Before The  
Federal Communications Commission  
Washington, D.C. 20554

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

REPLY COMMENTS OF INTRADO

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REPLY COMMENTS OF INTRADO

Intrado Inc. and Intrado Communications Inc. (together, “Intrado”) respectfully submit the following reply 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”).1

I. SUMMARY

Regulators and public safety agencies are raising important issues in this docket, but speculation and opinion about underlying causes of service disruptions and available solutions regarding 911 reliability should not substitute for rational, fact-based policy-making that incorporates a firm understanding of 911 technology, operations and market dynamics. Technology providers, with the input from their customers, are the most qualified to make determinations about how to deploy technology and services. Intrado believes the so-called jurisdictional “gap” is the result of the FCC’s failure to clarify whether state regulation of IP-based 911 would frustrate the agency’s federal purpose in exercising exclusive jurisdiction over interstate VoIP service; and in any case, Intrado is gravely concerned about the FCC exercising

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authority beyond what Congress has given it. Intrado believes the dual 911 regulatory regime suggested by the NPRM is unwarranted and ill-advised. Collaboration among private and public sector stakeholders is strongly advised; for example, with regard to efforts to address 911 reliability, Intrado is aware of and encouraged by the efforts of a group of seven industry stakeholders\(^2\) evaluating possible alternatives for advancing the goals expressed in the Commission’s Policy Statement, and those efforts should be encouraged. With regard to NG911 governance, Intrado suggests that a joint federal-state board be formed consisting of the Commission, NARUC, NASNA, NENA, APCO and a reasonable number of entities sufficient to represent regional and local 911 agencies. This board would: analyze and report on current 911 jurisdiction; devise and recommend an appropriate cooperative governance structure for NG911 in an evolving environment that comports with state and federal law; and offer model NG911 regulations to state regulators for updating outdated E911 regulations.

II. AGGREGATING 911 FUNCTIONALITY OVER GEOGRAPHICALLY DIVERSE AREAS IS CONSISTENT WITH 911 TECHNICAL STANDARDS AND MARKET DEPLOYMENTS; IT DOES NOT INHERENTLY CREATE RISK OR INCREASE POTENTIAL POINTS OF FAILURE; AND IT DOES NOT ITSELF CAUSE OUTAGES.

Without presenting any facts to support a central premise for regulating the dedicated 911 system and its associated service providers, the Commission has asserted 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” (emphasis added).\(^3\) With good intentions but with no evidence of their own, others are blindly parroting the Commission’s assertion by claiming that structural, technological, and marketplace changes, such as

\(^2\) NENA, APCO, iCERT, NASNA, ATIS, USTA and the Texas 9-1-1 Alliance.

\(^3\) NPRM, footnote 122.
aggregating functionality over geographically diverse areas, “increase[s] the … potential points of failure in the provision of 911 service.”

Intrado fully supports reasonable, fact-based initiatives designed to ensure 911 system reliability and understands the desire by commenters to offer opinions on the subject; and Intrado agrees that it is important to use the national dialogue created by the NPRM to share information and address novel technological issues relative to NG911 reliability, but repeating unfounded assertions over and over does not make them true. In fact, the above assertions are not true; they are opinions based on speculation which does not establish a legitimate basis for regulation, and moreover, focusing attention on such misplaced assertions will not move the industry any closer to improvements in NG911 reliability or help address questions regarding 911 governance. There are significant technological differences between legacy E911 and NG911 - - this topic being one of many - - which are not being appropriately recognized or applied in this docket. Instead, a false premise is being advanced - - one that wrongly implies the April 2014 “sunny day” outage would have been prevented if the NPRM’s proposals had been in place. Appropriate attention is not being given to the fact that NG911 technical standards are not fully evolved and don’t yet address many of the concerns expressed in the NPRM; and NG911 standards-making and best practices will intrinsically differ from legacy E911 standards and best practices.

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4 Comments of the Washington Utilities and Transportation Commission at page 2, 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; see also, Comments of the National Association of State Utility Consumer Advocates which claims, “The changes have increased the number of potential failure points in the delivery of 911 calls,” p. 1; see also, Comments of APCO, p. 1; see also, March 20, 2015 letter from Scott L. Johnson, Chief Deputy Sheriff, Pacific County (WA) Sheriff’s Office offering its concurrence with the WUTC comments.

5 For example, the NG911 system deployed in the state of Washington and associated with the April 2014 outage cited extensively in the NPRM aggregated functionality across diverse geographic areas in a manner fully compliant with standards and best practices.
practices which argues against any suggestion that the industry should simply apply legacy standards and practices to NG911.

Aggregating functionality over geographically diverse areas does not inherently risk catastrophe, or increase the potential failure points of 911 systems, or, itself, cause systems to be less reliable. The practice is inherent in the widely-accepted, NG911 technical standard, i3, and is commonplace in modern communications. In Intrado’s view, this fact causes one of the Commission’s foundational premises for federal regulation to be at odds with the 911 industry’s technical standards which must remain in synch with standards for twenty-first century communications in order to avoid widening the technology gap between the two. Also, claims about how the practice increases the number of potential failure points are likewise misguided. In fact, there are far more legacy selective routers and associated ALI systems in the United States than the number of equivalent NG911 components (referenced in i3 as the “emergency call routing function”); thus, with respect to the assertion about the number of potential failure points, one could argue that fewer system components (typical in NG911 deployments) can make it easier to mitigate potential failure points. However, if the concern that underlies the assertion is that fewer facilities increases the potential for a broader geographical impact in the event of a service disruption, then that would be a fair comment and a matter for industry technologists and standards bodies to address as part of a legitimate debate about NG911 system configurations. Nonetheless, the issue is not as simple as that. (See discussion, infra, regarding NG911 Solution Architecture and Core Processing Sites.)


7 See for example, Comments of the Boulder Regional Emergency Telephone Service Authority (BRETS) on Policy Statement and Notice of Proposed Rulemaking state at p. 29, “IP networking technology was also developed to facilitate survivability through a web of redundant and diverse routers and transmission facilities. Taken together, one of the important features of NG9-1-1 service is its potential survivability because of the redundant and diverse distribution of data complexes and transmission paths.”
Intrado urges regulators and stakeholders to better understand these issues before any agency imposes new requirements on service providers.

