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MOVING HOSPITALITY FORWARD

HOSPITALITY TECHNOLOGY REQUIREMENTS FOR NEW 911 REGULATIONS

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About HTNG

Hospitality Technology Next Generation (HTNG) is a non-profit association with a mission to foster, through collaboration and partnership, the development of next-generation systems and solutions that will enable hoteliers and their technology vendors to do business globally in the 21st century. HTNG is recognized as the leading voice of the global hotel community, articulating the technology requirements of hotel companies of all sizes to the vendor community. HTNG facilitate the development of technology models for hospitality that will foster innovation, improve the guest experience, increase the effectiveness and efficiency of hotels, and create a healthy ecosystem of technology suppliers.

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1 Introduction

On June 1, 2020 HTNG released an advisory for hoteliers on new Federal 911 laws. This document is intended to provide an overview of both legacy and current technologies, and whether or not each has compliance capability based on the type of MLTS in use. It is not a complete description of the laws, nor intended to provide a legal position or advice.

In August of 2019, The FCC ruled on enforcement of new U.S. federal laws regarding 911 calls made from multi-line telephone systems that have important impact on the entire U.S. hotel industry. This workgroup produced an advisory document for the hotel industry, which can be found here.

Kari's Law was passed by congress on February 5, 2018, and signed into law by the President of the United States February 16, 2018. Enforcement of Kari's Law began February 16, 2020. Kari's Law requires all phone systems to allow users to dial 911 directly, with or without a prefix, and must report the "Dispatchable Location" of the caller to a location likely to be staffed (details below).

Section 506 of The RAY BAUM'S Act was signed by the President of the United States on March 23, 2018. Enforcement of this law for fixed-line phones begins January 6, 2021, with additional requirements for non-fixed line (mobile, cordless, and relocatable) phones a year later. This law requires that all 911 calls include the "Dispatchable Location" of the caller to be provided to the 911 center with the call.

It is important to note that state and local laws related to 911 and other emergency calls still remain in force. Many states adopted laws based on Kari's Law over the past five years, and the new federal laws discussed here don't replace them. The more stringent regulation applies, so hoteliers must check local and state laws to determine which ones apply to each specific property.

These laws apply to existing, upgrades and new or replaced phone systems. More information on the regulation, impact, and dispatchable location may be found here.

1.1 Existing Systems

In the FCC ruling, the FCC clarifies for both Kari's Law and The RAY BAUMS Act that the intent is not to create a financial burden on the industry to upgrade or replace PBX systems, so existing systems installed prior to February 17, 2020 do not need to be compliant until they are upgraded or replaced. In addition, systems installed after this date but prior to January 6, 2021 are not required to be compatible with RAY BAUM's Act for fixed-line MLTS.

1.2 Upgrading Existing Systems

Depending on the magnitude of the upgrade, an upgrade may or may not trigger coverage by Kari's Law and/or the RAY BAUM'S Act. Upgrades to the core MLTS software, upgrades to the hardware or upgrades requiring a significant purchase may trigger the need for compliance. Adding lines, minor software upgrades and security updates that are easy to install would not be considered sufficient to trigger compliance.

The larger question regarding the decision to upgrade in order to meet the new laws' requirements versus continuing to operate a system that does not meet the requirements, but remains compliant due to the grandfather clause, is not addressed in this document.

2 New or Replacement Systems Requirements

Systems manufactured, imported, offered for first sale or lease, first sold or leased, or installed after February 16, 2020 must be compliant with Kari's Law, and after January 6, 2021 for RAY BAUM's Act.

Therefore, when upgrading or replacing a hotel's voice solution, ensure the vendor certifies the solution as compliant. The vendor should provide a solution compliant with all these laws including future compliance capability with the use of SIP trunking for the 911 traffic at minimum, even if legacy telco circuits remain in place.

The following tables summarize the requirements of each of the new laws. These are summarized in stages for the RAY BAUM's Act, as that is how that law splits compliance.

