 networks are more geographically diverse than their legacy counterparts and are likely to provide more services such as 911 call routing and ALI across multiple states and jurisdictions. In comparison to legacy 911 networks, IP-based networks rely more on remote servers and databases rather than locally situated switch-based components to support key 911 functions. Even as they make new capabilities possible, these changes in network architecture also raise new issues and vulnerabilities that did not exist in the legacy 911 environment.”

that such configurations alone justify regulatory intervention. In fact, such configurations have worked well for many years. However, the increasing number and diversity of service providers in this nascent NG911 market presents a learning opportunity for the industry and the chance to establish best practices in connection with, for example, the appropriate number of locations at which critical NG911 functionality should be placed. A host of other novel technological and operational questions raised in the NRPM would also benefit from industry review and collaboration - - functions the FCC is uniquely positioned to facilitate.

There are at least two other factors that should be considered in analyzing the status of the NG911 market and determining whether prescriptive regulation is appropriate at this time for ensuring the reliability of NG911 systems - - neither of which have been raised or discussed in the NPRM nor fully examined by any government entity in the context of NG911 governance, technology and funding: (1) the impact of NG911 demarc, cost recovery and interconnection; and (2) the level of public funds that actually make their way to public safety agencies,<sup>79</sup> i.e., what agencies can afford to spend on NG911 deployments.

The Commission has not addressed the issues of NG911 demarc, cost recovery and interconnection<sup>80</sup> even though those issues are inextricable with an understanding of: how NG911 systems will be configured; how NG911 operations will function; what public safety agencies can afford and are willing to pay for in a NG911 market; and whether regulation is appropriate. While these issues were not explored in the NPRM, they nonetheless bear heavily on the Commission's proposals, and the Commission should pause to fully account for them

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<sup>79</sup> The irresponsible and undeterred practice by state and local governments of misappropriating 911 funds meant for the benefit of 911 call centers continues to undermine the industry. *Id.*, FCC's Sixth Annual Report To Congress. Plus, state and local government budgets are still tight, recovering from the 2008 recession.

<sup>80</sup> NPRM, footnote, 25, p. 9.

before promulgating NG911 rules.<sup>81</sup> Intrado believes the Commission should consider all the issues, to include technology, governance and funding, and should carefully analyze the impacts to the ecosystem.

Virtually every buying decision made by a public safety agency impacts the efficacy of its 911 system - - at least in some way. Agencies can't always afford to spend what may be necessary to make their system as robust and reliable as technology permits (and that best practices often reflect). If a public safety agency - - representing the demand side of the NG911 economy - - makes a market choice to implement services in a way that aggregates functions over a wide geographic territory, and if that implementation experiences a service disruption, that scenario reflects technology trends and market choice more than it justifies regulation. In a model other than the aforementioned public-private arrangement, we might reach a different conclusion, but the U.S. does not operate in another model. In any case, Intrado believes the government purchaser and the private sector provider are in the best position to address the issues impacting system configurations and their viability. Any other arrangement diminishes state and local agencies' ability to choose providers and services. NG911 governance (and funding) should fall in line with this public-private arrangement, because it reflects the cost-value proposition that underlies market decisions - - even for a public good.

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<sup>81</sup> For example, by virtue of the inherent differences between IP and TDM (time division multiplexing) technologies, the NG911 demarc will not be the legacy selective router, which is the legacy demarc; (*see*, Letter from Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau, to Marlys R. Davis, E911 Program Manager, Department of Information and Administrative Services, King County, Washington, May 7, 2001, C.C. Docket 94-102 where the legacy selective router was deemed to the demarcation point and thus the cost allocation point absent a written agreement). Thus, absent a formal pronouncement or consensus of the NG911 demarc, it will remain unclear what providers' respective responsibilities are in connection with IP-based 911 service delivery as well as interconnection and other factors including, most notably, who pays for what and who is entitled to cost recovery. Until those factors are settled, they will appropriately remain a part of the supply and demand of the NG911 economy. But, unsettled in a regulated environment, they will cause confusion and delay.

Intrado agrees with the Commission that 911 demands special consideration and that everything that can reasonably be done should be done to avoid 911 service disruptions. But, “everything” is a tall order, and it will come with a cost that is not currently reflected in today’s 911 economy. And what is “reasonable” depends on what individual PSAPs are willing to pay. Any regulatory scheme must recognize that PSAPs have a large stake in the outcome of the Commission’s activity - - particularly with respect to the costs that providers are likely to pass along to PSAPs from regulatory mandates - - and that PSAPs vary greatly in size and scale. The interests of larger PSAPs, which may have the ability to more readily influence national public policy, should be balanced with those of smaller PSAPs. A national, one-size-fits-all regulatory scheme will not work. Intrado recommends that the Commission reinforce the work of industry working groups and encourage workshops through which decision-making methods designed to accommodate the needs of different size PSAPs - - including reliability requirements - - can be explored and maximized.

Ultimately, what a regulator intends to hold providers accountable for should align with these public-private market realities. If a public agency can’t afford to implement what best practices call for (and thus what a regulator will require providers to offer), the regulated entity will find itself being unfairly held responsible for the gap. The Commission’s efforts to improve reliability and clarify governance and accountability should be harmonized with what PSAPs actually deploy. This is not an easy task given that PSAPs are not all alike, but that is not a reason to place the burden on the provider to equalize the imbalance.

The Commission’s proposals would have the effect of picking winners and losers in a privately-provisioned, still-vulnerable competitive market which has abandoned - - with the blessing of purchasing public safety agencies - - the single system service provider concept. This

statement may sound like economist boilerplate or anti-regulation rhetoric. It isn't. The statement reflects a public policy debate that has already occurred and been resolved. What exactly was decided? i3 has dictated the vision of a fully-realized NG911 ecosystem. This technology standard has moved away from the need, and some assert the desirability, of a single system service provider and is driving a developing, innovative, competitive NG911 market. It is unlikely these trends will reverse course absent a severe policy intervention. The public-private arrangement has launched NG911 systems that, to date, don't come close to a fully-implemented i3 vision of NG911, either technologically or from a market perspective,<sup>82</sup> but the trajectory is fixed nevertheless.

Intrado shares the Commission's concern and commitment for ensuring that providers are qualified before they have access to critical system elements. For years, states have required that communications providers can demonstrate basic technological, financial and managerial qualifications before operating communications systems in their jurisdictions.<sup>83</sup> For many years, Intrado has publicly shared its view (and we stand by it today) that regulators must have some measure of involvement with those who provide these critical services. It would be expedient, although an oversimplification of the situation, to argue that the Commission's proposed rules would move the industry backwards. Forging cooperative governance for this transition is complex<sup>84</sup> which may be why many states have had trouble advancing the cause.

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<sup>82</sup> Multiple providers are currently deploying NG911 systems with proprietary, hybrid elements.

<sup>83</sup> The Commission should not minimize the significant scrutiny new service providers, including 911 service providers, go through at the state level. State telecom/CLEC certification extends to 911 service provisioning, e.g., Intrado Communications Inc. is a certificated provider in 46 states, some as a CLEC and some as a 911 service provider. Intrado notes that these certifications are more than "paper exercises," i.e., many states require extensive filings, hearings, and witness cross examination. Proceedings are also subject to opposition by the agency's staff, competitors and or others. While many certifications are processed in 120-180 days, some may last a year or more.