III. THE PROPER ROLE OF REGULATORS IS TO DETERMINE “WHAT” PROVIDERS SHOULD BE REQUIRED TO DO AND NOT “HOW” TO DO IT.

With all due respect, regulators and government agencies do not design, build or operate large, complicated communications systems, and in Intrado’s view, it is inappropriate for them to dictate details better left to technical experts. By way of analogy: homeowners should tell their electricians they want lighting and perhaps the kind of lighting (e.g., fluorescent) - - with the kind of lighting representing a subset of the what; but they should not tell them how to install the fixtures or dictate the number of fixtures on a circuit; or dictate the path of the wires back to the service panel or how to connect the panel to the electric grid - - that is, unless the agency wants to share responsibility for the system’s performance with the service provider. Technology providers are best suited to create, deploy and operate technology, i.e., the how. It is the proper role of the regulator to determine what should be imposed, i.e., NG911 (and perhaps the kind of NG911, e.g., hybrid or IP end-to-end), and it is worth noting that, historically, the 911 industry, via tariff and contract, has been well-served by service providers delivering on what 911 governmental entities required while leaving the how to those providers.

A. NG911 Solution Architecture And Call Processing Sites

The Washington Utilities and Transportation Commission implies that regulators should not only dictate what providers should do but also how they should do it. In the example below, the WUTC explains how a NG911 system should be load balanced. It states:

“With respect to load balancing, the UTC believes the Commission’s proposal to require 911 service providers to dynamically distribute call volumes among multiple, active
databases or call-processing facilities rather than be concentrated in one active location, is a rational and appropriate technical requirement. However, reflecting on our recent experience with the April 2014 service outage, the UTC has two concerns:

First, the UTC respectfully suggests the Commission’s new requirement should be modified to require load balancing separately for 911 call volumes in each state. The traditional providers of 911 service in each state have contractual and regulatory obligation within each jurisdiction to provide safety and reliable 911 service regardless of network configuration. The UTC is concerned that 911 service providers may satisfy the requirement by virtue of some national or regional measure which could continue to leave individual state with significant exposure to unbalance 911 call volume condition unless the new requirement is modified.

Secondly, the UTC recommend the Commission make it clear that 911 service providers require to meet the new requirement for dynamic distributing 911 call volumes may not interpret the new as allowing load balancing by having all or the majority of 911 call in a particular state direct to a primary Emergency Communication management Center (ECMC) with “dynamic” roll-over to a secondary ECMC. Dynamic distribution should mean that all 911 call volumes are constantly and consistently distributed on a real-time basis between multiple databases and call processing facilities."

The King County E911 Program (King County) has also voiced its opinion in connection with the number of system elements which should be deployed for NG911, e.g., the emergency call routing function. The agency is concerned that “only one ESInet with only two Call Routers” are being used to provide 911 service to all states nationwide.9

NG911 solution architecture is made of many processing elements and facilities at various geographic sites. The geographic sites of a NG911 solution are either duplicative or special purpose. Typically, the geographic sites can be characterized as one of the following:

a) Traffic Aggregation Sites or Point of Interface (POI) for ingress call traffic

b) Core Processing Site – the functional elements that perform call routing logic and supporting functions

c) PSAP CPE POI – the handoff from the ESInet to the 911 Call Handling functions

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8 WUTC Comments, p. 9. Beginning at p. 13 of its comments, BRETSA offers similar opinions about NG911 system configurations.

9 Comments of the King County E911 Program, p 4.
d) Support and Maintenance

IP technology creates the opportunity to separate functions geographically and create benefits and value. With the benefits of geographic separation and replication come inherent complexity and management challenges that are unlike legacy Selective Router configurations. The architecture of a NG911 solution is a matter of trade-offs - - in cost and performance. Cost and performance can both be further defined in terms of solution complexity, management overhead and service availability/reliability.

The NG911 term “Core Processing Sites” is typically used to denote the location that houses the call processing functions, noting that not all functions that are involved in ESInet call processing need or should be located within the Core Processing Sites. Specifically, Traffic Aggregation Sites provide TDM interfaces from regional Originating Service Providers are advantageously deployed to collect call traffic and distribute it to available Core Processing Sites. Core Processing Sites provide the NG911 call processing functional logic - - directing calls from Traffic Aggregation Sites to call handling destinations, typically PSAPs. Core Processing Sites are used to provide the NG911 services within an ESInet. Challenges can arise from either too many or too few Core Processing Sites. The number of Core Processing Sites multiplies the cost, a topic of great concern to agencies and their vendors, even though 911 processing capacity requirements are relatively low compared to state-of-the-art call processing technology. 10 Too few Core Processing Sites can create single points of failure. 911 is

10 Costs continue to be scrutinized in part because 911 funding continues to be scrutinized, and rightly so. For example, the perfectly legal method for appropriating funding for state 911 agencies in Texas involves the exercise of legislative discretion which can and has resulted in non-appropriation of a portion of collected 911 surcharge funds and use of those funds for other purposes. However, recognizing it is no longer sensible to rely on dedicated funding mechanisms, including 911 surcharges, for funding these other purposes, Texas’ Governor, Lieutenant Governor and Speaker of the House have prioritized the issues of transparency in budgeting and use of state money for intended purposes. Texas leadership has and is taking concrete steps to reduce the state’s reliance on dedicated funds including 911 funds. The 2013 Texas Legislature passed House Bill 7 related to dedicated funding and balances and required its Legislative Budget Board to review and report on the status of all such accounts prior to
inherently characterized as a low volume call processing operating environment compared to other call processing applications. Replication of Core Processing Sites is advantageous for distributing transactions and creating a reliability model where the loss of a given Core Processing Site does not remove the ability to continue processing 911 calls. However, a proliferation of Core Processing Sites can lower overall solution availability by introducing overhead and complexity relative to managing and integrating the multiple sites.

