

July 11,  
2019

**FCC FACT SHEET\* Implementing Kari's Law and Section 506 of RAY  
BAUM'S Act Report and Order - PS Docket Nos. 18-261 and 17-239, and GN  
Docket No. 11-117**

**Background**

:

Last year, the President signed into law two statutes to improve 911:

(1) **Kari's Law** applies to multi-line telephone systems (MLTS), which are telephone systems often used by office buildings, campuses, and hotels. Kari's Law requires MLTS that are manufactured, imported, offered for first sale or lease, first sold or leased, or installed after February 16, 2020 to enable users to dial 911 directly, without having to dial a prefix to reach an outside line, and to provide for notification (e.g., to a front desk or security office) when a 911 call is made.

(2) **RAY BAUM'S Act** requires the Commission to consider adopting rules to ensure that a "dispatchable location" is conveyed with 911 calls, regardless of the technological platform used, so that 911 call centers will receive the caller's location automatically and can dispatch responders more quickly. "Dispatchable location" is "the street address of the calling party, and additional information such as room number, floor number, or similar information necessary to adequately identify the location of the calling party."

If adopted, the Report and Order would implement these laws and improve Americans' access to emergency services.

**What the Report and Order Would Do:**

- Adopt rules to implement the 911 direct dial and notification requirements of Kari's Law. The rules are intended to provide clarity and specificity regarding the statutory requirements and to enable covered entities to meet those requirements cost-effectively.
- Adopt flexible and technologically neutral dispatchable location requirements for MLTS and for providers of fixed telephony service, interconnected Voice over Internet Protocol (VoIP) services, Telecommunications Relay Services, and mobile texting services. The Report and Order would not amend existing 911 call location rules applicable to wireless providers.
- Apply dispatchable location rules to outbound-only interconnected VoIP services, just as they apply to other interconnected VoIP services.
- Consolidate the Commission's 911 rules from multiple rule parts into a single rule part and streamline the rules in some instances.

\* This document is being released as part of a “permit-but-disclose” proceeding. Any presentations or views on the subject expressed to the Commission or its staff, including by email, must be filed in PS Docket Nos. 18-261 and 17-239, and GN Docket No. 11-117, which may be accessed via the Electronic Comment Filing System (<https://www.fcc.gov/ecfs/>). Before filing, participants should familiarize themselves with the Commission’s *ex parte* rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission’s meeting. See 47 CFR § 1.1200 *et seq.*

**Federal Communications Commission FCC-CIRC1908-05**

**Before the Federal Communications  
Commission Washington, D.C. 20554**

	)	
In the Matter	)	
of	)	
Implementing Kari’s Law and Section 506 of RAY BAUM’S Act	)	
Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems	)	
Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission’s Rules	)	PS Docket No. 18-261
)	)	PS Docket No. 18-261
)	)	PS Docket No. 17-239
)	)	PS Docket No. 17-239
)	)	PS Docket No. 17-239

**REPORT AND ORDER\***

**Adopted: [] Released: []**

By the  
Commission:

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\* This document has been circulated for tentative consideration by the Commission at its August 1, 2019, open meeting. The issues referenced in this document and the Commission’s ultimate resolutions of those issues remain under consideration and subject to change. This document does not constitute any official action by the Commission. However, the Chairman has determined that, in the interest of promoting the public’s ability to understand the nature and scope of issues under consideration, the public interest would be served by making this document publicly available. The Commission’s *ex parte* rules apply and presentations are subject to “permit-but-disclose” *ex parte* rules. See, e.g., 47 CFR §§ 1.1206, 1.1200(a). Participants in this proceeding should familiarize themselves with the Commission’s *ex parte* rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission’s

meeting. See 47 CFR §§ 1.1200(a), 1.1203.

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**I. INTRODUCTION**

1. In this *Report and Order*, we adopt measures to help ensure that members of the public can successfully dial 911 to request emergency services and that Public Safety Answering Points (PSAPs) can quickly and accurately locate every 911 caller, regardless of the type of service that is used to make the call. We act today pursuant to two federal statutes: Kari’s Law Act of 2017, which requires implementation of direct 911 dialing and on-site notification capabilities in multi-line telephone systems (MLTS),<sup>1</sup> and Section 506 of RAY BAUM’S Act, which requires the Commission to “consider adopting rules to ensure that the dispatchable location is conveyed with a 9-1-1 call, regardless of the technological platform used and including with calls from [MLTS].”<sup>2</sup>

2. In particular, we adopt rules that implement the direct dialing and notification requirements of Kari’s Law and clarify the law’s application to both legacy MLTS and Internet Protocol (IP)-based systems, including cloud-based services, that support the communications needs of hotels, businesses, campuses, and other enterprises. And we adopt rules that will facilitate timely emergency response and improved location accuracy across communications platforms. These requirements are measured, technically feasible, and technologically neutral, so that providers can choose the most effective solutions from a range of options. In addition, our requirements allow sufficient time for advance planning and deployment of new location technology. Similar to the approach the Commission has taken in the wireless E911 context, we believe that “[c]lear and measurable timelines and benchmarks for all stakeholders are essential to drive the improvements that the public reasonably expects to see in 911 location accuracy.”<sup>3</sup> We also take this opportunity to consolidate our existing 911 rules, as well as the direct dialing and dispatchable location rules adopted today, into a single rule part.

<sup>1</sup> Kari’s Law Act of 2017, Pub. L. No. 115-127, 132 Stat. 326 (2018) (codified at 47 U.S.C. § 623) (Kari’s Law). Kari’s Law is named in honor of Kari Hunt, who was attacked and killed by her estranged husband in a motel

room in Marshall, Texas in 2013. Ms. Hunt's 9-year-old daughter tried to call 911 for help four times from the motel room phone, as she had been taught to do. The call never went through because she did not know that the hotel's phone system required dialing "9" for an outbound line before dialing 911. *See* FCC, *Chairman Pai Statement on Passage of Kari's Law* (Feb. 6, 2018), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-349050A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-349050A1.pdf).

<sup>2</sup> Section 506 of the Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018 (RAY BAUM'S Act), Pub. L. No. 115-141, 132 Stat. 348, 1095 (codified at 47 U.S.C. § 615 note).

<sup>3</sup> *Wireless E911 Location Accuracy Requirements*, Fourth Report and Order, 30 FCC Rcd 1259, 1260, para. 4 (2015) (*Indoor Location Accuracy Report and Order*). Consistent with RAY BAUM's Act and the *Notice*, we do not modify the existing dispatchable location requirements applicable to CMRS providers. *See Notice*, 33 FCC Rcd at 9007, para 69.

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**II. BACKGROUND**

3. Enhanced 911 (E911) was developed to provide PSAPs with the caller's location and a call-back number as part of each 911 call.<sup>4</sup> Since its implementation, most E911 calls have conveyed information regarding the caller's location (with varying degrees of accuracy) and a call-back number to the PSAP. These enhancements have significantly improved PSAPs' ability to effectively deliver critical public safety and emergency response services in a timely manner. In many instances, E911 has proven to be a life-saving, essential emergency response tool for providing critical information when the caller is unable to verbally communicate his or her location, including when the voice call is dropped or discontinued and cannot be reestablished.

4. Under the Commission's rules, consumers generally have access to these capabilities when they make fixed telephony, mobile, and interconnected VoIP calls to 911.<sup>5</sup> However, to date, the Commission's E911 rules have not applied to MLTS. Consequently, consumers in environments such as office buildings, campuses, and hotels may not have the same access to E911 services that is provided by fixed telephony, mobile, and VoIP systems, namely direct dialing access to 911 and the provision of the MLTS user's location information.<sup>6</sup>

5. MLTS include a widely embedded base of legacy private branch exchange (PBX), Centrex, and Key Telephone systems, IP-based systems, and hybrid systems. MLTS serve millions of employees, residents, and guests of businesses and educational facilities, including corporate parks, hotels, college campuses, and planned community developments.<sup>7</sup> These systems can support anywhere from ten to thousands of telephone station/numbers. Emergency calls from MLTS stations generally only provide PSAPs the telephone or circuit number of the system's outgoing trunk, and not the emergency caller's individual station number. In some cases, the MLTS station that placed the call will not even have its own telephone number. As a result, PSAPs often find they are unable to locate an MLTS emergency call to the

station from which it originated. The Commission in 2003 considered E911 requirements for MLTS but deferred to the states to address this issue, while preserving the option of acting should states fail to do so.<sup>8</sup>

<sup>4</sup> See Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, 113 Stat. 1286 (1999) (*Wireless 911 Act*). The *Wireless 911 Act* defined “enhanced 9-1-1 service” as “the delivery of 9-1-1 calls with automatic number identification and automatic location identification, or successor or equivalent information features over the wireline E911 network (as defined in section 9.3 of the Federal Communications Commission’s regulations (47 C.F.R. 9.3) as of July 23, 2008) and equivalent or successor networks and technologies.” See 47 U.S.C. § 615b(10).

<sup>5</sup> See *Framework for Next Generation 911 Deployment*, Notice of Inquiry, 25 FCC Rcd 17869, 17875, para. 13 (2010) (*NG911 Deployment NOI*).

<sup>6</sup> In 1994, for example, the Commission sought comment on amending its Part 68 rules to ensure the compatibility of PBX and other dispersed multi-line telephone systems with E911 services. *Revision of the Commission’s Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems*, Notice of Proposed Rulemaking, 9 FCC Rcd 6170 (1994). The Commission ultimately deferred to states as to a decision on whether to require MLTS compliance with its enhanced 911 rules. See *Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 25340, 25363, paras. 53-54 (2003) (*E911 Scope Order*).

<sup>7</sup> See *Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems*, Notice of Inquiry, 32 FCC Rcd 7923, 7924-25, paras. 4-5 (2017) (*Enterprise Communications NOI*); see also West Safety *Enterprise Communications NOI* Comments at 8 (citing Frost & Sullivan, *North American Hosted IP Telephony and UCaaS Market - Cloud Communications Solutions Evolve to Align with an API Economy* at 4, 52 (Nov. 2016)).

<sup>8</sup> See *E911 Scope Order*, 18 FCC Rcd at 25363, paras. 53-54. The Commission expressed concern that lack of effective implementation of E911 capabilities for MLTS could be an unacceptable gap in the emergency call system. However, the Commission declined to adopt federal rules requiring MLTS operators to implement E911, finding

(continued....) 3

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6. At least 23 states have enacted legislation that requires organizations over a certain size or purchasing a new PBX/MLTS system to implement E911 on the system.<sup>9</sup> These states have adopted varied requirements for MLTS providers, and only in some instances have state laws specifically addressed prefix dialing requirements.<sup>10</sup> In the absence of federal or consistent state regulation, some MLTS in operation today do not support direct 911 dialing, may not have the capability to route calls to the appropriate PSAP relative to the caller’s location, or may not provide accurate information regarding

the caller's location. The Commission has observed that these issues have persisted, even as many enterprises are increasingly relying on IP-based systems, including cloud-based services, to support their communications needs.<sup>11</sup>

7. Given that the ongoing evolution of MLTS has not eliminated these shortfalls when serving 911 callers, the Commission has periodically sought to examine MLTS provision of 911, including the capabilities of MLTS to support direct 911 access, routing, callback, and automatic location.<sup>12</sup> In September 2017, the Commission released a Notice of Inquiry (*Enterprise Communications NOI*) seeking information on the capabilities of enterprise communications systems to support direct 911 access, routing, and automatic location.<sup>13</sup> The Commission noted that such systems may not provide consumers with the same access to E911 services as other wireline, wireless, and interconnected VoIP calls and asked whether it is still the case, as the Commission found in earlier proceedings, that the needs and circumstances of residential and business enterprise communications system users are suited to state-level action rather than federal regulation.<sup>14</sup> The *Enterprise Communications NOI* also sought information on the state of the enterprise communications system industry; the costs and benefits of supporting E911 for enterprise communications system; the capability of enterprise communications system to provide accessible emergency communications for persons with disabilities; and options for ensuring that enterprise communications system keep pace with technological developments and

(Continued from previous page) that state and local governments were in a better position to devise rules to ensure that E911 is effectively deployed over MLTS in their jurisdictions. *Id.*, 18 FCC Rcd at 25361, 25366, paras. 50, 62.

<sup>9</sup> See *Enterprise Communications NOI*, 32 FCC Rcd at 7941, Appendix B; see also West Safety *Enterprise Communications NOI* Comments at 5 (stating that there are currently 23 states with MLTS-related laws).

<sup>10</sup> See, e.g., 9-1-1 Enable, State-by-State E911 Legislation Summary,

<http://files.meetup.com/3299882/State-E911-Legislation-Summary.pdf> (last visited Sept. 1, 2018); West Corporation, MLTS E911 Regulations By State, [https://www.west.com/legal-privacy/e911-regulations/#State\\_E911\\_Legislation](https://www.west.com/legal-privacy/e911-regulations/#State_E911_Legislation) (last visited Sept. 1, 2018).

<sup>11</sup> See *Enterprise Communications NOI*, 32 FCC Rcd at 7923-24, paras. 2-3.

<sup>12</sup> For example, in 2012, pursuant to Section 6504(b) of the NG9-1-1 Advancement Act, the Public Safety and Homeland Security Bureau released a Public Notice seeking comment on (1) the feasibility of mechanisms for MLTS to “provide a sufficiently precise indication of a 911 caller’s location,” and (2) NENA’s model MLTS legislation. *Public Safety and Homeland Security Bureau Seeks Comment on Multi-Line Telephone Systems Pursuant to Next Generation 911 Advancement Act of 2012*, Public Notice, 27 FCC Rcd 5329, 5330-32 (PSHSB 2012).

<sup>13</sup> *Enterprise Communications NOI*, 32 FCC Rcd at 7924, para. 3. In the *Enterprise Communications NOI*, the Commission noted that it had previously used the term “MLTS” to refer to various types of multi-line systems, but stated that in the *Enterprise Communications NOI* it would use the term enterprise communications systems to refer to the full range of networked communications systems that serve enterprises, including circuit-switched and

IP- based systems. *See id.*, 32 FCC Rcd at 7924, n.2. Both Kari’s Law and Section 506 of RAY BAUM’S Act use the term “MLTS” and define it to include IP-based as well as circuit-switched systems, making the statutory definition of MLTS essentially synonymous with the Commission’s definition of enterprise communications system. Therefore, for purposes of consistency with the statutory language, in this *Notice* we use the term MLTS instead of enterprise communications system to refer to the full range of systems that serve enterprises, whether circuit- or IP- based, unless the context requires otherwise.

<sup>14</sup> *See Enterprise Communications NOI*, 32 FCC Rcd at 7934, para. 38.

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consumer expectations for access to 911.<sup>15</sup>

8. Kari’s Law was enacted on February 16, 2018.<sup>16</sup> Kari’s Law establishes a federal multi- tiered approach to MLTS 911 requirements.<sup>17</sup> First, Kari’s Law applies to any “person engaged in the business of manufacturing, importing, selling, or leasing” MLTS.<sup>18</sup> Such persons “may not manufacture or import for use in the United States, or sell or lease or offer to sell or lease in the United States, a [MLTS], unless such system is pre-configured such that, when properly installed . . . a user may directly initiate a call to 9-1-1 from any station equipped with dialing facilities, without dialing any additional digit, code, prefix, or post-fix, including any trunk-access code such as the digit ‘9’, regardless of whether the user is required to dial such a digit, code, prefix, or post-fix for other calls.”<sup>19</sup>

9. Second, Kari’s Law applies to any “person engaged in the business of installing, managing, or operating” MLTS.<sup>20</sup> Such persons “may not install, manage, or operate for use in the United States such a system, unless such system is configured such that a user may directly initiate a call to 9-1-1 from any station equipped with dialing facilities, without dialing any additional digit, code, prefix, or post-fix, including any trunk-access code such as the digit ‘9’, regardless of whether the user is required to dial such a digit, code, prefix, or post-fix for other calls.”<sup>21</sup>

10. Third, such persons “shall, in installing, managing, or operating such a system for use in the United States, configure the system to provide a notification to a central location at the facility where the system is installed or to another person or organization regardless of location, if the system is able to be configured to provide the notification without an improvement to the hardware or software of the system.”<sup>22</sup> 11. Fourth, Kari’s Law expressly provides that Congress did not intend to “alter the authority of State commissions or other State or local agencies with jurisdiction over emergency communications, if the exercise of such authority is not inconsistent with this Act.”<sup>23</sup> Kari’s Law directs the Commission to enforce the provisions under Title V of the Communications Act of 1934, as amended, “except that section 501 applies only to the extent that such section provides for the punishment of a fine.”<sup>24</sup> The effective date provision states that Kari’s Law “shall apply with respect to a multi-line telephone system that is manufactured, imported, offered for first sale or lease, first sold or leased, or installed after” February 16, 2020.<sup>25</sup>

12. On March 23, 2018, shortly after Kari’s Law was enacted, the President signed the

<sup>15</sup> See *Enterprise Communications NOI*, 32 FCC Rcd at 7929-36, paras. 17-43.

<sup>16</sup> The President signed Kari’s Law into law on February 16, 2018, which was the 50th anniversary of the first 911 call in the United States. See 47 U.S.C. § 623 and 623 note.

<sup>17</sup> The House of Representatives debated H.R. 582, the bill that was enacted as Kari’s Law Act of 2017, on Jan. 23, 2017. The Congressional Record for that day includes a statement of the background and need for the legislation, as well as a section-by-section analysis of the bill. See 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017).

<sup>18</sup> 47 U.S.C. § 623(a).

<sup>19</sup> 47 U.S.C. § 623(a).

<sup>20</sup> 47 U.S.C. § 623(b).

<sup>21</sup> 47 U.S.C. § 623(b).

<sup>22</sup> 47 U.S.C. § 623(c).

<sup>23</sup> 47 U.S.C. § 623(d).

<sup>24</sup> 47 U.S.C. § 623(e).

<sup>25</sup> 47 U.S.C. § 623 note.

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Consolidated Appropriations Act of 2018, including RAY BAUM’S Act, into law. Section 506 of RAY BAUM’S Act requires the Commission to “conclude a proceeding to consider adopting rules to ensure that the dispatchable location is conveyed with a 9-1-1 call, regardless of the technological platform used and including with calls from multi-line telephone systems” by September 23, 2019.<sup>26</sup> In conducting this proceeding, “the Commission may consider information and conclusions from other Commission proceedings regarding the accuracy of the dispatchable location for a 9-1-1 call, but nothing in this section shall be construed to require the Commission to reconsider any information or conclusion from a proceeding regarding the accuracy of the dispatchable location for a 9-1-1 call in which the Commission has adopted rules or issued an order” before the March 23, 2018 enactment date of Section 506.<sup>27</sup>

13. In September 2018, following the enactment of Kari’s Law and RAY BAUM’S Act, the Commission proposed rules to implement Kari’s Law and to support dispatchable location for 911 calls

from MLTS and other communications platforms.<sup>28</sup> Specifically, the *Notice* proposed to implement Kari's Law by adopting direct dial and notification rules governing calls to 911 made from MLTS and clarifying the definitions associated with the law. As required by RAY BAUM'S Act, the Commission also initiated this proceeding to consider the feasibility of requiring dispatchable location for 911 calls from MLTS and other technological platforms. The Commission proposed dispatchable location requirements for MLTS 911 calls, which would apply contemporaneously with the February 16, 2020 compliance date of Kari's Law, and proposed to add dispatchable location requirements to our existing 911 rules for fixed telephony providers, interconnected Voice over IP (VoIP) providers, and Internet-based Telecommunications Relay Services (TRS). The *Notice* also considered the feasibility of alternative location mechanisms for MLTS and other services that could be used as a complement to dispatchable location or as a substitute when dispatchable location is not available. Additionally, the Commission sought comment on whether dispatchable location requirements should be extended to other communications services that are not covered by existing 911 rules but are capable of making a 911 call. Finally, the *Notice* proposed to consolidate the Commission's existing 911 rules into a single rule part.

<sup>26</sup> See RAY BAUM'S Act, § 506(a).

<sup>27</sup> See *id.* § 506(b).

<sup>28</sup> *Implementing Kari's Law and Section 506 of RAY BAUM'S Act, Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems*, PS Docket Nos. 18-261 and 17-239, Notice of Proposed Rulemaking, 33 FCC Rcd 8984 (2018) (*Notice*). The Commission received 34 comments from the following commenters: ADT LLC d/b/a ADT Security Services (ADT); Alliance for Telecommunications Industry Solutions (ATIS); Association of Public-Safety Communications Officials-International, Inc. (APCO); AT&T Services, Inc. (AT&T); Ad Hoc Telecommunications Users Committee (Ad Hoc); ACA Connects – America's Communications Association (ACA Connects); American Hotel and Lodging Association (AHLA); Avaya, Inc. (Avaya); Bandwidth Inc. (Bandwidth); BluIP, Inc. (BluIP); Boulder Regional Emergency Telephone Service Authority (BRETSA); Cisco Systems, Inc. (Cisco); Comtech Telecommunications Corp. (Comtech); Dave Moore; DECT Forum; Hamilton Relay, Inc. (Hamilton Relay); Metropolitan Emergency Services Board (a joint powers board of nine counties and the City of Minneapolis, MN) (MESB); Microsoft Corporation (Microsoft); National Association of State 911 Administrators (NASNA); National Public Safety Telecommunications Council (NPSTC); NCTA – The Internet & Television Association (NCTA); NENA: The 9-1-1 Association (NENA); NTCA – The Rural Broadband Association (NTCA); Panasonic Corporation of North America (Panasonic); RedSky Technologies Inc., (RedSky); RingCentral, Inc. (RingCentral); Sorenson Communication, LLC (Sorenson); State of Florida Department of Management Services, Division of Telecommunications, Bureau of Public Safety (Florida Bureau of Public Safety); Telecommunications Industry Association (TIA); Texas 9-1-1 Alliance, the Texas Commission on State Emergency Communications, and the Municipal Emergency Communication Districts Association (Texas 911 Entities); USTelecom – The Broadband Association (USTelecom); Verizon; Voice on the Net Coalition (VON); West Safety Services, Inc. (West Safety). The Commission also received 15 reply comments from the following commenters: Ad Hoc; ACA Connects; BRETSA; Cisco; ClearCaptions, LLC (ClearCaptions); Comcast Corporation (Comcast); Comtech; INCOMPAS; Industry Council for Emergency Response Technologies (iCERT); RedSky; RingCentral; Sorenson; T-Mobile USA, Inc. (T-Mobile); TIA and DECT Forum; West Safety.

### III. DISCUSSION

#### A. Direct Dialing and Notification for MLTS

14. Because Congress incorporated Kari's Law into the Communications Act of 1934, as amended (the Act),<sup>29</sup> the Commission has authority to prescribe such rules and regulations as are necessary to carry out Kari's Law.<sup>30</sup> The implementing regulations we adopt in this *Report and Order* are intended to provide additional clarity and specificity regarding the terms used in the statute and the obligations placed on covered entities.

##### 1. Direct Dialing

15. Kari's Law provides that any person engaged in the business of manufacturing, importing, selling, or leasing an MLTS may not manufacture or import the MLTS for use in the United States, or sell or lease or offer to sell or lease it in the United States, unless it is pre-configured so that when properly installed, a user may directly initiate a call to 911 from any station equipped with dialing facilities.<sup>31</sup> In addition, any person engaged in the business of installing, managing, or operating an MLTS may not do so unless the MLTS is configured so that a user may dial 911 directly.<sup>32</sup> In the *Notice*, the Commission proposed rules that track these obligations.<sup>33</sup>

16. We adopt the rules requiring direct dialing from MLTS generally as proposed in the *Notice*.<sup>34</sup> There is broad support among all types of commenters (industry and public safety entities) for the proposed direct dialing rules, although some commenters seek clarification of proposed definitions and other terms.<sup>35</sup> The Texas 911 Entities state that the proposed rules "should generally be adopted as written."<sup>36</sup> Microsoft asserts that proposed direct dialing and notification requirements are consistent with Kari's Law and should be reasonably achievable.<sup>37</sup> No commenter opposes adoption of the direct dialing requirements.

<sup>29</sup> *Notice*, 33 FCC Rcd at 8991, para. 17.

<sup>30</sup> See 47 U.S.C. § 201(b) ("The Commission may prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions of this Act."); 47 U.S.C. § 303(r) (stating that the Commission may "[m]ake such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this Act"); see also *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 383-85 (1999) (upholding the Commission's rulemaking authority under section 201(b) of the Act).

<sup>31</sup> 47 U.S.C. § 623(a).

<sup>32</sup> 47 U.S.C. § 623(b).

<sup>33</sup> See *Notice*, 33 FCC Rcd at 8991, para. 18; see also *id.* at 9050, Appendix A, rule 47 CFR § 9.16(a)(1), (b)(1)

(proposed direct dialing obligations).

<sup>34</sup> See Appendix A, Final Rules, rule 47 CFR § 9.16(a)(1), (b)(1).

<sup>35</sup> See Ad Hoc Comments at 4-5; AHLA Comments at 3; APCO Comments at 1; BRETSA Reply at 1 (supporting the proposed rules generally, subject to state and local authority to approve broad and narrow exceptions); Cisco Comments at 1; MESB Comments at 3, 8; Microsoft Comments at 7; Dave Moore Comments at 1; NASNA Comments at 1; NPSTC Comments at 4; RedSky Comments at 1; TIA and DECT Forum Reply at 14; Verizon Comments at 2; West Safety Comments at i, 1; *see also* Letter from James Bradford Ramsay, NARUC General Counsel, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261 et seq., at 2 (filed Sept. 18, 2018) (noting that NARUC has adopted a resolution supporting federal and state actions to require Enterprise Communications Systems manufacturers, installers, and operators to design and configure systems to allow direct dialing of 911 and to support on-site notification) (NARUC *Ex Parte*).

<sup>36</sup> Texas 911 Entities Comments at 6.

<sup>37</sup> Microsoft Comments at 7.

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### 2. Notification

17. Kari's Law provides that any person engaged in the business of installing, managing, or operating an MLTS shall, in installing, managing, or operating such a system for use in the United States, configure the system to provide a notification to a central location at the facility where the system is installed or to another person or organization regardless of location, if the system is able to be configured to provide the notification without an improvement to the hardware or software of the system.<sup>38</sup> Consistent with this obligation, the Commission in the *Notice* proposed rules providing that installers, managers, or operators must configure an MLTS to provide for transmission of a 911 notification if the system can be configured to do so without an improvement to the hardware or software of the system.<sup>39</sup> The Commission stated that notification will potentially benefit three parties: (1) the 911 caller by speeding response time; (2) enterprise management and staff by providing needed information and reducing confusion and delay when emergency response teams arrive; and (3) first responders by reducing time spent responding to such calls.<sup>40</sup>

#### a. Required Information and Purpose

18. Kari's Law requires an MLTS to support notification when an end user makes a 911 call, but it does not specify what information must be provided in the notification. In the *Notice*, the Commission proposed to define "MLTS Notification" as follows: "An MLTS feature that can send notice to a central location at the facility where the system is installed or to another person or organization regardless of location. Examples of notification include screen pops with audible alarms for security desk computers using a client application, text messages for smartphones, and email for administrators. Notification shall

include, at a minimum, the following information: (1) the fact that a 911 call has been made, (2) a valid callback number, and (3) the information about the caller's location that the MLTS conveys to the public safety answering point (PSAP) with the call to 911."<sup>41</sup>

19. The Commission tentatively concluded that for notification to be capable of achieving the purpose of Kari's Law, it should include basic information that will assist the enterprise and first responders in coordinating and expediting on-site response to the emergency.<sup>42</sup> The Commission also stated its intention for notification to include only information that is also conveyed to the PSAP with the initial call to 911, including the same dispatchable location information that the PSAP receives.<sup>43</sup> Because notification is intended to help the enterprise assist first responders, the Commission noted, it makes sense for the recipient of the notification to have the same information as the PSAP (and, indirectly, the first responders dispatched to the scene).<sup>44</sup> In addition, requiring the notification to convey only information that already exists for the 911 call would minimize the burden for enterprises to

<sup>38</sup> 47 U.S.C. § 623(c).

<sup>39</sup> *See Notice*, 33 FCC Rcd at 8991, 9050, para. 19, Appendix A, proposed rule 47 CFR § 9.16(b)(2); *see also* 47 U.S.C. § 623(c). Although this section of Kari's Law is titled "On-Site Notification," the statute specifies that notice can be provided to an on-site location or to another person or organization "regardless of location." The Section-by-Section analysis of H.R. 582, which became Kari's Law, notes that the statute "requires the system to designate a central point of contact, but allows the MLTS owner or operator some flexibility in determining the most appropriate contact, whether in the building or otherwise." *See Section-by-Section Analysis of H.R. 582*, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017).

<sup>40</sup> *Notice*, 33 FCC Rcd at 8991, para. 19.

<sup>41</sup> *Notice*, 33 FCC Rcd at 8992, para. 22; Appendix A, proposed rules 47 CFR §§ 9.16(b)(2), 9.3 (definition of MLTS Notification).

<sup>42</sup> *Notice*, 33 FCC Rcd at 8992, para. 21.

<sup>43</sup> *Notice*, 33 FCC Rcd at 8993, para. 22.

<sup>44</sup> *Notice*, 33 FCC Rcd at 8993, para. 22.

comply.<sup>45</sup> 20. We adopt the proposal from the *Notice* with certain changes. As proposed, we find that the notification should include the fact that a 911 call has been made, a valid callback number, and the same location information that is conveyed with the call to 911. However, we provide an exception for

callback number and location information in circumstances where including this information in the notification would be technically infeasible. We also clarify that the callback number in the notification does not have to be a Direct Inward Dialing number to the 911 caller's extension if one is not available.

21. Several commenters express support for the Commission's proposed notification requirements.<sup>46</sup> APCO supports the Commission's proposal provided that notification does not delay the call to emergency responders.<sup>47</sup> Verizon states that the Commission's proposed notification rule is straightforward and consistent with the statute's focus and notes that the technical details of how the capability is implemented will vary among enterprise customers based on their size, resources, and the particular network configuration involved.<sup>48</sup>

22. We agree with commenters who contend that certain minimum content is necessary to ensure that notification serves the purpose intended for it, which is to help the enterprise provide assistance to first responders in the event of a 911 call.<sup>49</sup> For example, NASNA states that the Commission "absolutely" should establish minimum content for the notification and that it should "require that what is sent to PSAPs be sent also to the notification center."<sup>50</sup> RedSky asserts that the notification should also include the date and time of the 911 call.<sup>51</sup> Avaya suggests that notification should include "details that may not be conveyed to the PSAP," such as "location information that clearly establishes the location of the caller" and alerts with acknowledgement and escalation functions.<sup>52</sup>

23. At the same time, we seek to provide enterprises sufficient flexibility to tailor the notification to best suit their needs. In this respect, we note that some commenters urge the Commission to allow enterprises to determine the content of notifications as they see fit.<sup>53</sup> Panasonic, for example, states that businesses should have the flexibility to customize notifications to meet their needs, given their understanding of the physical nature of their enterprise, the technical capabilities of their system, and the personnel who will be involved in assisting with an emergency response, including on-site private

<sup>45</sup> *Notice*, 33 FCC Rcd at 8993, para. 22.

<sup>46</sup> See APCO Comments at 1; BRETSA Comments at 1; Microsoft Comments at 7; NASNA Comments at 1; NPSTC Comments at 6; Texas 911 Entities Comments at 1, 6; Verizon Comments at 2; West Safety Comments at i, 3; NARUC *Ex Parte* at 2.

<sup>47</sup> APCO Comments at 2.

<sup>48</sup> Verizon Comments at 2-3.

<sup>49</sup> See APCO Comments at 2; NASNA Comments at 2; West Safety Comments at 4-5.

<sup>50</sup> NASNA Comments at 2; see also West Safety Comments at 4 (stating that requiring this minimal level of content in the notification aligns with the purpose of Kari's Law and ensures enterprises will be fully equipped to assist 911

MLTS callers and first responders); NPSTC Comments at 6 (stating that requiring the recipient of the notification to have the same information as the PSAP would be “beneficial to public safety and the general public using 911”).

<sup>51</sup> RedSky Comments at 2.

<sup>52</sup> Avaya Comments at 4.

<sup>53</sup> Ad Hoc Comments at i, 5-6; Cisco Comments at 13; Comcast Reply at 2; Panasonic Comments at 13-17; TIA Comments at 11; TIA and DECT Forum Reply at 6-7.

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emergency response teams in some cases.<sup>54</sup>

24. In the absence of direction in the statutory language about what the required notification should contain, we are also mindful of Congress’s stated intent to “balance the need for an onsite notification with the goal of not placing an undue burden on MLTS owners or operators.”<sup>55</sup> Reflecting this flexible approach, we define MLTS Notification as: “An MLTS feature that can send notice to a central location at the facility where the system is installed or to another person or organization regardless of location. Examples of notification include conspicuous on-screen messages with audible alarms for security desk computers using a client application, text messages for smartphones, and email for administrators. Notification shall include, at a minimum, the following information: (1) the fact that a 911 call has been made, (2) a valid callback number, and (3) the information about the caller’s location that the MLTS conveys to the public safety answering point (PSAP) with the call to 911; provided, however, that the notification does not have to include a callback number or location information if it is technically infeasible to provide this information.”<sup>56</sup>

25. Commenters raise concerns regarding the inclusion of a callback number and location information in the notification.<sup>57</sup> Cisco, Panasonic, and TIA note that Kari’s Law does not specifically require a callback number or location information in the notification.<sup>58</sup> Cisco states that the callback number and location information conveyed in a notification can vary based on the technology deployed in the enterprise, so the Commission should ensure that this rule provides MLTS managers sufficient flexibility to determine the contents of the notification.<sup>59</sup> Several commenters note that providing a callback number that reaches the 911 caller’s specific phone is not possible in some enterprises because there is no Direct Inward Dialing phone number associated with the MLTS endpoints.<sup>60</sup> Some commenters also point out that providing the caller’s location in the notification may not be necessary or helpful in the case of enterprises that are small or have an open workspace.<sup>61</sup>

<sup>54</sup> Panasonic Comments at 14; *see also* Ad Hoc Comments at 3 (urging the Commission not to adopt “heavy-handed, ‘one size fits all’ regulations that interfere with MLTS operators’ discretion to design and implement the most

effective safety policies for their companies' workforces").

<sup>55</sup> Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017).

<sup>56</sup> See Appendix A, Final Rules, rule 47 CFR § 9.3 (definition of MLTS Notification).

<sup>57</sup> AHLA Comments at 3-4; Cisco Comments at 13-14; Cisco Reply at 7; Panasonic Comments at 16-17; TIA Comments at 11-12; TIA and DECT Forum Reply at 7.

<sup>58</sup> Cisco Comments at 14; Panasonic Comments at 16; TIA Comments at 11. TIA asserts that "Kari's Law requires a notification that a 911 call has been placed, and no more." *Id.*

<sup>59</sup> Cisco Comments at 13-14; see also TIA Comments at 11 (urging the Commission to provide enterprises flexibility to determine the form and content of notifications without "overly prescriptive requirements concerning a callback number or location").