<sup>84</sup> Intrado's commitment to helping address these complex challenges is apparent through its thought leadership and other efforts over many years to explore these challenges with state, local and federal policy makers. *Id.*, 9-1-1

Intrado believes more thought should be given to the FCC's role. For example, the Commission states:

“[W]e believe that every entity with a role in 911 call completion should be guided by two principles: First, any new elements of 911 architecture or service should have the necessary redundancy and reliability safeguards, along with the appropriate governance mechanisms, to maximize reliability and protect public safety. Second, significant changes in 911 service should be coordinated in a transparent manner with the Commission and with state and local authorities.”<sup>85</sup>

Intrado agrees that the appropriate role for a regulator is to articulate over-arching principles, i.e., “what” is needed. But government regulators do not actually build networks or systems and are not in the best position to dictate “how” to accomplish the task. There is no national network for 911. At best, dedicated state and local systems and networks are interconnected with, but separate, from the PSTN.<sup>86</sup> There is clearly a role for the FCC in facilitating reliable NG911, but absent Congressional authority, it does not involve regulating the dedicated 911 system or its attendant services.

In a new regulatory environment that, presumably, wants to move beyond the single provider system with all of its legacy wrappings, it is worth asking: to what extent should a state or federal regulator be empowered to dictate services to be delivered? Many state statutes, regulations and 911 service provider agreements already dictate this and establish E911 service levels. Many state 911 laws and regulations can be generously and generically read to include NG911 technology and service, although virtually all of them would benefit from express clarification. NG911 is essentially a replacement for the state-and-locally-controlled, dedicated

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*Networks In The 21st Century; and NextGen 911 Cooperative Governance, NextGen 911 Cooperative Governance*, Intrado 2010.

<sup>85</sup> Policy Statement, paragraph 35.

<sup>86</sup> Indeed, this is exactly how the FCC has repeatedly characterized the relationship between the PSTN and the dedicated 911 service network.

wireline E911 system. Notably, the FCC has authority over interstate networks that may be used to support 911 voice or data delivery, but interstate *networks* that are used to support E911 or NG911 services are distinguishable (jurisdictionally and otherwise) from the *service* itself which today falls under the control of the states - - in no small measure due to the fact that virtually all 911 calls are intrastate.<sup>87</sup>

The FCC also has authority over CMRS carriers and VoIP providers, both interstate services, which originate 911 calls and deliver them to the state-governed, dedicated 911 system. The FCC has appropriately determined, for example, that wireless E911 call delivery, caller location, call routing and call-back number must be provided by CMRS carriers as a service to their end-user customers; and a similar federal regulatory scheme is in place for VoIP 911.<sup>88</sup> But this exercise of jurisdiction over originating service providers does not automatically translate to jurisdiction over the dedicated 911 system itself merely because wireless and VoIP providers must give their subscribers access to that state-governed 911 system.

Intrado is not convinced that any regulator, state or federal, should dictate what services an originating service provider must offer in any greater detail than *what* dictated by the

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<sup>87</sup> 911 calls typically originate and terminate in the same state (often the same county) and a tiny number, after being answered, are transferred across state lines. This is true even though call routing and location information are often provided by out of state facilities, and some voice transport might occur out of state. This point calls into question the FCC's prior exercise of authority in its December 2013 911 Reliability Order, *id.*, P.S. Docket No. 13-75. The notice of proposed rulemaking in that matter and the ensuing Order placed heavy reliance on the disruption in 911 service caused by the derecho storm. The nexus established by the FCC between interstate networks that may have been involved with 911 service and the 911 service itself is nebulous in Intrado's view. The Commission's focus was not on interstate networks as much as it was on 911 service reliability (of intrastate 911 calling). In that matter, the FCC articulated essentially the same jurisdictional logic as it has in the present NPRM including citations to a number of federal statutes that are unmoored from reliability of the state-controlled 911 system. And, while the Commission's objectives may be argued as reasonably ancillary to the effective performance of the agency's various responsibilities, that objective (regulation of intrastate 911 calling service) is not within the FCC's general grant of jurisdictional authority under Title I of the Communications Act.

<sup>88</sup> In the Matter of Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 94-102, Adopted June 12, 1996, Rel. July 26, 1996; and In the Matters of IP-Enabled Services WC Docket No. 04-36 and E911 Requirements for IP-Enabled Service Providers, WC Docket No. 05-196, First Report and Order and Notice of Proposed Rulemaking, Adopted May 19, 2005, Rel. June 3, 2005.

Commission in its wireless and VoIP 911 orders; moreover, Intrado strongly believes that regulators should not attempt to regulate where they lack clear authority. In Intrado's view, the NPRM is an attempt to do so by expanding not only the scope of entities to be included as Covered 911 Service Providers (principally comprised of 911 system service providers that fall under state authority) but also by expanding the boundaries of the state-governed dedicated 911 system itself to include those 911 services provided by originating service providers.

Intrado also strongly believes regulators, even where jurisdiction exists, should not dictate to technology providers *how* to deliver those services. In Intrado's view, the NPRM dictates both the "what" and the "how."

It is crucial for the Commission to understand that it took decades to achieve the current state of E911 reliability, yet it too is still not perfect. NG911 is in its infancy by comparison. Even light-handed regulation at this point is extremely risky if it prolongs single system provider concepts that technologists and markets have abandoned. Intrado recognizes the Commission's desire to improve the situation, but instead of laying the groundwork for a well-intentioned but ill-conceived command-and-control form of federal regulation of 911 services, the Commission should facilitate the acceleration of NG911 technical standards that focus on reliability; encourage state and local governments to facilitate NG911 deployments; work with state utility regulators to remove barriers to NG911 deployments; and use FCC authority to remove barriers to NG911 deployments ... all of which will accelerate the retirement of legacy and hybrid NG911 solutions which in turn will accelerate NG911 reliability.

Markets and governments are both imperfect. Intrado respectfully submits that the politics of pragmatism should reflect an appreciation of the virtues of the market without deifying it and should understand the limits of government without demonizing it. Intrado

believes that such a measured approach to the appropriate balance between markets and governments is lacking in the NPRM. Unfortunately, the NPRM reads like a reaction to an unsupervised technological transition that afflicts an otherwise cohesive, interoperable nationwide network - - or at least the prospect of it. In reality, neither such a network cohesiveness nor interoperability exists. And, the transition is honoring available and applicable technical standards and best practices.

Governments, in various ways and at various times in the last fifteen years, have sat idle or even abdicated responsibility for 911 advancement and governance leadership<sup>89</sup> (while some

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<sup>89</sup> The trend away from economic regulation of telecommunications has resulted in stunning consequences for 911, e.g., Iowa and Florida no longer regulate any aspect of 911 service, and other states are headed in that direction and/or haven't paid much attention to 911 in years in Intrado's view. Without casting blame, the policy concerns expressed in the NPRM should have been addressed by state governments many years ago. There have been ample opportunities for them to act, and only a few have, e.g., in the face of years of state paralysis regarding regulation of anything related to IP following the classification of IP as an interstate service, in 2012, the Texas Commission on State Emergency Communications (CSEC), supported and aided by the Texas 911 Alliance, promulgated rules to address the accuracy of underlying data and related operational techniques used for selective routing relative to VoIP 911, *see* Texas Commission On State Emergency Communications, Rule §251.14, Minimum Standards for VoIP Positioning Center Operators. And some states tried but failed, e.g., in 2009, the Colorado PUC initiated a rulemaking to address novel NG911 issues but abandoned the effort in 2010; *see*, In The Matter of the Proposed Changes to the Emergency 9-1-1 Services for Emergency Telecommunications Service Providers and Basic Local Exchange Carriers Rules Found in the Rules Regulating Telecommunications Providers, Services, and Products, 4 Code of Colorado Regulations 723-2, Colorado Public Utilities Commission Docket No. 09R-778T. As of this writing, the Colorado PUC appears to be on the verge of commencing a rulemaking to address competitive 911 service provisioning in an IP environment. The same criticism can be directed at the FCC as these issues were foreseeable long before now. *See*, for example, New And Emerging Technologies 911 Improvement Act of 2008, PL 106-81 in which Congress empowered the FCC to promote, enhance and facilitate the transition to NG911, providing a platform for the public policy debate of these issues. And, many of the issues in the NPRM were integral to, and raised in, multiple NG911 interconnection arbitrations between Intrado Communications and various incumbent 911 service providers between 2007 and 2011 including one in which the FCC took jurisdiction in 2008 due to the Virginia State Corporation Commission's refusal to take jurisdiction. The case sat idle at the FCC for months until it opened a separate docket inviting public comment on many of these novel issues. The FCC did nothing with the comments it received, and it did no more with the interconnection arbitration than conduct status conferences - - causing Intrado Communications to file an estimated 40 status reports with the FCC. Intrado Communications and affected public safety entities requested expedited treatment on September 30, 2009 to no avail. Intrado eventually settled the matters and withdrew the requests for arbitration, i.e., a market resolution. *See*, In the Matter of Petition of Intrado Communications of Virginia Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Arbitration of an Interconnection Agreement with Central Telephone Company of Virginia and United Telephone - Southeast, Inc. (collectively, Embarq), WC Docket No. J18-33; Petition of Intrado Communications of Virginia Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Arbitration of an Interconnection Agreement with Verizon South Inc. and Verizon Virginia Inc. (collectively, Verizon), WC Docket No. 08-185; *see*, also DA 09-1262, Comment Sought On