A proliferation in Core Processing Sites can have a downside, because it requires a larger staff, more experts, more training and more distributed management functions. A large number of Core Processing Sites also requires extensive integration between sites and an operating environment that understands and manages the existence of all the sites. A smaller number of sites focuses resources and reduces overall management functions. This manifests, for example, as a significant security threat due to failures in applying security patches which is the result of a lack of resources to keep all systems updated. There is a balance between the number of Core Processing Sites and the ability to provide a quality solution.

Core Processing Sites can be engineered to share call load where each can process any call. This creates a highly reliable NG911 call processing model. Geographic location of Core Processing Sites should not be equated to a locality or “back-yard” mentality. There are many benefits to having Core Processing Sites that serve an area but are not immediately located

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A new report was published in 2015 that is more current than the one Intrado referenced in footnote 911, page 42 of its initial comments filed in the present docket. See, [http://www.lbb.state.tx.us/Documents/Publications/Policy_Report/1438_GR-D_Certification_Web.pdf](http://www.lbb.state.tx.us/Documents/Publications/Policy_Report/1438_GR-D_Certification_Web.pdf). Intrado regrets any misrepresentation of facts by referencing an outdated report. The 2015 report has specific recommendations to reduce the 911 dedicated fund balances, and the issue continues to be addressed through the budgeting and appropriation process. Additionally, Intrado understands that progress is being made in getting funds to 911 agencies funded by the state program through the budgeting process itself, e.g., currently, CSEC (Commission on State Emergency Communications) has been appropriated more than 100% of the 911 service fee revenue / surcharge funding that is projected to be received in FY 2014-15 which will reduce the dedicated fund balance by $21 million, and the pending appropriations for FY 2016-17 are expected to be similar - - expected to reduce the balance by another $17 million.
within the area. Natural disaster or malicious behavior in a given area need not impact the ability to process that area’s 911 calls. In scenarios where local IP communications is disrupted in a given area and 911 call handling is disrupted for some period of time, it is much easier to re-establish IP communications to a geographically distant Core Processing Site then to reconstitute an entire Core Processing Site that may also have been in the disrupted area.

The balancing of considerations relevant to the appropriate number of Core Processing Sites serving any given area should include the following criteria:

a) Availability – enough to ensure that an impairment does not eliminate the ability to process calls.

b) Cost effective – effectively leverage technology across a broader population. IP technology requires significant investments in routing and security appliances that must reside at each Core Site.

c) Staff – Allow for a trained, well-versed and focused technical support staff. Fewer infrastructure instances require less trained support staff and allows that staff to be specialized.

d) Maintenance – A larger number of Sites is harder to maintain and keep consistent. A fewer number is easier to keep up to date with necessary releases and security patches. It’s important to remember that NG911 and the integration with FirstNet are in an early evolutionary phase; there are still many changes to come with new capabilities added as the industry moves forward.

e) Ubiquity of Features – feature sets across Core Processing Sites should be configurable, and integration between served entities is easier across a shared infrastructure. Service becomes a matter of configuration versus integration across processing environments.

Core Processing Sites: can failover to each other; can allow transactions from one site to failover to other sites; and can cooperate to create a better and more reliable solution. Fewer sites allow a greater investment in technical sophistication and integration between sites. As NG911 technology, solutions and products mature, there will be increasingly improved reliability and new features that can be leverage across a broad population.
But let us be clear: 911 agencies can have as much redundancy as they are willing to pay for. If a 911 agency requests additional or redundant functionality, even if a service provider doesn’t believe it is necessary, most service providers will accommodate such requests. In any case, Intrado supports state and local control over the establishment of a jurisdiction’s particular NG911 requirements — done in partnership between agencies and their providers. Intrado believes that FCC regulations are not necessary or desirable and are likely to impede jurisdictions’ ability to exercise this kind of control and discretion.

**B. NG911 Cyber-Security**

In order for cyber security measures to be effective and meet any best practices, they must be instituted by all of the system’s stakeholders. In many cases, public safety entities request solutions for securing 911 information and systems without knowledge of the implications and without establishing the mechanisms necessary to ensure that the information cannot be used in a malicious manner. The NG911 user community needs assurances that their systems are secure and managed properly, but the open, public nature of how government agencies operate conflicts with managing security. The tension between the two presents a fairly new challenge to public safety entities. The NG911 environment becomes vulnerable if information about the workings, configurations, versions or practices goes beyond those with a need to know. General security practices require safeguarding of information about the solution and the operation of the solution. Many PSAPs lack an understanding of security practices, network and computing element security capabilities, operating environment management and the dynamic nature of security practices and features. Recognizing this fact, the Commission
created a Task Force on Optimal PSAP Architecture (TFOPA)\(^{11}\) with a mission that includes a PSAP Cyber Security work group. Security functions of a system and network are not a stagnant, “point-in-time” landmark. NG911 security evolves as technology, vendor products, best practices and the functions of the NG911 solution itself evolve. A NG911 network and a distributed, redundant, application operating environment is a complicated endeavor that makes security equally or more complicated. Significant confusion exists in the public safety agency community over the on-going lifecycle of these solutions. In addition, there is often a separation between NG911 ESInet functions and PSAP Customer Premise Equipment (CPE) functions that requires a security border control function (BCF). In today’s practice, NG911 ESInets are rarely connected to the public Internet, whereas, PSAP CPE functions are more likely connected to the public Internet with all its risks and vulnerabilities. Security and function, in each of these domains, must be managed harmoniously, and prescribed standards must be weighed against state-of-the-art and state-of-availability of product capabilities. This unfortunate tension - - between protecting information about NG911/ESInet implementation versus the obligation to make information broadly known (and thus creating security vulnerabilities) - - must be carefully managed both by public safety agencies and their providers.

