

I. What is E911 and why is it important?

Residents of Alaska have depended on reaching local emergency services by dialing 911 for decades. Today, the advancement of technology allows for “E911” or “Enhanced 911,” which means that when 911 is dialed, the calling party’s callback number and location information are delivered to the geographically appropriate Public Safety Answering Point (PSAP). The delivery of caller-location information to the PSAP call-taker’s (dispatcher’s) screen is the feature that sets E911 apart from basic 911.

E911 technology has significantly improved PSAPs’ ability to effectively deliver critical public safety and emergency response services in a timely manner. In many instances, it has proven to be a life-saving, essential emergency response tool in providing critical information when the caller is unable to verbally communicate his or her location, including when the voice call is dropped, discontinued, and cannot be reestablished.

To provide the specific location information for a caller, every telephone capable of dialing 911 must have an Automatic Location Information (ALI) record in the 911 database to identify the caller’s specific location. If ALI records are properly entered and maintained in the 911 database, a caller’s location or Emergency Response Location (ERL) will display on the PSAP display, reducing response time for emergency services.

II. What is a Multi-Line Telephone System (MLTS)?

A Multi-line Telephone System or Private Branch Exchange Telephone System (PBX), is a telephone system comprised of common control units, telephones, and controls providing local telephone service to multiple end-users. Specifically, an MLTS telephone system consists of a computerized telephone “switch,” typically managed by technical staff or vendors. It is often located in a particular room and connects to dozens, hundreds, or thousands of “extension” phones located in offices, rooms, workspaces, classrooms, or other locations. The central switch is typically connected to outside “trunk” lines to a local telephone central office, allowing callers on the extension phones to make outside calls. Multi-line Telephone Systems includes VoIP, as well as network and premises-based systems such as Centrex, PBX, and hybrid key telephone systems. Multi-line Telephone Systems are frequently used by institutions and businesses such as government agencies, banks, hotels, health care systems, and schools.

III. Why is location information so important?

There are many reasons a person calling 911 might not be able to communicate his or her specific location to the 911 dispatcher. Here are a few examples:

- Someone is choking, having a heart attack, or some other physical injury which prevents them from speaking.
- The caller is unable to talk or are fearful of speaking, for instance during a bank robbery at a branch location of a banking network.
- A person is disabled in some way that makes telephone communication difficult or impossible, such as being deaf or mute.
- The caller is a child or visitor and doesn’t know their address/location.
- The caller cannot speak English.

By automatically providing specific location information through the 911 system, the 911 dispatcher can immediately relay fire, police, or EMS responders to the caller's location, even when that person is unable to communicate that information.

IV. How does E911 work?

UAF Example: Fred Smith, works in an office in a clustered building complex along UAF's West Ridge with a MLTS phone system that provides phone service for dozens of University buildings. Fred calls 911 from the extension in his office, which is located on the third story of a building at 1930 Yukon Drive, Fairbanks, Alaska. Without MLTS compliant information, the location information presented to 911 dispatchers can be much less useful, not useful at all, and sometimes misleading.

When Fred makes a 911 call from his work extension, the 911 dispatcher may have no information where Fred is located or could be led to believe that he is located at 1054 University Avenue – the address of UAF's physical plant which houses the MLTS/PBX switch. In many of these situations, the 911 dispatcher often receives a location that is in another building, far away from where the caller is located – in this example, Fred is 1.1 miles away. There could be thousands of phones in dozens of buildings that are connected to one MLTS/PBX switch, and the ALI is always identified as 1054 University Avenue, rather than the caller's actual address.

With MLTS compliant information, Fred calls 911 from his wired office phone and the 911 dispatcher receiving the call sees the location of Fred's phone on a special computerized 911 phone screen (the 911 community calls that location information "ALI" for Automatic Location Identification). The 911 dispatcher would see something like this:

(907) 474-7809 12:23 03/05/18	Calling phone number (called ANI) and the time/date
FRED SMITH	Customer's name
1930 YUKON DRIVE	Fred's street address
ROOM 307	Fred's specific location information
FAIRBANKS, AK	City and state of Fred's phone's location

Note that Fred did not enter any of this information about his phone. When his phone was installed, his subscriber's name (FRED SMITH), his street address, city and state ("1930 YUKON DR" and "FAIRBANKS, AK"), and other helpful location information ("ROOM 307") were provided by the MLTS operator to a centralized 911 database (the "ALI Database") that is maintained as part of the centralized 911 system in Fairbanks. Because of this, when Fred dials 911 from his office phone, the 911 telephone switching equipment can look up Fred's location information from the ALI Database using Fred's calling phone number as the lookup key.