agencies, in addition to governing 911, want to take on the role of 911 service provider<sup>90</sup>), and this has fueled the success of the competitive NG911 market. Regrettably, the situation is made worse due to the fact that the public is generally reluctant to be taxed for the financial support necessary to ensure that its own safety is assured.<sup>91</sup> Intrado urges the Commission to avoid the kind of *severe intervention* discussed above which, particularly at this stage, will disrupt standards-making and market deployments. Rather than acting immediately on the NPRM, the most reasonable path forward includes a Commission-led effort to facilitate NG911 standards evolution and to accelerate development of NG911 best practices and industry workshops that will address the Commission's concerns and includes exploration of how existing FCC authority can help move reliable NG911 deployments forward. Intrado commits itself to participating in a process whereby the industry can explore, for example, reasonable ways to preserve those desirable benefits that a single provider system has historically delivered without clinging to old

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Competitive Provision of 911 Service Presented By Consolidated Arbitration Proceedings, WC Docket No. J18-33, WC Docket No. 08-185, Rel. June 4, 2009.

<sup>90</sup> As a separate issue, this arrangement also sets up a conflict of interest: the agency responsible to the public for procuring and overseeing 911 service is also the entity providing the service itself which gives the oversight agency an incentive to not hold itself responsible if and when it fails to appropriately deliver the service - - or won't naturally hold itself accountable for the economics of the "relationship" between overseer and provider.

<sup>91</sup> One possible explanation for this: phone subscribers may not have confidence that the 911 surcharges collected from them will be spent on improving the 911 system, because state and local governments continue to divert those funds for non-911 purposes and government representatives have done a poor job of explaining what has become an incoherent 911 surcharge structure. For example, state-based 911 revenues collected from Texans for the explicit purpose of funding the planning and implementation of 911 services provided by state agencies must first be appropriated by the legislature before those agencies may use the funds. Fees continue to be collected, but the state has legislated itself an excuse for not appropriating all of the revenue collected from its citizens, i.e., it allows a declaration of a "surplus" which in turn can be used for anything the legislature desires. For years, the legislature has been less than fully transparent with its constituents about this practice, withholding tens of millions of dollars from 911 agencies and instead using the money to help balance the state's budget. In response to the FCC's annual survey, according to the Texas respondent, if the funds are not appropriated, there is no diversion of funds, even if the funds are obviously being siphoned off for non-911 purposes. In its annual reports to Congress, the FCC continues to not list Texas as a state that diverts 911 funds. *Id.*, FCC's "Sixth Annual Report To Congress On State Collection And Distribution Of 911 and Enhanced 911 Fees and Charges." *See*, section 403.095 Texas Government Code. *See*, also, A report entitled "Report on Use of General Revenue Dedicated Accounts 82<sup>nd</sup> Legislature 2011" which shows balances in excess of appropriation by account and that is, under sec 403.095, available for general revenue appropriations. *See*, also, "Closing the Gap: Texas's legislature reaches for the axe," *The Economist*, online edition May 26<sup>th</sup> 2011, <http://www.economicst.com/node/18744627>.

technology or forcing the single system provider model to remain at the core of these many, disparate systems.

#### **IV. PROPOSED NEW RULE 12.5**

The Commission proposes to add Part 12.5 to its rules to require: (a) public notification for major changes in multi-state 911 networks and services and (b) prior Commission approval for the discontinuance, reduction or impairment of existing 911 services. The basis for these proposals is the Commission's intention to ensure that transitioning technologies are open and transparent given that critical 911 network infrastructure is increasingly shared among multiple jurisdictions and sometimes beyond the oversight of individual state or local authorities.<sup>92</sup> The FCC proposes to exempt from the proposed notification requirements any change requested or initiated by the PSAP or the responsible state or local emergency authority.<sup>93</sup>

##### **A. Public Notification For Major Changes To 911 Network And Architecture**

The proposal would require any Covered 911 Service Provider to notify the FCC and the public of major changes in any Covered 911 Service Provider's multi-state network architecture or scope of 911 service that are not otherwise covered by existing network change notification requirements.<sup>94</sup> This notice would have to be given no less than 60 days before implementing the major change. The FCC seeks comment on the specific changes that would be subject to notification requirements but proposes that changes affecting 911 service to PSAPs in multiple

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<sup>92</sup> NPRM, para. 48, p. 21.

<sup>93</sup> NPRM, paragraphs 53-56, pp. 23-24.

<sup>94</sup> NPRM, paragraphs 50-52, pp. 22-23.

states would be considered “major” and subject to notification. In addition, the FCC seeks comment on notification procedures.<sup>95</sup>

### **1. What The General Public Needs To Know**

The Commission has taken the position that “... the public also has a vested interest in understanding changes that may affect its access to 911”<sup>96</sup> and seeks comment on whether it should collect and publish notifications of changes in 911 networks. Intrado has no issue with public safety agencies notifying their constituents about the agency’s local 911 services and has faith in public safety officials to inform their constituents about what they need to know about their 911 system including what officials consider to be major changes. But Intrado strongly believes the detail made available to the general public should never put the security of the system at risk. In order for the notice envisioned by the Commission to have its intended effect, it would need to contain explicit data about locations of facilities and capabilities. In an age where cyber and other security is of paramount concern, Intrado believes there is no reason to make *any* information about America’s emergency communications system publicly available - - particularly the location of critical facilities and related capabilities. Public disclosure would only make it easier for terrorist and hackers to disrupt or destroy the system. From Intrado’s perspective, such a mandate would unnecessarily put lives and property at risk.

The proposal also runs counter to a CSRIC best practice related to this topic which states, “Network Operators, Service Providers, Public Safety, Equipment Supplies and the Government

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<sup>95</sup> *Id.*

<sup>96</sup> NPRM, para. 50, p. 22.

should conduct public and media relations in such a way as to avoid disclosing specific network or equipment vulnerabilities that could be exercised by a terrorist."<sup>97</sup>

It is important to distinguish between the general public and public safety agencies that serve the general public. In addition to the risks discussed above (associated with disclosing changes to the public), Intrado believes the value to the general public of such disclosures is questionable. There is no evidence in the record demonstrating that the general public is demanding or otherwise being denied this kind of disclosure or that there is otherwise a need to push this information to the average citizen. Doing so is the responsibility, and in the discretion, of state and local government representatives.