Intrado is aware of two relevant documents, described below, containing recommendations for cyber security in an emergency communications environment, neither of which Intrado considers NG911 best practices - - at least not at this point. Best practices are essentially methods and procedures that, through experience, lessons learned, and industry-wide analysis over time have been determined to be the best known and widely-accepted way for dealing with particular circumstances. NG911 is simply too new, particularly with respect to

NG911 cyber security practices, for this to have occurred; and there has not been sufficient time for lessons learned or industry-wide adoption of virtually any NG911 best practice.\textsuperscript{12}

(1) Report on Cybersecurity Risk Management and Best Practices prepared for the FCC by the fourth Communications Security, Reliability and Interoperability Council (CSRIC IV)\textsuperscript{13} - - an excellent, comprehensive body of work containing a significant amount of content - - on which the Commission promptly sought public comment (with initial comments not due until May 29, 2015);\textsuperscript{14}

(2) NENA’s NextGen 911 security (NG-SEC) document.

A third source for cyber security practices in an emergency communications environment will be TFOPA, but the group is still in the early stages of its work and has produced no formal work product to date.

CSRIC’s report was published approximately one month ago, and there has not been enough time for the industry to absorb its substantial content and integrate it into product and service offerings. While the NENA document was originally produced in 2010, it also contains substantial material which has been, and is, undergoing review for revisions.

\textsuperscript{12} Intrado reiterates its position that NG911 best practices are essentially non-existent, and their legacy “equivalents” are deficient substitutes in a NG911 environment. See, Initial Comments of Intrado, p. 24.


\textsuperscript{14} Public Notice DA 15-354, Released: March 19, 2015, FCC’S PUBLIC SAFETY AND HOMELAND SECURITY BUREAU REQUESTS COMMENT ON CSRIC IV CYBERSECURITY RISK MANAGEMENT AND ASSURANCE RECOMMENDATIONS, PS Docket No. 15-68.
IV. COOPERATIVE GOVERNANCE IS APPROPRIATE, BUT DUAL REGULATION OF THE 911 SYSTEM IS INAPPROPRIATE UNDER CURRENT LAW AND IS UNNECESSARY.

The Commission has a vital role to play in the governance of NG911 and in facilitating deployments. It is qualified and authorized to coordinate and provide guidance to states relative to at least two major issues associated with the special characteristics of NG911, one of which is at the core of the Commission’s Policy Statement and the other represents an impediment to NG911 deployments:

(1) NG911 deployments, particularly in the near term, will typically involve state-wide or local systems, and as envisioned by the i3 specifications, NG911 deployments will increasingly become regional and presumably national; and states could benefit from coordination efforts that would allow them to better govern these systems; and

(2) Many state regulations still treat 911 service as a single-provider system accompanied by legacy, single-provider requirements which cause unintended, perverse results in a competitive NG911 market; and in order to accommodate present and future circumstances, while not lowering the bar on system reliability, states’ efforts to adjust their regulations would benefit from broader coordination while avoiding any undue “uniformity” given that 911 systems are not all alike.

Intrado urges the formation of a joint federal-state board consisting of the Commission, NARUC, NASNA, NENA, APCO and a reasonable number of entities to sufficiently represent

15 “National” does not equate to “federal” as a stand-alone proposition, and regional or national ESInets do not alter the fact that 911 calls that originate and terminate in the same state are intrastate in nature.

16 Intrado agrees with the Virginia State Corporation Commission’s statement made in its comments: “The Notice highlights the continuing importance of ensuring 911 reliability to the nation as we transition from the legacy 911 Time Division Multiplexing networks to an Internet Protocol (“IP”) -based Next Generation 911 (“NG911”) architecture.”
regional and local 911 agencies, to examine the broad range of governance issues implicated by the NPRM. Intrado believes that this board should provide the industry with a jurisdictional analysis and make recommendations for cogent governance of NG911 to include modifications of federal and state 911 regulations within the bounds of current statutory authority while leaving discretion to each state and locality to adopt those recommendations as they deem appropriate. Using this approach, Intrado believes it is not too late for the Commission to advance its own policy goals in order to achieve its federal purposes for NG911. Intrado believes the Commission’s focus on reliability should mostly involve encouraging industry collaboration and finding potential alternatives to federal regulation,¹⁷ and its focus on cooperative governance and accountability should be vested in the joint board.

A. The Commission Lacks Jurisdiction For Regulating Intrastate 911 Calling Service As Well As The Underlying 911 System And 911 System Service Providers.

The FCC’s jurisdiction is confined to interstate and foreign communications and does not extend to intrastate 911 calling service.¹⁸ Intrado agrees with, and joins in the position expressed

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¹⁷ It remains Intrado’s position that refinements to NG911 system reliability should be accomplished through voluntary industry standards-making and the adoption of best practices. Intrado concurs in the Comments of CTIA in this proceeding which state, “In many ways, the rulemaking is getting ahead of Commission best practices. The better course here is to maintain the proactive collaboration that exists today among the Commission, the wireless industry, and public safety by working within CSRIC and other bodies, including the Task Force on Optimal PSAP Architecture, to identify best practices and ways to improve 9-1-1 service.”

¹⁸ Intrado acknowledges that Congress has given the FCC limited jurisdiction over wholesale (carrier-to-carrier) requirements that states must apply when arbitrating interconnection disputes under sections 251 and 252 of the Telecom Act; however, the Commission has opted to not address interconnection or cost recovery as part of this NPRM, and in any case, while the exercise of such federal jurisdiction could facilitate NG911 competition and deployments, it does not extend to jurisdiction over intrastate 911 calling or alter the Commission’s flawed jurisdictional analysis. If anything, the Commission’s decision to omit interconnection from the NPRM is another example of its failure to address IP interconnection generally, and NG911 specifically, which adds to states’ confusion about whether the FCC intends to exercise jurisdiction over IP-related interconnection and in turn undermines NG911 deployments - - a point made by the Texas 9-1-1 Entities. See, Initial Comments of Texas 9-1-1 Entities, pp. 11-14.
by, iCERT relative to the lack of FCC jurisdiction to promulgate the proposed rules, and Intrado concurs with other commenters that have openly challenged the Commission’s authority and that have questioned or cautioned the Commission about its jurisdiction.