<sup>60</sup> AHLA Comments at 3-4; Cisco Comments at 13-14; Cisco Reply at 7; Panasonic Comments at 16-17; TIA Comments at 11-12; TIA and DECT Forum Reply at 7. TIA notes, for example, that "[p]roviding a callback number to a specific station is difficult—even impossible—in certain situations, such as enterprise calling platforms that are not supported by Direct Inward Dialing . . . numbers." TIA Comments at 11. Similarly, AHLA states that providing a callback number to the specific phone that dialed 911 may not always be possible in the context of hotels, and BluIP states that some hotels as a matter of policy may not wish to enable direct outside calling to rooms. AHLA Comments at 3; BluIP Comments at 6.

<sup>61</sup> See AT&T Comments at 4 (stating that notification "would serve little purpose in an office where all employees sit in a single small room"); NCTA Comments at 4 (stating that "[a] person working in an office with a four-line system does not require an automated notification to know that a 911 call has been placed by a colleague and the source of the emergency"); Panasonic Comments at 14 (stating that flexibility in customizing the notification is particularly important for small businesses, which "are more likely to be able to assist emergency responders with

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26. We therefore provide an exception for callback number and location information in circumstances where including this information in the notification would not be technically feasible. We agree with commenters who assert that there may be MLTS solutions for which it is not technically feasible to include this information in the notification. For example, commenters point out that providing a callback number that reaches the 911 caller's specific phone is not possible in some enterprises because there is no phone number associated with the MLTS endpoints. Accordingly, we clarify that the callback number, if provided, need not be a Direct Inward Dialing number to the 911 caller's extension if a Direct Inward Dialing number is not available. This means, for example, that if the 911 call comes from a non-Direct Inward Dialing number, the callback number in the notification can be an internal extension that can be directly reached from inside the enterprise but not from outside it.<sup>62</sup> Similarly, a hotel that does not provide a Direct Inward Dialing line to each guest room can provide the number of a central location,

such as the front desk, in the notification.<sup>63</sup> Notwithstanding that each of these MLTS notification examples would include callback number information in lieu of a Direct Inward Dialing number to the 911 caller, we reiterate that omission of callback number information in the notification is acceptable if it is technically infeasible to provide such information.<sup>64</sup>

27. We also adopt BRETSA's suggestion to replace the term "screen pops" from the *Notice* with "conspicuous on-screen messages," which we find to be clearer. And we reject BRETSA's suggestion that the Commission revise the beginning of the definition of MLTS Notification to read, "[a]n MLTS feature that can send notice *that a call has been placed to '9-1-1' from an MLTS station*, to a central location at the facility where the system is installed or to another person."<sup>65</sup> We decline to add this language because we believe the reference to the required content of the notification later in the definition makes clear that notification includes the fact that a call to 911 has been made.

28. Because our requirements set a minimum, enterprises may add other information to the notification as useful and appropriate. This may include, for example, the occupancy status of a hotel room, or the specific location of an IP device.<sup>66</sup> Enterprises are free to include such information in the notification as they see fit, so long as the notification includes the required elements. Although the additional information Avaya proposes for the content of the notification may be helpful for some enterprises, we do not believe it would be appropriate for all enterprises, particularly smaller businesses. We also do not have a sufficient record to determine whether to adopt date and time of the 911 call as required elements of the notification, as RedSky suggests, although we encourage enterprises to include this information at their discretion. We also encourage the development of voluntary best practices and employee training to prepare enterprises for responding to receipt of notification that a 911 call has been

(Continued from previous page) locating a caller than a large enterprise"); RedSky Comments at 4 (stating that the benefits of notification would be reduced at "a garden center which is open to the public and has good visibility to all areas of the facility"); VON Comments at 11 (stating that at a small business, the staff "would be aware of the call and the location of the caller").

<sup>62</sup> See Cisco Comments at 14.

<sup>63</sup> See AHLA Comments at 7.

<sup>64</sup> Likewise, the omission of the caller's location information in the MLTS notification is acceptable if it technically infeasible to provide such information. TIA and DECT Forum state that "specifics that must be included in a notification, such as . . . a street address, . . . will not be practicable in all scenarios." TIA and DECT Forum Reply at 7. TIA and DECT Forum state that, for example, "wireless off-premises VoIP solutions can create an issue where a caller's location information may match a central office, rather than the remote location where the employee is actually working." TIA and DECT Forum Reply at 7.

<sup>65</sup> BRETSA Comments at 8 (emphasis added to show suggested additions).

<sup>66</sup> See, e.g., BluIP Comments at 4; Avaya Comments at 2-3.

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made.<sup>67</sup> For instance, training could include the circumstances under which the notice recipient (or someone else at the enterprise) should dial the callback number included with the notification.<sup>68</sup>

29. Finally, BRETSA asserts that PSAPs and first responders should determine the notification and location information provided by the enterprise, with a process for state and local public safety authorities to waive the Commission's MLTS rules where reasonable and appropriate.<sup>69</sup> We decline to find that state and local public safety agencies have authority to waive the Commission's rules, as BRETSA requests. Requests for such waivers should, as with other Commission requirements, be presented to the Commission.

**b. Notification Timing**

30. Kari's Law is silent on when the notification must be provided. The Commission proposed to require that MLTS covered by Kari's Law be configured so that notification is contemporaneous with the 911 call and does not delay the placement of the call to 911.<sup>70</sup> Most commenters that address this issue support the Commission's proposal.<sup>71</sup>

31. We adopt the timing requirement as proposed but clarify that initiation of the notification must be contemporaneous with the call to 911.<sup>72</sup> As RedSky points out, notification can occur in many forms, including SMS text messages, email, screen display, and conference calls, and the delivery of text messages and email is not within the control of the MLTS provider or the MLTS user.<sup>73</sup> Accordingly, RedSky asks the Commission to clarify that *initiation* of the notification must be contemporaneous with connection of the emergency caller to the PSAP.<sup>74</sup> We concur. The record shows the importance of timely notification. According to NENA, "[n]otification contemporaneous with the 9-1-1 call has significantly greater value to all parties than after-the-fact notification, and the majority of a notification's benefits to response are lost if the notification is not conveyed in real-time."<sup>75</sup>

32. We also note Ad Hoc's concern that some enterprise owner/operators of MLTS currently report challenges in configuring MLTS equipment to provide contemporaneous notification in addition to placing the call to 911 emergency services.<sup>76</sup> As a result, Ad Hoc states, the Commission should condition its proposal for the timing of notification on what is "technically feasible."<sup>77</sup> We condition this

<sup>67</sup> We note that it may not be advisable for the recipient of the notification to dial the callback number in some situations, such as when the PSAP may be trying to reconnect to the 911 caller after a dropped call.

<sup>68</sup> Calls to 911 may include voice, text (including Real-Time Text), data, video, and text telephone. Therefore, best practices should include dialing any callback number using the same method the caller used to contact 911. For

instance, if the caller used text-based communications such as Real-Time Text to call 911, a text-based method should be used to contact the caller.

<sup>69</sup> BRETSA Reply at 14-17.

<sup>70</sup> *Notice*, 33 FCC Rcd at 8993, para. 23; Appendix A, proposed rule 47 CFR § 9.16(b)(2).

<sup>71</sup> *See* Avaya Comments at 4; NASNA Comments at 2; NENA Comments at 2; Panasonic Comments at 9; West Safety Comments at 4-5.

<sup>72</sup> *See* Appendix A, Final Rules, rule 47 CFR § 9.16(b)(2)(i).

<sup>73</sup> RedSky Comments at 3.

<sup>74</sup> RedSky Comments at 3.

<sup>75</sup> NENA Comments at 2.

<sup>76</sup> Ad Hoc Reply at 4.

<sup>77</sup> Ad Hoc Comments at 6; Ad Hoc Reply at 4.

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requirement on the technical feasibility of providing contemporaneous notification, as Ad Hoc requests.<sup>78</sup>

### **c. Notification Destination Points**

33. The Commission also sought comment in the *Notice* on whether there should be any requirements relating to the location, configuration, or staffing of notification destination points.<sup>79</sup> Kari's Law states that the notification may be provided either to a "central location at the facility where the system is installed" or to "another person or organization regardless of location." The Commission noted that this language indicates Congress's recognition that in the enterprise settings where MLTS are typically used, providing someone other than the PSAP with notice of the call can be critical to helping first responders gain timely access.<sup>80</sup> At the same time, the language "regardless of location," as illuminated by legislative history, indicates that Congress sought to provide MLTS installers, managers, and operators with broad flexibility in selecting destination points to achieve this goal.<sup>81</sup> For example, the notification could be directed to an on-site security desk that controls access to the premises, to an enterprise employee who may or may not be located at the facility where the MLTS is installed, or to a third party that provides security or safety services from an off-site location. MLTS notification could also be configured to combine these approaches, e.g., by having notifications during business hours go to

a central on-site location and off-hours notifications go to an off-site person or organization.<sup>82</sup>

34. The Commission sought comment on whether it should specify criteria for destination points to ensure that notifications are likely to be received by someone able to take appropriate action to facilitate or assist the 911 response.<sup>83</sup> Where on-site notification to a “central location” is provided, the Commission asked whether it should specify that the destination point must be a location that is normally staffed or, alternatively, a location where on-site staff are likely to hear or see the notification. The Commission noted that this approach would afford flexibility to direct the on-site notification to a security guard or facilities manager, to personnel who are otherwise employed and can support monitoring notifications as part of existing duties, or to an on-site location where staff are normally present.<sup>84</sup>

35. We adopt a requirement that notifications be sent to a location on-site or off-site where someone is likely to hear or see the notification.<sup>85</sup> Some commenters urge the Commission to establish criteria for notification destination points,<sup>86</sup> while others urge the Commission to preserve flexibility for the enterprise.<sup>87</sup> In this respect, we note NASNA’s assertion that notification “absolutely” should be to a location that is normally staffed or where staff are likely to hear or see the notification and that “[t]o do

<sup>78</sup> See Appendix A, Final Rules, rule 47 CFR § 9.16(b)(2)(i).

<sup>79</sup> Notice, 33 FCC Rcd at 8993, para. 24.

<sup>80</sup> Notice, 33 FCC Rcd at 8993, para. 24.

<sup>81</sup> The legislative history of Kari’s Law also states that the notification provision of the statute “requires the system to designate a central point of contact, but allows the MLTS owner or operator some flexibility in determining the most appropriate contact, whether in the building or otherwise.” Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017).

<sup>82</sup> Notice, 33 FCC Rcd at 8993, para. 24.

<sup>83</sup> Notice, 33 FCC Rcd at 8993, para. 25.

<sup>84</sup> Notice, 33 FCC Rcd at 8993, para. 25.

<sup>85</sup> See Appendix A, Final Rules, rule 47 CFR § 9.16(b)(2)(i).

<sup>86</sup> See NASNA Comments at 2; BRETSA Reply at 17.

<sup>87</sup> See Ad Hoc Comments at 7-8; AHLA Comments at 7-8; BluIP Comments at 4; Panasonic Comments at 13-14; Verizon Comments at 3.

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otherwise would undermine the purpose of the notification requirement.”<sup>88</sup> We agree with NASNA that the Commission should set some criteria for notification destination points to help ensure that they serve the purpose of Kari’s Law.

36. The requirement we adopt preserves flexibility for the enterprise to select an appropriate destination point. For instance, we recognize AHLA’s suggestion that “how an individual hotel determines to send a notification (via text message, a separate call or email), to whom the notification is sent, and where the recipient is at the time of receipt should be at the discretion of the hotel. For example, a hotel with a single on-duty employee overnight should not be required to send notification to a desk that may not be manned; a text message to the employee’s mobile device might be more appropriate.”<sup>89</sup> Our requirement would allow a hotel such as the one described by AHLA to send a text message to the overnight employee’s mobile device.<sup>90</sup>

37. In addition, we do not require that the notification point be continuously staffed or monitored, only that it be a location where someone is *likely* to see or hear the notification. The legislative history of Kari’s Law provides that the statute “seeks to balance the need for an onsite notification with the goal of not placing an undue burden on MLTS owners or operators.”<sup>91</sup> Consistent with this, the Commission in the *Notice* stated that it did not believe Congress intended to impose staffing or monitoring requirements that would generate unreasonable costs, such as the need to hire additional staff, or limit the flexibility of MLTS installers, managers, and operators to develop cost-effective notification solutions to meet their particular needs.<sup>92</sup> Based on the record before us, we adopt a requirement with which we intend to strike an appropriate balance between the increased benefits from having notifications sent to a location where they are likely to be received (e.g., increased chances of assistance for first responders) and the increased costs that are likely to result if we were to adopt a less flexible approach (e.g., increased staffing costs).

38. In the *Notice*, the Commission also asked whether, in the case of off-site notification, it should require that notification be to a person or organization that is authorized to provide first responders with access to the location from which the MLTS 911 call originated.<sup>93</sup> The Commission noted that this would allow notification to be directed to any offsite location, as the statute clearly allows, while furthering the statute’s objective of facilitating access to first responders answering a 911 call.<sup>94</sup>

39. We agree with Ad Hoc that requiring such notification may not make sense in all situations, such as where the enterprise does not control access to the premises or where access to the premises is unrestricted.<sup>95</sup> We nonetheless encourage enterprises using the off-site notification option to

<sup>88</sup> NASNA Comments at 2.

<sup>89</sup> AHLA Comments at 7-8. AHLA also urges the Commission to bear in mind that “not every hotel is a ‘large enterprise’ with multiple on-site personnel at all hours” and states that the Commission should “afford flexibility to hotels consistent with their operational reality.” AHLA Comments at 8.

<sup>90</sup> The definition of MLTS notification we adopt does not specify any particular form for the notification and states that examples of notification include “conspicuous on-screen messages with audible alarms for security desk computers using a client application, text messages for smartphones, and email for administrators.” *See* Appendix A, Final Rules, rule 47 CFR § 9.3 (definition of MLTS notification).

<sup>91</sup> Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017).

<sup>92</sup> *Notice*, 33 FCC Rcd at 8994, para. 26.

<sup>93</sup> *Notice*, 33 FCC Rcd at 8993, para. 25.

<sup>94</sup> *Notice*, 33 FCC Rcd at 8993, para. 25.

<sup>95</sup> Ad Hoc Reply at 6. Because we decline to make this requirement mandatory, we find it unnecessary to reach Ad Hoc’s argument that the Commission lacks legal authority or expertise to adopt it. Ad Hoc Comments at 7-8.

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choose someone who can assist first responders in gaining access to the facility if it is feasible to do. As suggested by NENA’s comments, it is a best practice for notification to go to whomever “has the keys” if a campus or building has restricted access and to whomever has any specialized knowledge of the facility layout that may assist public safety in locating and responding to a 911 call.<sup>96</sup> And we encourage the development of voluntary best practices and training for enterprise personnel, including designated notice recipients, so that they are prepared to assist first responders in the event of an emergency call.

#### **d. No Exemptions to Notification Requirement**

40. In the *Notice*, the Commission noted that large enterprises such as hotels, hospitals, and schools frequently have on-site personnel that control access to the premises, and notification of 911 calls to such personnel can improve outcomes by enabling them to assist first responders in accessing the premises and reaching the caller’s location.<sup>97</sup> The Commission sought comment on applying the statute’s notification requirements to all MLTS operators, including small enterprises, and sought comment on whether the benefits and costs of notification apply differently to small businesses than large enterprises such as hotels, hospitals, and schools.<sup>98</sup> Small businesses are less likely to have personnel controlling access, and first responders may not need the same level of assistance to reach a 911 caller.<sup>99</sup> The Commission also asked whether small enterprises using MLTS may find benefits to notification in addition to access and support, such as the ability for the enterprise to intervene when 911 is dialed in error and avoid sending emergency responders to a location that does not require a response.<sup>100</sup>

41. Commenters are divided on whether the Commission should provide a small business

exemption for the notification requirements of Kari's Law. NASNA states that the benefits of notification are the same for a small business as for a large one and that small businesses should know that a 911 call was made from their MLTS so they are not surprised when first responders arrive and can assist if needed, including canceling the response if it turns out that 911 was dialed in error.<sup>101</sup> Other commenters support a small business exemption, although their specific proposals for an exemption differ.<sup>102</sup> RedSky, for example, argues that not every enterprise using an MLTS should be required to have emergency call notification, "let alone staff to receive a notification," and that there are many circumstances where there is no one to consume the data and react.<sup>103</sup> Proposed criteria for defining an exemption generally include

<sup>96</sup> NENA Comments at 3. NASNA states that an off-site notice recipient should be authorized to provide first responders with access to the caller's location and that "[t]o do otherwise would negate the purpose of the notification requirement, which is to get help to the caller. If the person receiving the notification lacks authority to facilitate the response, the net effect would be as though no notification had been provided at all." NASNA Comments at 2.

<sup>97</sup> *See Notice*, 33 FCC Rcd at 8994, para. 27.

<sup>98</sup> *See Notice*, 33 FCC Rcd at 8994, para. 27.

<sup>99</sup> *See Notice*, 33 FCC Rcd at 8994, para. 27; *see also* Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017) (stating that notification "can be particularly important in large buildings like hotels, hospitals, and schools, where on-site personnel are uniquely suited to provide information about the building and its occupants").

<sup>100</sup> *See Notice*, 33 FCC Rcd at 8994, para. 27.

<sup>101</sup> NASNA Comments at 2.

<sup>102</sup> *See* AT&T Comments at 7-8; Comcast Reply at 3; NCTA Comments at 5; Panasonic Comments at 14; RingCentral Comments at 8; VON Comments at 11-12.

<sup>103</sup> RedSky Comments at 3. RedSky cites as an example a college with no public safety department that occupies 50 buildings and states that "[f]orcing the college to install and maintain a display in each building that provides the same data the PSAP already has is unnecessary." *Id. But cf.*, BRETSA Reply at 17 (stating that dormitories will typically have resident advisors or equivalent student representatives, and other buildings will have administrative personnel to whom notifications can be provided).

limits on square footage or the number of lines used at a single location.<sup>104</sup> In turn, RingCentral and VON

urge the Commission to limit the notification requirement to on-site calls and not to require notification for 911 calls from distributed workforces, i.e., those spread out over a large geographic region and relying on MLTS to centralize communications.<sup>105</sup>

42. We decline to adopt a small business exemption because we agree with NASNA that small businesses should receive notice of 911 calls that have been made from their MLTS so that they can prepare for the arrival of first responders and assist if needed. We also decline to provide an exception to the location information requirement for enterprises that are small or have an open workspace, as some commenters suggest.<sup>106</sup> We believe location information will be helpful even at a small business because it will confirm the caller's location for the notice recipient, who maybe at an offsite location. In addition, the burden of providing this information should be minimal. We note that Kari's Law does not provide an exemption for small businesses—nor one for MLTS operators that are not always staffed. In addition, the requirements we adopt for notification are highly flexible and give small businesses significant latitude to configure suitable notification mechanisms without unreasonable burden or cost.

43. We also disagree with RingCentral and VON that notification as a rule is unlikely to be helpful at remote or satellite locations served by an MLTS. Rather, we agree with BRETSA that limiting application of the rules to only specific types of MLTS would distort the market by favoring newer technologies, notwithstanding that callers to 911 are no less impacted by failures of MLTS using those technologies to provide notification (and interior location information) than MLTS using other technologies.<sup>107</sup> Indeed, we disagree with arguments that whenever MLTS is used off-site, notification is not useful. Although RingCentral states that it has many customers that provide centralized phone numbers and extensions for a workforce that is working from home, the road, remote offices, or a mix of these locations,<sup>108</sup> the fact that a “centralized location may be miles or states away from the emergency and have no special knowledge of the location where the emergency arose”<sup>109</sup> is irrelevant—Congress recognized that notifications have value “regardless of location” and it is not hard to recognize that having a centralized notification system could aid these multi-homed workers in reaching emergency services.

<sup>104</sup> See, e.g., AT&T Comments at 7-8 (asserting that businesses under 40,000 square feet should be exempt from the notification rules and should only be required to provide a street address as the dispatchable location); Comcast Reply at 3 (stating that businesses under 40,000 square feet should be exempt from the notification requirement, and the Commission should clarify that the definition of MLTS is limited to systems with 10 or more lines); VON Comments at 11-12 (stating that notification should not be required for MLTS with under 50 lines located on one floor in a contiguous workspace of less than 40,000 square feet); RingCentral Comments at 8 (urging the Commission to clarify that the notification and dispatchable location rules apply only to MLTS deployed at single locations that have 50 or more lines, where the MLTS owner controls the network); see also NCTA Comments at 5 (stating that the Commission should exclude very small systems from the definition of MLTS, and it should exclude systems with fewer than ten lines from the notification obligation and consider adopting a business size exemption); Panasonic Comments at 14 (stating that the Commission is “right to seek to minimize the burden of notification requirements for small business”); VON *Ex Parte* at 2 (stating that “[t]he Commission should adopt exemptions from proposed notification requirements for small businesses and business with distributed workforces”).

<sup>105</sup> See RingCentral Comments at 3-4; VON Comments at 12 n.53; Letter from Glenn S. Richards, Counsel for

VON, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261, 17-239, at 2 (filed May 24, 2019) (VON *Ex Parte*).

<sup>106</sup> *See, e.g.*, NCTA Comments at 4, VON Comments at 11-12.

<sup>107</sup> BRETSA Reply at 13.

<sup>108</sup> RingCentral Comments at 4.

<sup>109</sup> Ring Central Comments at 4; *see also* Comcast Reply at 6 (stating that the notification requirement should extend only to 911 calls placed from a telephone at the location where the MLTS facilities have been installed, and any notification capability for users that are located off-site should be determined by the MLTS customer).

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Similarly, we disagree with VON that “a 911 call placed by a person working from a satellite office would trigger a notification to someone at the central office, who would not be able to aid first responders when they arrive at the satellite office or otherwise speed first responder response time,”<sup>110</sup> because a someone at a staffed central office may nonetheless aid remote first responders by, for example, alerting other personnel at the location of the emergency. Although there may be corner cases in which notification is not in fact helpful, we decline on this record to exempt any particular category of MLTS facilities from the notification requirements as a matter of policy (not to mention that Kari’s Law itself draws no such lines).

### **3. Definitions**

#### **a. Definition of Multi-line Telephone System**

44. Kari’s Law and RAY BAUM’S Act define the term “multi-line telephone system” by cross-referencing the definition in the Middle Class Tax Relief and Job Creation Act of 2012.<sup>111</sup> That Act, in turn, defines an MLTS as:

a system comprised of common control units, telephone sets, control hardware and software and adjunct systems, including network and premises based systems, such as Centrex and VoIP, as well as PBX, Hybrid, and Key Telephone Systems (as classified by the Commission under part 68 of title 47, Code of Federal Regulations), and includes systems owned or leased by governmental agencies and non-profit entities, as well as for profit businesses.<sup>112</sup>

45. In the *Notice*, the Commission proposed to interpret this definition to include “the full

range of networked communications systems that serve enterprises, including circuit-switched and IP-based enterprise systems, as well as cloud-based IP technology and over-the-top applications.”<sup>113</sup>

46. The Commission also proposed in the *Notice* to interpret the definition of MLTS to include enterprise-based systems that allow outbound calls to 911 without providing a way for the PSAP to place a return call (outbound-only calling service).<sup>114</sup> The Commission stated that it believed requiring direct dialing for any MLTS that allows the user to call 911, regardless of whether the system also allows the PSAP to make a return call, would advance the purpose of Kari’s Law.<sup>115</sup> In addition, the Commission stated, there is nothing in the language of the definition of MLTS from the Middle Class Tax Relief and Job Creation Act of 2012 that excludes systems allowing only outbound calls to 911.<sup>116</sup>

47. The record is divided over the Commission’s proposed definition of MLTS. Some commenters support the proposal,<sup>117</sup> while others oppose the Commission’s proposed interpretation.<sup>118</sup>

<sup>110</sup> VON Comments at 12 n.53.

<sup>111</sup> See 47 U.S.C. § 623(f); RAY BAUM’S Act, § 506(a).

<sup>112</sup> 47 U.S.C. § 1471(2).

<sup>113</sup> *Notice*, 33 FCC Rcd at 8994, para. 29.

<sup>114</sup> *Notice*, 33 FCC Rcd at 8994, para. 29.

<sup>115</sup> *Notice*, 33 FCC Rcd at 8994-95, para. 29.

<sup>116</sup> *Notice*, 33 FCC Rcd at 8995, para. 29.

<sup>117</sup> See AT&T Comments at 6; Avaya Comments at 6; BRETSA Reply at 12; Florida Bureau of Public Safety Comments at 1; NASNA Comments at 2; RedSky Comments at 6; West Safety Comments at 5.

<sup>118</sup> See TIA Comments at 8; VON Comments at 10-11; VON *Ex Parte* at 2.

Commenters, however, generally support the Commission’s proposed interpretation of the definition of MLTS to include outbound-only calling services, citing consumer expectations and the need for regulatory parity among services.<sup>119</sup>

48. As proposed in the *Notice*, and consistent with the statutory definition, we interpret the

definition of MLTS to include the full range of networked communications systems that serve enterprises, including circuit-switched and IP-based enterprise systems, as well as cloud-based IP technology and over-the-top applications. West Safety endorses this approach and states that the statutory definition of MLTS is sufficiently broad to encompass the full range of enterprise communications systems, including “legacy TDM MLTS, hybrid MLTS and IP MLTS systems and software,” as well as “any and all endpoints supported by MLTS including mobile and smart devices, softphone clients, over-the-top (OTT) applications and outbound-only calling services.”<sup>120</sup> RedSky similarly states that the term MLTS “should not be limited to any specific type of end point device” because the technology is constantly evolving.<sup>121</sup>

We agree. 49. TIA and VON, however, oppose the Commission’s proposed interpretation.<sup>122</sup> TIA asserts that if Congress had intended its definition to capture “the full range” of all technologies in the enterprise communications marketplace, including over-the-top applications, it could have done so in the definition.<sup>123</sup> Instead, TIA asserts, “the definition refers by name to numerous traditional MLTS technologies and points to Part 68 of the FCC’s rules—regulations established decades ago to govern interconnection with the PSTN for traditional telephony services.”<sup>124</sup> TIA adds that “[t]he Commission is right to think about the modern enterprise communications market which has certainly expanded beyond traditional locally-hosted PBX systems, but it should not expand the scope of Kari’s Law as intended by Congress.”<sup>125</sup> VON states that as proposed, the term could cover any business with more than one line

<sup>119</sup> AT&T Comments at 6; Avaya Comments at 6; BRETSA Reply at iii, 24; RedSky Comments at 6; West Safety Comments at 5; *see also* APCO Comments at 8 (stating that for communications platforms that may appear functionally identical to consumers, the Commission should ensure consistency in capabilities such as location information conveyed with the call and ability to access 911).

<sup>120</sup> West Safety Comments at 5.

<sup>121</sup> RedSky Comments at 5-6. RedSky adds that its customers use a mix of physical devices, including telephones and multi-media devices, as well as soft phones that can be deployed and function without a telephone set. RedSky Comments at 39-40.

<sup>122</sup> *See* TIA Comments at 8; VON Comments at 10-11; VON *Ex Parte* at 2.

<sup>123</sup> TIA Comments at 8.

<sup>124</sup> TIA Comments at 8.

<sup>125</sup> TIA Comments at 8. TIA also states that the *Notice*’s proposed definition is not consistent with the Commission’s historic understanding of MLTS as describing a physical network that allowed businesses the opportunity to use multiple lines on-site within an enterprise. TIA Comments at 8. TIA states that in the *Enterprise Communications NOI*, the Commission noted that MLTS “historically denoted systems that use circuit-switched telephone technology to support enterprise voice communications” and may “not capture the full array of existing and emerging IP-based enterprise systems, including cloud-based systems.” As a result of that understanding, “the Commission determined it was necessary to propose a new definition of enterprise communications system . . . to

capture ‘the full range of networked communications systems that serve enterprises.’ Thus, just over a year ago, the Commission understood that the term MLTS did not capture all forms of enterprise communications. This does not square with the proposed interpretation in the NPRM and nothing about Kari’s Law or RAY BAUM’S Act addresses the definitional deficiency.” TIA Comments at 8-9. We disagree that the Commission’s use of the term “enterprise communications system” in the *Enterprise Communications NOI* constituted agency precedent on the meaning of the term MLTS under 47 U.S.C. § 1471. Even if it were precedent on this point, however, we disagree with TIA’s limited view of the definition of MLTS. Specifically, the Commission explained in the *Enterprise Communications NOI* that it was introducing the term enterprise communications system to underscore its intention

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using a cloud PBX and could therefore essentially turn any interconnected VoIP service into MLTS (or vice versa), contrary to the plain intent of Kari’s Law.<sup>126</sup> VON adds that this point becomes clearer when compared with RAY BAUM’S Act, which directs the Commission to “consider adopting rules to ensure that the dispatchable location is conveyed with a 9-1-1 call, regardless of the technological platform used and including with calls from [MLTS].” In contrast, VON states, Kari’s Law does not discuss other technological platforms, and as a result, “the NPRM’s proposed interpretation of MLTS goes farther than the law allows, and should be limited to those systems provided for in 47 U.S.C. 1471.”<sup>127</sup> Cisco and Panasonic note that the statutory definition of MLTS does not refer to the terms “cloud-based IP technology” and “over-the-top applications” and state that it is not clear Congress envisioned such a broad interpretation of the term.<sup>128</sup>

50. We disagree with these commenters. In particular, we note that the statutory definition also refers to VoIP, which is a newer technology, and introduces the reference to VoIP with the term “such as.” The statute thus cites VoIP (and other technologies) as examples but not as limitations on the definition. If Congress had intended a more constrained view of the technologies that fall within the definition of MLTS, it would have stated that MLTS “consists of” or is “limited to” certain technologies. In addition, the statutory language refers broadly to a “system comprised of common control units, . . . control hardware and software and adjunct systems, including network and premises-based systems.”<sup>129</sup> We find that this language broadly includes cloud-based IP technology and over-the-top applications. Further, there is no language in the statute specifically excluding cloud-based IP technology and over-the-top applications from the definition of MLTS.

51. We also believe interpreting the definition of MLTS broadly is consistent with the intent of Kari’s Law. The enterprise market has already seen significant migration away from traditional MLTS and toward IP-based and cloud-based systems,<sup>130</sup> and Kari’s Law applies only to systems that are

(Continued from previous page) for the *Enterprise Communications NOI* to address new and emerging MLTS technologies, as well as older forms of MLTS. See *Enterprise Communications NOI*, 32 FCC Rcd at 7924 n.2. The Commission also used the term throughout the *Enterprise Communications NOI*, including in its summary of the statute that added section 1471(2) to the Act. This shows that the Commission, for purposes of that proceeding, viewed the terms “enterprise communications system” and “all MLTS” (regardless of the age or type of technology) as synonymous. See *Enterprise Communications NOI*, 32 FCC Rcd at 7925-28, paras. 8-13 (summarizing “Previous Commission Proceedings Related to E911 Service for [enterprise communications

systems]”). As intervening legislation and the initiation of this proceeding prompted the Commission to observe:

Both Kari’s Law and Section 506 of RAY BAUM’s Act use the term “MLTS” and define it to include IP-based as well as circuit-switched systems, making the statutory definition of MLTS essentially synonymous with the Commission’s definition of [enterprise communications systems]. Therefore, for purposes of consistency with the statutory language, in this *Notice* we use the term MLTS instead of [enterprise communications systems] to refer to the full range of systems that serve enterprises, whether circuit-or IP- based, unless the context requires otherwise.

*Notice*, 33 FCC Rcd at 8987  
n.15.

<sup>126</sup> VON Comments at 10.

<sup>127</sup> VON Comments at 10-11; *see also* VON *Ex Parte* at 2 (stating that the Commission “should adopt the definition of Multiline Telephone Systems in the legislation; not the more expansive definition proposed in the Notice of Proposed Rulemaking”).

<sup>128</sup> Cisco Comments at 8; Panasonic Comments at 6. Cisco also notes that the statutory definition includes a reference to “premises based systems” but does not refer to “off-premises” systems. Cisco Comments at 8.

<sup>129</sup> 47 U.S.C. § 1471(2).

<sup>130</sup> *See* TIA Comments at 4 (stating that in addition to legacy, on-premises PBX, Centrex, and Key Telephone Systems, MLTS systems are now increasingly hosted in the cloud, web-based, and IP-enabled); TIA and DECT

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manufactured or brought into use after February 16, 2020. It is unlikely that Congress would seek to address the problems of direct dialing and notification for MLTS only with respect to traditional, non-IP-based MLTS technologies, which represent a declining share of the MLTS market.<sup>131</sup> With respect to VON’s assertion that the reference to other “technological platform[s]” in RAY BAUM’S Act shows that the definition of MLTS should be interpreted narrowly under Kari’s Law, we disagree. We interpret the reference to technological platforms in RAY BAUM’S Act as a direction for the Commission to include other services, such as interconnected VoIP, TRS, and fixed telephony, in its consideration of dispatchable location rules. We do not interpret it as a limitation, explicit or implied, on the meaning of MLTS under Kari’s Law.

52. We also interpret the definition of MLTS to include outbound-only calling systems.<sup>132</sup> The statutory definition of MLTS is broad enough to cover outbound-only calling services and does not expressly exclude such services. Commenters generally support interpreting the definition to include outbound-only services,<sup>133</sup> and no commenter expressly opposes this interpretation.<sup>134</sup> Avaya, for example, states that MLTS at a minimum should include any system capable of making an outbound call.<sup>135</sup>

BRETSA asserts that 911 calls are outbound calls, and it is counterintuitive that they cannot be made over outbound-only calling systems.<sup>136</sup> AT&T urges the Commission to ensure that the MLTS rules maintain regulatory parity between new implementations of business VoIP services and traditional MLTS business solutions and states that one-way VoIP solutions should be required to support 911, as end users will expect their calling solutions to have this functionality and may rely on it in an emergency.<sup>137</sup> Verizon states that applying Kari's Law requirements to MLTS that allow outbound-only 911 dialing is likely feasible, but that the scope of such requirements should focus on user expectations.<sup>138</sup> Verizon suggests that the rules should protect users of outbound-only calling systems who are not employed by the enterprise or who are otherwise unfamiliar with the system and use it for outbound-only dialing.<sup>139</sup>

(Continued from previous page) Forum Reply at 11 (stating that in the MLTS marketplace, newer technologies similar to VoIP or cloud-based technologies are growing in availability and popularity over traditional wireline options); *see also Notice*, 33 FCC Rcd at 8987, para. 8 (noting that enterprises are increasingly relying on IP-based systems, including cloud-based services, to support their communications needs).

<sup>131</sup> *See also* 163 Cong. Rec. H590 (daily ed. Jan. 23, 2017) (statement of Rep. Sheila Jackson Lee; "The goal of H.R. 582 is to ensure that all emergency calls regardless of the source are routed properly to emergency services.").

<sup>132</sup> The Texas 911 Entities state that "based on questions that we continue to receive regarding the state law version of Kari's Law in Texas, if it is the Commission's intent to preclude MLTS from being configured to not allow outbound calls (including calls to 9-1-1) as opposed to requiring MLTS that allow outbound dialing to have direct access to 9-1-1, then the FCC may want to clarify that concept." Texas 911 Entities Comments at 6. We clarify that our rules are not intended to prohibit configuring MLTS to allow outbound-only calling. Rather, we interpret the definition of MLTS to include outbound-only calling systems.

<sup>133</sup> AT&T Comments at 6; Avaya Comments at 6; BRETSA Reply at iii, 24; RedSky Comments at 6; West Safety Comments at 5; *see also* APCO Comments at 8.