The Commission seeks comment on whether NENA or APCO could assist with dissemination of such information.<sup>98</sup> Intrado opposes this idea and strongly believes information about changes to the 911 system is highly confidential and often proprietary, and dissemination should be closely controlled. In certain circumstances, e.g., interconnection arrangements that would qualify as a "major" change, Intrado believes it is appropriate for regulators to have knowledge about a significant change. Such knowledge should not be made public, i.e., beyond what is necessary for legitimate regulatory oversight. Such information should only be shared among those with a critical need to know and not among those with a desire to track.<sup>99</sup> Public safety officials and service providers, and in limited cases regulators, are the parties that need the kind of transparency of critical 911 infrastructure which the Commission intends to ensure.

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<sup>97</sup> *Id.*, CSRIC III, Working Group 7, Best Practice 9-9-5130.

<sup>98</sup> NPRM, para. 51, pp. 22-23.

<sup>99</sup> With all due respect to industry associations like NENA and APCO, in Intrado's view, associations do not have a critical need for this kind of information. If they would like that information for tracking or other purposes, they should ask their members to share it.

## 2. Notification Of Changes To The 911 System

Many state laws and agreements between 911 government agencies and 911 service providers have provisions that address requirements for service changes, repair and response times and other system conditions. Intrado is concerned that the Commission has not provided any detail on how its new rules would blend or interact with those existing state laws and agreements.

Intrado applauds those who encourage partnership among the Commission, state regulators and 911 officials.<sup>100</sup> This kind of collaboration has never before occurred in the industry, and for good reason: this is the first time 911 has faced simultaneous and significant changes in technology, governance, funding and market dynamics. Intrado believes this degree of collaboration will be necessary if the industry is to achieve appropriate cooperative governance that will facilitate NG911 deployments and make steady improvements in system reliability. But like the NPRM, these kinds of collaborative statements offer no details about how to avoid the obvious conflict between the Commission's proposals and state 911 service regulations. Yet, these open-ended statements reflect a broader sentiment. For example, NARUCA seems to be representing that some states may be willing to further abdicate their responsibilities for 911 system governance as it transitions to IP technology in a competitive market. If that is true, Intrado believes each state should be more deliberate, direct and formal about such an important decision rather than assuming it via another's written comments.

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<sup>100</sup> For example, NARUCA's comments state, "NARUCA ... supports the Commission's expressed intention to work in partnership with state regulators and local emergency response agencies in addressing the difficulties." *Id.*, NARUCA comments, p. 3. And, Vermont states, "There are important reasons why the jurisdictions are not in the best position to address these issues. First of all, not all jurisdictions have the technical expertise to ensure that solutions they are being sold actually are as redundant and resilient as they need to be." *Id.*, State of Vermont Letter, p. 2. Relative to Vermont's latter point, Intrado believes it is naïve to believe the FCC has sufficient technical expertise and resources to manage the plethora of work related to the various NPRM proposals or that such a method is preferable to using industry experts.

Abdication is not the position taken by state regulators via NARUC which states, “No FCC action should directly or indirectly take State “cops” off the beat or otherwise limit consumer or competitor access to existing State protective *fora* (emphasis added).<sup>101</sup>

Intrado believes that Covered 911 Service Providers should not have to notify the Commission or the public of changes in their 911 systems. Such a rule is unnecessary and runs the risk, in many cases, of introducing delays and increasing overall costs for those services which are likely to be passed along to public safety agencies. And if these notices would also have to be sent to PSAPs, there is a risk of overwhelming PSAPs with multiple notices, some of which will have questionable value to the PSAP or the public.<sup>102</sup> This could lead to a circumstance where notices are ignored and/or attention is pulled away from other, more important tasks.

Intrado is also concerned about the broad scope of the proposed rule which would make defining a “major change,” difficult, particularly during this technology transition. Not everyone will agree on the translation between legacy 911 and NG911. For example, will a LIS database be deemed the equivalent of an ALI database; or, will a selective router be deemed the equivalent of the emergency call routing function even though there are significant differences in how these elements function and what entities are responsible for operating them?

The Commission states, “This proposal would not require Commission approval of new entrants or delay the introduction of innovative new 911 technologies.”<sup>103</sup> Based on historic and contemporary real-world experience, Intrado respectfully disagrees. While delays might be

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<sup>101</sup> *Id.*, NARUC Reply Comments, p. 7.

<sup>102</sup> This excludes notices regarding technical or services changes that directly impact a particular PSAP in a contractual relationship with a 911 system provider.

<sup>103</sup> NPRM, para. 59, p. 25.

avoided by not requiring Commission approval, this proposal could cause substantial additional steps to be introduced in the product development lifecycle which translates to delays in the delivery of new services and a slow-down of the 911 economy which in turn will negatively impact innovation. And the costs of those additional steps will likely be passed on to PSAPs who may not be able to afford to pay that cost.<sup>104</sup> If these dynamics occur repeatedly, providers will offer fewer innovative services.

Intrado and other providers continually adjust their systems and services to align with market demand, technology changes and vendor services. Because Intrado provides services across the entire nation, most of what Intrado does in this regard would fall under this proposed rule. It is not unusual for Intrado to determine that a change in service is needed in order to stay current with efficient operations or technology. The Commission will find it challenging to define a major change in service if for no other reason than because translating from legacy to IP technology will be confounding. For example, would the Commission consider it a major change to move from facsimiles used for “ALI No Record Found” reports to electronic means via secure web access? The ALI system is a critical part of 911 service and for some number of years will be integral to NG911, so would this change to the way ALI service is provided require Intrado to notify the FCC and the public?

Other examples include: instituting a feature upgrade that requires PSAPs to update to a newer browser or PC, or keeping the system and services constant but outsourcing support staff. What a PSAP might consider a major change could easily and often conflict with the Commission’s view. Would a Covered 911 Service Provider be liable for a rule violation if, in

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<sup>104</sup> In his dissent of the 2013 Reliability Order, a page 81, Commissioner Pai points out another consequence of financially burdening PSAPs, i.e., delaying NG911 deployments, by stating, “Shouldering these additional costs may make some PSAPs think twice before investing in innovative approaches to reliability, such as adopting Next-Generation 911.”

good faith, it made a change in its system, determining that the change is not major and didn't file a notice, but a PSAP considered the change to be major? Who will arbitrate those conflicts? Wouldn't this lead to the practical reality that Covered 911 Service Providers, taking the most prudent path, would obtain permission from the PSAP prior to making any change even though, in the end, it may not be required or desirable? Intrado believes these matters are, at best, unwieldy for regulators and instead should be addressed between providers and PSAPs.

The 911 system in the U.S. is no longer just a voice and ALI system. Text-to-911 is seeing significant adoption, and more changes are ahead. NG911 systems are eventually likely to carry requests for assistance from car accidents, health monitors, the "Internet of Things," Machine-to-Machine, video and audio feeds, pictures from cell phones, supplemental data and a host of other sources. It is virtually impossible to know today the significance of these items on the system (i.e., whether considered "major" or not) or to know rates of adoption that impact how well-accepted a service or product is, which in turn bears on whether it is considered "major." With NG911, there will be hundreds of issues like this that can't be predicted today and, more relevant to this NPRM, can't be readily categorized as "major" (or not) for purposes of instituting regulations.

Lastly, the notification proposal is contrary to the Commission's policy goals in that it would undermine competition by requiring disclosure of highly sensitive network and system information which, if made available to the general public as the Commission envisions, would give providers information about their competitors they would not otherwise be entitled to.