1. Jurisdiction Over Interstate Services

At paragraph 30, page 14 of the NPRM, the Commission explains how its 2013 report to Congress recommended federal legislation to create a “federal regulatory backstop to ensure that there is no gap between federal and state authority (or the exercise thereof) over NG911.” This statement reflects a very different view than the one expressed by the Commission in its 2014 NPRM; and the Commission’s 2013 position undermines, in at least three ways, the Commission’s 2014 suggestion that it has jurisdiction over 911 or NG911 services.

First: the FCC’s recommendation that asks Congress to grant “backstop” authority is an express admission that the FCC lacks authority over the 911 system exclusively governed by the states. Given that the Commission’s request remains unrequited by Congress, it stands today as the agency’s ongoing admission that it still lacks jurisdiction. Moreover, nothing in the NPRM adequately explains why the agency’s position on this topic changed so dramatically

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19 March 23, 2015 letter to Marlene H. Dortch, Secretary, FCC from George Rice, Executive Director, Industry Council For Emergency Response Technologies (iCERT), pp. 6-8.

20 See, for example, Comments of AT&T, pp. 1 and 32; Comments of Verizon, pp. iii and 14-16.

21 See, for example, Comments of the California Public Utilities Commission, pp. 2 and 9; Comments of the Virginia State Corporation Commission, p. 4; and Comments of the Boulder Regional Emergency Telephone Service Authority, pp. 1 and 28-36.


23 Id., the FCC itself cites to 47 U.S.C. §224(c)(1) for this proposition in the context of its Congressional request, recognizing that it cannot exercise authority “in any case where such matters are regulated by a State.”

24 To date, none of the FCC’s recommendations contained in the report have been granted by Congress.
between 2013 and 2014, and as a separate matter, the agency’s silence on that question reflects a separate failure to serve one of the most important purposes of regulation: to give regulated entities clarity and certainty. Nor has the Commission provided a sufficient legal analysis about why it believes it no longer needs the Congressional authority it sought in 2013 to now exercise a great deal more authority than just providing a “backstop.” For these reasons alone, the NPRM’s proposals are arbitrary and capricious.

Second: the rationale given by the FCC for the existence of a “gap” is based on speculation and is therefore flawed. The existence of a gap is not premised on any formal or informal assessment or pronouncement by the FCC based on relevant record evidence or an adequate legal analysis; instead, the Commission relies entirely on the speculation and opinions of certain commenters. The Commission’s “analysis” is essentially based on the following statement: “…there may be instances where states lack authority under state law to regulate certain elements of NG911 service…” (emphasis added). Such speculation was not a sufficient reason in 2013 for Congress to grant the Commission “backstop” jurisdiction, and it remains an insufficient basis for asserting authority today.

Third, in Intrado’s view, the jurisdictional gap is a creature of the FCC’s own making, and the Commission has allowed the gap mythology to linger. As its example of where states may lack authority to regulate certain elements of NG911 service, the Commission cites to “a number of states that have refrained from exercising regulatory jurisdiction over VoIP services (emphasis added)” wrongly concluding that this potentially creates “a regulatory vacuum in

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25 See, recommendations to Congress, section 4.1.2.2, where the Commission cites to “several commenters” in P.S. Docket 10-255, particularly citing to page 10 of CTIA’s comments.

26 See, report to Congress, footnote 160.
regard to VoIP-based 911 service.” The FCC fails to understand and articulate the important, fundamental distinction between IP telephony and IP-based 911 service (i.e., NG911) and has failed and refused, despite opportunities over many years to do so, to timely clarify its federal purpose vis a vis 911 regulation in an IP environment. Intrado is not alone in this opinion.

VoIP is Internet telephony that utilizes IP technology; it is an interstate, originating service for which federal 911 regulations have been appropriately implemented to ensure VoIP phone subscribers have access to the dedicated 911 system regulated by the states. The FCC has addressed its federal purpose regarding VoIP service and prohibited the states from regulating it. NG911 is IP-based 911 service; it is the next generation of intrastate 911 services regulated by the states. IP is a technology, not a service. The mere utilization of IP does not automatically or inherently cause that utilization to be designated as VoIP service or classified as

27 Id., Section 4.1.2.2.

28 See, for example, September 11, 2007, ex parte letter to Honorable Kevin J. Martin, FCC Chairman from the undersigned; In the Matter of IP-enabled Services, WC Docket No. 04-36, wherein the governance issues now facing the industry were brought to the Commission’s attention nearly 8 years ago with the hope of getting ahead of the situation by avoiding the questions that are now manifest in the NPRM. Through this letter and otherwise, the Commission was informed of state confusion over state regulation of IP-based 911 services following the Commission’s declaration of IP as an interstate service which failed to address the issue and/or misconstrued it, and wherein the Commission was asked to clarify its federal purpose (i.e., whether it was preempting state NG911 regulation -- a request for clarification sought after the 8th Circuit decision) -- and clarification which, to this day, has not been given but would encourage state officials to facilitate the updating of NG911 regulations which in turn would promote NG911 deployments. See, Minnesota Public Utilities Commission et al. v. FCC, Docket. No. 05-1069 and National Association of State Consumer Advocates et al. v. FCC, Docket No. 05-1122, 483 F 3rd 570 (8th Cir.), Mar. 21, 2007.

29 Id., BRETSAs’s comments which state at page 30, “... it appears that states have deregulated IP-telephony services including NG9-1-1 in the face of provider arguments that the FCC has exercised preemptive jurisdiction over such services. The Commission has failed to address these claims, notwithstanding BRETSAs’s 2012 Petition for Declaratory Ruling.”

30 Interconnected VoIP providers must provide certain levels of E911 service to their customers; see, 911 Requirements for IP-Enabled Service Providers, PS Docket No. 07-114; VoIP 911 Order, WC Docket No. 05-196.

an interstate service; and deployment of IP in a 911 setting does not alter the innate character of this emergency calling service or its intrastate regulatory status. The FCC has rendered no formal or informal opinion on this subject that contradicts the above principles. Thus, “9-1-1 calls remain intrastate calls whether or not regulated by the state”\textsuperscript{32} - - a concept that is fatal to the FCC’s “gap” analysis. In Intrado’s view, the Commission has, inadvertently or otherwise, manufactured the purported jurisdictional gap by failing to grasp these crucial distinctions, allowed the lines to remain blurred for states, and misapplied these concepts to NG911 jurisdiction. So, too, have some state legislatures misunderstood the distinction and misapplied the concepts - - at least in part due to the FCC’s failure to clarify the point.