<sup>134</sup> Microsoft and INCOMPAS assert that the Commission should not expand its 911 rules to cover outbound-only calling applications. *See* Microsoft Comments at ii, 17-22; INCOMPAS Reply at 2, 10-11. We do not interpret these comments to apply to the question of outbound-only MLTS services under Kari's Law.

<sup>135</sup> Avaya Comments at 6; *see also* West Safety Comments at 5 (asserting that the statutory definition of MLTS is broad enough to encompass outbound-only calling services).

<sup>136</sup> BRETSA Reply at iii, 24.

<sup>137</sup> AT&T Comments at 6.

<sup>138</sup> Verizon Comments at 3.

<sup>139</sup> Verizon Comments at 3.

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On the other hand, Verizon states, if the outbound-only system has a defined and restricted user group that is uniformly familiar with and trained in the enterprise's calling practices, and 911 is the only outbound number that users can dial, the direct dialing capability may be less critical.<sup>140</sup> Verizon also states that requiring direct dialing capability for outbound-only MLTS services "may give enterprises incentive to not enable any 911 dialing at all (which has its own public safety implications)."<sup>141</sup>

53. We find that Congress's intent in enacting Kari's Law was to require direct dialing for any MLTS phone that allows the user to call 911, regardless of whether the system also allows the PSAP to connect a return call directly to the 911 caller. We agree with the Texas 911 Entities that Kari's Law and the "utterly tragic circumstances" behind its enactment demonstrate that "it is simply unreasonable to expect 9-1-1 callers to know or remember when they are required to do something differently during a 9-1-1 call based on their particular device or location."<sup>142</sup> Moreover, as BRETSA states, calling 911 is inherently an outbound service.<sup>143</sup> As a result, it is counter-intuitive to expect consumers to assume that they cannot reach 911 from such services.<sup>144</sup>

54. We decline to adopt Verizon's suggestion that we narrow the requirements for outbound-only MLTS service to apply solely on the basis of user expectations. Rather, we believe Congress intended for direct 911 dialing and notification to be available for all outbound-only MLTS services. Similarly, public safety commenters such as the Texas 911 Entities and BRETSA point out that 911 callers in an emergency should not have to slow down and analyze whether 911 is available from a particular device, especially when they may not know the particular technology involved and may not have chosen it for themselves. Finally, although Verizon suggests that requiring direct dialing capability for outbound-only MLTS services may give enterprises incentive to not enable any 911 dialing at all, we do not believe this possibility, which is speculative, outweighs the benefits of ensuring that direct dialing is available with any MLTS phone that allows the caller to reach 911.<sup>145</sup>

55. *Internal systems.* Cisco asks the Commission to clarify that the definition of MLTS excludes systems that are "used only for internal employee communications and . . . are not designed to interconnect with the PSTN," such as internal messaging and data and video conference capabilities that are "increasingly displacing voice communications for employee collaboration."<sup>146</sup> Cisco states that "[w]here a technology is specifically deployed by an enterprise to support internal communications (i.e., it cannot support a call outside the enterprise), or where a tool is designed and used for conferencing services or other non-point-to-point communications, there can be no reasonable expectation on the part

<sup>140</sup> Verizon Comments at 3-4.

<sup>141</sup> Verizon Comments at 4.

<sup>142</sup> Texas 911 Entities Comments at 4.

<sup>143</sup> BRETSA Reply at iii, 24.

<sup>144</sup> Indeed, the requirement in our text-to-911 rules for covered text providers to send a bounce-back message informing the user when text-to-911 service is not available is based on a similar conclusion that consumers in an emergency cannot be expected to know the limits of various devices and services that they may use to try to reach 911. See 47 CFR § 20.18(q)(3); *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications; Framework for Next Generation 911 Deployment*, PS Dockets Nos. 11-153 and 10-255, Report and Order, 28 FCC Rcd 7556, 7562, para. 15 (2013) (stating that as IP-based text applications proliferate beyond Short Message Service and Multimedia Messaging Services, “consumers are likely to assume that they should be as capable of reaching 911 as any other telephone number”).

<sup>145</sup> See also BRETSA Reply at 25 (stating that excluding outbound-only calling services from 911 regulation might cause voice application and service providers to configure their services to permit outbound-only calling for the specific purpose of avoiding the complications and expense of 911).

<sup>146</sup> Cisco Comments at 9.

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of employees that such internal or conferencing tools would be used to summon emergency services.”<sup>147</sup> BRETSA responds that limiting application of the rules to specific types of MLTS would distort the market and that Kari’s Law and RAY BAUM’S Act do not support such a narrow reading of the definition of MLTS.<sup>148</sup> Further, BRETSA states that exempting internal communications systems from the rules “would appear to create a loophole such as to negate the statutes and rules” because an MLTS in which a user must dial a number to access an outside line prior to placing a call to 911 would appear to be an internal communications system.<sup>149</sup>

56. We agree with Cisco that Kari’s Law and the rules arising out of RAY BAUM’S Act were not intended to apply to purely internal communications systems that do not rely on telephone numbers under the North American Numbering Plan. We clarify that a technology that is specifically deployed by an enterprise to support only internal communications and that does not connect to the public switched telephone network would not fall within the definition of MLTS. In response to BRETSA’s concerns, we conclude that this will not distort the market or negate the statute and rules because the clarification applies only to systems that do not connect to the public switched telephone network. If an internal communications system or conferencing service connects to the public switched telephone network either on its own or through a third party and can establish calls to the public switched telephone network, including by dialing a prefix such as “9,” then it is within the definition of MLTS under our

interpretation.<sup>150</sup>

57. *System components.* Panasonic, Cisco, and TIA also urge the Commission to clarify that individual system components such as telephone sets and control software do not qualify as an MLTS.<sup>151</sup> Panasonic states that Congress’s use of the language “system comprised of” various parts, “e.g., common control units, telephone sets, control software and hardware and adjunct systems,” dictates as a matter of logic that such individual parts are, in isolation, not MLTS themselves.<sup>152</sup> To hold otherwise, Panasonic states, would be to ignore the plain meaning of the word “comprised,” effectively reading it out of the statute.<sup>153</sup> Panasonic adds that it may be uniquely situated in that while the company offers a “full-blown MLTS” and is in that case an MLTS manufacturer, it also sells IP phones to other parties, who bundle Panasonic phones with other components that make up a full MLTS.<sup>154</sup> To address this situation, Panasonic states, the Commission should clarify that sellers of individual MLTS components are not subject to the Commission’s rules for MLTS.<sup>155</sup> Cisco asserts that “[a]s a matter of common sense, individual system components are not even capable of dialing 911 or reaching the PSTN unless and until

<sup>147</sup> Cisco Comments at 9.

<sup>148</sup> BRETSA Reply at 13-14.

<sup>149</sup> BRETSA Reply at 14.

<sup>150</sup> See Verizon Comments at 2 (stating that the scope of the draft rules is “appropriately” targeted at systems interconnected to the PSTN and that this is consistent with the Commission’s traditional approach to consumers’ and businesses’ 911 dialing expectations and preserves flexibility in developing new purely private, internal enterprise systems).

<sup>151</sup> Panasonic Comments at 7; Cisco Reply at 5; TIA Comments at 9.

<sup>152</sup> Panasonic Comments at 7.

<sup>153</sup> Panasonic Comments at 7.

<sup>154</sup> Panasonic Comments at 7.

<sup>155</sup> Panasonic Comments at 7.

they are assembled by an installer.”<sup>156</sup>

58. We agree that the definition of MLTS refers to a system and that individual components of such a system, including telephone sets, control software and hardware, and adjunct systems, do not by themselves constitute an MLTS. Consistent with this, we clarify that manufacturers, importers, sellers, or lessors of individual MLTS components are not subject to the Commission’s MLTS rules to the extent that they manufacture, import, sell, or lease such components without the other components necessary for the system to function as an MLTS. In the scenario described by Panasonic, the entity that bundles the individual components into an MLTS would be the manufacturer and presumably also the seller or lessor of the MLTS and would have the obligations that fall on those parties under the statute and our rules.<sup>157</sup> However, we do not agree with Cisco that the test for whether one or more components constitute an MLTS is whether they can be used to dial 911 or reach the PSTN, as that would exclude all systems that have been manufactured but not yet installed. Such a result would clearly be at odds with Kari’s Law, which places obligations on “persons engaged in the business of manufacturing, importing, selling, or leasing” an MLTS that apply before installation, operation, or management of the system.<sup>158</sup>

#### **b. Definition of Pre-configured**

59. The Commission proposed in the *Notice* to define the statutory term “pre-configured” to mean:

An MLTS that comes equipped with a default configuration or setting that enables users to dial 911 directly as required under the statute and rules, so long as the MLTS is installed and operated properly. This does not preclude the inclusion of additional dialing patterns to reach 911. However, if the system is configured with these additional dialing patterns, they must be in addition to the default direct dialing pattern.<sup>159</sup>

60. The Commission stated that this would mean an MLTS may support additional dialing patterns but that manufacturers (and importers, sellers, or lessors) must ensure that the default, “out-of-the-box” configuration allows users to reach 911 directly.<sup>160</sup>

61. Although some commenters agree with the Commission’s proposed definition of pre-

<sup>156</sup> Cisco Reply at 5; *see also* TIA Comments at 9 (stating that when a company is merely providing a component of an MLTS, it cannot be subject to a rule that clearly only applies to entities that manufacture and sell the entire system that makes up an MLTS).

<sup>157</sup> To the extent individual components need certain functionality or pre-configuration to comply with Kari’s Law, the bundler should require that in its contract with the manufacturer. The obligation to comply with the statute and our rules, however, would lie with the bundler.

<sup>158</sup> Specifically, such persons may not manufacture, import, sell, lease, or offer to sell or lease an MLTS unless the system is “pre-configured” so that when properly installed, a user may directly initiate a call to 911 from any station equipped with dialing facilities. 47 U.S.C. § 623(a).

<sup>159</sup> *Notice*, 33 FCC Rcd at 8995, para. 31; *see also Notice*, 33 FCC Rcd at 9029, Appendix A, rule 47 CFR § 9.3 (proposed definition of pre-configured). The Commission noted that the Section-by-Section analysis of H.R. 582 states that the law would require MLTS to be “pre-configured with the default dialing pattern described in this section,” *see* Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017), and that a default configuration commonly refers to the preexisting, “out of the box” settings of a user-configurable software application, computer program, or device. *See Notice*, 33 FCC Rcd at 8995, n.59.

<sup>160</sup> *Notice*, 33 FCC Rcd at 8995, para. 31; *see also* Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017) (stating that the law would not preclude the inclusion of additional optional dialing patterns to reach 911, such as 9-911, but that “if the system is configured with these additional dialing patterns, they must be in addition to the default pattern”).

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configured,<sup>161</sup> others ask the Commission to clarify the proposed definition to acknowledge the role of the enterprise customer and MLTS installer in providing the MLTS with connectivity to the PSTN.<sup>162</sup>

62. We find that the revisions proposed by Cisco and Microsoft are consistent with the statutory language and with the definition of “pre-configured” that the Commission proposed in the *Notice*, and that they assist in providing clarity. In particular, Cisco states that MLTS manufacturers today can design systems that are capable of supporting direct 911 dialing patterns and that are shipped with software that, upon installation and configuration of the MLTS with PSTN connectivity, can enable direct 911 dialing.<sup>163</sup> However, MLTS solutions of this type have no capability “out of the box” to make or complete a PSTN call, including an emergency call.<sup>164</sup>

63. Cisco adds that in today’s market, “MLTS manufacturers predominantly offer enterprise solutions over distributed systems, where the actual call control component of the solution need not be, and often is not, resident in each enterprise location where MLTS-to-PSTN calling takes place. PSTN connectivity, including the 911 dialing pattern, is therefore established by the installer at the direction of the enterprise, based on the unique attributes of its MLTS system, at the time PSTN connectivity is configured.”<sup>165</sup> Cisco urges the Commission to clarify that the pre-configuration requirement in the context of distributed systems can be satisfied when a vendor includes software to support a direct 911 dialing pattern, which is available to the installer at the time the MLTS is configured for PSTN calling.<sup>166</sup> Specifically, Cisco proposes that the Commission “slightly” modify the definition of pre-configured to read, “An MLTS that comes equipped with hardware and/or software capable of establishing a setting that enables users to directly dial 911 as soon as the system is able to initiate calls to the public switched telephone network, so long as the MLTS is installed and operated properly.”<sup>167</sup> Microsoft similarly states

that many, if not most, MLTS capabilities in today’s marketplace are not available in a “plug and play” version and that the Commission should revise the definition of pre-configured so that it “recognizes the responsibilities of the customer with respect to implementation and provision of the service.”<sup>168</sup> Microsoft recommends that the Commission revise the definition to read, “‘Pre-configured’ means that the MLTS comes equipped with a default configuration or setting that enables users to dial 911 directly as required under the statute and rules, so long as the system is installed and operated properly or, where no default exists, such as when customer provisioning of the system is required, enables the customer to

<sup>161</sup> See NASNA Comments at 2; West Safety Comments at 5.

<sup>162</sup> See Cisco Comments at 10-12; INCOMPAS Reply at 7-8; Panasonic Comments at 7-8; RingCentral Reply at 11-12; TIA Comments at i, 10; TIA and DECT Forum Reply at 5-6.

<sup>163</sup> Cisco Comments at 10.

<sup>164</sup> Cisco Comments at 10.

<sup>165</sup> Cisco Comments at 10. Cisco also states that “[a]s is the case with direct dialing, distributed MLTS are not preconfigured to provide dispatchable location; rather, the initial configuration of dispatchable location (and the maintenance of that configuration over time) can only effectively be the responsibility of the MLTS installer and operator, not the manufacturer.” Cisco Reply at 5; *see also* Letter from John T. Scott, III, Counsel for Cisco, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261, 17-239, at 2 (filed May 22, 2019) (the MLTS software Cisco produces and markets to enterprises is capable of being configured at time of installation with a default direct 911 dial setting but cannot be pre-configured as the Commission proposed to define that term in the *Notice*); Panasonic Comments at 8 (stating that some MLTS per se require further steps by the installer, which are likely as directed by the manager of the MLTS, before any dial-out, including to 911, is possible and that the definition or interpretation of pre-configured should “reflect this reality”).

<sup>166</sup> Cisco Comments at 12.

<sup>167</sup> Cisco Comments at 12.

<sup>168</sup> Microsoft Comments at 6.

configure the system to dial 911 directly as required under the statute and rules.”<sup>169</sup>

64. We agree with these commenters that not all MLTS are “out of the box,” plug-and-play solutions and that the definition of pre-configured should recognize the role of the enterprise and installer

with respect to implementation and provision of service. We believe that the proposed revisions suggested by Cisco and Microsoft are fundamentally consistent with each other, and we note that no commenter opposes these suggested revisions. In addition, Microsoft states that it supports either version of the definition.<sup>170</sup> Accordingly, we revise the definition as requested by Cisco as follows:

‘Pre-configured’ means an MLTS that comes equipped with hardware and/or software capable of establishing a setting that enables users to directly dial 911 as soon as the system is able to initiate calls to the public switched telephone network, so long as the MLTS is installed and operated properly. This does not preclude the inclusion of additional dialing patterns to reach 911. However, if the system is configured with these additional dialing patterns, they must be in addition to the default direct dialing pattern.<sup>171</sup>

### **c. Definition of Configured**

65. The Commission proposed in the *Notice* to define the statutory term “configured” to mean:

The settings or configurations for a particular MLTS installation have been implemented so that the MLTS is fully capable when installed of dialing 911 directly and providing notification as required under the statute and rules. This does not preclude the inclusion of additional dialing patterns to reach 911. However, if the system is configured with these additional dialing patterns, they must be in addition to the default direct dialing pattern.<sup>172</sup>

The Commission also asked whether the difference between its proposed definitions of “pre-configured” and “configured” was sufficiently clear.<sup>173</sup>

66. NASNA, Panasonic, and West Safety support the Commission’s proposed definition of configured.<sup>174</sup> BRETSA notes that the reference to “notification” in the definition should be to “MLTS notification,” because that is the term as defined in the rules.<sup>175</sup> BRETSA also proposes line edits to specify that configuring an MLTS for direct dialing means configuring it for “direct dialing of 911 without a requirement of first dialing or entering an additional digit, code, prefix, or post-fix, including

<sup>169</sup> Microsoft Comments at 6; *see also* INCOMPAS Reply at 8 (supporting Microsoft’s proposed revision).

<sup>170</sup> *See* Letter from Paula Boyd, Senior Director, Government and Regulatory Affairs, Microsoft Corporation, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261, 17-239, at 5 (filed June 26, 2019).

<sup>171</sup> See Appendix A, Final Rules, rule 47 CFR § 9.3 (definition of pre-configured).

<sup>172</sup> Notice, 33 FCC Rcd at 8995, para. 32; see also Notice, 33 FCC Rcd at 9026, Appendix A, rule 47 CFR § 9.3 (proposed definition of configured).

<sup>173</sup> Notice, 33 FCC Rcd at 8995, para. 32.

<sup>174</sup> See NASNA Comments at 2; Panasonic Comments at 8; West Safety Comments at 4.

<sup>175</sup> See BRETSA Comments at 7.

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any trunk-access code such as the digit 9.”<sup>176</sup>

67. We adopt the definition largely as proposed. We also agree with BRETSA that the reference to notification should be corrected to “MLTS notification.”<sup>177</sup> But we decline to adopt BRETSA’s other proposed line edits as unnecessary. The definition already requires configuration so that the MLTS is fully capable when installed of dialing 911 directly “as required under the statute and rules,” which includes dialing without a requirement of first dialing or entering an additional digit, code, prefix, or post-fix, including any trunk-access code such as the digit 9.<sup>178</sup>

68. The revised definition reads as follows:

The settings or configurations for a particular MLTS installation have been implemented so that the MLTS is fully capable when installed of dialing 911 directly and providing MLTS notification, as required under the statute and rules. This does not preclude the inclusion of additional dialing patterns to reach 911. However, if the system is configured with these additional dialing patterns, they must be in addition to the default direct dialing pattern.<sup>179</sup>

#### **d. Definition of Improvement to the Hardware or Software of the System**

69. Under Kari’s Law, the notification requirements of the statute apply only if the MLTS can be configured to provide notification “without an improvement to the hardware or software of the system.”<sup>180</sup> The Commission proposed in the Notice to define the statutory term “improvement to the hardware or software of the system” to mean:

An improvement to the hardware or software of the MLTS, including upgrades to the core systems of the MLTS, as well as substantial upgrades to the software and any software upgrades requiring a significant purchase.<sup>181</sup>

70. The Commission also noted that the proposed definition is consistent with the legislative history of Kari’s Law, which provides that an improvement to the hardware or software of a system is intended to include upgrades to the core systems of an MLTS and substantial upgrades to the software, particularly those requiring a significant purchase.<sup>182</sup> The Commission asked whether there are types of

<sup>176</sup> See BRETSA Comments at 7.

<sup>177</sup> Consistent with this, we also change a reference in section 9.16(b)(2) of the rules from configuring an MLTS to provide “a notification” to configuring it to provide “MLTS notification.” See Appendix A, Final Rules, rule 47 CFR § 9.16(b)(2).

<sup>178</sup> RedSky states that the titles of the definitions of pre-configure and configure are too broad and suggests changing them to “Pre-configured MLTS” and “MLTS Configurations,” respectively. See RedSky Comments at 39, 40. We decline to make these changes because we do not believe the existing titles will cause confusion. In addition, our definitions are intended to track the language used in Kari’s Law as closely as possible, and the statute and our implementing rules do not use the terms “pre-configured MLTS” or “configured MLTS.”

<sup>179</sup> See Appendix A, Final Rules, rule 47 CFR § 9.3 (definition of configured).

<sup>180</sup> Notice, 33 FCC Rcd at 8995, para. 33 (citing 47 U.S.C. § 623(c)).

<sup>181</sup> Notice, 33 FCC Rcd at 8995-96, para. 33; see also *id.* at 9027, Appendix A, rule 47 CFR § 9.3 (proposed definition of improvement to the hardware or software of the system).

<sup>182</sup> Notice, 33 FCC Rcd at 8996, n.64 (citing Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017)). The Commission also noted that the legislative history of Kari’s Law provides that an

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routine hardware or software changes that should be included in or excluded from the definition and whether it should clarify that (1) improvements to the hardware of the system do not include the provision of additional extensions or lines, and (2) improvements to the software of the system do not include minor software upgrades that are easily achieved or made to improve the security of the system.<sup>183</sup> In addition, the Commission asked whether upgrades requiring a significant purchase should be determined based on total cost alone, or whether it should interpret significant to be a relative determination based on the size

of the entity making the purchase.<sup>184</sup>

71. We adopt the definition of improvement to the hardware or software of the system as proposed.<sup>185</sup> Under this definition, enterprises are not required to undertake “upgrades to the core systems of an MLTS,” “substantial upgrades to the software,” or “any software upgrades that require a significant purchase” in order to comply with the notification obligation.

72. We find that this definition is necessary to implement Kari’s Law, which makes clear that the notification requirements of the statute apply only if the MLTS can be configured to provide notification “without an improvement to the hardware or software of the system.”<sup>186</sup> The definition we adopt also is consistent with the legislative history of Kari’s Law, which states Congress’s intention to balance the need for notification with the goal of “not placing an undue burden on MLTS owners or operators.”<sup>187</sup>

73. While NCTA supports the Commission’s approach to this definition,<sup>188</sup> others express concerns.<sup>189</sup> Although RedSky objects to the definition on the ground that the vast majority of deployed MLTS systems can meet the notification requirements without any modification of the core systems, NCTA points out that line-based MLTS cannot be upgraded to offer notification without upgrades to core systems that would present a “daunting technological and financial challenge.”<sup>190</sup> In this respect, NCTA states that MLTS are provided to commercial customers in a variety of configurations involving both line-based and trunk-based products and that it is not aware of any line-based systems that currently have a notification capability.<sup>191</sup>

74. We also disagree with NASNA that any improvements to an existing MLTS, no matter

(Continued from previous page) improvement to the hardware of a system is not intended to include “the addition of additional extensions or lines” and that “[m]inor software upgrades that are easily achieved or are made to improve the security of the system would not be considered an ‘improvement’ for the purposes of this section.” In addition, the legislative history provides that the statute “seeks to balance the need for an onsite notification with the goal of not placing an undue burden on MLTS owners or operators.” *Notice*, 33 FCC Rcd at 8996, nn.65 & 66 (citing Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017)).

<sup>183</sup> *Notice*, 33 FCC Rcd at 8996, para. 33.

<sup>184</sup> *Notice*, 33 FCC Rcd at 8996, para. 33.

<sup>185</sup> See Appendix A, Final Rules, rule 47 CFR § 9.3 (definition of improvement to the hardware or software of the system).

<sup>186</sup> 47 U.S.C. § 623(c).

<sup>187</sup> See Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017).

<sup>188</sup> See NCTA Comments at 3-4.

<sup>189</sup> See Panasonic Comments at 14-15; RedSky Comments at 7.

<sup>190</sup> See RedSky Comments at 7; NCTA Comments at 4. RedSky also asserts that the only type of improvements that should be considered minor are “programming configurations.” RedSky Comments at 7.

<sup>191</sup> NCTA Comments at 3.

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how minor, should trigger the obligation to comply with Kari’s Law and the implementing regulations.<sup>192</sup> We conclude that such a policy would be inconsistent with the language of Kari’s Law, which limits application of the statute to MLTS manufactured or brought into use after February 16, 2020. In addition, we clarify that (1) improvements to the hardware of the system do not include the provision of additional extensions or lines, and (2) improvements to the software of the system do not include minor software upgrades that are easily achieved or made to improve the security of the system.<sup>193</sup>

75. With respect to upgrades, Panasonic requests that we further clarify that substantial improvements to the software of the system do not include software updates for addressing bug fixes, security vulnerabilities, or the addition of ancillary features; that maintenance or reconfiguration of the system to support new users or extensions should not be considered a substantial upgrade; and that the cost of the upgrade or update or the size of the enterprise should not be a factor.<sup>194</sup> RedSky asserts that the terms “substantial” and “significant” are subjective and “should be quantified to ease in both requirement and enforcement abilities.”<sup>195</sup>

76. We believe the factors cited by Panasonic may be relevant to determining whether a specific upgrade is substantial, but that such factors, if applicable, should be evaluated in light of the total facts and circumstances presented in the specific case. We also decline to quantify the terms “substantial” and “significant” as requested by RedSky, as the record does not provide sufficient basis for such quantification at this time. We expect that as Kari’s Law is implemented, cases will arise that will enable us to provide further guidance on these issues. For now, we conclude that the guidance provided above is sufficient and consistent with the statutory language and legislative history of Kari’s Law.

#### **e. Definition of Person Engaged in the Business of Manufacturing, Importing, Selling, or Leasing an MLTS**

77. Kari’s Law applies to any “person engaged in the business of manufacturing, importing, selling, or leasing” an MLTS and provides that such persons may not manufacture or import an MLTS for use in the United States, or sell or lease or offer to sell or lease an MLTS in the United States, unless the system is pre-configured so that, when properly installed, a user may directly initiate a call to 911 from any station equipped with dialing facilities.<sup>196</sup> In the *Notice*, the Commission tentatively concluded that the meaning of the term “person engaged in the business of manufacturing, importing, selling, or leasing

an MLTS” is self-evident and did not propose to modify this definition or add it to the rules.<sup>197</sup> The Commission sought comment whether any additional clarification of this term is necessary for implementation or enforcement of Kari’s Law.<sup>198</sup>

78. As proposed in the *Notice*, we conclude that the meaning of the term “person engaged in the business of manufacturing, importing, selling, or leasing an MLTS” is self-evident and that there is no need to adopt a definition for it. Cisco and Panasonic agree that the meaning of this term is self-evident,

<sup>192</sup> NASNA Comments at 2. (“...*any* improvements to MLTS hardware or software that an enterprise makes in the future must provide direct dialing and notification capabilities, and the same dispatchable location information that would be received by a PSAP.”) (emphasis added).

<sup>193</sup> Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017).

<sup>194</sup> Panasonic Comments at 14-15.

<sup>195</sup> RedSky Comments at 39.

<sup>196</sup> 47 U.S.C. § 623(a).

<sup>197</sup> *Notice*, 33 FCC Rcd at 8996, para. 34.

<sup>198</sup> *Notice*, 33 FCC Rcd at 8996, para. 34.

and no commenter opposed that view.<sup>199</sup>

#### **f. Definition of Person Engaged in the Business of Installing an MLTS**

79. Kari’s Law also places obligations on any “person engaged in the business of installing, managing, or operating” an MLTS.<sup>200</sup> Such persons may not install, manage, or operate the MLTS for use in the United States unless it is configured for direct dialing of 911.<sup>201</sup> In addition, such persons shall, in installing, managing, or operating the MLTS, configure it to provide notification if the system is able to be configured to provide notification without an improvement to the hardware or software of the system.<sup>202</sup> In the *Notice*, the Commission proposed to define a person engaged in the business of installing an MLTS as:

A person that configures the MLTS or performs other tasks involved in getting the system ready to operate. These tasks may include, but are not limited to, establishing the dialing pattern for emergency calls, determining how calls will route to the Public Switched Telephone Network (PSTN), and determining where the MLTS will interface with the PSTN. These tasks are performed when the system is initially installed, but they may also be performed on a more or less regular basis by the MLTS operator as the communications needs of the enterprise change. The MLTS installer may be the MLTS manager or a third party acting on behalf of the manager.<sup>203</sup>

80. The Commission sought comment on this proposed definition.<sup>204</sup> While some commenters support the proposed definition,<sup>205</sup> others ask the Commission to clarify it.<sup>206</sup>

81. We adopt the definition of “person engaged in the business of installing an MLTS” as proposed.<sup>207</sup> We decline to revise the language of this definition as requested by some commenters because we conclude that such revisions are not warranted; however, we supply guidance on how to apply this definition given points raised by some commenters.

82. In this regard, RingCentral notes that although the *Notice* defines a “person engaged in the business of installing an MLTS” to include a person who “configures the MLTS or performs other tasks involved in getting the system ready to operate,” these functions are often part of providing cloud- based MLTS.<sup>208</sup> Accordingly, RingCentral states, an over-broad definition of installation risks imposing duties (such as configuring notification) that should rest with the MLTS owner/operator as the entity best

<sup>199</sup> See Cisco Comments at 13; Panasonic Comments at 9; see also West Safety Comments at 5 (endorsing the Commission’s proposed definitions of “the various roles of MLTS marketplace participants”).

<sup>200</sup> 47 U.S.C. § 623(b).

<sup>201</sup> 47 U.S.C. § 623(b).

<sup>202</sup> 47 U.S.C. § 623(c).

<sup>203</sup> *Notice*, 33 FCC Rcd at 8996, para. 35; see also *id.* at 9029, Appendix A, rule 47 CFR § 9.3 (proposed definition of Person engaged in the business of installing an MLTS).

<sup>204</sup> *Notice*, 33 FCC Rcd at 8996-97, para. 35.

<sup>205</sup> See West Safety Comments at 5.

<sup>206</sup> See RingCentral Comments at 9; Cisco Reply at 5; Comcast Reply at 5; Panasonic Comments at

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<sup>207</sup> See Appendix A, Final Rules, rule 47 CFR § 9.3 (definition of person engaged in the business of installing an MLTS).

<sup>208</sup> RingCentral Comments at 9.

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positioned to make deployment decisions for the enterprise.<sup>209</sup> According to RingCentral, the Commission should address this by making clear that manufacturers and sellers are not installers simply by virtue of providing systems; “rather, manufacturers and sellers become installers only when their customers specifically retain them for installation by, for example, purchasing installation or other professional services.”<sup>210</sup> In addition, RingCentral states that the Commission should recognize that installers are acting at the direction of owners and operators and should adjust the responsibility for implementation of those directions accordingly.<sup>211</sup>

83. We disagree with RingCentral that responsibility for configuring or other tasks that fall within the definition of installation should automatically rest with the owner/operator in some circumstances, and we believe that a manufacturer of a hosted MLTS that configures the system is serving in that respect as an installer. Similarly, we note that some manufacturers provide systems with self-installing software. In that event, the manufacturer is also performing some of the functions of an installer. We agree, however, with RingCentral that if an entity performs the functions of an installer at the direction of the enterprise operator or manager, then the operator or manager in that scenario is also serving as the installer. Consistent with this approach, there may be multiple parties performing installation functions for a single MLTS. An enterprise manager or operator that directs aspects of the installation may, depending on the degree of its involvement, be responsible for complying with the installer’s obligations. Evidence that the manufacturer has been retained specifically to install the system could be relevant in showing that the manufacturer is at least partly responsible for the obligations of an installer under Kari’s Law and our rules, but the absence of such an agreement would not necessarily mean that the manufacturer has not performed any installation functions.

84. Panasonic states that the definition of a “person engaged in the business of installing an MLTS” should be limited to initial installation and configuration of the system or substantial improvement, “lest over-long potential liability risk the exit of skilled installers from the market.”<sup>212</sup> We decline to limit the definition to initial installation and configuration of the system, as Panasonic requests. Panasonic presents no data to support its conclusion that this would lead to the exit of skilled installers from the market.<sup>213</sup>

#### **g. Definition of Person Engaged in the Business of Managing an MLTS; Person Engaged in the Business of Operating an MLTS;**

## Role of the Enterprise Owner

85. The Commission proposed to define a person engaged in the business of managing an MLTS as:

The entity that is responsible for controlling and overseeing implementation of the MLTS after installation. These responsibilities include determining how lines should be distributed (including the

<sup>209</sup> RingCentral Comments at 9.

<sup>210</sup> RingCentral Comments at 9.

<sup>211</sup> RingCentral Comments at 9; *see also* Cisco Reply at 5 (supporting RingCentral's position).

<sup>212</sup> Panasonic Comments at 9.

<sup>213</sup> Comcast asks the Commission to make clear that in instances where an MLTS provider installs a system that has been pre-configured to be capable of transmitting direct-dialed 911 calls to the appropriate PSAP, the installer has fulfilled its responsibilities under Kari's Law and the implementing rules. Comcast Reply at 5. We decline to make this clarification because we believe the definition of a person engaged in the business of installing an MLTS is sufficiently clear with respect to the obligations of an installer. In addition, we note that the installer's obligations may extend beyond installing a system that has been "pre-configured" for direct dialing of 911 and may include, for example, installing a system capable of providing MLTS notification.

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adding or moving of lines), assigning and reassigning telephone numbers, and ongoing network configuration.<sup>214</sup>

The Commission proposed to interpret this definition to mean that a user of MLTS services that does not own or lease the MLTS or exercise any control over it would not be deemed to be engaged in the business of managing the MLTS.<sup>215</sup> Under this interpretation, an enterprise that contracts with a third party to provide a total solution for MLTS, including acquiring the MLTS equipment, configuring the system, completing calls, and providing services such as maintenance and end user support, would not be deemed to be engaged in the business of managing the MLTS unless it exercised actual control over the system.<sup>216</sup> The Commission also proposed to define a person engaged in the business of operating an MLTS as "[a] person responsible for the day-to-day operations of the MLTS."<sup>217</sup> The Commission sought comment on these proposed definitions.<sup>218</sup>

86. In addition, the Commission sought comment on whether there are circumstances in which

the proposed definitions of MLTS “manager” or “operator” should extend to enterprise owners.<sup>219</sup> The Commission noted that commenters on the *Enterprise Communications NOI* emphasized that some enterprise owners purchase, operate, and maintain their own on-premises telephone systems with PBX equipment, while other enterprise owners enter contractual arrangements with third-party providers of network and hosted services.<sup>220</sup> The Commission stated that it did not believe Kari’s Law was intended to extend liability to enterprise owners that purchase MLTS services but do not exercise control over the manner in which such services are configured or provided.<sup>221</sup> Nevertheless, the Commission stated, there may be instances where enterprise owners purchase, operate, and maintain their own MLTS systems, or where they exercise active control over the configuration and provision of MLTS by third parties.<sup>222</sup> The Commission sought comment on whether in such instances enterprise owners should be deemed to be MLTS managers or operators and what indicia of active control should be considered in making this determination.<sup>223</sup>

87. Commenters raise a number of issues with respect to the proposed definitions of MLTS operator and manager. NASNA and West Safety generally agree with the proposed definitions,<sup>224</sup> while other commenters seek changes to the definitions or ask the Commission to clarify the role of the

<sup>214</sup> *Notice*, 33 FCC Rcd at 8996, para. 36; *see also Notice*, 33 FCC Rcd at 9029, Appendix A, rule 47 CFR § 9.3 (proposed definition of Person engaged in the business of managing an MLTS).

<sup>215</sup> *Notice*, 33 FCC Rcd at 8997, para. 36.

<sup>216</sup> *Notice*, 33 FCC Rcd at 8997, para. 36.

<sup>217</sup> *Notice*, 33 FCC Rcd at 8997, para. 37; *see also Notice*, 33 FCC Rcd at 9029, Appendix A, rule 47 CFR § 9.3 (proposed definition of Person engaged in the business of operating an MLTS).

<sup>218</sup> *Notice*, 33 FCC Rcd at 8996-97, paras. 36-37.

<sup>219</sup> *Notice*, 33 FCC Rcd at 8997, para. 38.

