

911 Policy

911 Requirements for PBX Operators

911 calls are usually a matter of life or death. PBX operators and services providers both have responsibility for ensuring that calls from the PBX make it to emergency services (the PSAP – Public Safety Answering Point) and the 911 operator receives the appropriate address information. The following document details the responsibility of the customer, PBX operator, and Everfast Fiber Networks LLC with regard to 911 services.

It is the responsibility of the PBX owner or operator to transmit an Emergency Location Information Number (ELIN) to Everfast for each Emergency Response Location (ERL).

What does this mean? A PBX will have a list of DID's, or telephone numbers, assigned by Everfast that are pointed to the PBX platform. The PBX operator then assigns each of these DID's to a phone at a location. It is up to the PBX operator to decide if they want specific 911 address information for EACH phone (a/k/a PS/ALI¹), or if they want just one 911 address for all phones at a location.

In some cases, especially for larger PBX installations, there may be a need for multiple 911 addresses – for example, one per building, or one per floor. Each of these locations is called an ERL, or Emergency Response Location. This is the location where you want emergency services to come to if called. Each ERL is assigned a specific number (or ELIN – Emergency Location Information Number) that is used to relay the address and caller data to emergency services.

Think of this as 3 different levels of 911 service:

Simple	Complex
Residential	Multiple buildings
Small businesses	Multiple floors
	Multiple public entrances
	Large floor space

For “Simple 911” installations, there would be a smaller business with one 911 response address (ERL) for the entire location. In this case, the PBX operator would send just one ELIN, often the Pilot DID, for all phones at the location. The number used as the ELIN must be able to be called by the PSAP and reach a live person.

For “Complex 911” installations, the PBX would serve a larger business with multiple buildings, floors, large floor spaces or public entrances. In these installations you would want emergency responders to receive better location information so they can provide assistance more quickly. The PBX operator would have multiple ELINs for multiple ERLs. For example, a college or university might provide one ELIN for each building on campus with details on the campus location. Centennial Hall, Frontier Hall, Pioneer Hall, etc. each would be an ERL (emergency response location) that would have its own ELIN (emergency response identification number). When 911 is dialed, the PSAP would receive the ELIN and associated address for the ERL. The PSAP would not, however, receive the number of the phone that actually made the 911 call. PS/ALI would be required for each phone number to be delivered to the PSAP. The DIDs assigned as ELINs for Complex 911 installations must be able to be called by the PSAP and reach a live person.

With PS/ALI installations, the PBX would serve a location or locations where specific room information is required. PBX’s generally only transmit the ANI of a single location (one ELIN, one ERL) or one building with one address (see Complex example above). PS/ALI provides specific employee or tenant location (multiple ELINs & multiple ERLs). The PS/ALI information will include details on the building, floor, and/or room number. In the case of PS/ALI, every ELIN has a unique ERL.

For example, instead of one ELIN for Centennial Hall in the Complex example, there would be ELINs for Centennial Hall, Room 100; Centennial Hall, Room 101; Centennial Hall, Room 102, etc. Each of these ELINs would call back to the specific phone when called by the PSAP. The ELIN is often the same number as what’s physically shown on the phone (the DID), but it doesn’t have to be. PS/ALI is often needed at assisted living communities, schools, government buildings, etc. It is up to the PBX operator to determine if PS/ALI is required.

If the PBX operator requires PS/ALI services, additional charges may apply.

Address Details.

All address information for each ELIN must be provided to Everfast prior to activation of the service. For SIP connections, the P-Asserted-Identity (PAI) header field must equal the ELIN or “From” number in the SIP invite. If IP-PRI service, then Everfast expects to see the ELIN in the “From” number field.

Failure to properly map and send an appropriate ELIN during a 911 call, or sending a DID that is not mapped to an ELIN within the PBX when 911 is called, will result in a “No Record Found” (NRF) condition. The PBX owner will be billed \$100 per occurrence on their monthly invoice if this happens.

Definitions

- ANI – Automatic Number Identification
- DID – Direct Inward Dial number, or telephone number, on a specific phone behind the PBX
- ELIN – Emergency Location Identification Number. Like an ANI, and can be the same as the ANI, but there may also be several ELINs or many ANIs with the same ELIN.
- ERL – Emergency Response Location. 911 address where the emergency responders are sent
- MLTS – Multi-Line Telephone Systems
- PBX – Private Branch Exchange
- PS/ALI – Private Switch/Automatic Location Identification
- PSAP – Public Safety Answering Point
- PSTN – Public Switched Telephone Network

Appendix A

Everfast minimum requirements for 911 ELINs:

1. Multi-station or PBX system. Every owner and operator of a multi-station or private branch exchange (PBX) multiline telephone system connected to the Everfast network must design and maintain the system to provide a callback number and emergency response location.
2. Multiline telephone system user dialing instructions. Each multiline telephone system operator must demonstrate or otherwise inform each new telephone system user how to call for emergency assistance from that particular multiline telephone system. Callers must be able to dial 911 without the use of a prefix such as 8-911 or 9-911 (mandated under Kari’s Law² which became law on February 16, 2018³).