Altogether, the situation has unquestionably contributed to the confusion experienced by state regulators. Despite states’ requests for clarification and lingering confusion, to this day, the FCC has not clarified the one issue that, years ago, could have avoided the present governance debate: \textit{whether state regulation of IP-based 911 would frustrate the FCC’s federal purpose in exercising exclusive jurisdiction over interstate VoIP service}. In Intrado’s view, it would not, but it is not Intrado’s opinion about the issue that states have been seeking. The FCC has come close to confirming that it would not - - for example, through its publicly-stated positions that state and local governments continue to have jurisdiction over 911 service - - but the agency has never quite done so expressly, particularly with regard to NG911. Only the FCC can explain why it has not made the point absolute relative to NG911, but the agency should now answer the question. Even though the FCC’s prior positions and statements reserve states’ rights, the agency continues to carefully preserve its opinion that it has a “governance” role in 911,

\textsuperscript{32} Id., comments of BRETSA, p. 25.
specifically with respect to NG911—implying it has jurisdiction but without making a compelling case therefore—and always falling short of declaring it has no jurisdiction over IP-based 911. Intrado is not alone in its view. In its comments at page 3, APCO shares its concerns about the Commission’s vague references to its 911 jurisdiction. It states, “…APCO is concerned that other statements in the NPRM could be interpreted to suggest that the Commission may have at least limited legal authority over PSAPs operated by state and local governments. For example, the NPRM states that ‘[j]urisdictionally speaking,’ there is ‘shared authority of the federal government and states to collectively oversee all components of 911 service.’ APCO disagrees with that statement to the extent that it could be read to suggest that the federal government has independent oversight over “all components,” including PSAPs.”

Instead of clarifying the point, in 2013, the Commission asked Congress to give it authority over NG911 in certain circumstances. Other than clarifying the point or asking Congress for jurisdiction, the FCC also had and has fundamentally three other choices, two of which appear to Intrado to be insupportable and/or may be politically inexpedient, and the other appears to be unacceptable to the agency in light of its vision of the role it seeks to play in NG911. The FCC could seek to: (1) overturn legal precedent relative to intrastate 911 calling, at least in part, by declaring that NG911 is an interstate service; (2) federally preempt the states with regard to NG911 service; or (3) leave 911, including NG911, to the states and continue to serve in an important, but supporting, role.


34 Id.
Is there a *governance* gap? Governance is a vague and less-than helpful word in this context, but Intrado admits that, with changes in 911 technology, standards, best practices, markets and funding - - coupled with antiquated state regulations and varying degrees of complacency on the part of many, but not all, state 911 regulators - - legitimate policy questions about overarching NG911 governance are upon us. Again, overarching *governance* principles are not to be confused with *jurisdiction*; in Intrado’s view, jurisdiction could not be any clearer. Current law dictates that the FCC has no jurisdiction over intrastate 911 calling or the underlying 911 system and service providers. The Commission’s passionate belief that it must act on “sunny day” outages does not change this legal reality.\(^\text{35}\)

In Intrado’s view, the Commission has blurred the lines in other ways where relevant distinctions exist. Not only do ILECs serve as the incumbent local exchange carrier but often as a PSAP’s 911 service provider. Jurisdiction over an ILEC does not automatically translate to jurisdiction over that same company when acting in the role of 911 service provider. It is the *services* that are relevant for purposes of establishing jurisdiction, and local exchange services (an originating service that provides *access* to 911) are separate and distinct from the 911 services themselves (aggregation, routing and delivery of voice and data to PSAPs). In Intrado’s view, the Commission has conflated the two and misapplied its own rules in the process. For example, at pages 19 and 41 of the NPRM, the Commission takes the position that there is effectively no difference between the two roles as it relates to application of 47 C.F.R. 64.3001 - - suggesting that this rule not only imposes an obligation on originating service providers (OSPs) to configure their networks so that their customers’ 911 calls are delivered to the appropriate

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\(^{35}\) See, *Initial Comments of Telecommunications Systems, Inc. Concerning FCC Promotion of a National Governance Structure for 911* which state at page 10, “Similarly, the Outage does not create an excuse for the FCC to begin taking a larger oversight position over systems and facilities that extend beyond the traditional demarcation points currently managed by state and local governments.”
PSAP, but suggesting that the rule applies to 911 service providers in their role of aggregating, routing and delivering OSPs’ 911 traffic to PSAPs. In fact, section 64.3001 was intended to apply only to OSPs and only to the *configuration* of their networks so that 911 traffic can be delivered to the correct PSAP (and not a substantive obligation to ensure delivery). It was never intended to apply to 911 service providers, and it was never intended to apply to outage situations; and in this regard, Intrado agrees with and joins in the analysis provided by CenturyLink on this issue\(^3^6\) with the additional clarification that the “routing” obligation referenced by CenturyLink does not relate to 911 selective routing (an element of the 911 system which is not present in the OSP’s network) but instead relates to an OSP’s *end office routing* to the 911 system.

The Commission’s analysis has also been applied to the description and treatment of non-ILEC 911SPs. For example, as a 911 service provider, Intrado and its affiliates are not OSPs and do not have phone customers that make 911 calls; yet according to the NPRM, the Commission would also include non-ILEC 911SPs under the requirements of section 64.3001. Moreover, the Commission’s position on this topic would establish a strict liability standard for all 911 services, end-to-end, and for all “Covered 911 Service Providers.” In applying section 64.3001 to 911 service providers, and applying it to outages, there is no other way to read the rule other than as imposing a strict liability standard\(^3^7\) which would expose all 911 service providers as well as all OSPs to regulatory liability in connection with *any and all* 911 calls not delivered to a PSAP regardless of the reason. Such an absurd result cannot be what was intended when the rule

\(^3^6\) *Comments of CenturyLink*, beginning at p. 18.