<sup>220</sup> *Notice*, 33 FCC Rcd at 8997, para. 38 (citing West Safety *Enterprise Communications NOI* Comments at 7).

<sup>221</sup> *Notice*, 33 FCC Rcd at 8997, para. 38.

<sup>222</sup> *Notice*, 33 FCC Rcd at 8997, para. 38.

<sup>223</sup> *Notice*, 33 FCC Rcd at 8997, para. 38.

<sup>224</sup> NASNA Comments at 3; West Safety Comments at 6.

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manager, operator, and enterprise owner.<sup>225</sup>

88. We clarify the allocation of responsibility among the installer, operator, manager, and enterprise owner in certain respects. With these clarifications, we do not believe any changes are needed in the wording of the definitions of person engaged in the business of managing an MLTS and person engaged in the business of operating an MLTS. Accordingly, we adopt these definitions as proposed.<sup>226</sup>

89. We are persuaded by the arguments of BRETSA, NASNA, and RedSky that even a “passive” enterprise owner may perform some of the functions of an MLTS installer, manager, or operator under our rules and that the owner in that event should be responsible to the extent a violation of the statute or rules results from that conduct.<sup>227</sup> NASNA states that an MLTS owner “still has an obligation to hold its third-party service provider(s) responsible for ensuring compliance.”<sup>228</sup> RedSky similarly asserts that the Commission should not exclude passive owners from the definition, stating that “no MLTS user can be successful in a vacuum. They have to provide their operational requirements to the MLTS provider. These requirements can and must include direction to meet appropriate regulatory requirements. It is incumbent on the MLTS provider to ensure that the provided system or service is capable of meeting these requirements.”<sup>229</sup> BRETSA states that the rules should hold MLTS customers responsible for compliance to the extent the customer installs, maintains, operates and/or configures the MLTS.<sup>230</sup>

<sup>225</sup> See AHLA Comments at 4, 10-11; AT&T Comments at 6, 7-8; BRETSA Comments at 5; Comcast Reply at 5; INCOMPAS Reply at 3-6; NASNA Comments at 3; NCTA Comments at 2; Panasonic Comments at 18; RedSky Comments at 9; RingCentral Reply at 10-11; USTelecom Comments at 3.

<sup>226</sup> See Appendix A, Final Rules, rule 47 CFR § 9.3 (definition of person engaged in the business of managing an MLTS, definition of person engaged in the business of operating an MLTS).

<sup>227</sup> See BRETSA Comments at 5; NASNA Comments at 3; RedSky Comments at 9.

<sup>228</sup> NASNA Comments at 3.

<sup>229</sup> RedSky Comments at 9. RedSky also states that the term “operator” is not as pertinent as the term and concept of provider and that the Commission should introduce the terms “MLTS provider” and “MLTS user” to capture the actual business environment. RedSky Comments at 9. In addition, RedSky suggests that the Commission replace the term “person” throughout the rules with the term “person or entity.” *Id.* at 8. We decline to use “MLTS provider” and “MLTS user” because those terms are not used in Kari’s Law, and our intent is for the rules to track the

language of the statute whenever possible. We decline to substitute the term “person or entity” for the same reason; “person” is the term used in Kari’s Law. We also note that Kari’s Law was codified as part of Chapter 5 of the Act, and that Chapter 5 defines “person” to include “an individual, partnership, association, joint-stock company, trust, or corporation.” 47 U.S.C. § 153(39).

<sup>230</sup> BRETSA Comments at 5. BRETSA also states that that MLTS providers with superior knowledge of the rules will invariably include in their sales and service agreements indemnification provisions that will undermine the deterrent effect of penalties under the rules. To address this, BRETSA urges the Commission to prohibit MLTS providers from requiring customers to indemnify them against liability for rule violations. *Id.* We decline to prohibit providers from requiring customers to indemnify them because we find that any conclusions about the effect of such agreements on compliance with Kari’s Law and the implementing rules would be highly speculative at this time. BRETSA also interprets the “person engaged in the business of” language to exclude a person that is engaged in a business unrelated to the provision of configuration or operation of an MLTS but that purchases or leases an MLTS for its use, and BRETSA proposed revisions to bring such persons under the rules. *See* BRETSA Comments at 5, 9. We decline to adopt these proposed revisions because we believe it is clear that Kari’s Law and the implementing rules apply to a person engaged in a business unrelated to the operation of an MLTS that purchases or leases an MLTS for its own use. *See* Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017) (stating that “[n]ew Section 721(b) requires that *any person who installs, operates, or manages a MLTS* only do so if the system is configured such that a user may directly initiate a call to 9-1-1 without any additional digit or prefix”) (emphasis added).

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90. We agree with these commenters that an enterprise owner has an obligation to hold third-party service providers responsible for complying with Kari’s Law and our rules. We clarify, however, that a passive owner generally should not face liability if the owner contracts with a responsible third party and includes compliance requirements in its agreement with the service provider. We decline to find that a hotel is not an installer, manager, or operator of MLTS under the rules absent “compelling evidence to the contrary,” as AHLA requests.<sup>231</sup> AHLA states that hotels typically do not perform the functions of an installer, manager, or operator.<sup>232</sup> In that event, and provided that the hotel contracts with responsible third parties and includes compliance requirements in the agreements, the hotel should not face potential liability under the statute or our rules.

91. Commenters also ask the Commission to clarify the allocation of responsibility for complying with Kari’s Law and the regulations in the context of hosted, cloud-based MLTS service.<sup>233</sup> AT&T asserts that any new MLTS rules should clearly delineate the roles and responsibilities of the various players in the MLTS ecosystem and that any single stakeholder may play multiple roles in the MLTS ecosystem depending on how an MLTS system is configured.<sup>234</sup> “For example, when AT&T offers a hosted MLTS solution to a business, AT&T should be responsible for compliance with the requirements applicable to those engaged in the installing, managing, or operating MLTS. However, where AT&T offers a Session Initiation Protocol . . . trunking solution to provide Public Switched Telephone Network . . . access for call delivery and the customer operates and manages the PBX, the

customer should have responsibility for compliance. In both cases, the manufacturer should bear responsibility for ensuring its products are compliant.”<sup>235</sup>

92. We conclude that whether a party is a manager, operator, or installer should be based on the party’s conduct and whether it has performed activities that fall within the definition in our rules. Consistent with this, we agree with AT&T that when it offers a hosted MLTS solution to a business, it is responsible for compliance with the requirements applicable to those engaged in installing, managing, or operating an MLTS to the extent that its hosting service includes those functions. On other hand, if AT&T offers a trunking solution that provides public switched telephone network access but the customer operates and manages the PBX, we agree that the customer should have responsibility for compliance as an operator and/or manager.

93. RingCentral disagrees with AT&T’s suggestion that hosted PBX providers would be installers and managers and urges the Commission to clarify that manufacturers and sellers are not installers or managers simply by virtue of providing systems.<sup>236</sup> RingCentral asserts that “[p]roviders of hosted cloud-based PBX may simply provide the MLTS, without installation or implementation of the system after installation. . . . The definition of ‘manager’ could . . . inadvertently include a cloud-based MLTS provider, as the definition includes a person who is involved in ‘implementation of the MLTS after installation.’”<sup>237</sup> We note that a manufacturer or seller would be deemed an installer or manager only to

<sup>231</sup> AHLA Comments at 4; *see also* West Safety Comments at 6 (agreeing with the Commission’s proposal to interpret the definitions of MLTS manager and operator to exclude users that do not own, lease, or exercise any control over the MLTS and stating that regulating the activities and purchase decisions of passive enterprise owners is inconsistent with the intent of Kari’s Law).

<sup>232</sup> *See* AHLA Comments at 11 (stating that AHLA members of any size generally contract with third-party vendors to acquire equipment, configure the system, complete calls, and provide maintenance and support).

<sup>233</sup> *See* AT&T Comments at 6; RingCentral Reply at 10-11.

<sup>234</sup> AT&T Comments at 6.

<sup>235</sup> AT&T Comments at 6.

<sup>236</sup> RingCentral Reply at 10-11.

<sup>237</sup> RingCentral Reply at 10-11.

the extent that it provides installation or management services with respect to the system. We offer these as illustrative examples for guidance on how the Commission would apply the rule. Any determination of a particular party's liability will necessarily require a fact-specific, case-by-case inquiry. The parties' contractual arrangements may be relevant in this determination, but they are not determinative, and an entity that performs the functions of a manager in violation of a contractual obligation not to do so could still be deemed a "person engaged in the business of managing an MLTS."

94. Finally, we agree with commenters on the importance of the enterprise owner/MLTS customer's involvement in some situations. Commenters assert that the MLTS customer's involvement may be necessary for compliance, including updating end user location information<sup>238</sup> and selecting an appropriate destination point for the 911 notification.<sup>239</sup> As INCOMPAS and NCTA point out, the owner/customer in such situations is performing some of the functions of an MLTS operator or manager. Specifically, INCOMPAS states that in most circumstances, the customer or owner serves as the true operator of the system and exercises considerable control over MLTS service provided by INCOMPAS members.<sup>240</sup> Once the system is installed and configured, the enterprise customer controls the amount of information that flows to managers and operators of these systems, including location information, and decides the responsibilities for the parties involved.<sup>241</sup> Where enterprise customers have assumed primary operational roles with respect to the MLTS, INCOMPAS urges the Commission to "be careful not to attach liability for violations of the rules to providers that are only engaged in technical support or network oversight."<sup>242</sup> NCTA asserts that some MLTS networks—typically those that use a customer-managed PBX—enable a customer to program or alter the calling pattern of a MLTS.<sup>243</sup> In those instances, NCTA urges the Commission to assign the sole responsibility for ensuring compliance with Kari's Law to the customer, who would be "engaged in the business of managing an MLTS," rather than the voice service provider or equipment installer.<sup>244</sup> Comcast also points out that an enterprise owner may

<sup>238</sup> See ACA Connects Comments at 4; AT&T Comments at 6; INCOMPAS Reply at 4-5; NCTA Reply at 5; NTCA Comments at 2; RingCentral Reply at 9. AT&T notes that customers may "unilaterally move telephone stations [after installation] . . . which may require updating the dispatchable location" and urges the Commission to "ensure that the allocation of responsibility for dispatchable location accurately reflects these realities." AT&T Comments at 6. NTCA states that the accuracy of dispatchable location information as discussed in the *Notice* often depends on an MLTS end-user customer "continually and proactively updating the data at issue, such as the location of handsets and/or individual users within buildings or multiple buildings as the case may be." NTCA Comments at 2. NTCA adds that by contrast, service providers—after initial installation or configuration of the MLTS—lack visibility into any individual user's location to accurately, and on a timely basis, update handset location or other relevant data. *Id.*; see also Letter from Brian Hurley, Vice President of Regulatory Affairs, ACA Connects, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261, 17-239, at 2 n.6 (filed April 22, 2019) (noting that ACA Connects interprets the proposed rules to mean that a provider which follows the requirements for installing, operating, or managing an MLTS should be deemed to have met its obligation under the rule to "configure" the MLTS to provide dispatchable location "notwithstanding any failure of the customer to supply accurate location information or to keep the information current").

<sup>239</sup> See Verizon Comments at 3 (stating that covered MLTS entities will need to rely on the representations of the

enterprise customer regarding any appropriate destination point for the notification, “as the customer is ultimately responsible for matters such as office design, staffing levels, and employee training and duties”); NCTA Reply at 5 (stating that end user customers should specify the location where the notification is to be sent, rather than imposing that burden on the MLTS provider); RingCentral Reply at 9 (stating that “the customer is in the best position to determine the location for the notification requirement, and whether there is any value to notification at all”).

<sup>240</sup> INCOMPAS Reply at 4.

<sup>241</sup> INCOMPAS Reply at 4.

<sup>242</sup> INCOMPAS Reply at 5.

<sup>243</sup> NCTA Comments at 2.

<sup>244</sup> NCTA Comments at 2.

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choose to take on additional responsibilities with respect to the MLTS.<sup>245</sup>

95. To the extent a violation of the statute or rules results from failure of the enterprise owner/customer to perform these tasks properly, the owner/customer will be responsible for that violation. Consistent with this approach, we agree with NCTA and Comcast that if the enterprise customer controls the routing of calls, the enterprise’s voice service provider has fulfilled its responsibilities under the statute and regulations if it ensures that its service will not interfere with the customer’s ability to configure the MLTS to be capable of transmitting direct-dialed calls to 911.

96. AT&T, RedSky, and USTelecom urge the Commission to clarify that the MLTS installer, manager, or operator need only offer the central notification capability to the customer to be in compliance with the law.<sup>246</sup> AT&T states that some customers may not wish to have central notification if, for example, they have a small facility or they do not have staff to support monitoring notifications at all hours, and “the MLTS provider should not be responsible for compelling the customer to utilize a capability that the customer has judged unnecessary.”<sup>247</sup> USTelecom states that an enterprise customer may choose not to designate or maintain a central notification point.<sup>248</sup> We agree with these commenters that a manager, operator, or installer should not be liable if it performs its obligations in compliance with the statute and rules, but the enterprise customer declines to use the services offered.

#### **4. Compliance Date and Transition Provisions**

97. The effective date provision of Kari’s Law states that the statute “shall apply with respect to a multi-line telephone system that is manufactured, imported, offered for first sale or lease, first sold or

leased, or installed after” February 16, 2020.<sup>249</sup> In the *Notice*, the Commission proposed that the compliance date for regulations implementing Kari’s Law would be consistent with this date.<sup>250</sup> Accordingly, the proposed direct dialing and notification requirements would apply to MLTS manufactured, imported, offered for first sale or lease, first sold or leased, or installed after February 16, 2020.<sup>251</sup> The Commission sought comment on this proposed compliance date as well as on alternatives, and stated that commenters offering alternatives should explain how any date other than February 16, 2020 would be consistent with the statutory language.<sup>252</sup>

98. The Commission also sought comment on whether to adopt transitional rules to inform consumers of the 911 capabilities of legacy MLTS that are not subject to the direct dialing and notification requirements of Kari’s Law.<sup>253</sup> The Commission noted, for example, that the direct 911 dialing and notification statute enacted in Texas requires enterprises to place a sticker adjacent to or on

<sup>245</sup> Comcast states that enterprise customers may control the routing of calls and urges the Commission to “state clearly” that in such a situation the enterprise’s voice service provider has fulfilled its responsibilities under the statute and regulations if it ensures that its service will not interfere with the customer’s ability to configure the MLTS to be capable of transmitting direct-dialed 911 calls. Comcast Reply at 5. Comcast states that for example, “if the customer separately purchases a PBX and trunking service to interconnect to the PSTN, the trunk service provider’s obligation should be satisfied if the trunking service does not prohibit 911 direct dialing.” *Id.* at 5 n.11.

<sup>246</sup> AT&T Comments at 7-8; RedSky Comments at 11; RedSky Reply at 9-10; USTelecom Comments at 4.

<sup>247</sup> AT&T Comments at 7-8.

<sup>248</sup> USTelecom Comments at 4.

<sup>249</sup> 47 U.S.C. § 623 note.

<sup>250</sup> *Notice*, 33 FCC Rcd at 8997, para. 39.

<sup>251</sup> *Notice*, 33 FCC Rcd at 8997, para. 39.

<sup>252</sup> *Notice*, 33 FCC Rcd at 8997, para. 39.

<sup>253</sup> *Notice*, 33 FCC Rcd at 8998, para. 41.

non-compliant MLTS devices providing instructions on how to call 911,<sup>254</sup> and that the Commission’s

interconnected VoIP E911 rules require service providers to distribute stickers or labels warning subscribers that E911 service may be limited.<sup>255</sup> The Commission sought comment on whether to require MLTS installers, operators, and managers to notify callers how to dial 911 from legacy systems, as well as options for doing so, associated costs, and potential sources of statutory authority for such requirements.<sup>256</sup>

99. Some commenters support the proposed compliance date of February 16, 2020.<sup>257</sup> Other commenters support an earlier compliance date.<sup>258</sup> The record also is divided on whether the Commission should adopt transition rules, such as disclosure requirements, for legacy MLTS.

100. We adopt a compliance date of February 16, 2020 for the regulations implementing Kari's Law. This is supported by commenters such as West Safety, which asserts that the February 16, 2020 compliance date will afford market participants sufficient advance notice to make informed manufacturing, planning, and purchasing decisions and will give enterprises the proper level of financial and operational flexibility to retain their existing, grandfathered MLTS until end-of-life.<sup>259</sup>

101. We decline to adopt an earlier date because we find that the February 16, 2020, date is consistent with the plain language of Kari's Law, as well as with the intent of the statute. The statute applies prospectively as new MLTS are brought into use after February 16, 2020, or as existing systems are installed or first sold or leased after that date. This indicates that Congress intended to balance the benefits of requiring direct dialing before that date against the cost to enterprises of having to implement these requirements with respect to existing, legacy equipment currently in use. Commenters who urge the Commission to adopt an earlier date do not address how that would be consistent with the statutory language of Kari's Law.<sup>260</sup>

102. With respect to transition obligations, Ad Hoc asserts that the Commission has no statutory authorization to adopt transitional rules for grandfathered MLTS equipment.<sup>261</sup> Further, Ad Hoc urges the Commission to refrain from "impractical mandates" for notification to end users, such as

<sup>254</sup> *Notice*, 33 FCC Rcd at 8998, para. 41 (citing Tex. Health & Safety Code Ann. § 771A.001(e)(2)(C); 1 Tex. Admin. Code § 251.16(c), (d)(7)). The Commission also noted that Utah's version of Kari's Law requires the enterprise to post a notice near each non-compliant telephone stating that the phone may not be used to directly access 911 services by dialing 911, indicating how an individual may access 911 through the telephone, and providing the street address and other location information for the telephone. *Id.* at 8998 n.74 (citing Utah Code Ann. § 69-5-205(2)).

<sup>255</sup> *Notice*, 33 FCC Rcd at 8998, para. 41 (citing 47 CFR § 9.5(e)(3)).

<sup>256</sup> *Notice*, 33 FCC Rcd at 8998, para. 41.

<sup>257</sup> *See* Ad Hoc Reply at 6-7; AHLA Comments at 4; Cisco Reply at 6; Verizon Comments at 4; West Safety Comments at 4.

<sup>258</sup> See APCO Comments at 2-3; BluIP Comments at 6-7; BRETSA Reply at 13; Florida Bureau of Public Safety Comments at 1; RedSky Comments at 10; RedSky Reply at 10.

<sup>259</sup> West Safety Comments at 4. Ad Hoc further asserts states that the Commission has no authority or mandate to impose requirements on operators of legacy MLTS equipment and that any such requirement would “impose huge implementation costs on large and small businesses.” Ad Hoc Reply at 6-7.

<sup>260</sup> See, e.g., APCO Comments at 2-3; Florida Bureau of Public Safety Comments at 1; RedSky Comments at 10; BluIP Comments at 6-7; BRETSA Reply at 7, 13.

<sup>261</sup> Ad Hoc Comments at 10.

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stickers on equipment, also deeming them “ineffective.”<sup>262</sup> AT&T similarly states that the Commission should not require warning labels for grandfathered MLTS because many of these systems have been in place for years, and requiring warning labels on each of them would be “incredibly disruptive to customers.”<sup>263</sup> Panasonic states that the Commission should not impose specific employee notification requirements on MLTS installers, operators, and managers but should instead encourage “voluntary, industry-led initiatives” to do so.<sup>264</sup> TIA urges the Commission to launch a public education campaign aimed at educating the public on the capabilities of legacy MLTS equipment and, as part of this program, to take steps to ensure that potential MLTS users are aware of their system’s capabilities.<sup>265</sup> NENA and NASNA, on the other hand, urge the Commission to adopt disclosure requirements for legacy MLTS.<sup>266</sup> NENA asserts that it strongly supports some form of conspicuous notification on any MLTS handset not in compliance with the end-state Kari’s Law implementation rules and that it has enumerated model requirements for such notification in its Model MLTS Legislation.<sup>267</sup> NASNA states that the Commission should require MLTS owners to place a sticker near or on non-compliant MLTS devices “to avoid situations such as the one that gave rise to Kari’s Law in the first place.”<sup>268</sup>

103. We decline to require enterprises to notify end users of the 911 capabilities and limitations of MLTS that are not subject to the statute and our rules. Such a requirement falls outside the scope of Kari’s Law. Instead, as Panasonic suggests, we encourage enterprises to disclose the limitations on dialing 911 from such MLTS as part of voluntary best practices.

104. AT&T and NASNA also raise the issue of what level of upgrades to an existing MLTS would be significant enough to constitute manufacture, importation, sale, lease, or installation triggering compliance with Kari’s Law when upgrades are made after February 16, 2020. AT&T states that upgrades unrelated to core MLTS functions in legacy systems should not trigger the obligation to comply with Kari’s Law and the implementing rules.<sup>269</sup> NASNA urges the Commission to ensure that any

<sup>262</sup> Ad Hoc Comments at 10, 11 (noting that many phones in the enterprise market are soft phone clients that reside on laptops or wireless smartphones, making stickers impracticable); *see also* Ad Hoc Reply at 6-8, AT&T Comments at 7 (stating that stickers are ineffective).

<sup>263</sup> AT&T Comments at 7.

<sup>264</sup> Panasonic Comments at 13.

<sup>265</sup> TIA Comments at 12.

<sup>266</sup> *See* NENA Comments at 4; NASNA Comments at 3.

<sup>267</sup> NENA Comments at 4, citing NENA Model MLTS Legislation § 6(a)(2)(A)-(C), [https://c.ymcdn.com/sites/www.nena.org/resource/collection/C3D071C2-FACD-41CB-A09C-354888272EF8/MLTS\\_2015.pdf](https://c.ymcdn.com/sites/www.nena.org/resource/collection/C3D071C2-FACD-41CB-A09C-354888272EF8/MLTS_2015.pdf).

<sup>268</sup> NASNA Comments at 3. Verizon notes that the sticker/label rule for interconnected VoIP services was designed with end user retail consumers in mind and that “[o]perators and managers of enterprise systems, however, have a different relationship with an end user employee than, say, a hotel does with a guest. Alternative notification methods that are reasonably targeted to the user(s) in question, such as device or monitor displays or priority employer-employee communications, should be permitted as well.” Verizon Comments at 4.

<sup>269</sup> *See* AT&T Comments at 3. AT&T states that in the disability access context, the Commission classified “substantial upgrades” as “those changing the nature of the product or service, on the rationale that such upgrades would give the provider a natural opportunity to consider implementing the new requirements.” *Id.* at 3-4, citing *Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010; Amendments to the Commission’s Rules Implementing Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1966; Accessible Mobile Phone Options for People who are Blind, Deaf-Blind, or Have Low Vision*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Red 14557, paras. 122-23 (2011). According to AT&T, the same logic should apply in this context for the concept of “substantial upgrades.” AT&T Comments at 3.

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improvements to MLTS hardware or software that an enterprise makes in the future provide direct dialing and notification capabilities, as well as the same dispatchable location information that would be received by a PSAP.<sup>270</sup>

105. On the basis of the record here, we decline to specify the level of improvements to an

existing MLTS that would trigger compliance with the statute and regulations. We disagree with NASNA that any improvements to an existing MLTS, no matter how minor, should trigger the obligation to comply with Kari's Law and the implementing regulations. We conclude that such a policy would be inconsistent with the plain language of Kari's Law, which limits application of the statute to MLTS manufactured or brought into use after February 16, 2020, and with our decisions about upgrades in the context of the discussion above regarding the definition of "improvement to the hardware or software of the system."<sup>271</sup> It is also unclear what would constitute core MLTS functions in this context. Thus, we believe it would be difficult to answer this question in the abstract and more appropriate for the Commission to address it in response to a specific fact pattern, should one arise.

## 5. Enforcement

106. Kari's Law empowers the Commission to enforce the statute under Title V of the Act, "except that section 501 applies only to the extent that such section provides for the punishment of a fine."<sup>272</sup> The Commission sought comment in the *Notice* on how it should enforce and provide oversight of the requirements of Kari's Law.<sup>273</sup> The Commission also noted that there can be great variation in the business relationships between MLTS installers, operators, and managers and sought comment on who, or which entities, should bear responsibility for violations of the proposed rules.<sup>274</sup> In addition, the Commission proposed to apply a presumption that the MLTS manager bears ultimate responsibility for compliance with the rules implementing Kari's Law.<sup>275</sup> As an example, the Commission stated that if an MLTS fails to comply with the rules, the MLTS manager would be presumed to be responsible for that failure, at least in part, unless the manager can rebut that presumption by demonstrating compliance with its obligations under the statute and rules.<sup>276</sup> The Commission sought comment on this proposal.<sup>277</sup> The Commission also asked how it should apportion liability in situations where multiple parties may be responsible for compliance with the statute and proposed rules, including whether there are situations in which parties should be held jointly responsible.<sup>278</sup>

107. As proposed, we adopt a rule that if an MLTS fails to comply with the rules, the MLTS manager is presumed to be responsible for that failure, at least in part, unless the manager can rebut the presumption by demonstrating compliance with its obligations under the statute and rules.<sup>279</sup> Most commenters that address the issue support the proposal for a presumption that the MLTS manager bears

<sup>270</sup> NASNA Comments at 2.

<sup>271</sup> We find the same to be true of AT&T's suggestions regarding application of the concept of "substantial upgrades" to this context. *See supra* Section III.A.3(iv).

<sup>272</sup> *See* 47 U.S.C. § 623(e). Section 501 provides for enforcement via fines and, under some circumstances, imprisonment. *See* 47 U.S.C. § 501. Kari's Law thus precludes enforcement via imprisonment.

<sup>273</sup> *Notice*, 33 FCC Rcd at 8998, para. 42.

<sup>274</sup> *Notice*, 33 FCC Rcd at 8998, para. 43.

<sup>275</sup> *Notice*, 33 FCC Rcd at 8998, para. 44.

<sup>276</sup> *Notice*, 33 FCC Rcd at 8998-99, para. 44.

<sup>277</sup> *Notice*, 33 FCC Rcd at 8999, para. 44.

<sup>278</sup> *Notice*, 33 FCC Rcd at 8999, para. 44.

<sup>279</sup> *See* Appendix A, Final Rules, rule 47 CFR § 9.17(a)(2).

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ultimate responsibility for compliance with the rules implementing Kari's Law.<sup>280</sup> INCOMPAS, for instance, states that it supports the presumption because where enterprise customers have assumed primary operational roles with respect to the MLTS, “the Commission needs to be careful not to attach liability for violations of the rules to providers that are only engaged in technical support or network oversight.”<sup>281</sup>

108. Verizon, on the other hand, asserts that the Commission should not adopt the presumption because it would not reflect the variety of contractual arrangements that can allocate implementation and system maintenance duties among installers, operators, managers, and enterprise customers.<sup>282</sup> Instead, Verizon asserts, the Commission should assess compliance “based on how the contractual arrangements allocate the respective responsibilities.”<sup>283</sup> We disagree that the presumption would be inconsistent with such multi-party contractual arrangements. We intend to have a case-by-case determination of who is “engaged in the business of managing” the MLTS (including by looking at the parties’ contracts) before imposing liability. The party or parties that managed the MLTS would then have the burden of going forward with evidence to show that they met their obligations under the statute and rules. 109. We

decline to adopt the proposals of RedSky and Avaya for apportioning liability in situations where multiple parties may be responsible for compliance. RedSky states that if the MLTS manufacturer does not provide a system that can meet the requirements, it should bear 100% of the responsibility; if the MLTS manufacturer provides a system that can meet the requirements and the operator chooses not to offer the required services, the operator should bear 100% of the responsibility; and if the manufacturer and the operator offer to meet the required services, then the MLTS end user should bear 100% of the responsibility.<sup>284</sup> Avaya asserts that the MLTS operator ultimately should be responsible for compliance and that if services are subcontracted, the operator must ensure that the subcontractor implements compliant technologies and should remain primarily responsible for compliance.<sup>285</sup> Ad Hoc responds that the proposals of RedSky and Avaya would amount to a presumption that the operator is liable in certain circumstances and that the Commission should “reject this premature, overzealous and ineffective

approach to enforcement of any rules it may adopt in this proceeding.”<sup>286</sup> Instead, we believe a case-by-case assessment of liability based on the facts specific to the particular investigation is the most appropriate way to enforce Kari’s Law and our rules.<sup>287</sup>

110. We also decline to establish the safe harbor suggested by INCOMPAS. INCOMPAS asserts that if a manufacturer furnishes an MLTS with appropriate functionality, and an installer configures a system capable of direct dialing, alert notification, and sending dispatchable location information, then the Commission should provide a “safe harbor for these parties in the service chain

<sup>280</sup> See NPSTC Comments at 4; NCTA Comments at 2; NCTA Reply at 2; INCOMPAS Reply at 4-5.

<sup>281</sup> INCOMPAS Reply at 5.

<sup>282</sup> Verizon Comments at 4-5.

<sup>283</sup> Verizon Comments at 5.

<sup>284</sup> RedSky Comments at 12.

<sup>285</sup> Avaya Comments at 6.

<sup>286</sup> Ad Hoc Reply at 12.

<sup>287</sup> The Florida Bureau of Public Safety urges the Commission to adopt a tiered approach to the enforcement of violations of Kari’s law under which first time offenders would receive a warning “with a strict but reasonable time frame to correct any deficiencies and with an appropriate penalty if the violation is not corrected.” Florida Bureau of Public Safety Comments at 1. We decline to adopt this proposal because we believe it would be inappropriate to limit the Commission’s enforcement discretion in this manner.

from liability if and when properly installed MLTS are not ultimately used properly.”<sup>288</sup> Panasonic and TIA state that equipment manufacturers should not be liable for noncompliance of an MLTS manager with Commission rules unless the reason for the noncompliance is the design of the MLTS equipment.<sup>289</sup> A manager, an operator, or an installer would not be liable if it performs its obligations in compliance with the statute and rules, but the enterprise customer declines to use the services offered. The same principle would apply to MLTS manufacturers, importers, sellers, and lessors; if the manufacturer, importer, seller, or lessor satisfies its obligations under the statute and rules, but the enterprise declines to use the system properly, then the manufacturer, importer, seller, or lessor should not be liable for the

resulting noncompliance. Determinations of responsibility among multiple parties will necessarily be fact-specific, and we do not believe a safe harbor is appropriate or needed.

111. We also decline to exclude equipment manufacturers from liability for the noncompliance of an MLTS manager unless the noncompliance results from the equipment's design, as Panasonic and TIA request. We find that the manufacturer's obligations and potential liability under Kari's Law and our rules are sufficiently clear and that the enforcement approach Panasonic and TIA propose is not needed. Further, Kari's Law and our rules do not reference the "design" of an MLTS, and we believe doing so would introduce ambiguity into the enforcement process.

## 6. Complaint Mechanisms

112. In the *Notice*, the Commission stated that it envisioned relying on existing Commission complaint mechanisms to facilitate the filing of complaints for potential violations of Kari's Law.<sup>290</sup> For example, the Commission stated, PSAPs and the public could report problems via the Public Safety and Homeland Security Bureau's Public Safety Support Center or the Commission's Consumer Complaint Center.<sup>291</sup> 113. We conclude that our existing complaint mechanisms should be sufficient for addressing potential violations of Kari's Law. Several commenters assert that the Commission's existing mechanisms are sufficient for the filing of complaints for potential violations of Kari's Law.<sup>292</sup> We also provide that persons alleging a violation of the rules implementing Kari's Law may file a complaint under the procedures set forth in part 1, subpart E of our rules.<sup>293</sup>

114. We also decline to establish procedures similar to those used for accessibility complaints under the CVAA and Section 255 of the Act. Panasonic and TIA also urge the Commission to consider establishing a mechanism similar to that used for accessibility complaints under the Twenty-First Century Communications and Video Accessibility Act (CVAA) or Section 255 of the Act, including a mechanism

<sup>288</sup> INCOMPAS Reply at 6.

<sup>289</sup> Panasonic Comments at 18; TIA Comments at 13.

<sup>290</sup> *Notice*, 33 FCC Rcd at 8999, para. 45.

<sup>291</sup> *Notice*, 33 FCC Rcd at 8999, para. 45. The Public Safety Support Center is a web-based portal that enables PSAPs and other public safety entities to request support or information from the Public Safety and Homeland Security Bureau and to notify it of problems or issues impacting the provision of emergency services. The Consumer Complaint Center handles consumer inquiries and complaints, including consumer complaints about access to 911 emergency services. *See Public Safety and Homeland Security Bureau Announces Opening of Public Safety Support Center*, Public Notice, 30 FCC Rcd 10639 (2015); Federal Communications Commission, Consumer Complaint Center, <https://consumercomplaints.fcc.gov/hc/en-us> (last visited May 16, 2019).

<sup>292</sup> NASNA Comments at 3; Panasonic Comments at 15; RedSky Comments at 12 ("Assuming appropriate staffing to investigate and response to these submissions, we agree that the existing mechanisms are appropriate."); TIA Comments at 13.

<sup>293</sup> See Appendix A, Final Rules, rule 47 CFR § 9.17(a)(3) (stating that persons alleging a violation of section 9.16 may file a complaint under the procedures set forth in sections 1.711-1.737 of the rules).

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for giving MLTS manufacturers, installers, operators, and managers an opportunity to resolve complaints informally before the Commission undertakes any enforcement action.<sup>294</sup> Although the CVAA includes a provision directing the Commission to establish procedures for complaints and enforcement actions arising out of violation of certain accessibility requirements,<sup>295</sup> Kari’s Law does not include a corresponding provision. In addition, the Public Safety Support Center and Consumer Complaint Center procedures are flexible enough to provide an opportunity for informal resolution of complaints prior to enforcement should the Commission determine that such an opportunity would be appropriate.

115. BRETSA urges the Commission to establish a separate mechanism for PSAPs to report MLTS noncompliance.<sup>296</sup> We decline to do so, given that the Public Safety Support Center process will be sufficient for this purpose.

### 7. Preemption of State Law

116. The preemption provision of Kari’s Law states that “[n]othing in this section is intended to alter the authority of State commissions or other State or local agencies with jurisdiction over emergency communications, if the exercise of such authority is not inconsistent with this chapter.”<sup>297</sup> Commenters sought guidance, however, regarding the general effects of this provision on state and local law.

117. Specifically, AT&T and BRETSA ask the Commission to clarify the effect of Kari’s Law on state laws affecting 911 service for MLTS.<sup>298</sup> AT&T urges the Commission to clarify how any new federal MLTS requirements will operate “vis-à-vis additional, and sometimes conflicting, state MLTS requirements.”<sup>299</sup> AT&T, however, does not provide specific examples of any state requirements that appear to have the potential for conflicting with federal regulations implementing Kari’s Law. BRETSA asks the Commission to find that state laws requiring existing MLTS systems to provide direct dialing, on-site notification, and interior location information are not inconsistent with Kari’s Law, RAY BAUM’S Act, or the Commission’s proposed rules.<sup>300</sup> BRETSA, however, does not cite any such state laws, or even assert that any such laws exist. In addition, BRETSA asserts that federal rules implementing Kari’s Law may establish grounds for civil claims and liability under state common law and statutes and urges the Commission not to limit a state’s authority to “determine civil liability or presumptions thereof, and any immunities therefrom, and any penalties for violation arising from violation of state MLTS 9-1-1 obligations.”<sup>301</sup> NARUC notes that it has adopted a resolution suggesting that any federal rules on MLTS direct dialing and notification “should be written to permit States to

<sup>294</sup> Panasonic Comments at 15; TIA Comments at 13.