## **B. Prior Commission Approval For Discontinuance, Reduction Or Impairment Of Existing 911 Services**

The Commission's proposal would require Covered 911 Service Providers to seek prior Commission approval for the discontinuance, reduction, or impairment of any of its 911 services. The FCC proposes to exempt from this requirement any discontinuance, reduction or impairment of 911 service that has been requested or initiated by the PSAP or the responsible state or local emergency authority.<sup>105</sup> The FCC seeks comment on which actions by an incumbent 911 service provider would be considered a discontinuance, reduction or impairment of service.

It is worth noting that state regulatory authority currently exists on the subject of what 911 services may be brought to market,<sup>106</sup> yet the Commission is suggesting, unconditionally, that it is the proper entity to make those determinations on or after November 21, 2014 (all the while saying that it doesn't intend to interfere with or supplant state authority).

The FCC contends, and Intrado agrees, that 911 service providers have undertaken a special responsibility, but Intrado respectfully disagrees with the Commission's characterization of the discontinuance, reduction or modification of any of 911 service as a "relinquishment at will" of that responsibility.<sup>107</sup> Such a characterization primarily targets incumbent 911 service providers but in any case gives no consideration to NG911 market realities that have firmly embraced a multi-provider system where state and local authorities exercise choice of providers and services. Coupled with the present proposal, the characterization also implies that state regulators are not adequately supervising the products and services that come and go in the

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<sup>105</sup> *Id.*

<sup>106</sup> In the legacy system in several states, the 911 service provider, typically the ILEC (with its carrier of last resort responsibilities under state regulation), continues to have explicit or implicit obligations to also act as a 911 carrier of last resort whereby the 911 service provider must obtain state regulatory approval before making any change to 911 services.

<sup>107</sup> NPRM, para. 53, p. 23.

current 911 market even though 911 is moving away from a highly-regulated, single provider system to one driven by free market dynamics served by multiple providers.

The proposal, which relies on single provider concepts, cannot be squared with the Commission's goal of advancing competition, and it runs counter to the promotion of innovation inasmuch as it impacts product timelines, skews normal market dynamics in the public-private arrangement, risks investment dollars and puts the Commission in the position of picking winners and losers in the market.

### **1. Incumbent 911 Service Providers**

As a matter of policy-making, perhaps the single-most important issue the Commission should address is whether it believes - - and has evidence to support - - that the current public-private arrangement, with its array of market-driven decisions that bear on 911 reliability, is so "insufficient"<sup>108</sup> that federal intervention is now needed even if it portends prolonging old technology and aspects of outdated regulations (that, themselves, are obstacles to NG911 deployment) and, most importantly, will deepen market failure. Or is there a reasonable alternative?

The record has sufficiently captured the fact that there is no shortage of providers entering the NG911 market, although it appears some may think the competitive NG911 market doesn't, or shouldn't, exist.<sup>109</sup> And while it may be comfortably familiar to suggest or insist that

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<sup>108</sup> *Id.*, footnote 122.

<sup>109</sup> It is instructive that a nationally recognized state consumer advocacy group, the National Association of State Utility Consumer Advocates, inaccurately describes competitive NG911 service providers like Intrado as "third-party routing vendors [that provide] specialized components within the chain of call connectivity"(emphasis added) as though only a single-provider system operates in the U.S. - or only one provider should exist. *Id.*, *Comments of the National Association of State Utility Consumer Advocates on Notice of Proposed Rulemaking*, p. 1, The underpinnings of NARUCA's comments may reflect a common theme across several states, i.e., many states have paid far too little attention to 911 for several years in Intrado's view. Perhaps this lack of even a fundamental understanding of the current competitive 911 ecosystem, causes them to not recognize the obvious conflict between

the incumbent LEC continue to serve as some kind of “911 carrier of last resort,” such legacy concepts and their attendant regulatory impacts run counter to market realities as well as industry technical standards. The present proposal, whereby regulators dictate to providers what they can and can’t offer, or what they *must* offer, is but one example of such tendencies found in the NPRM.

Historically, incumbent LECs operated under a *de facto* or state government-sanctioned 911 monopoly supported by state regulatory schemes that guarantee a rate of return in exchange for the ILEC’s agreement to serve as the lone 911 service provider (as well as the incumbent local exchange carrier). For many years, serving in this dual role (ILEC and sole 911 system service provider) went hand in hand, i.e., 911 service is one of several parts of “plain ol’ telephone service” (POTS), and while 911 service has not been an ILEC’s core business - - basic telephone service, 911 functionality has been, by necessity, integrated into their switching, networks and operations - - all of which has undergone tremendous transition over the last several years.

Under state economic and service regulation, state regulators and public safety agencies have had (and many still do) a commanding voice over which 911 products and services (and expected service standards) would be provided to public safety agencies along with their allowable cost and price. But even at the pinnacle of that regulatory control, state regulators have had less control over 911 services and standards than the degree of federal control proposed in the NPRM. For example, prioritization of critical system alarms in a Covered 911 Service Provider’s system (comprised of networks, switches, adjunct hardware and software and other

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the NPRM and state 911 rules. In any case, the fundamental flaws in NARUCA’s comments should discount them, since they lack a reasonable understanding of technology standards operating today or the economics and other dynamics that impact regulation of a competitive NG911 market - and its service providers - during a technology transition.

elements), load balancing, geographical distribution and automatic reroutes, are only a few aspects of 911 service state regulators never controlled, yet the Commission proposes to regulate in those areas. These areas all relate principally to 911 services and less to the networks - - interstate or intrastate - - used in support of the services, and there is no state rule or regulation that comes close to dictating this level of detail or service standard for 911 services.

While 911 is still of critical importance to ILECs, it has played a decreasing role in an ILEC's business. Out of market necessity in this public-private arrangement, ILECs have had virtually no choice but to shift and advance their core businesses such that basic phone service (and its adjunct, 911) have morphed. Competition, technological imperatives and other factors have moved ILECs in a different direction and yielded tremendous societal benefits; and the 911 industry has also moved away - - albeit ever-so-slowly - - from the 911 monopoly model which still lingers in state regulation. Alternative providers are filling in, and that's a good thing, because the public will benefit from the technological innovation<sup>110</sup> brought on by those, like Intrado, whose core business is 911.

The Commission's passion for providing a national solution to this fractured regulatory scheme resonates with Intrado, but slowing down the rate at which legacy technology and services are allowed to exit the system, and compelling ILECs to remain in a business that no longer reflects their core expertise, will do little, if anything, to resolve the challenges facing the U.S. in the transition to NG911; and in the process, it will provide false comfort to those who believe system reliability improves when ILECs are forced to keep providing legacy functionality or services. Alternative proposals need to be explored.

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<sup>110</sup> *Id.*, Chairman Wheeler Statement, p. 51.

## 2. Defining Discontinuance, Reduction or Impairment

Services are not provided in a vacuum. There is always a customer of the service that is very interested in any discontinuance of service and may have specific contractual rights in that regard (including financial compensation for termination). This leads to many questions, not the least of which is: what ‘vote’ does the customer have - - particularly under the proposed rules?

In a foreseeable NG911 environment, what if a bank installs cameras that feed alarms which in turn can be integrated into the NG911 system, and then the bank (not the 911 service provider or the PSAP) decides to discontinue the feed? PSAPs will adapt to and train on the alarms and camera feeds, and local citizens will become accustomed to the feature. It is likely the PSAP would consider that a discontinuance and/or denigration in 911 service. While the camera feature may or may not be “core” to the NG911 system, the functionality to deliver the data would be. Do the Commission’s proposals for discontinuance, reduction or impairment seek to control features or functionality? Who is best qualified to make determinations about discontinuance, reduction or impairment? The PSAP? The Commission? Will the Commission substitute its judgment for public safety agencies and impose federal rules over local contracts or other arrangements? Intrado believes that these should be market-made determinations in the public-private arrangement. Other examples of where the proposal lacks clarity include:

- What if hardware or software is no longer produced or supported?
- What if hardware or software can’t be moved to a more supportable, efficient environment?
- What if there is only one option or no options in a given scenario? For example, in offering VoIP 911 service, Intrado contracts with other providers for certain network facilities. What if the provider discontinues circuits to, for example, a remote location?