3. Shared residential multiline telephone system. Operators of shared multiline telephone systems serving residential customers must ensure that the shared multiline telephone system is connected to the public switched network and that 911 calls from the system result in at least one distinctive automatic number identification and automatic location identification for each residential unit. These requirements do not apply if the residential facility maintains one of the following:
 1. automatic location identification for each respective emergency response location;
 2. the ability to direct emergency responders to the 911 caller's location through an alternative and adequate means, such as the establishment of a 24-hour private answering point; or
 3. a connection to a switchboard operator, attendant, or other designated on-site individual.
4. Hotel or motel multiline telephone system. Operators of hotel and motel multiline telephone systems must permit the dialing of 911, and must ensure that 911 calls originating from hotel or motel multiline telephone systems allow the 911 system to clearly identify the address and specific location of the 911 caller. Callers must be able to dial 911 without the use of a prefix such as 8-911 or 9-911 (mandated under Kari's Law⁴ which became law on February 16, 2018⁵).
5. Business multiline telephone system.
 1. An operator of business multiline telephone systems connected to the public switched telephone network and serving business locations of one employer must ensure that calls to 911 from any telephone on the system result in one of the following:
 1. automatic location identification for each respective emergency response location;
 2. an ability to direct emergency responders to the 911 caller's location through an alternative and adequate means, such as the establishment of a 24-hour private answering point; or
 3. a connection to a switchboard operator, attendant, or other designated on-site individual.
 2. Except as provided in paragraph (c), providers of multiline telephone systems serving multiple employers' business locations must ensure that calls to 911 from any telephone result in automatic location identification

for the respective emergency response location of each business location sharing the system.

3. Only one emergency response location (ERL) is required in the following circumstances:
 1. an employer's workspace is less than 40,000 square feet, located on a single floor and on a single contiguous property;
 2. an employer's workspace is less than 7,000 square feet, located on multiple floors and on a single contiguous property; or
 3. an employer's workspace is a single public entrance, single floor facility on a single contiguous property.
6. Schools. A multiline telephone system operated by a public or private educational institution, including a system serving dormitories and other residential customers, is not subject to paragraph 3. The operator of the education institution multiline system connected to the public switched network must ensure that calls to 911 from any telephone on the system result in one of the following:
 1. automatic location identification for each respective emergency response location;
 2. an ability to direct emergency responders to the 911 caller's location through an alternative and adequate means, such as the establishment of a 24-hour private answering point; or
 3. a connection to a switchboard operator, attendant, or other designated on-site individual.
7. Exemptions.
 1. Multiline telephone systems with a single emergency response location are exempt from subdivisions 1 and 3 to 6.
 2. Multiline telephone system operators that employ alternative methods of enhanced 911 support are exempt from subdivisions 1 and 3 to 6.
 3. A multiline telephone system operator may apply for an exemption from the requirements in this section from the chief officer of each public safety answering point serving that jurisdiction.

Appendix B

FCC E911 rules for VoIP providers⁶

The FCC requires that providers of interconnected VoIP telephone services using the Public Switched Telephone Network (PSTN) meet Enhanced 911 (E911) obligations. E911 systems automatically provide emergency service personnel with a 911 caller's call back number and, in most cases, location information.

To reduce possible risks to public safety, the FCC requires interconnected VoIP providers to:

- Automatically provide 911 service to all customers as a standard, mandatory feature. VoIP providers may not allow customers to "opt-out" of 911 service.
- Obtain a customer's physical location prior to service activation and provide one or more easy ways for customers to update the location they have registered with the provider if it changes.
- Transmit all 911 calls, as well as a callback number and the caller's registered physical location, to the appropriate emergency services call center or local emergency authority.
- Take appropriate action to ensure customers have a clear understanding of the limitations, if any, of their 911 service. They must distribute labels warning customers if 911 service may be limited or not available and instruct them to place the labels on or near equipment used with VoIP service.
- Obtain affirmative acknowledgement from all customers that they are aware of and understand the limitations of their 911 service.
- Ensure that a 911 call is routed to the appropriate PSAP in areas where emergency service providers are not capable of receiving or processing the location information or call back numbers not automatically transmitted with 911 calls.

VoIP service providers that do not fully interconnect with the PSTN are not currently required to comply with the FCC's 911 and E911 rules.

Endnotes:

¹ Private Switch/Automatic Location Identification ² <https://www.congress.gov/bill/115th-congress/house-bill/582/text> ³ <https://www.congress.gov/bill/115th-congress/house-bill/582/actions> ⁴ <https://www.congress.gov/bill/115th-congress/house-bill/582/text> ⁵ <https://www.congress.gov/bill/115th-congress/house-bill/582/actions> ⁶ <https://www.fcc.gov/consumers/guides/voip-and-911-service> and <https://transition.fcc.gov/cgb/voip911order.pdf>