<sup>295</sup> Section 717 of the Communications Act, as amended by the CVAA, which is codified at 47 U.S.C. § 618, directs the Commission to “establish regulations that facilitate the filing of formal and informal complaints that allege a violation of section 255, 617, or 619 of this title” and to “establish procedures for enforcement actions by the Commission with respect to such violations.” 47 U.S.C. § 618(a); *see also* 47 CFR §§ 14.30-14.38 (recordkeeping, consumer dispute assistance, and enforcement rules adopted pursuant to section 618(a)).

<sup>296</sup> *See* BRETSA Reply at 19.

<sup>297</sup> 47 U.S.C. § 623(d) (“Effect on State Law”); *see also* Section-by-Section Analysis of H.R. 582, 163 Cong. Rec. H589 (daily ed. Jan. 23, 2017) (stating that the preemption language of Kari’s Law “clarifies that this legislation does not alter the authority of state or local agencies with jurisdiction over emergency communications, as long as that authority isn’t exercised in a manner inconsistent with this legislation”).

<sup>298</sup> *See* AT&T Comments at 5 n.14; BRETSA Reply at 17-18.

<sup>299</sup> AT&T Comments at 5 n.14.

<sup>300</sup> BRETSA Reply at 17-18.

<sup>301</sup> BRETSA Comments at 3; *see also id.* at 10 (proposing a rule stating that “[c]ivil liability for violations of these rules, or immunity therefrom, shall be determined pursuant to state common or statutory law”).

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impose additional requirements ‘presuming that such additional requirements do not contradict or conflict with federal requirements.’”<sup>302</sup> NARUC’s resolution does not supply specific examples, however.

118. As mentioned above, our objectives in the context of this broader rulemaking are to prescribe rules and regulations that we find are necessary to carry out Kari’s Law, and to provide additional clarity and specificity regarding some of the terms used in the statute and the obligations placed on covered entities. We chose, in our discretion, to proceed incrementally, and thus did not propose to offer interpretations or rules going to the preemption provision of Kari’s Law. Thus, at this time, and based on the record in this proceeding, we decline to provide guidance on the general effect of Kari’s Law and our implementing regulations on individual state and local laws or on the “exercise of . . . authority” of a state’s or locality’s “jurisdiction” over “emergency communications”<sup>303</sup> under a hypothetical set of facts. The record does not reflect specific examples (or even sufficient indication of a widespread problem) of

state or local exercise of jurisdiction that may be inconsistent with the federal regulatory regime.<sup>304</sup> 119. In addition, BRETSA asserts that waiver is an essential element of a regulatory scheme and asks the Commission to clarify that state or local public safety agencies and officials have authority to grant waivers of the federal MLTS 911 rules “upon finding that alternative deadlines and arrangements better serve the public safety or will avoid undue financial hardship.”<sup>305</sup> BRETSA also asserts that state and local public safety officials and agencies should have the opportunity to impose conditions on waivers, such as training requirements for enterprise personnel or contractors.<sup>306</sup> We decline to find that state and local public safety authorities have authority to waive the Commission’s MLTS rules, as BRETSA requests, or to impose conditions on such waivers. Requests for such waivers should, as with other Commission requirements, be presented to the Commission, while requests for waivers of state and local requirements should be presented to the appropriate state or local governmental entity.

## 8. Equipment Authorization Rules

120. The Commission also sought comment in the *Notice* on whether to modify the equipment authorization rules as they apply to MLTS equipment manufactured after February 16, 2020.<sup>307</sup> In addition, the Commission asked whether MLTS applications for equipment authorization under Parts 2, 15, or 68 should constitute a representation that such equipment complies with MLTS 911 requirements.<sup>308</sup>

<sup>302</sup> NARUC *Ex Parte* at 2.

<sup>303</sup> *See* 47 U.S.C. § 623(d).

<sup>304</sup> *Cf. Alascom v. FCC*, 727 F.2d 1212, 1219 (D.C. Cir. 1984) (the issue of the Commission’s authority to preempt inconsistent state regulations “is not a purely legal one” and “underlying questions of fact pervade the determination of the scope of the Commission’s statutory jurisdiction”).

<sup>305</sup> BRETSA Reply at 18 (stating that waivers should be based on “local facts including, for example, the nature of the facility served by the MLTS, qualifications of enterprise personnel, location of fire stations in relation to the facility, specialized requirements for addressing incidents at the facility which First Responders are not trained and equipped to address but private responders engaged by the enterprise are trained and equipped to address”); *see also* BRETSA Comments at 3-5 (asserting that state and local authorities must have authority to grant waivers and exceptions to the Commission’s MLTS 911 rules).

<sup>306</sup> BRETSA Reply at 18. *But see* Avaya Comments at 6 (“Waivers should not be encouraged, because many systems that may not be compliant can be upgraded at minimal expense.”).

<sup>307</sup> *Notice*, 33 FCC Rcd at 8999, para. 46.

<sup>308</sup> *Notice*, 33 FCC Rcd at 8999, para. 46, citing 47 CFR Part 2, Subpart J (Equipment Authorization Procedures); 47 CFR Part 15 (Radio Frequency Devices); 47 CFR Part 68 (Connection of Terminal Equipment to the Telephone Network).

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121. Commenters largely support using existing equipment authorization rules. While NPSTC recommends that the Commission implement a formal process for compliance with the provisions of Kari’s Law as part of an equipment authorization process,<sup>309</sup> other commenters state that a formal process would be unworkable because many MLTS products are software-based solutions that need to be configured and installed on premises.<sup>310</sup> Panasonic and TIA also assert that any modified equipment authorization rules would apply only to hardware-based solutions and that this would constitute an unequal burden on such solutions.<sup>311</sup>

122. We decline to amend our equipment authorization procedures because we conclude that the existing equipment authorization procedures are sufficient. The MLTS marketplace represents a broad range of technologies that are continuing to evolve from more traditional, circuit-based solutions to wireless, cloud-based, and VoIP solutions, and we seek to ensure that our rules preserve flexibility and maintain technological neutrality.

**9. Voluntary Best Practices**

123. The Commission in the *Notice* asked commenters to identify voluntary best practices that can improve the effectiveness of direct dialing and notification for MLTS.<sup>312</sup> The Commission noted, for example, that the Michigan State 911 Committee encourages MLTS operators to work directly with local public safety entities to ensure compliance and “strongly recommend[s] that every MLTS operator work with their local 911 system manager/director to test the ability to dial 911 from the station lines associated with MLTS systems any time an MLTS has been installed or upgraded.”<sup>313</sup> The Commission sought comment on this and other recommended or potential best practices that would help enterprises ensure the effectiveness of direct dialing and notification, including best practices for training on-site emergency personnel and others responsible for the implementation of direct dialing and notification.<sup>314</sup> Commenters that address this issue generally encourage the development of voluntary best practices for direct dialing and notification under Kari’s Law.

124. We encourage industry and the public safety community to work together to develop voluntary best practices that will help enterprises facilitate first responder access and minimize delays to response. NENA states that “[r]ecognizing the diversity in enterprise IT staffing . . . means all players in the MLTS 9-1-1 space—including manufacturers, sellers, and 9-1-1—should contribute to education and development of best practices for MLTS operation.”<sup>315</sup> Cisco and BRETSA note the need for development of a standard testing protocol that would be employed when installers configure MLTS for 911,<sup>316</sup> which we believe would be helpful. TIA states that efforts are underway to create a working group with members from industry and public safety to develop best practices and standards regarding

<sup>309</sup> NPSTC Comments at 5. RedSky also asserts that MLTS applications for equipment authorization under Parts 2, 15, or 68 should constitute a representation that such equipment complies with the MLTS 911 requirements. RedSky Comments at 12.

<sup>310</sup> Cisco Reply at 14; TIA Comments at 14.

<sup>311</sup> Panasonic Comments at 15; TIA Comments at 14.

<sup>312</sup> *Notice*, 33 FCC Rcd at 8999, para. 47.

<sup>313</sup> *Notice*, 33 FCC Rcd at 8999, para. 47, *citing* Michigan State 911 Committee, Guidelines for Multi-Line Telephone Systems at 5 (July 2018), [https://www.michigan.gov/documents/msp/FINAL\\_MLTS\\_Guidelines\\_503991\\_7.pdf](https://www.michigan.gov/documents/msp/FINAL_MLTS_Guidelines_503991_7.pdf).

<sup>314</sup> *Notice*, 33 FCC Rcd at 8999, para. 47.

<sup>315</sup> NENA Comments at 5.

<sup>316</sup> Cisco Comments at 15; BRETSA Reply at 29-30.

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Kari's Law requirements and the dispatchable location mandate under RAY BAUM'S Act.<sup>317</sup> Several commenters also emphasize the need for a public awareness or education campaign for entities affected by the new rules.<sup>318</sup> As noted above, we also believe it would be helpful for this effort to include guidance on disclosing the limitations of 911 dialing from legacy MLTS equipment.<sup>319</sup>

125. Some commenters make suggestions we believe are more appropriate for inclusion in voluntary best practices. BRETSA suggests that the Commission require MLTS providers to supply a copy of the rules to each customer.<sup>320</sup> NENA asserts that although MLTS operators and managers are generally in the best position to maintain the unique registered locations of their MLTS, vendors and manufacturers "must bear some responsibility to (1) encourage accurate and regular update of location information, and (2) provide means to alert operators and managers when registered location information has become out-of-date or hardware has been moved."<sup>321</sup> We decline to require these practices, but we encourage industry and public safety entities to consider them in the development of best practices.

126. We also agree with commenters about the importance of public outreach, and we intend to quickly develop and disseminate informational materials and to collaborate on outreach with our

federal, state, and local partners, the public safety community, and industry.

## 10. Comparison of Benefits and Costs

127. The Commission sought comment on the costs and benefits of satisfying its proposed direct dialing and notification rules for a MLTS coming into service after February 16, 2020.<sup>322</sup> The Commission asked whether there are alternative methods of meeting the requirements of Kari's Law that would reduce costs and/or increase benefits and whether there are any barriers for those wishing to replace their MLTS after this date that would be costly to overcome.<sup>323</sup> The Commission also requested comment on the expected lifespan of existing MLTS that are not currently able to meet the requirements of the proposed rules, the prevalence of such systems today, and the expected prevalence of such systems in 2020.<sup>324</sup> In addition, the Commission sought comment on the cost of upgrading to an MLTS that supports the requirements of the proposed rules.<sup>325</sup> The Commission noted that “[b]ecause most of the currently deployed MLTS are capable of being configured to meet the requirements of our rules today, without improvement to the hardware or software of the system, we tentatively conclude that our rules

<sup>317</sup> See Letter from Colin Black Andrews, Policy Counsel, Government Affairs, TIA, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261, 17-239, at 1-2 (filed March 25, 2019).

<sup>318</sup> NPSTC Comments at 5; Cisco Reply at 13; RedSky Comments at 13; TIA Comments at 12; Panasonic Comments at 18.

<sup>319</sup> See, e.g., Cisco Reply at 13 (suggesting that enterprise managers notify employees how to reach emergency services, which could occur during the onboarding process for new employees and on an annual basis for existing employees).

<sup>320</sup> BRETSA Comments at 5.

<sup>321</sup> NENA Comments at 7.

<sup>322</sup> Notice, 33 FCC Rcd at 9000, para. 49. In the Notice, the Commission sought comment on whether most MLTS systems currently deployed do not allow direct dialing of 911 and/or cannot be configured to provide notification of 911 calls to an MLTS manager. Notice, 33 FCC Rcd at 9000, para. 48.

<sup>323</sup> Notice, 33 FCC Rcd at 9000, para. 49.

<sup>324</sup> Notice, 33 FCC Rcd at 9000, para. 49.

<sup>325</sup> Notice, 33 FCC Rcd at 9000, para. 49.

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will impose no incremental costs to those who replace their MLTS as they come to the end of their useful life.”<sup>326</sup> Accordingly, the Commission sought comment on this tentative conclusion.<sup>327</sup>

128. Regarding notification, the Commission sought comment on its tentative conclusion that the costs of implementing its proposed requirements will not exceed the value of their benefits.<sup>328</sup> The Commission also sought comment on any particular costs involved in imposing the notification requirement and alternative methods consistent with Kari’s Law that may reduce costs and/or improve benefits.<sup>329</sup> Further, the Commission sought comment on the costs and benefits associated with its proposed definitions.<sup>330</sup> The Commission also asked for comment on the benefits and costs associated with any additional notification requirements the Commission might adopt, such as requiring operators of legacy MLTS to inform consumers of the 911 capabilities of those systems.<sup>331</sup>

129. Some commenters support the Commission’s tentative conclusions.<sup>332</sup> West Safety states that the proposed rules also appropriately balance the benefits and costs of implementation of direct dialing and notification by setting a compliance date of February 16, 2020 consistent with Kari’s Law.<sup>333</sup> West Safety asserts that “direct access to 9-1-1 without a dialing prefix can typically be implemented by appropriate configurations to MLTS of all types at little or no cost to the enterprise.”<sup>334</sup> West Safety also states that notification functionality is available natively in most MLTS equipment or it can be supported via a third-party application.<sup>335</sup> Accordingly, West Safety asserts, “the cost of implementation is minimal, whereas the benefits of closing this regulatory gap are significant.”<sup>336</sup> Moreover, by adopting a prospective compliance date that applies only to MLTS offered for first sale after February 16, 2020, West Safety submits that “market participants will be afforded sufficient advanced notice to make informed manufacturing, planning and purchasing decisions, and enterprises will have the proper level of financial and operational flexibility to retain their existing, grandfathered MLTS until end-of-life.”<sup>337</sup> Regarding alternative methods of meeting the requirements of Kari’s Law that would reduce costs and/or increase benefits, RedSky states that it offers a no-cost notification service.<sup>338</sup> RedSky also states that for those wishing to replace their MLTS after February 16, 2020, “[t]he cost with or without support to meet

<sup>326</sup> *Notice*, 33 FCC Rcd at 9000, para. 49.

<sup>327</sup> *Notice*, 33 FCC Rcd at 9000, para. 49.

<sup>328</sup> *Notice*, 33 FCC Rcd at 9001, para. 50.

<sup>329</sup> *Notice*, 33 FCC Rcd at 9001, para. 50.

<sup>330</sup> *Notice*, 33 FCC Rcd at 9001, para. 50. For example, the Commission sought comment on the costs and benefits associated with a requirement to convey the caller’s location with the on-site notification or a requirement to staff the notification point. *Notice*, 33 FCC Rcd at 9001 n.91.

<sup>331</sup> *Notice*, 33 FCC Rcd at 9001, para. 50.

<sup>332</sup> *See, e.g.*, ADT Comments at 4 (stating that “[a]s reflected in the *Notice*, most MLTS sold and installed today have this notification capability”); RedSky Comments at 14; West Safety Comments at 3-4.

<sup>333</sup> West Safety Comments at 3.

<sup>334</sup> West Safety Comments at 3; *see* West Safety *Enterprise Communications NOI* Comments at 10.

<sup>335</sup> West Safety Comments at 3.

<sup>336</sup> West Safety Comments at 3; *see* West Safety *Enterprise Communications NOI* Comments at 26-28.

<sup>337</sup> West Safety Comments at 4.

<sup>338</sup> RedSky Comments at 14.

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the requirements of the Rule should be equivalent.”<sup>339</sup> RedSky believes that the vast majority of existing MLTS can meet the requirements of the rule without significant modification.<sup>340</sup>

130. Other commenters generally agree with the Commission’s proposals, but advocate that the Commission take a more measured approach towards adopting rules implementing Kari’s Law than that suggested in the *Notice*.<sup>341</sup> To illustrate, Ad Hoc advises that as the Commission “considers how best to implement the statutory mandates of Kari’s Law and Section 506 of RAY BAUM’s Act, the Commission should strictly adhere to its ‘light touch’ regulatory philosophy.”<sup>342</sup> Regarding notification for example, Ad Hoc urges the Commission to avoid imposing detailed requirements beyond the proposed rule<sup>343</sup> and to refrain from imposing transitional requirements on legacy MLTS.<sup>344</sup>

131. The rules we adopt today to implement the direct dialing and notification requirements of

Kari's Law balance the needs of stakeholders and maximize many public safety benefits. These benefits include potentially preventing fatalities, injuries, or property damage, improving emergency response time and access to emergency services, reducing delays in locating 911 callers, narrowing the gap between MLTS 911 service capabilities relative to other communications services subject to 911 requirements, driving further technology development, and lowering the cost of 911 solutions for MLTS.<sup>345</sup> The record developed in response to the *Notice* confirms that many existing, installed MLTS support direct dialing to 911 and notification. Further, the record developed in response to the 2017 *Enterprise Communications NOI* suggests that direct dialing and notification rules will impose no incremental costs to those replacing their MLTS at the end of its useful life.<sup>346</sup> Because Congress mandated compliance with its direct dialing and notification requirements after February 16, 2020, and

<sup>339</sup> RedSky Comments at 14.

<sup>340</sup> RedSky Comments at 14.

<sup>341</sup> Ad Hoc Comments at 4 (generally supporting the Commission's proposed rules in the *Notice*, Appendix A, § 9.16(a) and § 9.16(b)(1)-(2), to implement the statutory mandate of Kari's Law).

<sup>342</sup> Ad Hoc Comments at 3.

<sup>343</sup> Ad Hoc Comments at 5 (urging the Commission to adopt the rule as proposed and avoid adding more specific or detailed requirements for the content required in the internal notification, either as part of the rule or in any subsequent Order adopting the rule).

<sup>344</sup> Ad Hoc Comments at 10-11.

<sup>345</sup> See NASNA Comments at 1 (noting that the notification "will benefit the caller, the MLTS enterprise management and staff, first responders."). See also *Notice*, 33 FCC Rcd at 9001, para. 50 (stating that notification can assist MLTS managers in large enterprises in dealing with first responders, facilitate a manager quickly directing and assisting first responders at large enterprises, rather than spending time trying to gather such information, and benefit the 911 caller and first responders by allowing quicker response time).

<sup>346</sup> For example, in response to the *Enterprise Communications NOI*, West Safety stated that "[e]nterprises are migrating rapidly to on-premises and hosted Internet Protocol (IP)-based [enterprise communications system] for VoIP and Unified Communications (UC) platforms to reduce voice and network costs and consolidate or eliminate internal infrastructure." West Safety *Enterprise Communications NOI* Comments at 3. According to West Safety, all of these IP-based enterprise communications systems and equipment are capable of supporting E911 with little or no additional cost, and reasonable upgrades and services are available to bring legacy, TDM-based enterprise communications system into E911 compliance. *Id.* West Safety added that the cost of E911 solutions for IP-based enterprise communications system is nominal and E911 functionality can now be seamlessly integrated across a wide range of VoIP and UC platforms with minimal user effort and automated E911 location updates. Further, West Safety stated that "[a]part from the potential burden to be imposed on the shrinking (and one-day nonexistent)

marketplace for legacy [enterprise communications systems], which can be addressed through a generous implementation schedule tied to the pace of migration to IP, cost and burden should no longer be valid reasons for delaying Commission action.” *Id.*

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expressly grandfathered MLTS systems in service before that date, Congress has already crafted a balance of costs and benefits with respect to compliance to which the Commission is bound.<sup>347</sup> Further, when Congress adopted Kari’s Law, it contemplated that the requirements would evolve with advancements in MLTS technology. The record in this proceeding reflects that the modern enterprise communications ecosystem is complex and that legacy TDM-based technology is evolving towards an IP-based MLTS environment.

132. As Congress has specifically legislated to create this framework and identified areas in which the Commission shall enforce the statute, Congress has already assessed the benefits of its requirements. In the *Notice*, the Commission observed that a Congressional Budget Office analysis concluded that most MLTS systems already are configured to meet the direct dialing and notification requirements of Kari’s Law.<sup>348</sup> In evaluating the Senate and House versions of Kari’s Law, the Commission noted that Cisco stated that it was not aware of any technological barriers to the implementation of Kari’s Law as applied to MLTS.<sup>349</sup> In the *Notice*, the Commission cited eight states and some local governments that already have laws requiring direct dialing for 911 from MLTS.<sup>350</sup> For these state and local jurisdictions, the Commission noted that its proposed rules would generally not affect the *status quo* and so would likely have little to no impact from a cost perspective.<sup>351</sup> Moreover, the Commission observed that the existence of state-level requirements has already driven the manufacture of MLTS equipment that supports 911 direct dialing, much of which may have been marketed and sold in jurisdictions that do not have state or local requirements.<sup>352</sup>

133. In this analysis, we address whether our rules achieve the benefits of Kari’s Law in a cost-effective manner. The record supports adopting implementing regulations of Kari’s Law and the Commission’s conclusion in the *Notice* that these rules are necessary to provide additional clarity and specificity regarding the terms used in the statute and the obligations placed on covered entities.<sup>353</sup> As demonstrated by commenters, implementing regulations can provide important guidance to covered

<sup>347</sup> Consistent with Kari’s Law and the Commission’s proposal in the *Notice*, our final rules apply only with respect to MLTS that are manufactured, imported, offered for first sale or lease, first sold or leased, or installed after February 16, 2020, which means that there should be no immediate costs or stranded investment with respect to existing MLTS or systems that first come into service on or before February 16, 2020. *Notice*, 33 FCC Rcd at 9000 para. 49.

<sup>348</sup> *Notice*, 33 FCC Rcd at 9000, para. 48, citing Congressional Budget Office (CBO), Cost Estimate, S. 123, Kari’s Law Act of 2017 (2017), <https://www.cbo.gov/publication/52424>.

<sup>349</sup> *Notice*, 33 FCC Rcd at 9000, para. 48, citing Cisco *Enterprise Communications NOI* Comments at 6. The Commission noted that West Safety adds that “[d]irect access to 9-1-1 without a dialing prefix can typically be implemented by appropriate configurations to [enterprise communications systems] of all types at little or no cost to the enterprise.” *Notice*, 33 FCC Rcd at 9000, para. 48, citing West Safety *Enterprise Communications NOI* Comments at 10.

<sup>350</sup> *See* 50 Ill. Comp. Stat. 750/15.8(a); Me. Rev. Stat. Ann. title 25, § 2934-A; Md. Code Ann., Public Safety § 1-314; Okla. Stat. Ann. title 63, § 2855.1.A; 35 Pa. Cons. Stat. § 5311.22; Tenn. Code Ann. § 7-86-403(a); Tex. Health & Safety Code Ann. § 771A.001(c); Utah Code Ann. § 69-5-205; *see also, e.g.*, N.Y.C. Admin. Code § 10-176.b. We are aware that some states and localities have requirements that are similar to the ones we are adopting here today. We are not aware, however, of state or local requirements that would conflict with this federal regime. As noted above, we will address questions regarding any such conflicts if they are presented to us with sufficient specificity to assist our review.

<sup>351</sup> *Notice*, 33 FCC Rcd at 9000, para. 48.

<sup>352</sup> *Notice*, 33 FCC Rcd at 9000, para. 48.

<sup>353</sup> *Notice*, 33 FCC Rcd at 8991, para. 17.

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entities on complying with the law and the mechanism the Commission will use to enforce the statute.<sup>354</sup> Accordingly, our rules include definitions of some of the terms in Kari’s Law, as well as other provisions to clarify the obligations of entities regulated under the statute. The rules we adopt today generally track the statutory requirements of Kari’s Law, are technologically neutral, and leverage advances in technology to improve access to emergency services as envisioned by Congress. The flexibility and minimum criteria we establish for direct dialing and notification should offset any potential burdens associated with compliance with our rules. Therefore, we conclude that there will be no immediate costs associated with meeting the requirements of our rules and that the amount of flexibility and lead time for compliance will help to minimize future potential costs.

134. The Commission also sought comment on the cost and expected benefit of the options proposed in the *Notice* for implementing the notification requirement of Kari’s Law, including whether to specify staffing requirements for the notification point.<sup>355</sup> The Commission noted that while some state MLTS statutes include notification requirements, these statutes either expressly provide that the enterprise

does not have to make a person available to receive a notification,<sup>356</sup> or they are silent on whether the destination point must be staffed.<sup>357</sup> The Commission stated that it did “not believe Congress intended to impose staffing or monitoring requirements that would impose unreasonable costs or limit the flexibility of MLTS installers, managers, and operators to develop efficient and cost-effective notification solutions that are appropriate for the technology they use, such as visual alerts on monitors, audible alarms, text messages, and/or email.”<sup>358</sup> Rather than requiring staffing or monitoring, the Commission believed “that allowing notifications to be directed to the points where they are likely to be seen or heard by existing staff achieves these goals at a negligible cost above what an MLTS manager would already spend when purchasing an MLTS.”<sup>359</sup>

135. The record supports the Commission’s view that Congress did not intend to impose burdensome staffing or monitoring requirements that would impose unreasonable costs or limit the flexibility of MLTS installers, managers, and operators to develop efficient and cost-effective notification solutions.<sup>360</sup> The record supports setting minimum criteria for the notification to maximize benefits<sup>361</sup> but

<sup>354</sup> See, e.g., TIA Comments at 7 (stating that rules requiring direct dialing and on-site notification of 911 calls from MLTS are clearly required by Kari’s Law); West Safety Comments at 3 (agreeing with the Commission’s conclusion that rules are necessary to provide additional clarity and specificity for effective implementation).

<sup>355</sup> Notice, 33 FCC Rcd at 8994, para. 26.

<sup>356</sup> Notice, 33 FCC Rcd at 8994, para. 26, citing Tex. Health & Safety Code Ann. § 771A.001(d); Okla. Stat. Ann. title 63, § 2855.1.B; Tenn. Code Ann. § 7-86-403(a)(2).

<sup>357</sup> Notice, 33 FCC Rcd at 8994, para. 26, citing 35 Pa. Cons. Stat. §§ 5311.19, 5302; see also N.Y.C. Admin. Code § 10-176.d.

<sup>358</sup> Notice, 33 FCC Rcd at 8994, para. 26.

<sup>359</sup> Notice, 33 FCC Rcd at 8994, para. 26. The Commission asked “[w]hat means are available to reasonably ensure that notification will be timely received by a person with authority to act on it? For example, could alarm companies, security firms, or similar entities create efficiencies by providing 911 notification monitoring for multiple customers? Are there other means to reduce these costs?” See Notice, 33 FCC Rcd at 8994, para. 26.

<sup>360</sup> See Ad Hoc Comments at (stating that “[t]he Commission is correct in noting that nothing suggests Congress intended to impose staffing or monitoring requirements that would impose unreasonable costs—or, any costs, for that matter—or limit the flexibility of MLTS operators to develop cost-effective and efficient notification solutions”); ADT Comments at 4-5 (supporting the Commission’s suggestion that the notification obligation may be met in whole or in part by configuring MLTS to send notifications to offsite third parties that provide “security or safety services” to the enterprise); AHLA Comments at 7-8 (agreeing with the Commission’s statement that “[w]e do not believe Congress intended to impose staffing or monitoring requirements that would impose unreasonable costs or limit the flexibility of MLTS installers, managers, and operators to develop efficient and cost-effective notification solutions that are appropriate for the technology they use, such as visual alerts on

monitors, audible

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also providing enterprises significant flexibility to tailor notifications to meet their specific needs.<sup>362</sup> Similarly, the record supports adopting a requirement that notifications be sent to a location on-site or off-site where someone is likely to hear or see the notification, but not requiring that enterprise staff or monitor the notification point at all times.<sup>363</sup> Additionally, the record suggests that the Commission's definition of "improvements to the hardware or software of the system" strikes the right balance to ensure that enterprises will not incur significant costs or core system upgrades in connection with providing notification, as provided under Kari's Law.

136. Taken together, the notification requirements we adopt today establish the necessary conditions that will make it more likely than not that 911 callers using an MLTS upgraded or placed into service after February 16, 2020, will benefit from the notifications provisions of Kari's Law at a negligible cost above what an MLTS manager or owner would already spend when purchasing or upgrading an MLTS.<sup>364</sup> In sum, the record suggests that establishing some minimum criteria represents a cost-effective means to reasonably ensure that notification will be timely received by a person with authority to act on it while balancing the needs of stakeholders, maintaining technological neutrality, preserving flexibility for enterprises, and minimizing burdens associated with implementing the notification requirement of Kari's Law.

### **B. Dispatchable Location for MLTS and Other 911-Capable Communications Services**

137. RAY BAUM'S Act directs us to consider rules requiring the conveyance of dispatchable location with 911 calls "regardless of the technological platform used."<sup>365</sup> Based on this directive, we

(Continued from previous page)  
alarms, text messages, and/or  
email").

<sup>361</sup> See, e.g., NENA Comments at 2 (agreeing with the Commission's assessment that timely notification is essential; "[n]otification contemporaneous with the 9-1-1 call has significantly greater value to all parties than after-the-fact notification, and the majority of a notification's benefits to response are lost if the notification is not conveyed in real-time"); West Safety Comments at 4-5 (agreeing with the Commission's proposal that notification be delivered contemporaneous with the 9-1-1 call, as this concurrent timeline is critical to realizing the full benefits of internal responders working together with first responders to gain timely access and direction to the emergency).

<sup>362</sup> See, e.g., Ad Hoc Comments at 7 (stating that the Commission "should not now prescribe specific location, configuration, or staffing requirements for destination points," and that "mandated requirements for notification endpoints will ultimately fail to provide effective and achievable standards at a reasonable cost"); Panasonic Comments at 9 (asserting that the Commission "should emphasize flexibility for a given enterprise to determine the content, form, and destination of the notification").

<sup>363</sup> See, e.g., ADT Comments at 5 (stating that small or midsize companies “could cost-effectively utilize alarm or security companies to receive an off-site notification”); Avaya Comments at 5 (regarding outside security firms or alarm companies, stating that Avaya had discussions with companies looking to add these services to their suite of products and that in one case, an alarm company considered consolidating onsite services where it maintained a 24 x 7 presence to “cover” access to other facilities in close proximity on a per call out basis)

<sup>364</sup> For example, “West Safety supports the Commission’s proposal that the MLTS notification include the same dispatchable location information that the PSAP receives in addition to a valid callback number and an indication that a 9-1-1 call has been made. Requiring this minimal level of content in the notification aligns with the purpose of Kari’s Law and ensures enterprises will be fully equipped to assist 9-1-1 MLTS callers and first responders.” West Safety Comments at 4. West Safety adds that “[a]ny potential burden from this content requirement will be offset by the Commission’s proposal to not require conveyance of the notification to a specific on-site destination point, nor to require specific staffing or monitoring obligations at the enterprise. Accounting for the proliferation of low-cost systems for remote security and monitoring offered by third-party vendors capable of ensuring these MLTS 9-1-1 notifications will be delivered to points where they will be seen or heard by existing staff, the implementation cost of the proposed rule is minor.” West Safety Comments at 5.

<sup>365</sup> RAY BAUM’S Act, §

506(a).

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adopt dispatchable location requirements for MLTS and other 911-capable services that do not have such requirements, including fixed telephony, interconnected VoIP service, Telecommunications Relay Services (TRS), and mobile texting.

### **1. MLTS**

138. In the *Notice*, the Commission observed that when a 911 call is placed in an MLTS environment, the system may provide the PSAP with the location of a main entrance or administrative office rather than the location of the caller, which can lead to delays in locating the caller and result in injury or loss of life.<sup>366</sup> By directing the Commission “to consider adopting rules to ensure that the *dispatchable location* is conveyed with a 9-1-1 call . . . including with calls from multi-line telephone systems,”<sup>367</sup> Congress in RAY BAUM’S Act signaled its intent that the Commission focus on ensuring highly precise location information whenever feasible in connection with MLTS 911 calls.

139. In the *Notice*, the Commission proposed to proscribe the manufacture, import, sale, or leasing of MLTS in the United States unless the system is pre-configured such that, when properly installed, the dispatchable location of the caller will be conveyed to the PSAP with 911 calls.<sup>368</sup> The Commission further proposed to proscribe the installation, management, or operation of MLTS in the United States unless the system is configured such that the dispatchable location of the caller will be

conveyed to the PSAP with 911 calls. The *Notice* proposed to apply these requirements to the same entities subject to Kari’s Law.<sup>369</sup> We adopt these proposals with certain modifications.

**a. Definition of Dispatchable Location**

140. Section 506 of RAY BAUM’S Act defines “dispatchable location” as “the street address of the calling party, and additional information such as room number, floor number, or similar information necessary to adequately identify the location of the calling party.”<sup>370</sup> In the *Notice*, the Commission noted the substantial similarity of this statutory definition to the definition of “dispatchable location” in the Commission’s wireless E911 location accuracy rules.<sup>371</sup> The Commission proposed to construe the definitions as functionally identical, aside from the specification of the technological platform to which each definition applies.<sup>372</sup> The Commission also sought comment on whether to further define “additional information” that may be necessary to “adequately identify the location of the calling party.”<sup>373</sup> Finally, the Commission noted that the wireless E911 definition of dispatchable location requires street address information to be validated,<sup>374</sup> and asked whether validation should similarly be required for dispatchable location information associated with MLTS 911 calls.<sup>375</sup>

141. We adopt the definition of dispatchable location proposed in the *Notice*, without further

<sup>366</sup> *Notice*, 33 FCC Rcd at 9001, para. 52.

<sup>367</sup> *See* RAY BAUM’S Act, § 506(a) (emphasis added).

<sup>368</sup> *Notice*, 33 FCC Rcd at 9002 para 54.

<sup>369</sup> *Notice*, 33 FCC Rcd at 9002 para 54.

<sup>370</sup> RAY BAUM’S Act, § 506(a)

<sup>371</sup> *Notice*, 33 FCC Rcd at 9002, para. 56.

<sup>372</sup> *Notice*, 33 FCC Rcd at 9002, para. 56.

<sup>373</sup> *Notice*, 33 FCC Rcd at 9003, para. 58.

<sup>374</sup> The definition of wireless “dispatchable location” requires that “[t]he street address of the calling party must be validated and, to the extent possible, corroborated against other location information prior to delivery of dispatchable location information by the CMRS provider to the PSAP.” 47 CFR § 20.18(i)(1)(i).

<sup>375</sup> *Notice*, 33 FCC Rcd at 9002, para. 57.

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specifying the types of location information that may be required to locate callers in specific instances. We also require that to meet the definition of dispatchable location for MLTS 911 calls (and for calls from other platforms discussed in succeeding sections below), street address information must be validated. We agree with commenters that the definition of dispatchable location needs to be both functional and flexible.<sup>376</sup> As APCO states, “dispatchable location is well understood by public safety communications professionals to mean information sufficient for guiding first responders to the right door to kick down.”<sup>377</sup> However, what constitutes “sufficient” information will vary significantly depending on the environment from which a 911 call originates. For calls placed from multi-story buildings or campus environments, first responders will typically require specific floor and room information, in addition to the street address of the building. For calls placed from many small businesses, on the other hand, a street address alone may provide first responders all the information they need to quickly locate the caller.<sup>378</sup>

142. Accordingly, the definition of dispatchable location that we adopt today gives participants in the MLTS marketplace flexibility in deciding what level of detail should be included in the location information provided to PSAPs for particular environments,<sup>379</sup> so long as the level of detail is functionally sufficient to enable first responders to identify the location of a 911 caller in that environment.<sup>380</sup> Given the diverse and evolving nature of the MLTS market and the breadth of enterprise environments at issue in this proceeding, we decline to expand upon the statutory definition in specifying instances in which “additional information” beyond street address must be made available,<sup>381</sup> or in

<sup>376</sup> Cisco Comments at 19, Comtech Comments at 6, Ad Hoc Reply at 9, TIA and DECT Forum Reply at 9-10.