\(^3^7\) Rule 64.3001 states in its entirety, “All telecommunications carriers shall transmit all 911 calls to a PSAP, to a designated statewide default answering point, or to an appropriate local emergency authority as set forth in §64.3002” (emphasis added).
was promulgated, and in any case, such a result places an unrealistic and unfair burden on providers. Strict liability should be reserved for situations where complete control can be exercised, e.g., a driver choosing to run a red light, or someone possessing a dangerous, wild animal - - and not for situations where there is no realistic possibility of exercising such absolute control so as to ensure a perfect outcome every time, e.g., operating complex communications systems. If the Commission has a different view and believes OSPs and 911SPs should be subject to a strict liability standard relative to end-to-end 911 calling, then the Commission should articulate the justification for its position and make it well known so such an important public policy issue can be debated in an open, public forum.  

2. Jurisdiction Over Interstate Facilities

Interstate facilities are used in the deployment of NG911 services, but as detailed below, the NPRM’s proposals don’t seek to regulate those facilities; they seek to regulate intrastate 911 service. Regardless, any proposal that arguably targets interstate facilities cannot be separately applied to just that facility without also applying it to the 911 service and service providers that use those facilities. Notably, the NPRM says nothing about the Commission’s intent to regulate based upon its authority over interstate facilities or interstate services, and rightly so, since only a tortured reading of the NPRM would lead to the conclusion that its proposals relate to regulation of interstate facilities or interstate services.

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38 Most states have enacted limitation of liability laws, in part, because strict liability is not the correct standard for a complicated service like 911. Without such state laws, some vendors might consider the 911 market far too risky to justify investment or involvement - - no matter how potentially lucrative. Notwithstanding the protection against lawsuits that these laws afford, the regulatory risk presented by the NPRM would re-create the same concerns for 911 service providers (the number of which would increase per the NPRM) that state limitation of liability laws sought to resolve.
In Intrado’s view, there is no proposal in the NPRM that can be read as only regulating interstate facilities (or interstate services, e.g., wireless or VoIP telephony) over which the Commission has jurisdiction. Each and every proposal would regulate intrastate 911 calling service, its underlying 911 systems, and the service providers that operate those systems. For example: one proposal would require Covered 911 Service Providers to certify that they have implemented reasonable measures to ensure that any software or database used by the provider to provide 911, E911, or NG911 capabilities such as call routing, automatic location information (ALI), automatic number identification (ANI), location information services [sic]\(^{39}\) (LIS), text-to-911, or the functional equivalent of those capabilities is designed, configured, and tested to ensure reliable operation.\(^{40}\) In Intrado’s view, none of these capabilities are interstate facility capabilities, and there is nothing expressed in this proposal that is only relevant to interstate facilities or interstate services; the entire proposal applies to the critical elements of a 911 system and to its service providers. In addition, intrastate facilities are sometimes used in NG911 deployments, and the proposed rules fail to distinguish between those facilities and interstate facilities; thus, in applying the proposed rules, and absent clarifying and appropriate principles, the chance of regulatory overreach is highly likely.

Another proposal - one that overarches virtually all other proposals - expressly articulates what the rules are intended to cover: 911 service; it is entitled, “Provision of Reliable 911 Service”\(^{41}\) and applies to “Covered 911 Service Providers” (that operate dedicated 911

\(^{39}\) LIS is an acronym for location information server.


\(^{41}\) Proposed rule 12.4(b), NPRM, Appendix A, p. 36.
systems) as defined in other subsections of proposed rule 12.4 which subsections also address 911 service capabilities.\footnote{Subsections (c)(1)(i), (c)(2)(i), (c)(3)(i), (c)(4)(i) and (c)(5)(i) which reflects an expanded picture of what is, today, considered part of the dedicated 911 system.}

Applying the same logic to several other proposals, one can only conclude they are fatally flawed. For example, Covered 911 Service Providers are required to: implement reasonable measures to ensure that any IP-based architecture used to provide 911, E911, or NG911 capabilities is geographically distributed, load balanced, and capable of automatic reroutes in the event of a software or database failure;\footnote{Proposed rule 12.4(c)(4)(i)(A), Appendix A, p. 37.} conduct diversity audits of aggregation points used to gather network monitoring data in each 911 service area;\footnote{Proposed rule 12.4(c)(i)(A), Appendix A, p. 36.} conduct diversity audits of monitoring links between aggregation points and NOCs for each 911 service area in which [the Covered 911 Service Provider] operates;\footnote{Proposed rule 12.4(c)(i)(B), Appendix A, p. 36.} implement physically diverse aggregation points for network monitoring data in each 911 service area and physically diverse monitoring links from such aggregation points to at least one NOC;\footnote{Proposed rule 12.4(c)(i)(C), Appendix A, p. 36.} and establish appropriate alarms for network failures that would be reasonably likely to result in a disruption of 911 service within a 911 service area and procedures designed to ensure that such alarms quickly bring such network failures to the attention of appropriate personnel.\footnote{Proposed rule 12.4(c)(i)(D), Appendix A, p. 36.} All of these proposals apply to the 911 system and related services and not to interstate facilities \textit{per se}. 

\footnotetext[42]{Proposed rule 12.4(c)(4)(i)(A), Appendix A, p. 37.} 
\footnotetext[43]{Proposed rule 12.4(c)(i)(A), Appendix A, p. 36.} 
\footnotetext[44]{Proposed rule 12.4(c)(i)(B), Appendix A, p. 36.} 
\footnotetext[45]{Proposed rule 12.4(c)(i)(C), Appendix A, p. 36.} 
\footnotetext[46]{Proposed rule 12.4(c)(i)(D), Appendix A, p. 36.}
Further, the Commission admits that it seeks to govern 911 systems and services - - end-to-end - - in the U.S.\textsuperscript{48} along with 911 service providers. Intrado believes the Commission’s analysis regarding its authority to do so is flawed and deficient (as other commenters have pointed out)\textsuperscript{49} - - yet it is transparent: the Commission is essentially asserting that, if an element or provider has “911” associated with it - - from the OSP’s network to the PSAP’s front door - - the FCC believes it has regulatory authority over it regardless of the fact that dedicated 911 systems - - that sit between OSPs and PSAPs to aggregate and route OSP’s 911 traffic and deliver it to PSAPs - - are exclusively regulated by state law.