Table 1 Current Requirements

CURRENT REQUIREMENTS		
	Effective February 17, 2020	**Notes**
1	Enable caller to directly dial 911 without the use of any prefix or access code	
2	Contemporaneously notify a central location on-site or off-site of the 911 call where someone is likely to see or hear it	Notification must not delay the call to 911. This should include at minimum: • The fact that a 911 call has been made • A valid callback number • The same information about the caller's location that was provided to the PSAP, unless it's not technically feasible
3	If technically feasible, provide a callback number for the PSAP to reach the 911 caller directly	Callback number must not be answered by an IVR or automated attendant
4	Provide dispatchable location to PSAP with 911 call	Already current law, through PS/ALI, e.g. dispatchable location must be the validated civic address of the calling party. More specific information by the RAY BAUM's Act is not yet required.

Table 2 Future Requirements

FUTURE REQUIREMENTS		
	Effective January 6, 2021	**Notes**
5	Provide for the PSAP to reach the 911 caller directly	Callback number must not be answered by an IVR or automated attendant
6	Provide redefined automated dispatchable location to the PSAP with the 911 call from on-premise fixed devices	Dispatchable location must be the validated civic address of the calling party, plus any additional information such as building, floor, room, suite or apartment number, or other similar information that's necessary to adequately identify the location of the calling party
FUTURE REQUIREMENTS		
	Effective January 6, 2022	**Notes**
7	Provide automated dispatchable location as stated above to the PSAP with the 911 call from on-prem non-fixed devices or off-premise devices	Dispatchable location must be the validated civic address of the calling party, plus any additional information such as building, floor, room, suite or apartment number, or other similar information that's necessary to adequately identify the location of the calling party when technically feasible, or based on end-user manual update or coordinate-based location information

Source: https://www.fcc.gov/mlts-911-requirements

The focus of this document is to examine technologies in use today that meet these legal requirements. The various current solution types in use today are:

- On-Premise (legacy analog, digital and TDM based systems)
- Hybrid IP
- Hosted

For each of these, compliance with each requirement of the 911 laws based on the type of PSTN connection in use is summarized along with notes to describe what is required or how compliance may be attained:

- POTS lines
- T1/PRI, CAMA
- SIP Trunking

Table 3 Technology Compliance Analysis

PBX CONFIGURATION		REQUIREMENTS COMPLIANCE							
Location	Type	PSTN Connectivity	Req 1	Req 2	Req 3	Req 4	Req 5	Req 6	Notes
On Premise	Non-IP	POTS	Yes	Yes	No	Yes	No	No	
On Premise	Non-IP	CAMA trunks	Yes	Yes	No	Yes	No	No	Services may still be available from service providers, but are being phased out and have limitations.
On Premise	Non-IP	T1	Yes	Yes	Yes	Yes	No	No	Callback compliance can be achieved with the use of Direct Inward Dialing (DID) to guest rooms. This solution exposes guests to potential fraud calls from external parties such as telemarketers or fraudsters.
On Premise	Non-IP	PRI	Yes	Yes	Yes	Yes	No	No	Callback compliance can be achieved with the use of DID to guest rooms. This solution exposes guests to potential fraud calls from external parties such as telemarketers or fraudsters.
On Premise	Non-IP	SIP trunks	Yes	Yes	Yes	Yes	Yes	Yes	Callback compliance can be achieved with the use of DID to guest rooms. This solution exposes guests to potential fraud calls from external parties such as telemarketers or fraudsters. A secure solution requires mapping between an internal calling station and a callback number used to allow the routing of a return call from the PSAP. Compliance to reqs 4, 5 and 6 require the use of a Location Information Server (LIS) to provide accurate information about the caller's location.

Location	Type	PSTN Connectivity	Req 1	Req 2	Req 3	Req 4	Req 5	Req 6	Notes
On Premise	IP	POTS	Yes	Yes	No	Yes	No	No	
On Premise	IP	T1	Yes	Yes	Yes	Yes	No	No	Callback compliance can be achieved with the use of DID to guest rooms. This solution exposes guests to potential fraud calls from external parties such as telemarketers or fraudsters.
On Premise	IP	PRI	Yes	Yes	Yes	Yes	No	No	Callback compliance can be achieved with the use of DID to guest rooms. This solution exposes guests to potential fraud calls from external parties such as telemarketers or fraudsters.
On Premise	IP	SIP trunks	Yes	Yes	Yes	Yes	Yes	Yes	Callback compliance can be achieved with the use of DID to guest rooms. This solution exposes guests to potential fraud calls from external parties such as telemarketers or fraudsters. A more secure solution requires the use of different technology to maintain mapping between an internal calling station and a callback number used to allow the routing of a return call from the PSAP. Compliance to reqs 4, 5 and 6 require use of LIS to provide accurate information about the caller's location.