<sup>377</sup> APCO Comments at 3.

<sup>378</sup> ACA Reply at 3-4 (“for fixed MLTS used by small enterprises, a street address should adequately identify the location of a 911 caller anywhere on the premises.”); NASNA Comments at 4 (“the Commission correctly states that street address would be adequate for small enterprises.”); NCTA Comments at 6 (for a small business, “the dispatchable location for any caller often is only the street address, with no need to specify a more granular location”).

<sup>379</sup> *See, e.g.*, Ad Hoc Comments 6-7 (“the Commission should permit MLTS operators to transmit the level of location detail they determine is technically feasible and most appropriate for the safety of their workplaces and employees.”).

<sup>380</sup> *See, e.g.*, APCO Comments at 6 (APCO “supports the Commission’s proposals to construe the definitions of dispatchable location in the wireless rules and in RAY BAUM’S Act as functionally identical, and to require validation of dispatchable location information associated with MLTS similar to wireless calls.”); Bandwidth Comments at 6 (Bandwidth “supports the Commission’s proposed interpretation of the Ray Baum Act definition of ‘dispatchable location.’”); BRETSA Comments at 8. Texas 9-1-1 Entities Comments at 5 (the proposed rule definition of ‘dispatchable location’ should be amended to require that the location be “validated and, to the extent possible, corroborated against other location information prior to delivery of dispatchable location . . . to the

PSAP.”); West Safety Comments at 10 (validation is the one critical piece missing from the proposed definition of dispatchable location.); BRETSA Reply at 10 (where MLTS serve buildings or facilities in areas served by separate PSAPs, 9-1-1 calls from each building should be routed to the correct PSAP and the correct address of the building in which the caller is located, rather than the building where the MLTS core CPE is located should be included in the ALI data for the call.).

<sup>381</sup> See, e.g., ACA Comments at 3-4 (to promote the provision of location information more granular than street address, service providers should inform their customers that they can supply more information than just street addresses and where the customer provides more granular information—either for the first time or as an update—the provider should be expected to report the information promptly.) ACA Reply at 2-3 (ACA members regularly collect dispatchable information more granular than street addresses from the customer and should comply with the RAY BAUM’S dispatchable location standard.); AHLA Comments at 4 (the Commission should not require dispatchable location information to include a hotel guestroom number because it will not be technologically possible in all cases and, at most, should consider establishing a baseline requirement that a building’s street address be included with every 911 call while “encouraging” enterprises to provide more granular location information

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identifying specific categories of additional location information beyond floor level or room number.<sup>382</sup>

143. We also conclude that the definition of dispatchable location for MLTS 911 calls should include a requirement that street addresses be validated. The majority of commenters who addressed this issue indicate that such validation is essential to ensure that a location is sufficiently reliable for dispatch of first responders.<sup>383</sup> Commenters also state that street address validation is feasible and can be implemented by MLTS managers and operators without incurring significant costs.<sup>384</sup> NENA states that MLTS managers or operators have “numerous methods” for validating addresses against databases like the Master Street Address Guide or databases that support the Location Validation Function in the NG911 environment.<sup>385</sup> Finally, including street address validation in our dispatchable location definition for MLTS and other services covered by this order establishes parity with the dispatchable location definition in our wireless E911 rules and renders the two definitions functionally identical.

144. Cisco and ATIS express concern about the cost and feasibility of validation requirements imposed on large enterprises if validation beyond street address or building level is required.<sup>386</sup> We

(Continued from previous page) where “technically feasible and commercially reasonable.”); Comtech Comments at 6 (urging the Commission to carefully draft any location requirements for MLTS such that MLTS operators have flexibility to determine whether additional location information is necessary in any particular MLTS environment because “the importance of using some level of supplemental location information to validate dispatchable location information depends on the size of the building, or the size of suites or units in a building, coupled with the amount of detail already included in the civic address.”); NCTA Reply at 6 (small businesses with only a few telephone lines are differently situated than large businesses and do not require more granular location than a street address.); Panasonic Comments at 3, 20 (at this time, dispatchable location requirements should be limited to those systems used on-premises and the granularity of required location information should be limited to a street address of the building.); TIA Reply at 7 (in keeping with congressional intent, the Commission should refrain from mandating highly granular specifics such as a call back number and a street address as this will not be practicable in all

scenarios.).

<sup>382</sup> See, e.g., Ad Hoc Comments at 11 (the Commission’s proposed definition of ‘dispatchable location,’ follows the statutory mandate given by Congress and “should not be expanded any further by the Commission.”); Ad Hoc Reply at 11 (the Commission ... should not impose either overly detailed requirements or impossible-to-meet timetables with regard to the transmission of dispatchable location.”); NCTA Comments at 6 (although the Commission should not mandate the use of “some vendor solutions ... to provide dynamic dispatchable location information from MLTS,” as they “have not been adequately vetted to ensure that they will work effectively in all situations, nor is there any analysis of whether these vendor solutions would be economically viable to deploy.”).

<sup>383</sup> See, e.g., APCO Comments at 6; MESB Comments at 6 (“validation of dispatchable locations from MLTS/PBX and [enterprise communications] systems to authoritative data must be required (*i.e.*, Master Street Address Guide (MSAG) and/or geospatial datasets, such as road centerline and address points, supplied by official local government/public safety authoritative sources.”); Texas 911 Entities Comments at 10 (definition of dispatchable location should require the validation of a street address of the calling party and, to the extent possible, for it to be corroborated against other location information prior to delivery of dispatchable location information to the PSAP); West Safety Comments at 10 (validation is the one critical piece missing from the proposed definition of dispatchable location).

<sup>384</sup> Avaya Comments at 8 note 6 (Avaya “agrees with the Commission that physical street addresses must be validated, and confirms that there is no significant cost to doing so”); Verizon Comments at 8-9 (validation methods and “an appropriate uncertainty standard” for registered location, developed with public safety input, may provide a PSAP with actionable information that meets the dispatchable location definition, including a home address validated by x/y coordinates).

<sup>385</sup> NENA Comments at 6.

<sup>386</sup> Cisco Reply at 11 (“there is no basis for the Commission to impose a validation requirement because: (1) location validation is not currently available on a cost-effective basis on large commercial campuses; and (2) local NG911 systems will need to be established before location validation below the building level can occur on a widespread basis; ATIS Comments at 3 (“deploying equipment to validate and maintain the accuracy of dispatchable locations  
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emphasize that our adopted definition of dispatchable location—as in the case of our wireless rules—only references validation of street address information. While we encourage the development of solutions that will support validation of more granular location information than street address, including floor and room number, we agree with commenters who caution against imposing overly prescriptive requirements at this time that could inhibit the development of innovative solutions.

#### **b. MLTS Provision of Dispatchable Location or Alternative Location Information**

145. In the *Notice*, the Commission “tentatively conclude[d] that it is feasible for 911 calls that

originate from a MLTS to convey dispatchable location to the appropriate PSAP.”<sup>387</sup> The Commission based this tentative conclusion on the record in the *Enterprise Communications NOI* proceeding, in which several commenters stated that they already offered methods for dynamically determining and conveying an MLTS end user’s location.<sup>388</sup> The Commission also noted the potential availability of dispatchable location solutions that require the customer to identify their own location and solutions that calculate a location by leveraging data available from the 911 caller’s device and the network.<sup>389</sup> The Commission sought comment on this tentative conclusion and on the range of potential approaches to providing dispatchable location.<sup>390</sup> The Commission also sought comment on whether a MLTS that handles calls initiated by remote users, *e.g.*, off-site workers, should be required to convey location information about remote users.<sup>391</sup>

146. The Commission noted that there may be instances where location information that does not meet the definition of dispatchable location could still be useful to PSAPs and first responders, either as supplemental information to validate the dispatchable location or as an alternative in instances where dispatchable location information is not available.<sup>392</sup> The Commission stated its belief that “our rules and policies should not preclude—and in fact should allow and encourage—potential alternatives to dispatchable location.”<sup>393</sup> The Commission asked whether other types of location information (for example, x/y/z coordinates) could be conveyed with a 911 call originating from an MLTS.<sup>394</sup> Finally, the Commission proposed to require implementation of dispatchable location requirements for MLTS systems by February 16, 2020, the same as the implementation date for the requirements of Kari’s Law.

147. Numerous commenters address the issue of MLTS dispatchable location, expressing a variety of viewpoints. Some commenters agree with the Commission’s tentative conclusion that it is feasible to provide dispatchable location with MLTS 911 calls, and state that they are already capable of providing highly specific real-time location information for MLTS users.<sup>395</sup> Other commenters, however, contend that while dispatchable location may be feasible for some MLTS 911 calls, it is not feasible in all

(Continued from previous page) for MLTS on large commercial campuses would be cost prohibitive to enterprise owner/operators[, and] when other location data is available, integrating this information into existing source(s) to identify the most accurate data will create additional complexities potentially on PSAPs, operators, and/or the enterprise.”).

<sup>387</sup> *Notice*, 33 FCC Rcd at 9004, para. 60.

<sup>388</sup> *Notice*, 33 FCC Rcd at 9004, para. 60.

<sup>389</sup> *Notice*, 33 FCC Rcd at 9004, para. 60.

<sup>390</sup> *Notice*, 33 FCC Rcd at 9004-05 paras. 60-63.

<sup>391</sup> *Notice*, 33 FCC Rcd at 9004, para 61.

<sup>392</sup> *Notice*, 33 FCC Rcd at 9005, para. 64.

<sup>393</sup> *Notice*, 33 FCC Rcd at 9005, para. 64.

<sup>394</sup> *Notice*, 33 FCC Rcd at 9005, para. 64.

<sup>395</sup> RedSky Comments at 20; BluIP Comments at 5; Avaya Comments at 3-4.

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cases, and that attempting to impose “one-size-fits-all” dispatchable location requirements on all MLTS would be unworkable.<sup>396</sup>

148. Because the MLTS marketplace serves an enormous range of enterprise environments and includes systems that vary greatly in size, scope, and technological capability, we agree with commenters that our approach must take this variety into account. In this regard, the comments suggest that the feasibility of providing dispatchable location for an MLTS 911 call, and the means available to provide it, vary significantly depending on whether the call is from a fixed or non-fixed device<sup>397</sup> and, in the case of non-fixed devices, whether the device is being used on or off the enterprise premises. Cisco points out that “dispatchable location is more supportable from on-premises fixed or ‘hardwired’ MLTS stations (such as desk phones), more challenging for on-premises mobile clients, and even more difficult, if not impossible, for off-premises softphones using public Internet or Virtual Private Network connections.”<sup>398</sup> We find this assessment to provide a useful framework for addressing MLTS location issues. Therefore, in the discussion below, we separately address dispatchable location requirements for MLTS 911 calls from fixed devices, non-fixed devices being used on-premises, and non-fixed devices being used off-premises. **(i) Fixed MLTS Calls**

149. Commenters generally agree that providing dispatchable location of fixed devices presents the easiest use case for MLTS providers.<sup>399</sup> Where MLTS calls originate from fixed devices such as hotel phones or fixed desk phones that each connect to a single access point, providing location information for each endpoint is not technically difficult or costly. In addition, our definition of dispatchable location gives providers substantial flexibility to determine what amount of information is needed to identify the dispatchable location of each fixed endpoint, and for many small businesses, provision of street address alone will be sufficient. We therefore conclude that providing dispatchable location for 911 calls from fixed MLTS devices used on-premises is readily achievable.<sup>400</sup> We also conclude that dispatchable location from fixed MLTS devices should be provided automatically and that the street address associated with the fixed end-point should be validated.<sup>401</sup>

<sup>396</sup> *See* DECT Forum Comments at 3 (“Over the top (‘OTT’) VoIP, Virtual Private Network (‘VPN’), and cloud or

hosted technologies may not have technical capabilities analogous to the ‘traditional’ multiline telephone services of the past, rendering a ‘one size fits all’ approach to emergency calling requirements impracticable”); *generally*, Ad Hoc Comments at 4 (“Rather than attempt to prescribe ‘one size fits all,’ top-down mandates for MLTS E911 deployments, the Commission should grant enterprise owner/operators the flexibility to develop individualized solutions that take into account their wide variety of workplace scenarios and network technologies . . . .”

<sup>397</sup> For purposes of this proceeding, we define “fixed” MLTS devices as devices that connect to a single end point (e.g., a desk or office phone) and are not capable of being moved to another endpoint by the end user, although they may be capable of being moved to a different endpoint by a professional installer or network manager. “Non-fixed” MLTS devices are devices that the end user can move from one endpoint to another without assistance.

<sup>398</sup> Cisco Reply Comments at 12.

<sup>399</sup> Cisco Comments at 17, Panasonic Comments at 19-20, RingCentral Comments at 6.

<sup>400</sup> We infer that fixed MLTS use occurs solely through connection of fixed devices with on-premises endpoints. Commenters did not cite any instances of MLTS supporting fixed devices off-premises. In the unlikely event that an MLTS were to support a fixed off-premises device, however, we see no reason why providing dispatchable location for such a device would be any less feasible than in the case of an on-premises device.

<sup>401</sup> Cisco Comments at 17 (“the location of a desk phone can established by the telecommunications service provider via a private switch automatic location identification, . . .”); NASNA Comments at 4 (“street address validation should not be more difficult or costly for MLTS than for any other fixed telephony service in most instances, although we acknowledge that it may be incrementally costlier in complex MLTS environments.”).

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150. This requirement will take effect one year from the effective date of the rules adopted in this order. Although the Commission proposed in the *Notice* to implement dispatchable location requirements for MLTS on February 16, 2020, contemporaneous with the compliance date for the requirements of Kari’s Law,<sup>402</sup> most industry commenters oppose this proposal, arguing that it would give them only a few months to implement requirements and noting that RAY BAUM’S Act, unlike Kari’s Law, does not specify an implementation date for requirements the Commission may adopt.<sup>403</sup> We conclude that a one-year timeframe is more reasonable to ensure timely implementation while affording affected parties reasonable time to take the necessary steps to come into compliance.

#### **(ii) Non-Fixed MLTS Calls**

151. Commenters express divergent views as to the feasibility of providing dispatchable location for on-premises MLTS 911 calls from non-fixed devices, e.g., softphones or mobile handsets that are capable of connecting to multiple Wi-Fi access points and can move from one location to another within a

building.<sup>404</sup> Some MLTS service providers (e.g., RedSky, Avaya, BluIP) state that they currently offer enterprise services that use access point location information to dynamically determine and convey an MLTS end user's precise location within a building.<sup>405</sup> Such services typically rely on storing location information for each access point in a database (maintained by the enterprise customer or the MLTS provider) that can be referenced when a 911 call is placed from a particular access point.<sup>406</sup>

152. However, other commenters point out that the effectiveness of enterprise database approaches is dependent on a number of variables and could be prohibitively costly.<sup>407</sup> Relying on an enterprise database to provide location information requires the enterprise customer to either develop and maintain the database or to pay a third-party vendor to provide database services.<sup>408</sup> It also requires procedures and safeguards to ensure that access point location data is entered accurately and kept up-to-

<sup>402</sup> Notice at para 87.

<sup>403</sup> Letter of John T. Scott, III, Counsel to Cisco, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261 and 17-239, at 2 (filed May 24, 2019) (Cisco *Ex Parte*). *See generally*, TIA Comments at 14 (“Nor does the RAY BAUM’S Act mandate immediate action with regards to dispatchable location contemporaneous to the implementation of Kari’s Law”).

<sup>404</sup> While such devices are capable of being moved from one access point to another, we note that they may be only be capable of conducting a communications session with one access point at a time, i.e., the system may not support seamless handoff of the device from one access point to another without interrupting the session.

<sup>405</sup> RedSky Comments at 20 (RedSky’s MLTS service “accepts a 9-1-1 call and correlates the incoming [Direct Inward Dialing number] to a dispatchable location that is passed on to the PSAP”); BluIP Comments at 5 (cloud-based, hosted “PBX” solution for the hospitality industry “is presently capable of providing the 911 caller’s specific location information, such as room number, tower and floor, to on-site personnel[,] and this information can also be conveyed to PSAP operators, even where the hotel has not replaced its legacy PBX phone system.”); Avaya Comments at 3-4 (Avaya uses standard network protocols and discovery techniques to track the location of any IP telephone device on the network, ingests MLTS database information from devices that cannot be located natively, provides routing guidance and updates to the MLTS once a device has been discovered, and provides an on-site notification and situational awareness to local onsite staff).

<sup>406</sup> *See generally* RedSky, Protecting the Mobile Workforce, <https://www.redsky911.com/mobility> (last visited June 27, 2019) (RedSky’s “WiFi E911 for Mobile Networks” service “[s]tores a location database of all access points.”).

<sup>407</sup> USTelecom Comments at 1 (“[T]he Commission should allow MLTS customers to decide whether they want to upload dispatchable location data or to pay someone, like an installer or a third-party vendor, to do so. Mandating that installers upload location data and holding them liable—even in instances when a customer uploads the dispatchable location data—would unnecessarily increase MLTS costs and stifle consumer offerings and innovation in the market.”).

<sup>408</sup> USTelecom Comments at 1.

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date.<sup>409</sup> In addition, depending on the density and distribution of in-building access points, access point location information may provide the caller's approximate location but may not be precise enough to provide dispatchable location, *e.g.*, the caller's specific room or office number.<sup>410</sup> Commenters anticipate that over time, database location solutions for MLTS will become more widely available and capable of providing more precise location information, but they caution against adopting requirements that assume the near-term availability of database solutions to support dispatchable location across the full array of enterprise environments.<sup>411</sup>

153. To address these concerns, we adopt a more flexible approach to providing dispatchable location for MLTS 911 calls from non-fixed devices. MLTS providers must convey automatic dispatchable location for such devices when technically feasible but may rely on the MLTS end user to provide or confirm dispatchable location information manually, *e.g.*, by responding to a system prompt. Commenters generally agree that enabling such manual confirmation of location information by MLTS end users is both feasible and potentially beneficial.<sup>412</sup>

154. We recognize that relying solely on end users to provide manual location updates can lead to user fatigue,<sup>413</sup> and that manually provided information may not be accurate or up-to-date.<sup>414</sup> As an

<sup>409</sup> *See, e.g.*, ACA Reply at 2 (stating that its "members collect location information from MLTS customers at the time of installation; ensure the information is reported to the appropriate 911 database; instruct customers how to update their location information; and ensure that any updates are reported promptly"); and NENA Comments at 7 (stating that "vendors and manufacturers must bear some responsibility to (1) encourage accurate and regular update of location information, and (2) provide means to alert operators and managers when registered location information has become out-of-date or hardware has been moved").

<sup>410</sup> Panasonic Comments at 21 ("it is costly to map and maintain the location of access points for an enterprise's individual use (and even when mapped, any location beyond street address may not be accurate when relied on by certain wireless systems").

<sup>411</sup> The Commission sought comment on whether the National Emergency Address Database (NEAD), the location database being developed by the nationwide wireless carriers to provide dispatchable location for indoor wireless 911 calls, could potentially assist MLTS managers and operators in determining the dispatchable location of MLTS end users. *Notice*, 33 FCC Rcd 9008 at para. 65. Commenters generally express skepticism that the NEAD has any near-term utility for MLTS location. *See, e.g.*, AT&T Comments at 10 (while the NEAD may be useful for providing dispatchable location for some MLTS devices in the future, it is premature to rely on the NEAD for dispatchable location because the NEAD relies on the capability to detect Wi-Fi and Bluetooth access points, a capability that most of the MLTS end user devices lack); Cisco Reply at 12 ("the record confirms that Wi-Fi access point location offers tremendous promise as a source of dispatchable location information in the future, but . . . the [NEAD] is not an effective solution at this time"); Comtech Comments at 5 ("although . . . it may be possible to

extend the use of the NEAD to MLTS operators and users, many onerous changes would be required to enable such use of the NEAD, including changes to the NEAD standards, architecture, and infrastructure”); RedSky Comments at 22 (“[i]n terms of an MLTS operator provisioning location data into the NEAD, there are many challenges to be overcome including credentialing, authorization, address validation, upkeep, the ability to delete a location and cost/benefit”).

<sup>412</sup> See, e.g., AT&T Comments at 9 (the most reliable way to locate end-users is through confirmation of their dispatchable location when using the device and the Commission should, therefore, not require the use of automatic location solutions for end user devices); West Safety Comments at 14 (a “nomadic VoIP provider could use an internal or vendor solution to detect when a location may have changed and either pre-populate the location based on network history or prompt the end user to do so manually”).

<sup>413</sup> See, e.g., Cisco Comments at 18; DECT Forum Comments at 5-6 (there is a trade-off between location prompting and end-user fatigue); Panasonic Comments at 18 (requiring manual location entry every time the device is used will likely result in pop-up overload, the effect of which will be users ignoring location update prompts); TIA Comments at 18 (the more granular the information required in manual updates, the more difficult it will be to obtain accurate information from users); VON Comments at 5 (users do not always update their information even when prompted to do so if they are using a device that they regularly move around with).

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additional fallback, commenters strongly agree with the Commission’s statement in the *Notice* that our rules and policies should “allow and encourage” alternatives to dispatchable location.<sup>415</sup> Microsoft states that commercially available location services already in use around the globe can be leveraged “relatively quickly and effectively” to enhance the 911 capabilities of IP-based and cloud-MLTS and interconnected VoIP services in ways “far more accurate and reliable than a ‘registered location’ manually entered by the end-user.”<sup>416</sup> According to Microsoft, location technologies that could be leveraged include GPS/GNSS location, device-based sensing of Wi-Fi hotspots, and use of commercially available crowd-sourced location data.<sup>417</sup> Comtech states that newer MLTS hardware can incorporate GNSS signals, which could be used to automatically corroborate any human-provisioned dispatchable location information.<sup>418</sup> INCOMPAS contends that “relying on a ‘superset of location information’ such as a wireless carrier’s cell site, GPS, the Wi-Fi hotspots, and commercial location information gives regulated voice providers several opportunities to provide accurate dispatchable location data rather than relying on a static address.”<sup>419</sup>

155. We agree with these commenters that our rules should harness the potential for commercially available device-based technologies and coordinate-based location methods to support the provision of MLTS 911 location information. Therefore, as proposed in the *Notice*, we afford MLTS providers flexibility to provide alternative location information, including coordinate-based information, when providing dispatchable location is not feasible or cost-effective. We also adopt a technology-neutral approach, as uniformly advocated by commenters, so that providers have the widest latitude to

choose among available solutions.<sup>420</sup>

156. We recognize that where alternative location information is provided with an MLTS 911 call, the rules we adopt today allow the location fix to be less precise than a dispatchable location that pinpoints the caller's location down to the room, office, or apartment level. While we agree with APCO that a more precise location is the preferred outcome,<sup>421</sup> we find that the record strongly supports allowing the provision of less precise—but still actionable—alternative location information as a fallback when

(Continued from previous page) <sup>414</sup> See, e.g., Bandwidth Comments at 4 (911 rules that only envision manual location updates to address information when users change location are inadequate for an increasingly mobile environment); MESB Comments at 6 (because users do not maintain their 911 location after the initial implementation, validation of dispatchable locations should be required).

<sup>415</sup> Notice, 33 FCC Rcd at 9005, para. 64.

<sup>416</sup> Microsoft Comments at i-ii.

<sup>417</sup> Microsoft Comments at 11-12.

<sup>418</sup> ComTech Reply at 3.

<sup>419</sup> INCOMPAS Reply at 9-10 (citing Bandwidth Comments at 5).

<sup>420</sup> ATIS Comments at 3 (“ATIS . . . supports the Commission’s proposal to allow the industry to use alternatives to dispatchable location, noting that such flexibility facilitates innovation and interoperability.”)

<sup>421</sup> APCO Comments at 5 (“dispatchable location is much preferred over x/y/z coordinates”).

providing more precise information is not technically feasible.<sup>422</sup> Identifying a caller's street address and floor level is likely to reduce response time, even if it does not identify "the door to kick down."<sup>423</sup> Commenters also confirm that this level of accuracy is significantly easier and less costly to achieve than more precise location information in many instances. Cisco states that "MLTS today typically provides the building's street address, and . . . systems increasingly provide floor level."<sup>424</sup> In addition, while identifying a caller's room or apartment may be significantly more costly, as Cisco asserts, it is not difficult for an MLTS serving large buildings to identify the building wing or quadrant where the call originates.<sup>425</sup> Therefore, we define "alternative location information" as location information (which may be coordinate-based) sufficient to identify the caller's civic address and approximate in-building location. In large multi-story buildings, this should normally include floor level and approximate location on the floor (e.g., building quadrant). We note that this approach is similar to the approach the Commission took in its wireless E911 rules, which allow wireless carriers to provide either dispatchable location or x/y/z coordinate-based location information for indoor wireless 911 calls.

157. These requirements will take effect two years from the effective date of rules adopted in this order. Although the Commission proposed to make dispatchable location requirements effective on February 16, 2020, we agree with commenters that a longer transition period is needed for MLTS providers to implement "granular" location requirements, particularly for non-fixed services.<sup>426</sup> Cisco states that for "on-premises MLTS stations," the Commission should consider a phased approach whereby the Commission would require MLTS managers to provide the street address of the caller's location while having the flexibility to provide additional information that they determine is sufficient for the enterprise "following a minimum transition period of two years."<sup>427</sup> Panasonic states that the Commission "should extend the compliance date for 3-5 years if [validation] capability is deemed necessary for all MLTS systems."<sup>428</sup> RingCentral states that the Commission should allow at least 18 to

<sup>422</sup> Texas 9-1-1 Entities Comments at 10 (to the extent technically feasible, dispatchable location should be the general approach used indoors, but without restricting the use of x, y coordinates (and z-axis, as applicable) when such coordinates provide more accurate caller location information or when using dispatchable location is not possible); ATIS Comments at 3 ("x/y/z coordinates may be beneficial as a supplement or alternative to dispatchable location in certain contexts"); Bandwidth Comments at 6 ("because an IP end-point can be a soft agent that resides on a mobile device, like a smart-phone, a laptop or tablet (which could be completely outside the expected building environment), more accurate and dynamic end-user location information could be presented in the form of latitude- longitude information or 'X/Y coordinates' instead of, or in addition to, a civic address and floor number."); Comtech Comments at 7 ("in situations where a dispatchable location cannot provide sufficiently granular information, it may be necessary to utilize sources of location information (such as x/y/z coordinates) that are not tied to a named place, address, building, or structure"); INCOMPAS Reply at 8 (voice providers and technology companies should be allowed to use the best available location sources when providing life-saving information to PSAPs and emergency officials.); RedSky Comments at 21 ("there are many examples where latitude and longitude are not only useful, but the only location information available").

<sup>423</sup> APCO Comments at 6 ("If the Commission permits x/y/z coordinates as a backstop to dispatchable location for MLTS or other technological platforms, the information must be actionable, with the vertical component

delivered as a specific floor number.”); RedSky Comments at 18.

<sup>424</sup> Cisco May 23, 2019 *Ex Parte* at 2.

<sup>425</sup> *See, e.g.*, Avaya Comments at 3-4.

<sup>426</sup> Verizon Comments at 9-10. *See also* TIA Comments at i (the Commission should allow public safety representatives, the ICT industry, and building owners/managers to continue working on establishing standards and best practices for how MLTS can deliver location information in an effective and accurate manner); VON Comments at 8.

<sup>427</sup> Cisco Comments at i; *see also* Cisco Comments at 22-23.

<sup>428</sup> Panasonic Comments at 22.

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24 months to develop solutions to meet the complex challenges posed by any new location requirements.<sup>429</sup> VON states that the compliance date for nomadic VoIP providers should be at least 24 months after the effective date of our implementing order.<sup>430</sup>

158. We conclude that a two-year transition period is appropriate for implementation of these requirements. It is consistent with implementation timeframes recommended by many commenters.<sup>431</sup> We also agree with Microsoft, Cisco, and other commenters that within the next two years, MLTS will likely be able to leverage improvements in technology that can refine the location process, including improvements to location databases and commercially available device-based technologies that can provide a “superset” of location information on a standalone basis or in combination with network-based tools.<sup>432</sup> Finally, we note that the two-year deadline adopted in this order will likely fall in late 2021, which will roughly coincide with implementation of milestones intended to improve in-building location of wireless 911 calls under the Commission’s wireless location accuracy rules.<sup>433</sup> This provides an opportunity for MLTS, as well as other services covered by this order, to explore opportunities with wireless carriers for developing common location solutions that can support in-building location regardless of the platform used to make the 911 call.

159. In contrast, we conclude that MLTS providers should not be subject to the same location requirements for off-premises MLTS calls to the extent compliance is not technically feasible. When an MLTS end user is off-premises, the MLTS does not typically control or have access to location information. Remote access instead may involve connecting via a third-party access point that is outside the control of the enterprise or the MLTS operator, and for which location information may not be available. We agree with commenters that this lack of access or control makes it considerably more challenging and costly for an MLTS to provide location information for off-premises users than on-

premises users. TIA states that for an end-user connected remotely to an enterprise via a VPN, “ensuring accurate location data is difficult, if not impossible” because a VPN user’s location is reported as an IP address of the enterprise at end of the IP tunnel.<sup>434</sup> Panasonic states that where an employee uses an IP-capable client off-premises, “there is no way to locate such callers today without requiring the purchase of expensive third-party services that require manual location entry.”<sup>435</sup> RingCentral states that “when a user goes off-site and leaves the enterprise network, it may not be possible to locate that user or even detect that the user has moved.”<sup>436</sup>

160. In light of these factors, we conclude it is premature to prescribe specific standards for location of off-premises MLTS calls when compliance with our on-site requirements would not be technically feasible, and we therefore adopt a flexible approach that avoids imposing impossible requirements. For off-premises 911 calls, the MLTS operator or manager must provide either (1) dispatchable location, if technically feasible, 2) manually-updated dispatchable location, or (3)

<sup>429</sup> RingCentral Comments at 12.

<sup>430</sup> VON Comments at 8.

<sup>431</sup> *See supra* para. 157.

<sup>432</sup> Microsoft Comments at 10.

<sup>433</sup> Under our wireless E911 location rules, wireless carriers must provide dispatchable location or meet horizontal accuracy standards for 80% of wireless 911 calls by April 2021. 47 CFR § 20.18(i)(2)(i)(A). In addition, wireless carriers must meet vertical accuracy standards in the top 25 Cellular Market Areas (CMAs) by April 2021, and in the top 50 CMAs by April 2023. 47 CFR § 20.18(i)(2)(ii)(C)-(D).

<sup>434</sup> TIA Comments at 18-19.

<sup>435</sup> Panasonic Comments at 18-19.

<sup>436</sup> RingCentral Comments at 5.

enhanced location information, which may be coordinate-based, consisting of the best available location that can be obtained from any available technology or combination of technologies at reasonable cost. This requirement will take effect two years from the effective date of rules adopted by this order. The flexibility inherent in this requirement should lessen the burden and the amount of time it will take to

comply. We recognize that as a practical matter, MLTS providers are unlikely to be capable of providing dispatchable location for most off-premises calls, and that “best-available” location information may be limited in the near term. Nevertheless, over time this requirement will encourage development of improved location capabilities for off-premises MLTS 911 calls.

### **c. Roles and Responsibilities of MLTS Participants**

161. The Commission proposed to apply MLTS dispatchable location requirements to “the participants in the MLTS marketplace we believe are best positioned to ensure that all installed MLTS are capable of conveying an accurate location to the appropriate PSAP.”<sup>437</sup> As in the case of Kari’s Law, the Commission proposed distinct requirements for MLTS manufacturers, importers, sellers, and lessors, on the one hand, and MLTS installers, operators, and managers on the other: the former group would be required to ensure that MLTS systems are “pre-configured” to convey dispatchable location with 911 calls,<sup>438</sup> while the latter group would be required to ensure that MLTS systems are “configured” to convey dispatchable location with 911 calls.<sup>439</sup> The Commission sought comment on whether more granular requirements should be placed on any of the MLTS market participants to which the proposed rules would apply and whether rules are needed to ensure that MLTS manufacturers and importers incorporate capabilities in their products to enable them to convey dispatchable location information.<sup>440</sup>

162. Commenters are generally supportive of the Commission clarifying the roles and responsibilities of MLTS market participants with respect to providing location information with 911 calls.<sup>441</sup> Commenters also agree with the Commission’s proposal that responsibility for dispatchable location be apportioned in the same manner as responsibility for the direct dialing and notification requirements of Kari’s Law.<sup>442</sup> Therefore, as proposed in the *Notice*, we impose pre-configuration requirements on MLTS manufacturers, importers, sellers and lessors, and configuration requirements on MLTS installers, operators, and managers. In light of our adoption of flexible location requirements, these pre-configuration and configuration requirements now reference the conveyance of dispatchable location and alternative location information.

163. Some commenters propose additional clarification of the respective roles and responsibilities of MLTS installers, operators, and managers in ensuring that accurate location information is provided with MLTS 911 calls. NCTA states that “a service provider should be required to configure proper location information upon installation and initiation of service only to the extent they are

<sup>437</sup> *Notice*, 33 FCC Rcd at 9002, para. 55.

<sup>438</sup> *Notice*, Appendix A, Section 9.16(a)(2).

<sup>439</sup> *Notice*, Appendix A, Section 9.16(b)(3).

<sup>440</sup> *Notice*, 33 FCC Rcd at 9002, para. 55.

<sup>441</sup> TIA and DECT Forum urge the Commission to “clearly identify[] the roles and responsibilities of MLTS stakeholders for each requirement that the Commission imposes, including what compliance will be required from

manufacturers versus building owners and managers and how compliance will be evaluated.” TIA and DECT Forum Reply at 4 (citing Ad Hoc Telecommunications Users Committee Comments at 7; VON Coalition Comments at 12-13).

<sup>442</sup> AHLA Comments at 11 (the Commission “should adopt its conclusion . . . that dispatchable location rules apply to the participants in the MLTS marketplace who are best positioned to ensure that all installed MLTS are capable of conveying an accurate location to the appropriate PSAP, i.e., to the same market participants responsible for compliance under Kari’s Law.”).

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involved in configuration of handsets and systems in the first instance.”<sup>443</sup> RedSky states that “the level closest to the end user has the most accurate device . . . location data and should be held responsible for the provisioning of data.”<sup>444</sup> Several commenters also note that MLTS operators and managers will need the assistance of enterprise customers to acquire, maintain, and update location information.<sup>445</sup> Accordingly, these commenters contend, MLTS operators and managers should not be held responsible when a customer moves MLTS stations to new locations without their knowledge.<sup>446</sup>

164. We agree with commenters that additional clarification of the role of MLTS installers, operators, and managers is warranted. We therefore adopt a proposal submitted by USTelecom to add specific rules that delineate the respective responsibilities of MLTS installers, managers, and operators relative to the provision of location information.<sup>447</sup> We also clarify that in developing and implementing location solutions, MLTS managers and operators are entitled to rely on enterprise customers to acquire, maintain, and update location information.