If there are no alternative routes, obviously service would have to discontinue to that area. Will the Commission refuse to allow that provider to discontinue support and maintenance of these circuits? Would it be a requirement for Intrado in this example to get the Commission's approval - and wait sixty days - in order to carry out the only resolution, discontinuance?

- How will the Commission deal with union contract disputes? For example, if certain 911 services (such as LNP error correction) are provided by union employees, and contract negotiations result in changes that affect the service, i.e., the service originally stated LNP errors would be corrected in 24 hours, and the new union contract stipulated 48 hours. Is that a reduction or impairment? What purpose would there be in forcing the 911 service provider to seek Commission approval if the provider has no control over the union?
- If a provider seeks to change out its supplier and the substitute provider's product or service has differences (which some may describe as material and others as immaterial), but the overall functionality essentially remains intact, what criteria will be used to determine whether that change is a reduction or impairment?
- A provider might contemplate acquiring another provider with the notion that it would discontinue a product line of the acquired company. In addition to other merger and acquisition considerations and required approvals, the acquiring company will be forced to consider whether the transaction is worth consummating based on whether the Commission will allow the product discontinuance post-acquisition. The requirement would unduly impede commerce and interfere with other government oversight functions.

In Intrado's opinion, it would simply be too unwieldy for the Commission to manage these matters that, by necessity, would have to include a process for making exceptions that is likely to swallow the rule.<sup>111</sup> And, Intrado agrees with NARUC which has stated, "The FCC will always lack the financial and personnel resources needed to oversee telecommunications markets across a country the size of the United States *alone*. Moreover, the FCC is not positioned, nor does it have the same incentive, to acquire the same insight into local markets as NARUC's member commissions."<sup>112</sup>

Even if the Commission could initially draw a bright line between services that all would agree are covered by the proposed rule, technological evolution would soon make that line fuzzy or moot. And, even if regulatory approvals aren't required in some instances, the requirement to notify all affected PSAPs would require an army of people to create, deliver and track those notifications, the cost of which would likely be passed along to PSAPs.

In defining discontinuance, reduction and impairment, the proposal provides little insight into the criteria the Commission would apply in order to grant or deny approval. That is not a minor issue since the proposed rule would allow the Commission to compel a 911 service provider to continue providing, possibly indefinitely, difficult-to-define and ever-evolving 911 products and services.

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<sup>111</sup> Intrado believes the Commission is in no position to take on the huge manpower responsibility of becoming the national NG911 marketplace arbitrator or technical gatekeeper. In his March 4, 2015 public testimony before the House Energy & Commerce Subcommittee on Communications & Technology Hearing on Reauthorization of the Federal Communications Commission: The FCC's FY 2016 Budget Request, Jon Wilkins, Managing Director of the Federal Communications Commission, made it abundantly clear that the Commission was at historic low headcount levels and intended to remain there - - if not reduce headcount even more. Mr. Wilkins' testimony, other supporting materials, and archived video are available on the Energy & Commerce site at <http://ow.ly/JVCuF>, while the minority staff memo may be accessed at <http://ow.ly/JVC6j>.

<sup>112</sup> *Id.*, NARUC Reply Comments, p. 6.

Such a proposal also contradicts the vision and goals of the i3 standard inasmuch as it perpetuates the continuing presence of a centralized, single entity at the center of the 911 ecosystem that must remain connected to all of the system's critical components.<sup>113</sup> It is difficult to imagine how a well-accepted industry technical standard will find long term success in a regulatory environment that works against it.

## **V. PROPOSED NEW RULE 12.6**

The FCC proposes to add Part 12.6 to require entities seeking to provide new 911 capabilities, particularly that impact 911 call completion, to certify as to the entity's technical and operational capability to provide reliable service. This requirement would affect existing Covered 911 Service Providers when introducing new capabilities, and it would affect all new entrants which, by definition, would be introducing new capabilities.

To the extent that the new services rely on IP-based networks and associated infrastructure (such as servers and data centers, and/or associated software applications), the FCC proposes that Covered 911 Service Providers certify that they have conducted a reliability and security risk analysis of the network components, infrastructure, and/or software that they will use to support 911 call completion. The FCC also proposes to require entities that seek to provide new critical links in 911 call completion to certify their preparedness to implement relevant best practices and comply with existing Commission rules applicable to those new 911 capabilities.<sup>114</sup>

As stated above, Intrado stands by its long-held view that regulators must have some measure of involvement with critical 911 services and offers limited and qualified support for the

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<sup>113</sup> See, discussion, *infra*.

<sup>114</sup> NPRM, para. 59, p. 24.

Commission's proposal to require new entrants to demonstrate their qualifications. Intrado is very concerned about how the proposal conflicts with state rules including those regarding CPCN (certificate of public convenience and necessity) that scrutinize technical, operational and managerial capabilities of new entrants and the services they intend to offer (discussed more fully below).

Intrado's concern extends to other elements in the NPRM that would inappropriately impede market entry and innovation, for example: "new services" is essentially defined as any new capability offered by a Covered 911 Service Provider on or after November 21, 2014. This leaves essentially no new service that would escape the requirement to certify a whole host of things to the Commission relative to technical and operational capabilities, reliability and security risk analysis of system components, infrastructure, and/or software to be used to support call completion, and acknowledgements of applicable Commission rules.<sup>115</sup> Such a requirement would clearly be a barrier to market entry, and the burden of certifying every new offering would serve as a disincentive for bringing new life-saving technologies to market. Intrado would be only slightly less concerned about a requirement for *true* certification of simple preparedness to implement relevant best practices - - which seems to be a *pro forma* requirement that, in Intrado's view, will have little bearing on resolving the issues of concern outlined in the Commission's Policy Statement.

Intrado strongly supports the concept of analysis and testing of new products and has an extensive process for doing so. Intrado strongly opposes the Commission's proposal that would require existing Covered 911 Service Providers to perform this work and, moreover, would require them to demonstrate the efficacy of analysis and testing. Intrado believes this particular

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<sup>115</sup> NPRM, proposed Rule 12.6(a)(1), (2) and (3), Appendix A, paragraph 5, p. 40.

element of the proposal is unnecessary, unprecedented and overreaching. Not even state regulators in the midst of pure monopoly regulation in years past had that kind of control.

## **VI. PROPOSED NEW RULE 12.7**

The Commission proposes to add Part 12.7 which would establish a new class of 911 service providers called “911 Network Operations Center” (“911 NOC”) providers to be primarily responsible for situational awareness and coordination with other service providers in the event of a 911 outage.<sup>116</sup> 911 NOC providers would monitor the entire 911 ecosystem to detect disruptions or degradations in 911 service and would communicate relevant information to other stakeholders, including originating service providers, system service providers, vendors, PSAPs, state emergency management offices, and the Commission during outages. The entity responsible for transporting 911 traffic to the PSAP or PSAPs serving a particular jurisdiction (the designated 911 service provider) would serve as the 911 NOC provider (thus, there would be one 911 NOC provider per 911 jurisdiction as is the case with 911 service providers today). The FCC proposes to empower 911 NOC providers to obtain relevant information concerning outages from Covered 911 Service Providers who in turn would be required to provide information in response to the 911 NOC provider’s requests. 911 NOC providers would then coordinate with other stakeholders to collect and distribute information regarding the impact of outages on all affected portions of the network from call origination to completion. The FCC proposes to exempt 911 NOC providers from liability for “...adverse consequences resulting from outages attributable to failures of network components outside their control, or for remediating or repairing such failures.”<sup>117</sup> However, “911 NOC providers would be responsible

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<sup>116</sup> NPRM, beginning at para. 66, p. 27; and Appendix A, paragraph 6, p. 41.