Location	Type	PSTN Connectivity	Req 1	Req 2	Req 3	Req 4	Req 5	Req 6	Notes
Cloud Hosted	IP	SIP trunks	Yes	Yes	Yes	Yes	Yes	Yes	Callback compliance can be achieved with the use of DID to guest rooms. This solution exposes guests to potential fraud calls from external parties such as telemarketers or fraudsters. A more secure solution requires the use of different technology to maintain mapping between an internal calling station and a callback number used to allow the routing of a return call from the PSAP. Compliance to reqs 4, 5 and 6 require use of LIS to provide accurate information about the caller's location.

3 Appendix

The following diagrams identify common communication flows for emergency communications.

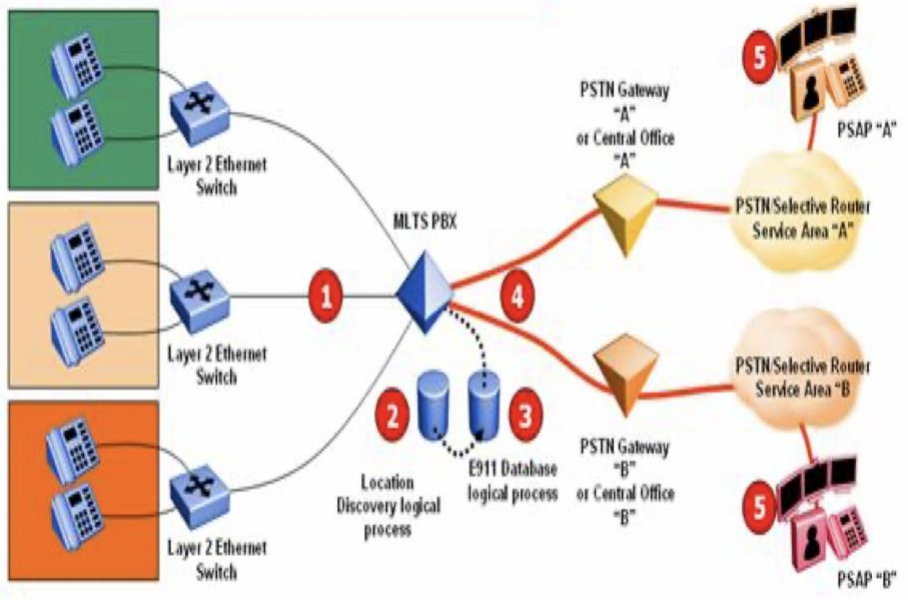

Figure 1 Typical macro network topology with multiple locations

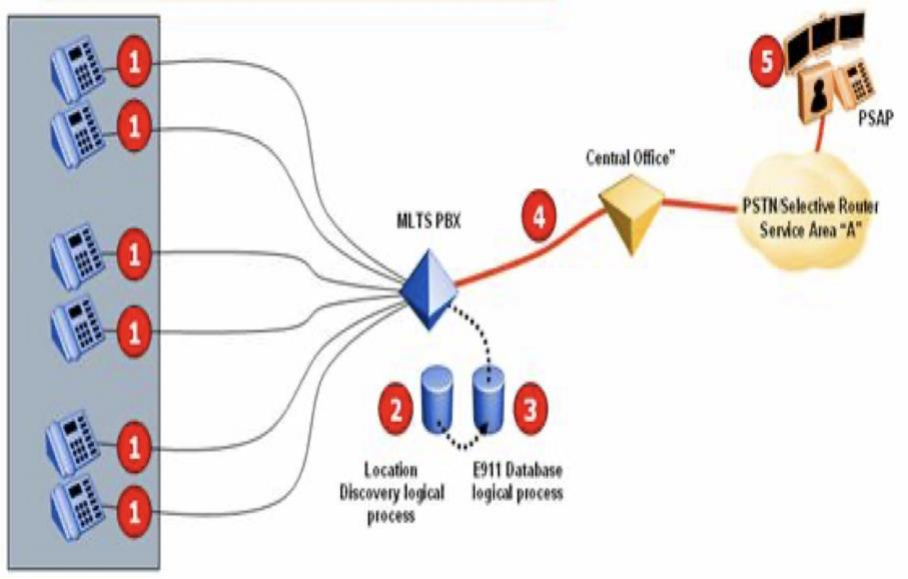

Figure 2 Typical single office network topology

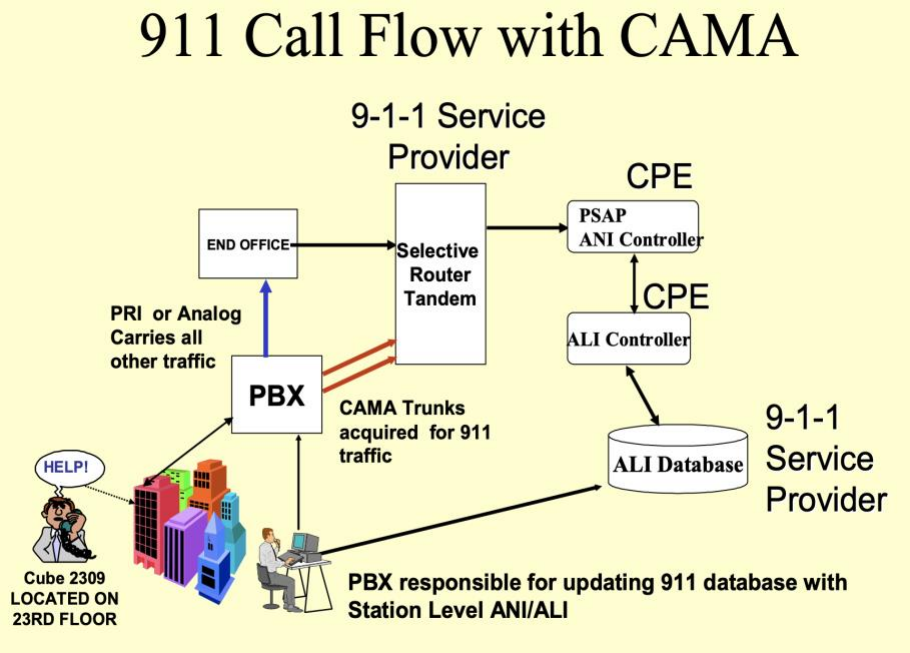

Figure 3 Typical Emergency Communications Call Flow (US)

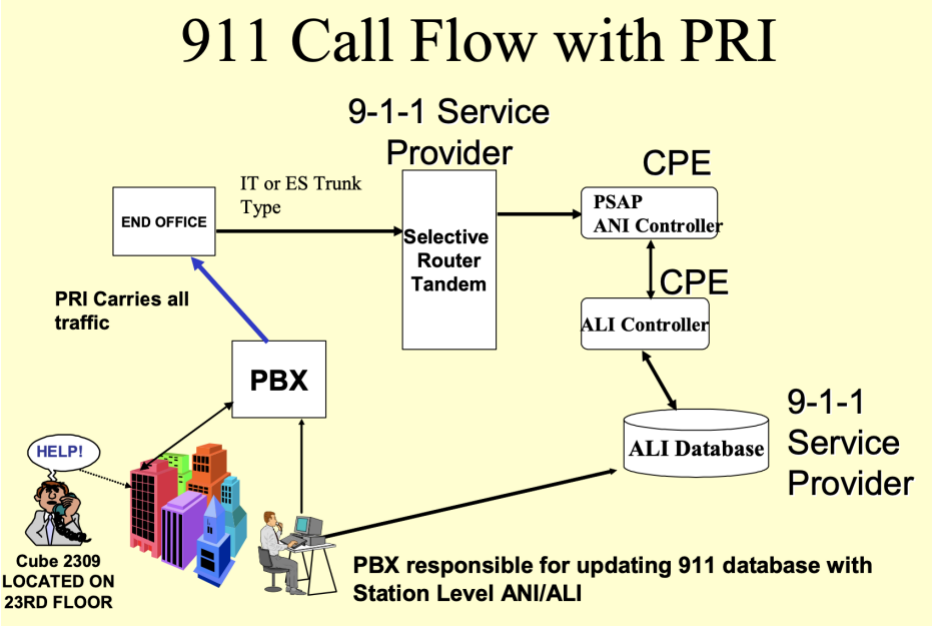

Figure 4 Typical Emergency Communications Call Flow with PRI