#### **d. Location Requirements for Small Businesses**

165. The Commission sought comment on whether certain small business categories (e.g., of a specific size, or with a specific number of consumers) should be exempted from MLTS dispatchable location requirements.<sup>448</sup> Commenters offered varying proposals for small businesses exemptions ranging from criteria based on square footage of enterprise,<sup>449</sup> to allowing states and local jurisdictions to grant waivers;<sup>450</sup> to applying requirements based on a minimum number of lines.<sup>451</sup>

166. The rules we adopt today obviate the need for small business exemptions or waivers of MLTS location requirements based on square footage or number of lines. The rules afford all MLTS a broad menu of options for providing location information, and the requirements are also scalable to the needs of small businesses: In most instances, provision of street address information alone will be sufficient to identify the dispatchable location of MLTS 911 calls originating from small businesses. We

<sup>443</sup> NCTA Comments at 3.

<sup>444</sup> RedSky Comments at 21.

<sup>445</sup> Comcast Reply at 6-8; AT&T Comments at 8; NTCA Comments at 2 (“the accuracy of ‘dispatchable location information’ . . . often depends on a MLTS end-user customer continually and proactively updating the data at issue, such as the location of handsets and/or individual users within buildings or multiple buildings,” while “by contrast, service providers—after initial installation or configuration of MLTS—lack visibility into any individual user’s location to accurately, and on a timely basis, update handset location or other relevant data”).

<sup>446</sup> Comcast Reply at 6-8.

<sup>447</sup> USTelecom Comments at 3; *see also* INCOMPAS Reply at 4-5 (endorsing USTelecom’s proposal).

<sup>448</sup> *Notice*, 33 FCC Rcd at 9012, para. 85.

<sup>449</sup> AT&T notes that some states have adopted size-based cutoffs for small businesses in their MLTS 911 requirements, and recommends that the Commission follow the approach of Maine and Illinois, which “require a single dispatchable location—i.e., a street address—for individual buildings with a workspace of less than 40,000 square feet.” AT&T Comments at 5. *But see* RedSky Comments at 18 (rather than rely on square footage in a rule, “language can state the dispatchable address must ensure the ability to locate the 9-1-1 caller in an efficient manner[.]” which would allow both the MLTS user and the authority having jurisdiction to cooperate applying a common sense approach.”)

<sup>450</sup> BRETSA states that “State and local authority to grant waivers and exceptions to the Rules, subject to appropriate conditions, is the most pragmatic way of addressing the myriad situations in which strict application of the Rules would be contrary to the public safety and public interest.” BRETSA Comments at 5.

<sup>451</sup> Ring Central 12/04/18 Ex Parte at 2 (notice and dispatchable location requirements should only apply to MLTS sites with more than 50 lines where the MLTS owner controls the network).

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believe this approach minimizes burdens and unnecessary complexity for small businesses while also preserving flexibility to advance the 911 location accuracy objectives of RAY BAUM’S Act.

**e. Legacy MLTS**

167. As proposed in the *Notice*, we apply these location requirements to the same entities subject to the direct dialing and notification requirements of Kari’s Law.<sup>452</sup> Thus, these requirements do not apply to legacy MLTS that is not covered by Kari’s Law, or to MLTS parties associated with such

systems. We believe this is consistent with Congressional intent to address MLTS 911 on a prospective basis and not to require retrofitting of existing MLTS.

#### **f. Liability Protection**

168. Microsoft requests that the Commission clarify that MLTS providers are entitled to the same liability protections afforded wireless carriers, iVoIP services and text-to-911 services.<sup>453</sup> Microsoft observes that Congress has granted immunity from liability to certain emergency communications providers as follows:

A wireless carrier, IP-enabled voice service provider, or other emergency communications provider, and their officers, directors, employees, vendors, and agents, shall have immunity or other protection from liability in a State of a scope and extent that is not less than the scope and extent of immunity or other protection from liability that any local exchange company, and its officers, directors, employees, vendors, or agents, have under Federal and State law (whether through statute, judicial decision, tariffs filed by such local exchange company, or otherwise) applicable in such State, including in connection with an act or omission involving the release to a PSAP, emergency medical service provider or emergency dispatch provider, public safety, fire service or law enforcement official, or hospital emergency or trauma care facility of subscriber information related to emergency calls, emergency services, or other emergency communications services.<sup>454</sup>

169. We find that this statutory liability shield extends to MLTS manufacturers, importers, sellers, lessors, installers, operators and managers. The statutory text applies its liability protections to “other emergency communications service providers,” which is defined to include “an entity other than a local exchange carrier, wireless carrier, or an IP-enabled voice service provider that is required by the Federal Communications Commission consistent with the Commission’s authority under the Communications Act of 1934 to provide other emergency communications services.”<sup>455</sup> In this *Report and Order*, we find that MLTS manufacturers, importers, sellers, lessors, installers, operators and

<sup>452</sup> Notice, 33 FCC Rcd at 9002, para. 54

<sup>453</sup> Letter from Paula Boyd, Senior Director, Microsoft, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261 and 17-239, at 3 (filed June 26, 2019) (Microsoft *Ex Parte*).

<sup>454</sup> Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, 113 Stat. 3 at § 4 (codified at 47 U.S.C. § 615a); NET 911 Improvement Act of 2008, Pub. L. 110-283, 122 Stat 2620 at § 201(a) (amending 47 U.S.C. § 615a). In 2012, Congress also extended the liability protection under 47 U.S.C. § 615a to wireless carriers, public safety answering points, and users of wireless 9-1-1 service with respect to the release of subscriber information related to emergency calls or emergency services, the use or provision of 9-1-1, E9-1-1, or NG9-1-1 services, and other matters related to 9-1-1, E9-1-1, or NG9-1-1 services. *See* Next Generation 9-1-1 Advancement

Act of 2012, Pub. L. No. 112-96, 126 Stat. 156 at § 6506 (codified at 47 U.S.C. § 1472).

<sup>455</sup> 47 U.S.C. § 615b(9)(A).

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managers are subject to our jurisdiction and, consistent with the requirements of Kari’s Law and RAY BAUM’s Act, we require them to configure MLTS systems to ensure delivery of 911 emergency information to PSAPs. Thus, we agree with Microsoft that MLTS plays a “significant role . . . in the provision of 911 services in the United States,” and that “MLTS apps will be engaged in the transmission of 911 information to PSAPs.”<sup>456</sup> Accordingly, we find that because these entities are required to provide “emergency communications service,”<sup>457</sup> MLTS installers, operators, and managers fall within the statutory definition of “other emergency communications provider.”<sup>458</sup>

### 2. Fixed Telephony

170. In the *Notice*, the Commission proposed to require fixed telephony providers to furnish dispatchable location with 911 calls.<sup>459</sup> The Commission noted that these providers already provide validated street address information with 911 calls, which should meet the dispatchable location requirement for single-family dwellings, and asked about the feasibility of also providing floor level and room number for calls from multi-story buildings.<sup>460</sup>

171. No commenter disagrees with our conclusion that by providing validated street address information with 911 calls, fixed telephony providers are already providing dispatchable location for single-family dwellings.<sup>461</sup> With respect to fixed telephony calls from multi-story buildings, the limited comments we received on the issue support our view that fixed telephony providers are either already providing floor and room information or can readily do so at minimal cost. Panasonic states that “it is feasible for 911 calls from an endpoint assigned a Direct Inward Dialing number to convey a dispatchable location; each Direct Inward Dialing number can be assigned with a dispatchable location in the telephony carrier’s database.”<sup>462</sup> West Safety states that it is “not aware of any technical limitations to fixed telephony providers conveying dispatchable location with a 911 call.”<sup>463</sup> As a practical matter, for apartment building residents that are fixed telephony customers, dispatchable location can be readily provided because the apartment number (which often identifies floor level as well) is part of the customer’s billing address. To the extent that fixed telephony providers need to provide more than street address and are not already doing so, the means to add this capability are readily available.<sup>464</sup>

<sup>456</sup> Microsoft *Ex Parte* at 3.

<sup>457</sup> 47 U.S.C. § 615b(8).

<sup>458</sup> 47 U.S.C. § 615a; *see also Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications; Framework for Next Generation 911 Deployment*, PS Dockets Nos. 11-153 and 10-255, Second Report and Order and Third Further Notice of Proposed Rulemaking, 29 FCC Rcd. 9846, 9876 at para. 65 (2014) (finding that covered text providers subject to our text-to-911 requirements fall within the scope of “other emergency communications service providers”).

<sup>459</sup> *Notice*, 33 FCC Rcd at 9006-07, para. 67.

<sup>460</sup> *Notice*, 33 FCC Rcd at 9006, para. 67.

<sup>461</sup> RedSky notes that fixed telephone providers typically have no control over inside wiring in single family homes, and therefore are unlikely to be able to identify floor level for a fixed telephone call originating from a single family home that is more than one story. RedSky Comments at 23. However, we see no practical benefit to requiring floor level identification as a component of dispatchable location for calls from single family dwellings, nor has any public safety commenter suggested this is necessary.

<sup>462</sup> Panasonic Comments at 20.

<sup>463</sup> West Safety Comments at 11. *See also* TIA Comments at 17-18 (traditional fixed-location devices can be programmed to associate an address with the device).

<sup>464</sup> *See* Cisco Comments at 17 (the location of a fixed-location phone can be established by the telecommunications service provider via a private switch automatic location identification (PS ALI) or managed by a third party provider that provides a dynamic ALI capability).

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172. Based on these findings, we adopt our proposal requiring fixed telephony providers to deliver automatic dispatchable location with 911 calls. This requirement will take effect one year from the effective date of the rules adopted in this order. Although the Commission proposed to implement this requirement on February 16, 2020, we conclude that a one-year timeframe is more reasonable to ensure timely implementation while affording affected parties a reasonable amount of time to take the necessary steps to come into compliance.

### 3. Interconnected VoIP

173. In the *Notice*, the Commission proposed to revise the E911 rules for interconnected VoIP to require the provision of dispatchable location for 911 calls.<sup>465</sup> The Commission stated that with respect to fixed VoIP, it regards the current Registered Location<sup>466</sup> approach as sufficient to support dispatchable location.<sup>467</sup> With respect to nomadic VoIP, the Commission sought comment on the feasibility of providing automatic real-time dispatchable location but also proposed to allow VoIP providers to fall

back to using Registered Location and manual updates if providing automatic dispatchable location is not feasible or cost-effective.<sup>468</sup> As discussed below, we adopt dispatchable location requirements that distinguish between fixed and non-fixed interconnected VoIP services.<sup>469</sup> Also, we extend this requirement to “outbound only” interconnected VoIP providers as well as two-way interconnected VoIP providers covered by the current VoIP E911 rules.<sup>470</sup>

#### **a. Fixed VoIP**

174. With regard to fixed interconnected VoIP, commenters generally agree with the Commission’s tentative conclusion that Registered Location is already providing dispatchable location for single-family dwellings, and that using Registered Location to provide additional information for fixed VoIP serving multi-story dwellings is readily achievable in the near term.<sup>471</sup> For example, VON states that it “generally agrees with the Commission’s tentative assessment that current Registered Location obligations are sufficient to meet the definition of dispatchable location, and that such location information is already being conveyed.”<sup>472</sup> VON further suggests that fixed VoIP providers have incentives to provide additional location information, noting that “customers now demand the ability to provide additional location information, including room and floor information where applicable, and

<sup>465</sup> *Notice*, 33 FCC Rcd at 9008, para. 73.

<sup>466</sup> Under the existing VoIP E911 rules, Registered Location is “[t]he most recent information obtained by an interconnected VoIP service provider that identifies the physical location of an end user.” 47 CFR § 9.3 (2018).

<sup>467</sup> *Notice*, 33 FCC Rcd at 9008-09, para. 74.

<sup>468</sup> *Notice*, 33 FCC Rcd at 9009-10, para. 75-78.

<sup>469</sup> Fixed VoIP services are services that provide the functional equivalent of fixed telephony by means of a device that connects to a single access point and is not capable of being moved by the end user. Non-fixed VoIP services are VoIP services that enable the end user to connect a handset or other IP-enabled device to multiple access points. Such services are variously described as “nomadic” or “mobile” VoIP, depending on the degree of functional mobility that the service allows the end user. We use the term “non-fixed VoIP” to refer to the full range of such services, except where referring to comments that specifically discuss nomadic or mobile VoIP. We also note that the term “non-fixed VoIP” does not extend or apply to Commercial Mobile Radio Services that are subject to our wireless E911 rules.

<sup>470</sup> *See infra* Section III.B.3.c.

<sup>471</sup> *See, e.g.*, Comtech Comments at 9 (Comtech “agrees with the FCC that a Registered Location, in most cases, provides sufficient dispatchable location information for fixed interconnected VoIP users”); RedSky Comments at 23 (concurring with the Commission’s proposal to require fixed VoIP to provide dispatchable location consisting of Registered Location information including room or floor level information when needed).

<sup>472</sup> VON Comments at 4 (citing *Notice*, 33 FCC Rcd at 9008-09 para. 74).

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VON members respond to these customer requirements.”<sup>473</sup>

175. We adopt our proposal to require that fixed VoIP services providers transmit dispatchable location with each 911 call. Dispatchable location may be provided by means of a customer-generated Registered Location, under the same terms and conditions specified in our current VoIP 911 rules,<sup>474</sup> or by automatic provision of dispatchable location by the VoIP service provider, without additional action by the caller, at the time the 911 call is made.<sup>475</sup> As in the case of our requirements for fixed MLTS and fixed telephony, and for the same reasons,<sup>476</sup> this requirement will take effect one year from the effective date of the rules adopted in this order.

176. VON, however, also argues that the existing Registered Location rules are sufficient to ensure the provision of dispatchable location, and therefore no additional requirements for fixed VoIP providers are necessary.<sup>477</sup> We reject VON’s argument that there is no need to apply the new dispatchable location rules to fixed VoIP providers. Although the new rules preserve the existing option of relying on Registered Location to provide dispatchable location, they also establish a new option for providing dispatchable location automatically. In addition, our inclusion of fixed VoIP in the new rules furthers the RAY BAUM’S Act objective of ensuring that dispatchable location is provided for all 911 calls regardless of the technological platform used.

**b. Non-Fixed VoIP**

177. The Commission sought comment in the *Notice* on the feasibility of nomadic VoIP services providing automatic real-time dispatchable location, noting that “automatic provision of location is preferable because end users under stress in emergency situations may have difficulty providing manual updates and the updating process may delay the 911 call or subsequent location and dispatch.”<sup>478</sup> The Commission sought comment on the capability of interconnected VoIP providers to dynamically determine the location of end users (1) when they are at home or their usual place of work, (2) when they move frequently between multiple locations, and (3) when they are at locations they do not regularly visit.<sup>479</sup> The Commission also proposed to allow VoIP providers to fall back to using Registered Location if providing automatic dispatchable location is not feasible or cost-effective.<sup>480</sup> As a safeguard against sending incorrect location information, the Commission proposed that the VoIP provider “identify whether the service is being used from a different location than the Registered Location, and if so, either: (1) prompt the customer to provide a new Registered Location; or (2) update the Registered Location without requiring additional action by the customer.”<sup>481</sup>

178. As with non-fixed MLTS, we find that in the non-fixed VoIP environment, flexible rules and a longer time frame for providing accurate 911 location information are appropriate. In this respect, commenters generally agree on the desirability of automated validation of dispatchable location in the nomadic VoIP environment, but stress that there are challenges to providing such validation in many

<sup>473</sup> VON Comments at 4-5.

<sup>474</sup> See 47 CFR § 9.5(d) and § 9.11(b)(4)(i) in Appendix A (Final Rules) *infra*.

<sup>475</sup> See § 9.11(b)(4)(ii) in Appendix A (Final Rules) *infra*.

<sup>476</sup> See *supra* paras. 150, 172.

<sup>477</sup> VON Comments at 4-5.

<sup>478</sup> Notice, 33 FCC Rcd at 9009 para. 76.

<sup>479</sup> Notice, 33 FCC Rcd at 9009 para. 76.

<sup>480</sup> Notice, 33 FCC Rcd at 9009-10, para. 77.

<sup>481</sup> Notice, 33 FCC Rcd at 9045, Appendix A (Proposed Rules), § 9.11(b)(4)(ii).

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cases.<sup>482</sup> Ring Central states that interconnected VoIP users “increasingly use browser-based applications for calling, but browser-based applications—by design—do not have the capability of detecting a user’s location unless that user opts-in to location detection.” RingCentral states that similar challenges exist for users logging in with VPN, “as it may not be possible to detect . . . the user’s true location.” Other commenters agree that the technology that would allow for automatic real-time dispatchable location for non-fixed VoIP users needs additional time to fully develop, and therefore agree with the Commission’s proposal to allow providers to fall back to Registered Location options when dispatchable location is not feasible.<sup>483</sup>

179. The record further indicates that non-fixed VoIP providers continue to rely heavily on Registered Location, but that alternative approaches are increasingly available that could support automatic location in some instances. For example, NENA states that the emergence of software-based VoIP applications on mobile phones has made automatic location updates more technically and economically feasible.<sup>484</sup> RedSky states that “the technology exists” to provide dispatchable location for nomadic users through device-based location methods.<sup>485</sup> Microsoft states that commercially available location services can improve interconnected VoIP location in ways “far more accurate and reliable than a ‘registered location’ manually entered by the end-user.”<sup>486</sup> The ability of non-fixed VoIP providers to

provide automated real-time dispatchable location is highly dependent on whether granular location information is available for the access point from which the 911 call is placed, and whether the VoIP provider has access to that information. In some environments, particularly when end users are away from their home or regular workplace, this information is either unavailable or the development of information sources that could be leveraged by VoIP providers to provide dispatchable location (*e.g.*, databases with access point location information) is in early stages. Therefore, we adopt rules that require automatic provision of dispatchable location when feasible, but also allow VoIP providers to fall back on manual updating of Registered Location information as a backstop approach.<sup>487</sup>

180. We also conclude that it is important to encourage development of alternative approaches, based on the full range of device-based and other available location technologies, that place less burden on the end user than manual updates, and that can often provide more accurate, timely, and reliable location information for VoIP users that move frequently between multiple locations or are at locations they do not regularly visit. Such information may not always be precise enough to identify the

<sup>482</sup> *See, e.g.*, TIA and DECT Forum Reply at 9 (“the difficulty of identifying a dispatchable location increases when dealing with nomadic, wireless solutions.”).

<sup>483</sup> *See* Comtech Comments at 10-11 (also urging the Commission to encourage the development of standards); RedSky Comments at 23-24; RingCentral Comments at 10-11; VON Comments at 6-8; Sorenson and CaptionCall Reply at 4; NCTA Comments at 7-8; West Safety Comments at 7.

<sup>484</sup> NENA Comments at 8.

<sup>485</sup> RedSky Reply at 9 (“[i]n devices that support GPS, the location is based on existing technologies that allow the end user to add floor, room, or area to a civic address as envisioned in the Ray Baum Act. For those devices that do not have access to GPS, there are existing Internet based technologies to determine the location of the device *i.e.* Google Maps.”).

<sup>486</sup> Microsoft Comments at i-ii.

<sup>487</sup> We note that AT&T points out that automatic location solutions could raise network security concerns because some proposed solutions, which would have limited applicability, would involve scanning of the Data Link Layer (Layer 2) of IP networks, which would violate cybersecurity protocols and expose cyber vulnerabilities. AT&T Comments at 9. AT&T states that solutions based on scanning networks may require customer disclosure of sensitive data, which they may be unwilling to give vendors because doing so would present a cybersecurity risk. *Id.* In light of AT&T’s concerns, providers may fall back on manual registered location if automatic solutions raise security concerns.

caller's dispatchable location, but it can significantly reduce the potential for error or delay that otherwise occurs when a VoIP provider relies solely on Registered Location and uncertainty arises about whether the VoIP user is actually calling from that location. Commenters generally support giving interconnected VoIP providers the flexibility to provide alternative location information, including x/y/z coordinates, as a supplement or alternative to dispatchable location.<sup>488</sup> Therefore, we give non-fixed VoIP providers flexibility to provide alternative location information, including coordinate-based information, from all available sources when providing dispatchable location is not technically feasible. This will provide flexibility for non-fixed VoIP providers to convey an accurate location to the PSAP while minimizing the burdens on the interconnected VoIP service provider and the end user.

181. We recognize that where a non-fixed VoIP provider provides alternative location information, the location fix may be less precise than a location that pinpoints the caller's location down to the room, office, or apartment level. We find that the record strongly supports allowing less precise—but still actionable—alternative location information as a fallback approach. Therefore, as an alternative to automated dispatchable location or manual updating of Registered Location information, we allow non-fixed VoIP providers to provide alternative location information, which may be coordinate-based, sufficient to identify the caller's civic address and approximate in-building location, including floor level, in large buildings. We also conclude that the two-year transition period established by this order is appropriate for implementation of these requirements, as it is consistent with implementation timeframes recommended by a number of industry commenters,<sup>489</sup> provides time for development and deployment of improvements in technology that can refine the nomadic VoIP location process, including improvements to location databases and commercially available device-based technologies,<sup>490</sup> and coincides with implementation of milestones intended to improve in-building location of wireless 911 calls under the Commission's wireless location accuracy rules.<sup>491</sup>

### **c. Outbound-Only Interconnected VoIP**

182. Consistent with Congress's approach of establishing regulatory parity across technological platforms and enabling the completion of outgoing 911 calls and messages from people in emergency situations, we adopt 911 location requirements for outbound-only interconnected VoIP providers. The requirements we adopt today are flexible and technologically neutral from a compliance standpoint and serve a vital public safety interest. We amend the definition of "Interconnected VoIP Service" used for 911 purposes to include outbound-only interconnected VoIP services that generally permit users to initiate calls that terminate to the PSTN. We thus require outbound-only interconnected VoIP providers to comply with our 911 obligations, and we extend the requirement to distribute stickers or other appropriate labels warning subscribers of any limitations to E911 service.<sup>492</sup> Similar to our

<sup>488</sup> NCTA Comments at 7 ("the Commission should adopt its proposal to 'allow providers flexibility in implementing dispatchable location solutions'"); Bandwidth Comments at 6 ("because an IP end-point can be a soft agent that resides on a mobile device, like a smart-phone, a laptop or tablet (which could be completely outside the expected building environment), more accurate and dynamic end-user location information could be presented in the form of latitude-longitude information or 'X/Y coordinates' instead of, or in addition to, a civic address and

floor number.”); ATIS Comments at 3 (“x/y/z coordinates may be beneficial as a supplement or alternative to dispatchable location in certain contexts”).

<sup>489</sup> See, e.g., RingCentral Comments at 12 (the Commission should allow at least 18 to 24 months to develop solutions to meet the complex challenges posed by any new location requirements); VON Comments at 8 (if the Commission adopts new location requirements for nomadic VoIP providers, the compliance date should be at least 24 months after the effective date of our implementing order).

<sup>490</sup> Microsoft Comments at 10.

<sup>491</sup> See para [160], *supra*.

<sup>492</sup> 47 CFR § 9.11(b)(5)(iii). No commenters addressed applicability of this requirement to outbound-only interconnected VoIP service providers. See also *Notice*, 33 FCC Rcd at 9045-46, Appx. A, Proposed Rules

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discussion of nomadic VoIP service above,<sup>493</sup> we require outbound-only interconnected VoIP service providers, which are now encompassed by our amended language in the section 9.3 definition of “Interconnected VoIP Service,” to provide either (1) dispatchable location (manual or automatic) or (2) alternative dispatchable location information sufficient to identify the caller’s civic address, floor level, and approximate floor location in large buildings. We require outbound-only interconnected VoIP providers to comply with the 911 requirements we adopt today two years after the effective date of the rules.<sup>494</sup> 183. RAY BAUM’S Act directs the Commission to “conclude a proceeding to *consider adopting rules* to ensure that the dispatchable location is conveyed with a 9-1-1 call, *regardless of the technological platform used*.”<sup>495</sup> RAY BAUM’S Act also states that, “[i]n conducting the proceeding . . . the Commission may consider information and conclusions from other Commission proceedings regarding the accuracy of the dispatchable location for a 9-1-1 call . . . .”<sup>496</sup> RAY BAUM’S Act defines a “9-1-1 call” as a voice call that is placed, or a message that is sent by other means of communication, to a PSAP for the purpose of requesting emergency services.<sup>497</sup>

184. Consistent with RAY BAUM’S expansive approach, which recognized the Commission’s existing 911 authority, the Commission broadly sought comment on what communications services not covered by existing 911 rules but that are capable of making 911 calls may fall within this definition.<sup>498</sup> In the *Notice*, the Commission asked whether (1) outcomes for 911 callers would be improved if it adopted 911 rules for these communications services that parallel existing rules, including any requirements for conveying dispatchable location and (2) new rules that are specifically tailored for those communications services would be more effective at improving outcomes.<sup>499</sup> Specifically, the Commission observed that some outbound-only VoIP services partner with businesses that offer 911 smartphone applications that allow consumers to make calls to 911 and that 911 stakeholders have expressed concerns that calls received from these services may route to the incorrect PSAP, result in

(Continued from previous page) (proposing to require 911 VoIP Service providers to distribute to subscribers

warning stickers or other appropriate labels warning subscribers if E911 service may be limited or not available and instructing the subscriber to place them on or near the equipment used in conjunction with the 911 VoIP Service). Pursuant to section 3507(d) of the Paperwork Reduction Act, the information collection contained in section 9.11(b)(5)(i) & (ii) of the Commission's rules as it applies to outbound-only interconnected VoIP service providers is subject to review by the Office of Management and Budget. 44 U.S.C. § 3507(d); Paperwork Reduction Act of 1995, Pub. L. No. 104-13, 109 Stat 163 (1995) (codified at 44 U.S.C. §§ 3501-3520); 47 CFR § 9.11(b)(5)(i) & (ii). Thus, we will be revising the information collection contained in 3060-1085 to extend the customer notification requirements contained in section 9.11(b)(i) & (ii) of the Commission's rules to outbound-only interconnected VoIP providers. Information Collections Being Submitted for Review and Approval to the Office of Management and Budget, Notice, 83 Fed. Reg. 35000 (July 24, 2018) (notice for OMB 3060-1085). *See also, infra*, Section IV, Paperwork Reduction Act Analysis; Final Regulatory Flexibility Analysis, Appx. D.

<sup>493</sup> *See supra*, Section III.B.3.b.

<sup>494</sup> This is consistent with the compliance deadlines adopted for nomadic VoIP services. *See supra*, Section III.B.3.b. No commenters addressed compliance dates for outbound-only interconnected VoIP service providers.

<sup>495</sup> *See* RAY BAUM'S Act, § 506(a) (emphasis added). Subsection (c) defines "9-1-1 call" as "a voice call that is placed, or a message that is sent by other means of communication, to a public safety answering point (as defined in section 222 of the Communications Act of 1934 (47 U.S.C. 222)) for the purpose of requesting emergency services." *See id.* § 506(c)(1).

<sup>496</sup> *See* RAY BAUM'S Act, § 506(b).

<sup>497</sup> RAY BAUM'S Act, § 506(c)(1).

<sup>498</sup> *Notice*, 33 FCC Rcd at 9011, para. 82. RAY BAUM'S Act, § 506(c)(1).

<sup>499</sup> *Notice*, 33 FCC Rcd at 9011, para. 82.

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fraudulent calls, lack critical location information capabilities, and place the 911 caller at risk.<sup>500</sup> The Commission noted that the current rules do not require outbound-only VoIP services to support 911 or convey dispatchable location with 911 calls, but it recounted that in 2011 the Commission sought comment on expanding 911 obligations to providers of outbound-only interconnected VoIP services.<sup>501</sup>

185. The Commission has broad authority over interconnected VoIP services and 911.<sup>502</sup> The RAY BAUM'S Act provided the Commission the flexibility to consider whether and how to apply dispatchable location requirements to services that provide the capability for users to make a 911 call, which includes outbound-only interconnected VoIP. We believe that the expansive scope of the

legislative directive provides legal authority for the Commission to adopt regulations that will ensure dispatchable location data are conveyed with 911 calls with any voice service that satisfies the definition of “9-1-1 call,” including outbound-only interconnected VoIP service.<sup>503</sup> It also leaves room, as Microsoft notes, to amend the definition of “Interconnected VoIP Service” at section 9.3 pursuant to the NET 911 Improvement Act and the CVAA.<sup>504</sup>

186. We find that, from a 911 perspective, outbound-only interconnected VoIP services are functionally equivalent to landlines and other interconnected devices that connect to the PSTN and are 911-capable, and thus, we should require outbound-only interconnected VoIP service providers to comply with 911 obligations. As noted by West Safety, “[f]rom a caller’s perspective, interconnected outbound-only VoIP service is, for the most part, similar to traditional telephone service, and its users reasonably expect it to function the same.”<sup>505</sup> To illustrate further, Microsoft’s Skype voice application facilitates Internet-based calls yet also provides users the ability to call any landline or mobile device.<sup>506</sup> Failing to require support for 911 services by outbound-only calling services that are able to place PSTN calls to any other North American Numbering Plan telephone number treats similarly-situated services differently and enables and rewards regulatory arbitrage. Moreover, treating these services inconsistently or 911

<sup>500</sup> *Notice*, 33 FCC Rcd at 9011, para. 83 (citing Letter from Evelyn Bailey, Executive Director, National Association of State 911 Administrators, to Tom Wheeler, Chairman, FCC at 2 (October 18, 2016) (on file in RM- 11780)).

<sup>501</sup> *Notice*, 33 FCC Rcd at 9011, para. 83. *See also Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission’s Rules; Wireless E911 Location Accuracy Requirements; E911 Requirements for IP- Enabled Service Providers*, Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, 26 FCC Rcd 10074, 10092-94, 10107-08, paras. 48-58, 100-101 (2011). The issue remained pending before the Commission. In the most recent comment-seeking effort, the *Notice*, the Commission proposed to adopt a definition of “911 VoIP Service” as “those services that enable real-time, two-way voice communications that require Internet protocol-compatible customer premises equipment and permit users generally to initiate a 911 call, even if the service does not permit users generally to receive calls that originate on the PSTN.” *Notice*, 33 FCC Rcd at 9012, para. 84. In this regard, we reject Microsoft’s assertion that the *Notice* provides an insufficient basis for expanding or modifying the definition of “Interconnected VoIP Service” to include outbound-only interconnected VoIP service. Microsoft Comments at 21.

<sup>502</sup> 47 U.S.C. § 615a-1; New and Emerging Technologies 911 Improvement Act of 2008, Pub. L. No. 110-283, 122 Stat. 2620 (2008).

<sup>503</sup> To the extent an outbound-only interconnected VoIP service is used to enable text rather than voice communications with 911, we note that there would be no analog for text-to-911 for this service. *See* 47 CFR § 9.10(q).

<sup>504</sup> *See infra*, note 550.

<sup>505</sup> West Safety Comments at 14.

<sup>506</sup> See Microsoft Comments at 2-5 (overview of Microsoft’s various IP-based calling services through its Skype software). See also *How Do I Make a Call in Skype?*, SKYPE SUPPORT, <https://support.skype.com/en/faq/FA10613/how-do-i-make-a-call-in-skype> (last visited Jun. 21, 2019).

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purposes is likely to breed consumer confusion, particularly when a caller is seeking help in a time of crisis.

187. Some commenters submit that the essential basis of Commission regulation of outbound-only VoIP services is whether those services would substitute for traditional telephone service.<sup>507</sup> However, as discussed above, our 911 rules already apply to interconnected VoIP (as currently defined to refer to both inbound and outbound interconnection), and the Commission proposed extending those obligations to outbound-only interconnected VoIP more than eight years ago.<sup>508</sup> To use Skype to call regular phones, consumers pay by purchasing credits, subscribe to Skype for unlimited calls, or buy a Skype phone number.<sup>509</sup> Additionally, Skype emergency calling is enabled in certain countries, platforms, and versions of Skype software.<sup>510</sup> Moreover, our current approach enables providers to avoid basic public interest obligations by offering purportedly separate “outbound-only” and “inbound-only” calling services, even though these services combined are functionally equivalent to traditional calling services and, in a regulatory sleight of hand, avoid basic public interest obligations. We decline to maintain this regulatory loophole to the benefit of one segment or market participants over another, and to the detriment of consumers.

188. Some commenters support expanding 911 obligations to outbound-only VoIP services on the grounds that consumers increasingly rely on a variety of interchangeable communications services to place 911 calls and expect those services to connect them to first responders.<sup>511</sup> Others, however, argue that consumer expectations regarding outbound-only VoIP do not warrant imposing any obligations.<sup>512</sup>

189. As an initial matter, we decline to make consumer expectations the touchstone for determining what types of services should be subject to 911 obligations. In this context, the relevant RAY BAUM’S Act provisions do not refer to consumer expectations; rather, they define “9-1-1- call” broadly, in relevant part, as “a voice call that *is placed*, or a message *that is sent* by other means of

<sup>507</sup> Verizon Comments at 9. See also INCOMPAS Reply at 11 (noting that “data provided for the record shows that consumers are still choosing traditional fixed and mobile voice services to make their emergency calls”).

<sup>508</sup> See *supra*, Section III.B.3 (discussing dispatchable location requirements for interconnected VoIP service); *Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission’s Rules; Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers*, Notice of

Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, 26 FCC Rcd 10074, 10089-94, paras. 40-58 (2011).

<sup>509</sup> See also *How Do I Make a Call in Skype?*, SKYPE SUPPORT, <https://support.skype.com/en/faq/FA10613/how-do-i-make-a-call-in-skype> (last visited Jun. 21, 2019).

<sup>510</sup> *Skype Emergency Calling*, SKYPE, <https://www.skype.com/en/legal/emergency-calling/> (last visited Jun. 21, 2019) (Skype Emergency Calling is enabled on: Skype for Windows 10, Skype for Windows, Skype for Mac, Skype for Linux: available in Australia, Denmark, Finland, and UK; home phone adapters: available in UK).

<sup>511</sup> See NENA Comments at 8 (supporting expanding the Commission’s 911 rules to “911 VoIP Services” because VoIP-enabled “smart speakers” are evolving in users’ minds as the “new home phone”); Comtech Comments at 11-12 (imposing FCC requirements on 911-capable VoIP services “represents a necessary step toward ensuring the availability of emergency services in devices and commercial communications offerings that consumers are increasingly relying on in their daily lives”); BRETSA Reply at 19 (desktop computers, laptops, tablets, cell phones, and other devices are increasingly used for voice and video personal communications).

<sup>512</sup> Microsoft Comments at ii, 17-22; VON Comments at 8; INCOMPAS Reply at 2, 10-11. See also VON Comments at 8 (stating that outbound-only VoIP consumers do not expect 911 functionality); Microsoft Comments at 20 (noting it is unlikely for an emergency caller to have access to an outbound-only calling application and Internet connection without a mobile phone or fixed line telephone because fixed and mobile penetration in the U.S. is high); INCOMPAS Reply at 10-11 (stating that consumers do not expect to use outbound-only VoIP services to reach first responders, with data provided by Microsoft’s SkypeOut service indicating that consumers are still choosing traditional fixed and mobile voice services to make emergency calls).