V. What is a Public Safety Answering Point (PSAP)?

A public safety answering point (PSAP) is a call center responsible for answering calls to an emergency telephone number for police, firefighting and ambulance services. A PSAP facility runs 24 hours a day, dispatching emergency services or passing 911 calls on to public or private safety agencies. Trained operators are responsible for dispatching the emergency services.

VI. Why do we need HB385?

There is a large segment of E911 end-users in Alaska using a MLTS that do not have the same level of E911 safety protections as small business and residential systems. As illustrated above, when an individual calls 911 from a multi-line telephone system, that system may only relay the physical street address of the facility's main building (or, alternatively, the address of the building in which the MLTS is located), but may not provide more specific information about where the individual calling 911 was actually physically located (such as a building number, floor number, or room number).

Emergency response delays and tragedies have resulted when emergency callers have been unable to provide a specific location within a large building or complex to the 911 dispatcher, either because they are unaware of the exact location or because they are physically unable to convey the information. The provisions in HB385 will help ensure that 911 dispatchers receive accurate location information so emergency responders will not be delayed while trying to find the emergency caller in need.

HB385 requires that MLTS operators provide a sufficiently precise indication of a caller's location so emergency response services may be dispatched to the specific location of the device. The MLTS operator is also required to provide a call back number. This means the PSAP that receives the 911 call from the MLTS will be able to call back the location from which the 911 call was placed, if needed. The MLTS is also required to provide a specific Emergency Response Location. An ERL is a specific location to which emergency response services may be dispatched and can be easily located by emergency responders in a reasonable amount of time.

VII. Do all MLTS systems come equipped to produce Automatic Location Information (ALI)?

Yes. If the system is premise-based (such as a PBX) then the manufacturer will have an E9-1-1 product that meets the requirements. If the vendor does not have a product, then there are several third-party providers that will sell them a solution. There are also no-cost alternatives for fixed telephones. As the technician completes their service order, they could also enter the information directly into the E9-1-1 system database.

VIII. Will producing Automatic Location Information require additional hardware, software or programming?

Not necessarily. In some cases, the information from a telephone installation will need to be entered into a database which would then be transferred to the E9-1-1 system. In others, the location is input by the customer as they log-into the telephone system (e.g.,

working from home or a hotel room). In a third type of MLTS, the location is determined by Internet Protocols (router and access point location) and provided as a latitude/longitude rather than a street address.

IX. How much does it cost?

It depends on the provider of the solution and whether the cost is a one-time purchase or obtained as an on-going service. The costs range from \$0 (i.e., technician or end user effort only) to \$25-\$30 per device for a service bureau. Capital (one-time) costs will also vary based on the manufacturer and number of extensions. Some solutions range in the \$3,000-\$5,000 range for a large PBX.

X. Why has this issue not been addressed to date?

In 2005, the Alaska Legislature enacted AS 29.35.134 allowing municipalities to require enhanced 911 (E911) service from a MLTS. The statute required that MLTS provide Emergency Response Location (ERL) information in compliance with generally accepted standards relating to 911 service as defined by the Regulatory Commission of Alaska (RCA). The RCA opened docket R-05-005 and developed proposed regulations which received many comments primarily from the public safety community. In 2008, the RCA was advised by the Department of Law that it lacked the dispute resolution authority to enforce those standards. Recognizing that there had been significant changes to the model legislation upon which the statute had been based, changes to federal legislation, and changes to the underlying technology and 911 services, the RCA closed the docket in 2015 without further action.

XI. What is Kari's Law?

On February 16, 2018, President Trump signed into law H.R. 582—legislation better known as Kari's Law—requiring that emergency callers can dial 911 directly, instead of having to include an additional number or code. On some MLTS, callers must dial an additional number—often “9”—to get an outside line to make a normal phone call, so a 911 call would require the caller to dial “9-911.” Under the legislation, all MLTS deployments completed after two years of the measure's enactment would have to be preconfigured to enable direct 911 dialing.

The namesake of the bill is Kari Hunt, whose estranged husband murdered her in a Texas hotel room in December 2013. While the murder took place, Hunt's 9-year-old daughter Brianna tried calling 911 four times. Because the youngster didn't know that the hotel required a prefix to be dialed to get an outside line, none of the calls were received by a public-safety answering point.