<sup>117</sup> NPRM, para. 68, p. 28.

for network components within the control of their agents, contractors and sub-contractors, or others acting on their behalf.”<sup>118</sup>

The FCC seeks comment on: whether certain obligations currently in Part 4 of the Commission’s rules, such as PSAP notification, would be better assigned to 911 NOC providers under the proposed information sharing framework;<sup>119</sup> processes and mechanisms that 911 NOC providers and Covered 911 Service Providers could use to carry out the proposed situational awareness and coordination responsibilities; the extent to which 911 NOC providers and Covered 911 Service Providers should be expected to share information in real time about call counts, alarms, or high-level data on the status of their networks and how to best to facilitate the sharing of such information; and how the information sharing system would work and how to implement the sharing regime.<sup>120</sup>

**A. Policy Goal Underlying The 911 NOC Provider Is Not Aligned With NG911 Technical Standards Or Market Realities**

Prior to publishing the NPRM, the Commission’s policy goals were generally aligned with technical standards to which the industry, for several years, has been building and deploying NG911 systems, but the NPRM represents a significant discrepancy between the two. In its 2013 report and recommendation to Congress on NG911 governance, the Commission endorsed the i3 standard<sup>121</sup> published by NENA three years earlier in 2010. In a fully-deployed NG911 system contemplated within the i3 standard, the single 911 system service provider that is

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<sup>118</sup> NPRM, footnote 132, p. 28 which references para. 18 discussing vicarious liability and section 217.

<sup>119</sup> NPRM, paragraphs 64-69, pp. 26-28.

<sup>120</sup> NPRM, paragraphs 70-74, pp. 28-29.

<sup>121</sup> *Id.*, FCC Report to Congress and Recommendations,” Feb. 22, 2013.

responsible for all aspects of the dedicated 911 system (historically, the incumbent LEC) is no longer necessary,<sup>122</sup> and during the transition to a full i3 end-state, the degree to which many of the current 911 service providers are involved will likely change<sup>123</sup> or even decrease, perhaps dramatically. In the NPRM, the Commission again refers to the i3 technical standard in support of its proposals,<sup>124</sup> but the NPRM fails to recognize that its proposals run counter to this widely-accepted standard and thus will confound, and could possibly disrupt, its continued application.

While the 911 NOC provider's role would, theoretically, be one of coordination - - to gather and share information - - implemented in order to "maintain comprehensive situational awareness,"<sup>125</sup> its practical effect would be to institutionalize and mandate a centralized, single entity - much like the legacy incumbent 911 service provider - - with omniscient responsibility and authority to oversee the 911-related components of all facilities and participants in an end-to-end 911 system (although, presumably, having no substantive responsibility for system reliability or repairs).<sup>126</sup> Conceptually, the 911 NOC provider's role relates only to 911 outages, but in

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<sup>122</sup> *Id.* This is not to suggest that ILECs can't or won't serve as a 911 service providers; the reference is only to the lack of a requirement in the standard for a centralized, single provider. Current NG911 deployments demonstrate that the industry has already moved in this direction. In the i3 model, there is also no central data storage reflecting the relationship of caller identification to a physical address. Multiple providers (and perhaps the 911 jurisdictional authority) play multiple roles that have historically been filled entirely by the ILEC. NG911 providers will deploy ESInets or will provide the Location Validation Function (a substitute of sorts for legacy ALI), while the provisioning of the LIS itself is the responsibility of originating service providers.

<sup>123</sup> NENA's *Baseline Next Generation 9-1-1 Description* (February 22, 2011) states, in part, "i3 is on a path to an end state i3 architecture" where NG911 systems will use legacy and IP components; available at <http://www.nena.org/ng911-project/baseline>. NENA touts as one of i3's strengths participation by multiple providers.

<sup>124</sup> *See*, for example, NPRM, para. 11, footnote 18.

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*, at para. 68. The Commission declares, "911 NOC providers would not be expected to have omniscient situational awareness of the status of 911 network components outside their control *except to the extent they are empowered to obtain such information from other parties or through their own network monitoring processes.*" (Emphasis added.) While declaring the 911 NOC would not be expected to be omniscient, the emphasized phrase contradicts the Commission's disclaimer by making the 911 NOC provider responsible for a wide-range of

practice and by necessity, it would need to have access to, and some level of interoperability with, the 911-related systems of all other service providers operating within the 911 ecosystem<sup>127</sup> - - not just during an outage but continuously (i.e., it's not possible to instantly interconnect and interoperate when an outage occurs). This access and interoperability is not unlike the role of the 911 system service provider.<sup>128</sup>

This proposal is also anti-competitive inasmuch as it gives the 911 NOC provider significant visibility into competitors' systems and perpetuates the notion of a single entity at the center of the 911 ecosystem that, by definition, must be connected to, and in some way responsible for (e.g. monitoring), virtually all of its pieces.<sup>129</sup>

It is unclear how such a regulatory model would co-exist with the i3 standard on which so much private investment, and public safety education and planning, has relied for years.

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subjective duties including "detection" of disruptions which virtually requires connectivity to all the major facilities of all U.S. networks that in any way are used for 911.

<sup>127</sup> It's entirely possible, if not likely, that this access could go well beyond 911-related facilities depending on whether a provider utilizes the facilities for both 911 and non-911 purposes.

<sup>128</sup> Also by necessity and very similar to the 911 NOC, the 911 system service provider has access to, and some level of interoperability with, the 911-related systems of other service providers operating in the 911 ecosystem, i.e., for the purpose of aggregating, routing and transporting 911 voice and data.

<sup>129</sup> The practical effect of instituting the 911 NOC would be to create an entity whose technical presence in the 911 ecosystem so substantially overlaps that of the 911 system service provider that one must ask whether the redundant costs outweigh the benefit of having a separate, centralized 911 NOC - - which in turn begs the question of why not just make the 911SSP responsible for the 911 NOC provider role - - a result Intrado does not recommend. As a separate consideration, the entity that pays for the 911 NOC, likely the PSAP, will need to justify what has to be viewed as the redundant roles of the 911 NOC and the 911 system service provider. Even if the proposal is abandoned and 911 SSPs are compelled to serve in the role described for the 911 NOC provider, the added responsibility will come at a cost the 911 SSP which will likely be passed on to the PSAP.

## **B. Proposal Creates Risk Of Confusion And Incompatibility And Unduly Expands The Role Of The 911 Service Provider**

### **1. Confusion And Incompatibility**

Intrado recognizes and appreciates the Commission's desire to establish a method by which the industry can benefit from situational awareness and coordination during an outage, but Intrado believes doing so via this new class of provider creates a risk of confusion and incompatibility with state regulation which currently governs 911 service providers - - a problem the Commission says it wants to avoid.<sup>130</sup> The responsibilities of the 911 NOC provider would, in effect, add responsibilities to the existing 911 service provider role - - a role governed by state regulators.<sup>131</sup> This is because the duties, facilities, components and operations envisioned for the 911 NOC provider and that which are already in place for the 911 service provider overlap substantially. The two roles require very similar interconnection and interoperability with other providers. If the two roles are essentially performed by the same entity, as the proposal suggests,<sup>132</sup> then both federal and state regulators would have authority over the one entity serving in both roles in connection with similar - - or the same - - functionality. Drawing a clean line between the overlapping roles, and thus between federal and state regulatory regimes, is highly problematic if not impossible. If regulatory oversight is shared by both the FCC and state

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<sup>130</sup> *Id.*, para. 36, p. 16.