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communication, to a public safety answering point . . . for the *purpose of requesting* emergency services.” (Emphases added.)<sup>513</sup> The statutory focus, therefore, is on enabling the user to reach emergency services to request assistance, “regardless of the technological platform,”<sup>514</sup> not on whether the service bears similarity to a traditional two-way phone call or whether consumers perceive it as such. Our decision to subject outbound-only VoIP service to 911 obligations is most consistent with Congress’s focus on ensuring that all messages *from* a person *to* emergency services are received, regardless of the technology employed. A focus on consumer expectations, by contrast, would frustrate the statute by disadvantaging those people who were unaware that a particular device or technology was incapable of dialing 911—precisely the tragic circumstance that led to the adoption of Kari’s Law.

190. In any event, we find that consumer expectations generally support our decision today. We find that consumer expectations on this issue have significantly changed since 2011.<sup>515</sup> In this respect, we give significant weight to the fact that the increasing variety of interchangeable voice services on the market has changed the public’s expectations about access to 911, and our rules today reflect those expectations.<sup>516</sup> We are persuaded by BRETSA’s comments that the fact that Microsoft has enabled

emergency calling with Skype in some European countries and Australia demonstrates that 911 calling can be provided in the United States.<sup>517</sup> BRETSA also asserts that it is more important for callers to be able to reach 911 in an emergency than that a PSAP can reconnect a dropped call,<sup>518</sup> and we agree.

191. The commenters who assert that consumers do not expect to reach 911 from outbound-only systems present little data that support their position. In particular, Microsoft, VON, and INCOMPAS oppose the Commission's proposed expansion of 911 obligations to outbound-only VoIP calling applications, arguing that users of one-way calling capabilities do not expect to reach emergency

<sup>513</sup> RAY BAUM'S Act, § 506(c)(1).

<sup>514</sup> *Id.* at § 506(a).

<sup>515</sup> For example, Precision Broadband, submits that “[c]onsumers have a desire (and growing expectation) to use non-phone, broadband connected devices to contact 911.” Letter from Charles H. Simon, Jr. Founder and Chief Executive Officer, Precision Broadband, LLC, to Marlene H. Dortch, Secretary, FCC, PS Docket No. 07-114, PS Docket No. 18-261, PS Docket 18-64, at 1 (filed June 27, 2019) (Precision June 27, *Ex Parte*). Precision notes that in a recent study that it commissioned focusing on consumer perceptions of 911 and alternative access technologies, “[o]f the 250 people surveyed, 63% said they would like to be able to contact 911 using one or more devices through their home broadband connection.” *Id.* Precision asserts that this was further validated in the recent “‘Smart Audio Report’ where 55% of consumers ‘expressed interest in having a feature that would allow their smart speaker to call 911 if multiple smoke alarms went off in the home.’” *Id.* See National Public Radio, The Smart Audio Report (2019), <https://www.nationalpublicmedia.com/smart-audio-report/latest-report/>.

<sup>516</sup> See *supra* note 511. See also West Safety Comments at 14 (from the caller's perspective, outbound-only interconnected VoIP service is similar to traditional telephone service, and users reasonably expect it to function the same).

<sup>517</sup> BRETSA Reply at iii-iv, 25.

<sup>518</sup> BRETSA Reply at iii-iv, 24-25. Additionally, in 2011, some commenters articulated their belief that outbound-only interconnected VoIP providers have solutions to support PSAP callback or other means of reconnection if a call to 911 is disconnected. 2011 NENA Comments at 6 (stating its belief that callback methods already in use by outbound-only VoIP providers such as Skype Caller ID could permit such providers to supply callback information to PSAPs using, for example, permissibly manipulated Caller ID information); 2011 TeleCommunications Systems, Inc. (TSI) Comments at 5 (if an outbound-only interconnected VoIP service provider has initiated a callback mechanism, also referred to as an “online number for non-emergency purposes to support callback capability from a PSTN phone,” the service provider should have no significant cost or technical barrier to allowing the PSAP or 911 call center to reconnect with the caller if the 911 call is inadvertently dropped).

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services on these tools and do not use them for emergency calling.<sup>519</sup> Microsoft adds that it voluntarily deployed emergency calling on its one-way, outbound-only calling feature Skype to Phone (formerly SkypeOut) in four foreign countries (Australia, Denmark, Finland, and the United Kingdom) and that only 1,788 emergency calls were made in those four countries in the most recent 23-month period.<sup>520</sup> According to Microsoft, “[t]he low emergency call volumes are evidence that consumers do not expect to have the capability to make emergency calls through Skype desktop and tablet applications and, when this capability is provided to them, they tend not to use it.”<sup>521</sup> Microsoft also states that many emergency calls placed from this calling feature lasted less than one minute, “strongly suggesting accidental or nefarious calls to emergency services since valid emergency calls tend to last longer than a minute.”<sup>522</sup> Commenters argue that consumers do not expect to use outbound-only VoIP services to place emergency calls, in part because some expected features of 911 calling, specifically PSAP callback, are not readily available.<sup>523</sup> Thus, according to Microsoft and INCOMPAS, the Commission would be creating consumer expectations for 911 services where certain features that customers have come to expect with emergency calling are technically not feasible.<sup>524</sup> Microsoft and INCOMPAS also contend that expanding 911 rules to outbound-only VoIP will increase nuisance or accidental calls to emergency services, which is not in the public interest.<sup>525</sup>

<sup>519</sup> Microsoft Comments at ii, 17-22; VON Comments at 8; INCOMPAS Reply at 2, 10-11. *See also* VON Comments at 8 (stating that outbound-only VoIP consumers do not expect 911 functionality); Microsoft Comments at 20 (it is unlikely for an emergency caller to have access to an outbound-only calling application and Internet connection without a mobile phone or fixed line telephone because fixed and mobile penetration in the U.S. is high); INCOMPAS Reply at 10-11 (consumers do not expect to use outbound-only VoIP services to reach first responders, with data provided by Microsoft’s SkypeOut service indicating that consumers are still choosing traditional fixed and mobile voice services to make emergency calls).

<sup>520</sup> Microsoft Comments at ii, 18. In its comments, Microsoft refers to its outbound-only VoIP service where emergency calling has been enabled as SkypeOut. *Id.*

<sup>521</sup> Microsoft Comments at 18.

<sup>522</sup> Microsoft Comments at 18-19. As a result, Microsoft states, more of the emergency calls from this calling feature were erroneous than were valid. *Id.* at 19. We also note that while Microsoft states that 1,788 calls were placed to 911 during the defined period, 2,000 calls lasted less than one minute. We are unable to reconcile these numbers as they appear inconsistent. *See also* Letter from Paula Boyd, Senior Director, Government and Regulatory Affairs, Microsoft, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 18-261 and 17-239, at 4 (filed June 26, 2019) (Microsoft *Ex Parte*) (in Microsoft’s experience in the four countries where emergency calling is enabled today, emergency calls that last less than one minute outnumber legitimate calls (*i.e.* those lasting more than one minute) almost 2-to-1).

<sup>523</sup> Microsoft Comments at 19 (outbound-only calling applications, by definition, do not enable the user to receive

calls back from the PSAP in the same manner that two-way calling services do and that if an emergency call from an outbound-only application were to disconnect, the emergency call operator may have no way to re-establish a connection with the user); INCOMPAS Reply at 10-11 (consumers using two-way, regulated voice service expect to receive a call-back from a PSAP in the event their emergency calls are disconnected and because outbound-only VoIP service cannot provide that capability, it is less likely that consumers would choose this service to make an emergency call). *See also* RedSky Comments at 27 (PSAP callback functionality “should be addressed”).

<sup>524</sup> *See* Microsoft Comments at 19-20 (the Commission “should not create consumer expectations where none exist, particularly for applications that, for technical reasons, do not match the features of other readily available options for emergency calling,” such as callback); INCOMPAS Reply at 10-11 (arguing that “outbound-only VoIP service, by definition, cannot provide [call-back] capability making it less likely that consumers would choose this service to make an emergency call”).

<sup>525</sup> Microsoft Comments at 20 (emergency call patterns on SkypeOut, in countries where such functionality is enabled, could interfere with public safety objectives more broadly by increasing the accidental call burden on emergency call centers); INCOMPAS Reply at 11 (calls from outbound-only interconnected calling applications can  
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192. We find these arguments unpersuasive. First, it is unsurprising that some consumers may not presently expect outbound-only calling services to support 911 dialing and location services, as they have not been obligated to do so. In this respect, though, we disagree with the view that the Commission should refrain from acting for fear of “creating” expectations regarding the availability of 911 services; to the contrary, the Commission should act where it finds a need to support public safety. Second, the data presented prompt us to draw the opposite inference on calls to emergency services from SkypeOut in four foreign countries than that asserted by Microsoft. Rather than indicating that 911 connectivity was not expected in these instances, we find the existence of these calls is instead evidence that at least some users expected—and needed—to call for help via SkypeOut. We may further infer that as use of these services becomes more widespread, the expectations carried with these services will align with traditional voice services. That domestic expectations have also evolved with the technology is reflected in the Congressional emphasis that the Commission should consider whether dispatchable location obligations apply “regardless of the technological platform.”<sup>526</sup> Furthermore, concerns about overly broad regulation are misplaced because we apply the change in a limited way—solely to 911 obligations on outbound-only interconnected VoIP service providers. Finally, the possibility that there may be nuisance or inadvertent calls to 911 from outbound-only services is not a sufficient reason to exclude such services from the 911 obligations applicable to interconnected VoIP service providers, thereby providing *no* access to 911 for callers with legitimate emergency needs to use these services. While we recognize that accidental or nuisance calls can strain already limited PSAP resources, there has been no demonstration that these calls would overwhelm PSAP capabilities.

193. Several commenters support expanding 911 dispatchable location requirements to outbound-only VoIP services,<sup>527</sup> and state that technically feasible solutions exist for such service providers to provide that data.<sup>528</sup> Comtech states “it is imperative that any location requirements adopted for 911-capable services take into consideration the current state of technology and its rapid rate of

change.”<sup>529</sup> Verizon indicates that, like nomadic VoIP, the Commission should clarify that nomadic

(Continued from previous page) overwhelmingly consist of accidental or nefarious calls, which can disrupt PSAP operations and threaten the public interest by diverting valuable resources away from genuine emergency calls). Microsoft analogizes its argument to the Commission’s 1996 decision to extend emergency calling requirements to non-service-initialized (“NSI”) phones, which similarly lacked callback capabilities, by requiring carriers to forward to PSAPs automatically all 911 calls from wireless mobile handsets which transmit a code identification, without requiring user validation or any similar procedure. *Revision of the Commission’s rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676, 18692, para. 29 (1996). Although the Commission has acknowledged that fraudulent 911 calls from NSI devices impose a substantial burden on PSAPs, we disagree with Microsoft that this is a result of the lack of the callback feature. *911 Call-Forwarding Requirements for Non-Service-Initialized Phones*, Notice of Proposed Rulemaking, 30 FCC Rcd 3449, 3455, para. 12 (2015).

<sup>526</sup> RAY BAUM’S Act, § 506(a).

<sup>527</sup> See Comtech Comments at 11-12 (supporting expanding use of dispatchable location requirements for other 911-capable services, including those services capable of initiating 911 calls that are not covered by existing 911 regulations such as outbound-only VoIP services); RedSky Comments at 26-27 (arguing that any device capable that is location aware or supported by a network that is aware of the device’s location and capable of initiating a 911 call should be subject to dispatchable location rules); West Safety Comments at 15 (supporting extending 911 rules to outbound-only interconnected VoIP services through the Commission’s proposed definition of “911 VoIP Service”).

<sup>528</sup> See West Safety Comments at 13-14 (several low-cost internal or vendor solutions to provide dispatchable location data currently available for nomadic interconnected VoIP service, such as a hybrid approach using existing device location or network history, are also available to 911 VoIP services like outbound-only interconnected VoIP); BRETSA Reply at 25 (“There would not appear to be any technical reason outbound-only services cannot provide 9-1-1 calling . . .”).

<sup>529</sup> Comtech Comments at 12.

outbound services could use either dispatchable locations or registered locations because the same concerns raised in the context of nomadic VoIP services apply.<sup>530</sup>

194. We find that it is technically feasible to require outbound-only interconnected VoIP service providers to convey the dispatchable or alternate location requirements we adopt today.<sup>531</sup> The location requirements for outbound-only interconnected VoIP service providers allow for flexible, technologically neutral compliance. Although the *Notice* sought comment on such communications services that are not covered by existing 911 rules yet are capable of making a 911 call and their ability to convey location information to the PSAP, no commenters submit that it is not possible for outbound-only interconnected

VoIP providers to convey such location information.<sup>532</sup> With the additional compliance time provided below, we anticipate that such a capability can be readily applied within the United States.<sup>533</sup> 195. *911 VoIP Service*. The Commission sought comment on expanding the scope of those IP-based services subject to our 911 rules to include not only interconnected VoIP but to also include “911 VoIP Services,” which was proposed to include those services that enable real-time, two-way voice communications that require IP-compatible customer premises equipment and permit users generally to initiate a 911 call, even if the service does not permit users generally to receive calls that originate on the PSTN, thus encompassing those services that are considered “outbound only VoIP.”<sup>534</sup> The Commission further stated its intent to retain the existing definition of “Interconnected VoIP Service” to avoid inadvertent impact on the term as used by various non-911 statutory provisions. By proposing a new “911 VoIP Service” category for use in the Commission’s 911 rules, the Commission sought to avert unintended consequences.<sup>535</sup>

196. We conclude that the best approach to achieve what the public interest demands is to amend the definition of “Interconnected VoIP Service” to expand those services subject to our 911 rules, rather than to adopt a separate “911 VoIP Service” definition. In this respect, we find that the definition of “911 VoIP Service” proposed in the *Notice* mirrors the existing definition of “Interconnected VoIP Service,” with the exception that the fourth element of the proposed definition does not reference calling numbers or interconnection to the PSTN and is limited to 911 calls.<sup>536</sup> Amending the definition of “Interconnected VoIP Service” to include outbound-only VoIP services solely for purposes of extending our 911 obligations is consistent with our intent to apply only this set of obligations to such services, but in a manner that responds to record comments and avoids the unintended consequences to other uses of

<sup>530</sup> Verizon Comments at 9. *See supra*, Section III.B.3.b, for discussion of nomadic VoIP.

<sup>531</sup> *See, e.g.*, Letter from Charles H. Simon, Jr., Precision Broadband LLC, to Marlene Dortch, Federal Communications Commission, PS Docket Nos. 07-114, 18-261, at 1 (filed May 30, 2019) (“Precision Broadband’s system leverages the fixed broadband networks of facilities-based Internet Service Providers to provide the same real-time, accurate, dispatchable address location, including floor and unit, as is provided today with E911 landline telephone service for CMRS and non-CMRS device 911 calls.”).

<sup>532</sup> Verizon notes that its concerns regarding the impact of the proposed rules on nomadic VoIP also apply to nomadic outbound-only services as well. Verizon Comments at 9. We address those concerns in Section III.B.3.b, *supra*. *See also, e.g.*, BRE TSA Reply at 25 (“There would not appear to be any technical reason outbound-only services cannot provide 9-1-1 calling . . .”).

<sup>533</sup> *See supra*, Section III.B.3.b (discussing technical considerations and compliance requirements for nomadic VoIP services).

<sup>534</sup> *Notice*, 33 FCC Rcd at 9011, para. 83.

<sup>535</sup> *Notice*, 33 FCC Rcd at 9012 n.135. *See, e.g.*, 47 U.S.C. § 153(25), 47 CFR §§ 54.5, 63.60(e), (g),

63.71(f)(2)(ii)(A), 64.601(a)(15), 64.1600(i), 64.2003(o), 64.2005(c)(3).

<sup>536</sup> *Notice*, 33 FCC Rcd at 9011, para. 82.

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the term. For example, some commenters express concerns with the proposed definition of “911 VoIP Service” and the applicability of our 911 requirements, including dispatchable location, to those services.<sup>537</sup> Verizon states that the Commission’s proposal to apply the interconnected VoIP 911 rules, including the registered location choice, to newly defined outbound-only “911 VoIP Services” may be overbroad.<sup>538</sup> Verizon asserts that it is unclear that outbound-only VoIP meets the New and Emerging Technologies (NET) 911 Improvement Act standard of “widely accepted and fungible substitutes for telephony” if there are no other connections to the public switched telephone network.<sup>539</sup> According to Verizon, the proposed rule also is unclear because it would require that calling party number information be provided on all 911 VoIP services, which could enable callback for a service that supports both outbound and inbound calling, but “would not help for outbound-only services.”<sup>540</sup>

197. Accordingly, we decline to adopt the defined term “911 VoIP Service” and instead add an additional category of services that constitute interconnected VoIP for the purposes of 911 obligations to expand the scope of services to those that are generally capable of allowing users to initiate calls that terminate to the public switched telephone network, including calls to 911.<sup>541</sup> We expand the definition of “Interconnected VoIP Service” in section 9.3 of the Commission’s rules to mean a service that permits users generally to terminate calls to the public switched telephone network.<sup>542</sup>

198. We concur with BRETSA’s concerns that outbound-calling voice applications or service providers could configure their services for the specific purpose of avoiding 911 compliance.<sup>543</sup> As a result, the definition of “Interconnected VoIP Service” extends 911 calling requirements to interconnected, outbound-only VoIP services that *generally permit* users to terminate calls to the public switched telephone network. We further clarify that the revisions we adopt today preserve the application of the original definition of “Interconnected VoIP Service” to other parts of the Commission’s rules while expanding those services to which the Commission’s 911 rules apply. Thus, the non-911 statutory provisions and rules that reference the current definition of “Interconnected VoIP Service” in section 9.3

<sup>537</sup> Verizon Comments at 9; RedSky Comments at 39.

<sup>538</sup> Verizon Comments at 9. *See also* RedSky Comments at 26 (it would be counterintuitive for the Commission to create rules that counter state laws that do not allow automated dialers or alarm systems to initiate a 911 call).

<sup>539</sup> Verizon Comments at 9. *See also* RedSky Comments at 39 (noting that a system’s ability to reach 911 is reliant upon its ability to connect to the PSTN and asserting that the Commission’s definition of “911 VoIP Service” must insure that if a system can reach the PSTN, it must adhere to all subsequent 911 obligations).

<sup>540</sup> Verizon Comments at 9.

<sup>541</sup> *See* Verizon Comments at 9. We acknowledge that some voice applications may provide users with both interconnected and non-interconnected VoIP services and emphasize that applicability of our 911 requirements to interconnected VoIP service providers hinges on whether the service satisfies all prongs of the definition, including interconnection to the PSTN.

<sup>542</sup> We note that the definition we adopt today tracks more closely to the existing definition of “Interconnected VoIP Service” as it is currently defined to refer to both inbound and outbound interconnection than the definition proposed in the 2011 *NPRM*, which permitted users to terminate calls to all or substantially all United States E.164 telephone numbers. *Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission’s Rules; Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers*, Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, 26 FCC Rcd 10074, 10093, para. 51 (2011). As we describe above, this is in-line with our intended approach to minimize disruption to the current definition of “Interconnected VoIP Service” in section 9.3 of the Commission’s rules.

<sup>543</sup> BRETSA Reply at 25 (noting that voice application or service providers may configure their outbound-calling service for the specific purpose of avoiding the complications and expense of 911 compliance).

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of the Commission’s rules are not disturbed.<sup>544</sup> Consistent with the directive of RAY BAUM’S Act, and as supported by the record, we find that expansion of the location requirements to interconnected VoIP service, which includes outbound-only interconnected VoIP service, enacts 911 rules that are flexible and technologically neutral from a compliance standpoint while limiting regulatory disruption.

199. Some commenters also argue that expanding 911 requirements to “911 VoIP Services” exceeds the scope of the Commission’s statutory authority under the NET 911 Improvement Act.<sup>545</sup> Microsoft states that the Commission has not proposed a sufficient basis of statutory authority to impose emergency calling obligations on outbound-only voice applications, and contends that the NET 911 Improvement Act provided the Commission authority to establish emergency calling requirements for IP-enabled voice services, which were defined to be synonymous with “Interconnected VoIP Service.”<sup>546</sup> However, Microsoft asserts that the *Notice* “does not propose to expand or modify the definition of ‘interconnected VoIP service’ to include outbound-only calling apps. Nor does it propose an independent basis for imposing these requirements on applications that currently satisfy the statutory definition of

‘non-interconnected VoIP.’”<sup>547</sup> As a result, Microsoft claims that the Commission’s proposal would “involve an extraordinary expansion of the scope of the FCC’s regulatory authority and would exceed the limits of reasonable statutory interpretation.”<sup>548</sup>

200. We disagree that expanding 911 requirements to the underlying services that would have met our proposed definition of “911 VoIP Services” exceeds the scope of the Commission’s authority under the NET 911 Improvement Act, particularly when coupled with the directive of RAY BAUM’S Act.<sup>549</sup> In this respect, by amending the definition of interconnected VoIP we meet both the letter and

<sup>544</sup> See, e.g., generally, 47 CFR pts. 14, 54, 63, 64. We further clarify that outbound-only interconnected VoIP services, which are now encompassed within the section 9.3 definition of “Interconnected VoIP Service,” are still considered non-interconnected VoIP services for the purposes of section 716 of the Communications Act of 1934, and therefore remain subject to part 14 of the Commission’s rules. See 47 U.S.C. §§ 153(36), 617; 47 CFR pt. 14; *Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010; Amendments to the Commission’s Rules Implementing Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1966; Accessible Mobile Phone Options for People who are Blind, Deaf-Blind, or Have Low Vision*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 14557, 14564, 14570-72, paras. 13, 34-36 (2011).

<sup>545</sup> Microsoft Comments at 21; Verizon Comments at 9.

<sup>546</sup> Microsoft Comments at 21, *citing* 47 U.S.C. § 615b(8) (“IP-enabled service has the meaning given the term ‘interconnected VoIP service’ by § 9.3 of the Federal Communications Commission’s regulations.”). Microsoft notes that the *Notice* proposed to adopt the new term “911 VoIP Services” for use in the 911 rules but to retain the existing definition of interconnected VoIP service “since that definition is referenced by various non-911 statutory provisions and rules.” See *Notice*, 33 FCC Rcd at 9012 n.135.

<sup>547</sup> Microsoft Comments at 21 (footnotes omitted), *citing* 47 U.S.C. § 153(36) (“The term non-interconnected VoIP service means a service that enables real-time voice communications that originate from or terminate to the user’s location using Internet protocol or any successor protocol; and requires Internet protocol compatible customer premises equipment; and does not include any service that is an interconnected VoIP service.”). As noted above, we reject Microsoft’s notice argument. See *supra* note 501.

<sup>548</sup> Microsoft Comments at 21.

<sup>549</sup> To the extent commenters argued that the Commission lacks statutory authority to create a “911 VoIP Services” definition that includes non-interconnected VoIP, we conclude that the issue is moot as we are not addressing those services at this time. See, e.g., Microsoft Comments at 17-18 (the *Notice* does not provide adequate legal basis for expanding the scope of its 911 obligations to a new category of providers); INCOMPAS Reply at 10 (any decision to extend 911 obligations to other communications services should be based on customer expectations and whether application of rules to new services would be in the public interest); Cisco Comments at 8 (the Commission should

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spirit of both laws, which provides the Commission discretion and flexibility to address new technologies. We find that Congress, in directing the Commission to consider all technological platforms, intended the Commission to consider 911 obligations for these technologies. Moreover, the NET 911 Improvement Act provides that “[i]t shall be the duty of each IP-enabled voice service provider to provide 9-1-1 and enhanced 9-1-1 service to its subscribers in accordance with the requirements of the Federal Communications Commission, as in effect on the date of enactment of the [NET 911 Improvement Act] . . . and as such requirements may be modified by the Commission from time to time.”<sup>550</sup> Pursuant to subsequent legislation, the Commission also retains ample authority to amend the definition of interconnected VoIP.<sup>551</sup> As a result, we find that the Commission has direct statutory authority to modify the definition of “Interconnected VoIP Service” to include outbound-only interconnected VoIP,<sup>552</sup> and today we modify that definition.

201. Although in the *Notice* the Commission stated its intention to avoid disturbing the existing definition of interconnected VoIP since it is referenced by various non-911 statutory provisions and rules, we find that our approach to amending the definition of “Interconnected VoIP Service” in

(Continued from previous page) “tread cautiously” when considering imposing dispatchable location requirement on “off-premises” systems, cloud- based IP technology, or over-the-top applications that may be beyond the reach of what Congress envisioned).

<sup>550</sup> New and Emerging Technologies 911 Improvement Act of 2008, Pub. L. No. 110-283, 122 Stat. 2620 (2008), *codified at* 47 U.S.C. § 615(b)(8). The NET 911 Improvement Act stated the duty of each IP-enabled voice service, a term synonymous with “Interconnected VoIP Service” as defined by section 9.3 of the Commission’s rules, to provide 911 service in accordance with requirements of the Commission in effect on the date of the NET 911 Improvement Act’s enactment. *Id.* Furthermore, the NET 911 Improvement Act directed the Commission to adopt regulations establishing parity for IP-enabled voice services with commercial mobile services under the Commission’s 911 rules. *Id.*, *codified at* 47 U.S.C. § 615a-1(c).

<sup>551</sup> The CVAA defines “advanced communications services” to include “Interconnected VoIP Service” as defined in section 9.3 of our rules “as such section may be amended from time to time,” as well as “non-interconnected VoIP” service,” which is service other than interconnected VoIP service “that . . . enables real-time voice communications that originate from or terminate to the user’s location using Internet protocol or any successor protocol; and . . . requires Internet protocol compatible customer premises equipment.” Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 124 Stat. 2751 (amending sections 3, 255, 303, 330, 710, and 713 of the Communications Act, and adding sections 615c and 715-19, *codified at* 47 U.S.C. §§ 153, 225, 303, 330, 610, 613, 615c, 616-20). The 2010 revisions to the Truth in Caller ID Act define “IP-enabled voice service” to have “the meaning given that term by section 9.3 of the Commission’s regulations (47 C.F.R. 9.3), as those regulations may be amended by the Commission from time to time.” Truth in Caller ID Act of 2009, Pub. L. No. 111-331, 124 Stat. 3572 (2010), *codified at* 47 U.S.C. § 227(e)(8)(C)(2010). The Commission subsequently interpreted Congress to have referred to the definition of “Interconnected VoIP Service” in section 9.3. *See Rules and Regulations Implementing the Truth in Caller ID Act of 2009*, Report and Order, WC Docket. No. 11-39, 26 FCC Rcd 10074, 10085-86 at paras. 27-28 (2011) (using the term “interconnected VoIP services” to be consistent with the Commission’s existing rules and the Truth in Caller ID Act in reference to Congress’s use of the term

“IP-enabled voice services.”). We observe that, in RAY BAUM’S Act, Congress amended the Truth-in-Caller-ID Act to change the scope of covered communications from any “telecommunications service or IP-enabled voice service” to a “voice service or a text message sent using a text messaging service,” and in so doing, dropped the reference to section 9.3’s definition of “Interconnected VoIP Service” for purposes of those requirements. *See* RAY BAUM’S Act, § 503(a)(1), *codified at* 47 U.S.C. § 227(e)(1). *See also Implementing Section 503 of RAY BAUM’S Act, Rules and Regulation Implementing the Truth in Caller ID Act of 2009*, WC Docket Nos. 18-335 and 11-39, Notice of Proposed Rulemaking, 34 FCC Rcd 738 (2019). Congress left intact, however, the reliance on section 9.3’s definition of “Interconnected VoIP Service” for purposes of any 911 obligations, including, but not limited to, the dispatchable location obligations added elsewhere in the RAY BAUM’S Act. Congress thus continued to leave to the Commission’s discretion whether to revise that definition for purposes of 911 requirements, as we do here.

<sup>552</sup> *See, e.g.*, 47 U.S.C. § 153(25), 47 CFR §§ 54.5, 63.60(e), (g), 63.71(f)(2)(ii)(A), 64.601(a)(15), 64.1600(i), 64.2003(o), 64.2005(c)(3).

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section 9.3 of the Commission’s rules satisfies our proposed intent and responds to concerns raised by commenters. Specifically, to implement RAY BAUM’S Act, the Commission led with a proposal to adopt the definition of “911 VoIP Services” and also sought comment on extending 911 requirements, including location obligations, to outbound-only VoIP services under the definition of “911 VoIP Services.” We note that entities which provide one-way, interconnected VoIP service have been on notice since 2011, and even as early as 2005, that the Commission was considering expanding the scope of its 911 rules to include their communications services.<sup>553</sup> The *Notice* was informed by, and cited to, these earlier rulemaking efforts, including the outstanding proposals from 2011, and RAY BAUM’S Act left the Commission discretion to consider these earlier efforts. The rule we adopt today reflects consideration of proposals raised in earlier Notices of Proposed Rulemaking and in the *Notice* to extend dispatchable location obligations to one-way VoIP calls, the purpose of the *Notice* to dispatch our RAY BAUM’S Act mandate to consider all technological platforms, and record comment received in response. In light of the comments received, we have not amended our definition of interconnected VoIP, except as it affects 911 service obligations for outbound-only interconnected VoIP service.

202. Furthermore, as stated above, commenters express concern about our statutory authority to expand our 911 rules to services beyond interconnected VoIP services, and in response we act upon their suggestion that an amendment of the definition of “Interconnected VoIP Service” would accomplish the Commission’s intended objective, particularly where we limit the definition change solely to impose 911 obligations. Moreover, the similarities in the proposed language of the definition of “911 VoIP Services” largely tracks the language of “Interconnected VoIP Service,” and as such, regardless of the label used, the service to which our rules were to be applied is sufficiently apparent.

203. We amend the definition of “Interconnected VoIP Service” to include outbound-only interconnected VoIP services. The expansive scope of the legislative directive coupled with our discretion to amend the definition of “Interconnected VoIP Service” provides sufficient legal authority for the

Commission to extend 911 regulations, including rules to convey dispatchable location with 911 calls, to outbound-only interconnected VoIP services. Doing so in this fashion also avoids loopholes for evading regulatory obligations that protect the health and safety of the American people, which commenters have pointed out to be a risk of attaching such obligations only to those who choose to

<sup>553</sup> See *IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers*, First Report and Order and Notice of Proposed Rulemaking, WC Docket Nos. 04-36, 05-196, 20 FCC Rcd 10245, 10277, para. 58 (2005) (seeking further comment on whether to extend E911 obligations to providers of other VoIP services that are not covered by the interconnected VoIP service E911 rules as adopted in the *Report and Order*); *Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules; Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers*, Notice of Proposed Rulemaking, Order, Third Report and Order, and Second Further Notice of Proposed Rulemaking, 26 FCC Rcd 10074, 10108, para. 101 (2011) (seeking comment on whether, if we decide to amend the definition of interconnected VoIP in 9.3, we should amend it for 911 purposes only). Commenters to the 2011 proposal generally supported the Commission's broad legal authority to impose 911 requirements on entities to advance and promote reliable E911 service throughout the country. See, e.g., Letter from H. Russell Frisby, Jr., Counsel to TSI, to Sean Lev, General Counsel, FCC, GN Docket No. 11-117, at 12 (filed Aug. 15, 2013); Letter from H. Russell Frisby, Jr., Counsel to TSI, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 11-117, WC Docket No. 05-196, PS Docket No. 11-153, PS Docket No. 10-255, at 3-4 (filed Nov. 21, 2014). See also Letter from Dean R. Brenner, Senior Vice President, Government Affairs, Qualcomm, to Sean Lev, General Counsel, FCC, GN Docket 11-117, WC Docket 05-196, PS Docket 11-153, PS Docket 10-255, at 4-5 (filed Sept. 13, 2013) (while the expansion of E911 requirements to interconnected VoIP providers involved the Commission's regulation of wire or radio communications, which arguably falls within the Commission's general jurisdiction grant, any such regulations must be consistent with the Congressional purpose under the NET 911 Improvement Act of providing VoIP providers with a right to access the 911 infrastructure).

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provide "911 VoIP Services."<sup>554</sup> We believe that this approach is consistent with our objective to promote safety of life and property through communications.<sup>555</sup>

204. *Compliance Deadline.* In the *Notice*, the Commission proposed to require compliance for dispatchable location requirements on the same date as the proposed implementation for Kari's Law, i.e., February 16, 2020.<sup>556</sup> The Commission further tentatively concluded that applying the same compliance date across all platforms will promote efficiency and encourage development of common dispatchable location solutions.<sup>557</sup> No commenters addressed compliance deadlines for outbound-only interconnected VoIP service providers, but some commenters objected to the proposed February 16, 2020 date as premature for imposition of dispatchable location requirements for any service.<sup>558</sup>

205. We adopt a two-year period for compliance for outbound-only interconnected VoIP

service. Due to the similar nomadic or mobile functionality of the services, we find that similar implementation considerations for nomadic VoIP providers are applicable to outbound-only interconnected VoIP providers and warrant additional time for compliance.<sup>559</sup> Furthermore, adopting a two-year compliance period for outbound-only interconnected VoIP service providers will result in a compliance date in the same time frame as the implementation deadline for wireless E911 location requirements, which will promote regulatory parity and encourage the development of common location solutions across all platforms.

#### **4. Telecommunications Relay Services (TRS)**

206. In the *Notice*, the Commission observed that TRS providers are required to deliver emergency calls to an appropriate PSAP and to provide the location of the emergency.<sup>560</sup> For some of these services, the service provider is required to ask callers for their location information at the beginning of the emergency call.<sup>561</sup> For emergency calls made through a Video Relay Service (VRS) or IP Relay (collectively, “Internet-based TRS”), the service provider must transmit location information to the PSAP in the form of a Registered Location under rules modelled on the Commission’s interconnected VoIP 911 rules.<sup>562</sup> In the *Notice*, the Commission observed that “Internet-based TRS and interconnected VoIP face similar concerns regarding the ability to accurately locate end users that use a mobile or portable device.”<sup>563</sup> The Commission therefore proposed dispatchable location requirements for Internet-based TRS paralleling the requirements it proposed for VoIP, i.e., allowing Internet-based TRS providers flexibility to implement automatic dispatchable location and to fall back to Registered Location options when real-time dispatchable location is not feasible.<sup>564</sup> The Commission asked whether there are

<sup>554</sup> *See, e.g.*, BRETSA Reply at 25 (voice application or service providers may configure their outbound-calling service for the specific purpose of avoiding the complications and expense of 911 compliance).

<sup>555</sup> 47 U.S.C. § 151.

<sup>556</sup> *Notice*, 33 FCC Rcd at 9012-13, paras. 87-88.

<sup>557</sup> *Notice*, 33 FCC Rcd at 9012-13, para. 87.

<sup>558</sup> *See supra*, Sections III.B.3.a-III.B.3.b.

<sup>559</sup> *See, e.g.*, Verizon Comments at 9 (concerns regarding the impact of dispatchable location requirements on nomadic VoIP providers apply to nomadic outbound-only services as well); Microsoft Comments at 4 (describing its outbound-only Skype to Phone application as designed to be nomadic).

<sup>560</sup> *Notice*, 33 FCC Rcd at 9010 para. 79 citing 47 CFR § 64.605.

<sup>561</sup> *See* 47 CFR § 64.605(a)(2)(iii)-(iv).

<sup>562</sup> *See* 47 CFR § 64.605(b)(2)(ii).

<sup>563</sup> *Notice*, 33 FCC Rcd at 9010 para 79.

<sup>564</sup> *Notice* at 9010-11 para. 81.

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