In Intrado’s view, more states need to weigh-in on 911 governance and the shifting contours of the 911 system, and with respect to the states that have already weighed-in, it would be extremely useful if they were much more precise about their intentions relative to their exclusive jurisdiction over 911 service and 911 system service providers. Whether done in this docket or elsewhere, each state should be given a formal opportunity to articulate whether it will abdicate its authority over 911 service including NG911 (and the accompanying duty to honor the public interest doctrine); or share that authority with the Commission (in which case, the legal premise should be articulated, and much has to be cleared up relative to overlap, contradiction and confusion); or continue to have exclusive jurisdiction. While NARUC might facilitate such an exercise, state declarations should not be done without representation of 911 officials at state, local and regional levels. In theory, even if every state elected to abdicate and acceded to federal regulation over a national 911 system, that would not alter federal law. The

\textsuperscript{48} See, NPRM, para. 36, p. 16.

\textsuperscript{49} Id.
only legitimate way for the Commission to regulate the dedicated 911 system is to change current federal law which can only be done by Congress.

B. There Is No Benefit In Dual Regulatory Schemes Or Federal Regulation

Even a fully-deployed, nationally-connected NG911 system as envisioned in the NENA i3 specification\(^{50}\) will be comprised of multiple state and local systems, and absent Congressional intervention, NG911 will not be a single, national system overseen by the federal government. It is unnecessary now - - and will be unnecessary in the future - - for both federal and state governments to regulate the 911 system.\(^{51}\) In any case, “[s]tate rather than federal oversight of 9-1-1 is most prudent.”\(^{52}\) The dual regulatory regime suggested by the NPRM will also impede innovation, harm 911 competition, and cause the duplicative costs to be passed along to PSAPs. A dual regulatory scheme for 911 will also create confusion and incompatibility - - an outcome the Commission has stated it wants to avoid.\(^{53}\) Intrado urges the Commission to be much more explicit about how its proposals do not create confusion or incompatibility with state law.

One of the principle examples cited by the Commission as a reason to impose federal regulation was the circumstances surrounding the June 2012 derecho storm.\(^{54}\) In its comments,

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50 Id., NENA i3 Solution.

51 See, Comments of the Alaska Rural Coalition (ARC) that state at page 5 “None of the additional topics or practices offered by the Commission seems necessary to ensure 911 reliability.”

52 Id., comments of BRETSA, p. 14.

53 See, 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.” See also, comments in this docket of the state of Vermont which state, “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.”

54 See, Urgent Communications’ story found at: http://urgentcomm.com/blog/next-gen-911-system-intrado-helps-vermont-weather-hurricane-irene which demonstrates that the NG911 system deployed in the state of Vermont is essentially configured the same and entails the same NG911 elements as the system in place during the April 2014 service disruption, and the Vermont system did not suffer any service disruption during Hurricane Irene in August
the state of Virginia details the extensive steps it took in connection with the service disruption resulting from that storm.\textsuperscript{55} States like Virginia have been governing the 911 system during decades of technological evolution without the federal government, and Virginia’s exemplary action is but one example of how states are capable of continuing to do so in an evolving NG911 environment. Federal rules are simply unnecessary. To the extent requirements for enhanced reliability are needed, or demand enforcement mechanisms, state and local agencies have imposed such requirements in the past and can continue to do so in a NG911 environment. This need not be via state regulation. It can and has included RFPs (requests for proposals) and contracts which can include requirements, for example, that providers meet public safety grade (PSG) standards, a concept being advanced by Fairfax County, Virginia.\textsuperscript{56} Agencies can utilize SLA’s (service level agreements) that often involve penalties for non-performance, allowing the agency to determine when financial forfeitures are appropriate.\textsuperscript{57}

Finally, Intrado agrees with BRETSA and the Alaska Rural Coalition regarding the complex, often locally-centric reasons for regulation and enforcement, including the economic circumstances facing PSAPs; for example, BRETSA argues, “[s]tates are in the best position to enforce regulations regarding 9-1-1 service, while not making the service uneconomic. Some states may wish to require investments in remedial measures in lieu of forfeitures.”\textsuperscript{58}

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\textsuperscript{55} Comments of the Virginia State Corporation Commission, pp. 1-3.
\textsuperscript{56} See, for example, Reply Comments of Fairfax County, Virginia, p. 3.
\textsuperscript{57} See, Comments of the National Association of State 911 Administrators which makes extensive reference to the use of contracts between the public safety agency and its service providers.
\textsuperscript{58} Id., comments of BRETSA, p. 27; Id., comments of ARC which state at page 3, “The Regulatory Commission of Alaska is best equipped to supervise network challenges.”
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V. CONCLUSION

For twenty years, Intrado and the Commission have enjoyed a very positive relationship in the mutual pursuit of 911 excellence, and Intrado hopes to continue on that path, but with all due respect to the agency and all the dedicated people who work there, the FCC should not, and may not with legitimacy, address its policy concerns through regulatory overreach. To be very clear: Intrado does not innately oppose the FCC having jurisdiction over 911; rather, Intrado’s position on the subject is entirely based on its respect for the rule of law. After all, we are “a government of laws and not of men.”

Intrado will continue to work with the Commission, industry associations, its partners and its customers on the common goal of making 911 as reliable as possible. Prior to instituting new regulations, Intrado urges regulators and stakeholders to better understand NG911 technology and market dynamics and their impacts on improving reliability and addressing 911 governance issues. Technology providers, with input from their customers, are the most qualified to make determinations about how to deploy technology and services. Intrado supports efforts to propose alternatives to the NPRM so long as they do not include federal regulations where jurisdiction does not exist. Intrado recommends the formation of a federal-state joint board on NG911 to analyze and report on 911 jurisdiction; to evaluate and recommend a cogent NG911 governance structure that complies with law; and to offer state regulators model changes to legacy 911 regulations.

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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