<sup>131</sup> *See*, for example, Colorado Public Utility Commission rules: 4 CCR 723-2-2130 *et seq.* (Emergency 9-1-1 Services, Basic Emergency Services Providers) including Service Components and Requirements (§2133); interoperability and interconnection obligations (§2136(g)); service restoration following 9-1-1 failures or outages (§2136(h)); §2108 (Discontinuance of Regulated Services) and §§(d) (Provider of Last Resort per §2186); §2131 (Failure or Outage). *See also*, Ohio Administrative Code, Rule 4901:1-6-10, Public Utility Commission of Ohio, Case No. 07-1199-TP-ACE, *In the Matter of the Application of Intrado Communications Inc. to Provide Competitive Local Exchange Services in the State of Ohio*. The Illinois Commerce Commission also continues to regulate 911 service providers.

<sup>132</sup> NPRM, at para. 67, p. 27 where the Commission states, "We propose that the role of 911 NOC provider for each jurisdiction should be assigned to the entity responsible for transport of 911 traffic to the PSAP or PSAPs serving that jurisdiction. In many cases, we expect that this role would be assumed by the incumbent LEC ..." which typically fills the role of the 911 service provider.

commissions, it is difficult to imagine which regulation would apply to a particular function, facility, component or service in a given circumstance, and this makes the proposal unworkable with respect to the precision needed to hold providers responsible.

Intrado also believes the proposal creates an unnecessary layer of bureaucracy and is duplicative and inefficient, the cost of which is likely to eventually find its way to PSAPs. The Commission's current Part 4 rules relative to Covered 911 Service Providers apply today only to the state-governed 911 service provider designated by each 911 jurisdiction, and Intrado is concerned that expanded Part 4 rules will create confusion, incompatibility and unnecessary duplication with respect to state law. Thus, Intrado does not support the creation of a 911 NOC provider role.

## **2. Expansion Of 911 Service Provider Role**

The 911 NOC proposal includes broad responsibility for cyber security of NG911 systems as the Commission considers cyber security "...critical information during major 911 outages and other significant degradations in service."<sup>133</sup> This proposal represents a brand new obligation - likely to be borne by state-governed 911 service providers - and covers a range of issues that spread across the duties of a 911 service provider so as to fundamentally alter its role. Cyber security impacts all aspects of a service and its associated facilities. Speaking for itself as a 911 service provider, Intrado does not currently offer a specific "cyber security service" to its PSAP customers to secure the system against cyber attacks. Instead, it takes precautionary measures as part and parcel of its overall service which is not reflected as an itemized charge. If this additional requirement is imposed, providers may feel compelled to at least consider passing the cost along to PSAPs as a line item charge or by increasing an overall charge. These matters

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<sup>133</sup> *Id.* at para. 66, footnote 131.

are better addressed by contract and collaboration between parties. This may be another appropriate topic for CSRIC.

### **C. The 911 NOC Provider Concept Is Unworkable And Will Impede Commerce And Harm Competition**

Under the concept for a 911 NOC provider as envisioned by the FCC, 911 system and network providers will share contextual information during a system or network disruption. 911 systems are moving away from the closed-architecture, dedicated systems of the legacy era and toward distributed and layered technologies and architectures. IP networks carry various data types, including signaling, voice and transactional data, and they are leveraged for multiple usages simultaneously. Further, IP networks do not necessarily abide by point-to-point circuits and are often represented as mesh or cloud configurations with multiple paths between communicating entities. It is difficult, if not sometimes impossible, to isolate NG911 traffic or to identify a “911 circuit.”<sup>134</sup> Unless the Commission plans to give the 911 NOC provider omnipotent authority over all other providers’ IP traffic - - traffic that likely entails non-911 content, it will not be possible for the 911 NOC provider to perform the functions envisioned in the NPRM.

Nor will providers be inclined to allow that kind of unfettered access to their proprietary network landscapes for a competitor’s viewing or use. Even though the Commission has proposed a method for competitive providers to withhold sensitive information during an outage, the method is unworkable and self-defeating. For example, during the course of an outage, is a provider that is required to share sensitive information allowed to withhold the information while

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<sup>134</sup> See, *Intrado Motion For Clarification Or, In The Alternative, Petition For Partial Reconsideration* of the Commission’s reliability order In the Matter of Improving 911 Reliability, PS Docket No. 13-75; Reliability and Continuity of Communications Networks, Including Broadband Technologies, PS Docket No. 11-60.

it drafts a petition for the Commission’s consideration that describes the information, only to wait for an Order before sharing the information? That process is unrealistic for both the provider and the Commission. And to have such a “waiver” Order in advance of an outage defeats the purpose of the proposed rule (to share information).

Intrado strongly opposes the Commission’s proposal for a “centralized dashboard” that presumably would allow “users” to identify disruptions in any portion of their 911 network.<sup>135</sup> The users of the 911 system (which includes network facilities), i.e., PSAPs, should be able to contract with their 911 system service provider for such a feature - - if they want it and if they want to pay for it. Intrado also strongly opposes the Commission’s idea of placing the Commission itself in a role of 911 service provider as a compiler of 911-related information - - or in similar roles.

## **VI. SUPPORTING PSAPS DURING A SERVICE DISRUPTION**

Intrado agrees with the Commission’s conclusion that PSAPs continue to expect rapid and responsive support if any portion of the 911 network fails, irrespective of the type or number of entities providing services with the 911 call chain.<sup>136</sup> Intrado also agrees with the Commission’s conclusion that “...it is vital that PSAPs experiencing a 911 outage receive timely notification and information regarding the scope of the outage and options for mitigation.”<sup>137</sup> Intrado also agrees with the Commission’s position that 911 service providers should provide swift and accurate outage notifications to PSAPs.<sup>138</sup>

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<sup>135</sup> NPRM, para. 71, p. 29.

<sup>136</sup> NPRM, para. 16, p. 8.

<sup>137</sup> NPRM, para. 17, p. 9.

<sup>138</sup> NPRM, para. 46, p. 20.

Although not specifically proposed in the NPRM, Intrado would support a reasonable proposal - - based on industry standards and technical feasibility - - that, in the event of an outage, ensures call-back numbers to be made available to PSAPs so that welfare checks can occur.<sup>139</sup>

## VII. CONCLUSION

Since the company's inception, and to this day, Intrado's employees have recognized a special responsibility to provide highly reliable and secure 911 systems and services. It is at the heart of the company's culture and operations.

Intrado stands with the Commission and shares its passion. The Commission has a successful history of invoking and energizing collaborative forces to achieve important milestones for the benefit of public safety, the most recent example of which is its location accuracy order which dealt with complex technological and market issues involving multiple stakeholders - - not unlike the situation faced in the NPRM. Intrado strongly encourages the Commission to use that proven methodology in the present matter.

Intrado recommends the Commission suspend activity on the NPRM and instead facilitate standards evolution and industry collaboration that focuses on system reliability and on removing barriers to NG911 deployments. Intrado vows to work with regulators and all industry stakeholders on the best path forward to institute an appropriate cooperative governance model for NG911.

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<sup>139</sup> Vermont's comments discuss at length the need for call back numbers during an outage, *Id.*, State of Vermont, pp. 3-5. Other agencies also raised the issue in their comments in P.S. Docket No. 14-72.

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Respectfully submitted,

Intrado Inc. and Intrado Communications Inc.

/s/ Craig W. Donaldson

Craig W. Donaldson  
Senior Vice President  
Regulatory & Government Affairs  
1601 Dry Creek Drive  
Longmont, CO 80503  
720-494-5800