

9-1-1 101

Presented by your 9-1-1 Service Providers

Embarq

Jeff Haynes

Dan Hole

Qwest/Intrado

Jerry Foree (Qwest)

Lanora Lee (Intrado)

Mark Morehead (Intrado)

Verizon

Meladee Noble-Carbajal

Reference Material Used

NENA – E9-1-1 Data Base Guide Book

NENA Data Standards For Local Exchange Carriers, ALI
Service Providers & 9-1-1 Jurisdictions

Website address:

<http://nena.org/media/files/NENA02-011StandardApproved110904.pdf>

Provider Terms

Telephone Service Provider – The party who provides the dial tone directly to the telephone subscriber.

9-1-1 Database Service Provider – Point where master street address guide (MSAG) validation takes place. Address Location Information (ALI) data is distributed to the ALI Storage device. Selective Router (SR) data is distributed to the SR device.

Selective Router Provider – Telephone Company dedicated network designed to route 9-1-1 calls to the correct PSAP.

MSAG Coordinator Responsibilities

- ESN/ELT Updates
- MSAG Maintenance
- Resolve data discrepancies
- Interface with Legal Addressing Authority
- Report ANI/ALI discrepancies

Emergency Service Zones (ESZ)

ESZ(s) represent geographical areas having unique sets of characteristics. Generally, subscribers within an ESZ share the same:

Law Enforcement Agency (Police)

Fire Protection Agency (Fire)

Emergency Medical Service (EMS)

Community or City

Primary PSAP for answering 9-1-1 calls

Definition of ESN

ESN – Emergency Service Number

An ESN is a three to five digit number representing a unique combination of emergency service agencies (Police, Fire, EMS) designed to serve a specific range of addresses within a particular geographical area, or ESZ.

The ESN facilitates the selective routing of calls to the appropriate PSAP.

Obtain ESN Range

The ESN range is assigned based on the available ESNs in the Selective Routing Provider's database.

In cases where a Telephone Company Exchange is direct trunked to a PSAP, the ESN is assigned by the 9-1-1 Database Service Provider.

Some states have a single point of contact who provides the ESN range to the Jurisdictions. That party coordinates available ESNs with the SR provider and

9-1-1 Database Service provider.

Definition of ELT

ELT – English Language Translation

A database table in the ALI database storage device that provides the names of the emergency services agencies associated with an ESN/ESZ number which is displayed on the dispatcher's screen at the time of a 9-1-1 call.

Sample ESN with ELT:

ESN 234:

ELT:

Police = County Sheriff

Fire = Local Fire Department

EMS = County Volunteer

Definition of SR

SR - Selective Routing

The routing of a call by the 9-1-1 telephone system network to the proper PSAP. The 9-1-1 call router refers to a database which contains telephone numbers (TN) and associated ESNs.

ESN assignments are applied to TN(s) when records are validated against the MSAG.

Definition of MSAG

MSAG - Master Street Address Guide

A listing of all streets and house number ranges within a 9-1-1 service area. The streets and address ranges (low house number to high house number) are assigned ESNs to enable proper routing of calls and accurate display of ELT.

Sample MSAG

DIR	STREET	LOW	HIGH	O/E/B	COMMUNITY	PSAP ID	ST	ESN	EXCH
W	ADAMS ST	1	500	B	LONG BEACH	LSAN	CA	200	MRKT
E	ALLINGTON ST	1	350	B	LONG BEACH	LSAN	CA	201	MRKT
E	BARCLAY ST	1	400	B	LONG BEACH	LSAN	CA	201	MRKT
W	BARCLAY ST	1	350	B	LONG BEACH	LSAN	CA	200	MRKT
	BUTLER AVE	1	200	B	LONG BEACH	LSAN	CA	201	MRKT
E	CAMBRIDGE ST	1	300	B	LONG BEACH	LSAN	CA	201	MRKT
W	DAMERON ST	150	375	B	LONG BEACH	LSAN	CA	200	MRKT
E	HARCOURT ST	1	500	B	LONG BEACH	LSAN	CA	201	MRKT
W	HARCOURT ST	1	400	B	LONG BEACH	LSAN	CA	200	MRKT
N	LONG BEACH BLVD	5700	6000	E	LONG BEACH	LSAN	CA	201	MRKT
N	LONG BEACH BLVD	5701	5999	O	LONG BEACH	LSAN	CA	200	MRKT
	RAHN AVE	5800	6000	B	LONG BEACH	LSAN	CA	200	MRKT
E	SCOTT ST	1	600	B	LONG BEACH	LSAN	CA	201	MRKT
W	SCOTT ST	1	450	B	LONG BEACH	LSAN	CA	200	MRKT
W	TRAFFORD ST	1	425	B	LONG BEACH	LSAN	CA	200	MRKT
	WHITE AVE	1	300	B	LONG BEACH	LSAN	CA	201	MRKT

Function of the MSAG

The primary function of the MSAGs are to validate telephone subscriber addresses and to assign an ESN to each telephone number record.

Remember: An accurate ESN assignment ensures the proper routing of a 9-1-1 call and the proper display of emergency agencies on ALI retrieval.

Maintenance of the MSAG

Expect boundaries to change based on legal ordinances changes or serving agency changes. This will drive the need for an MSAG ESN change or ELT change.

MSAG change/update requests (CR) are initiated by either the MSAG Coordinator or the 9-1-1 Database Service Provider. MSAG CR require the MSAG Coordinator's authorization before they are initialized in the 9-1-1 Database.

Basic Service Order Update Flow

TN subscriber records are processed into the 9-1-1 Service Provider's database.

MSAG validation takes place. Any resulting errors are returned to Telephone Service Provider.

Records that MSAG validated are sent to the ALI Storage device and the Selective Router device database.

MSAG Errors

When TN data is processed into the 9-1-1 database, there may be some records that present as an error.

These records are provided to the Telephone Service Provider for resolution. Some records will be sent to the Jurisdiction with a request for direction.

Maintenance Mode

MSAG maintenance is VITAL to ensure an accurate 9-1-1 Database. Update requests are sent to the 9-1-1 Database Provider using the standard communication tools.

Sample Tools:

Intrado 911 Net (Qwest hosted areas)

Verizon 911IM (Verizon hosted areas)

ANI/ALI Reporting

An ANI/ALI report is generated by the PSAP when there is a problem on a 9-1-1 call. There are three possible causes for an ANI/ALI condition:

- Incorrect address information

- No record found

- Misrouted call

Incorrect Address

An Incorrect Address ANI/ALI is to be submitted when the 9-1-1 caller provides a different address than the dispatcher receives on the ALI display.

No Record Found

When a no record found condition occurs during a 9-1-1 call, the only information that will display to the PSAP dispatcher is the telephone number. The record will not contain address or subscriber name information.

Misrouted Call

A misrouted call occurs when a 9-1-1 call is routed to PSAP other than the PSAP it is supposed to go to. A misroute can happen for various reasons including:

Incorrect ESN assignment on the MSAG

Incorrect ESN assignment in the Selective Router

Trunking assignment issues or failures

Overflow conditions

ANI/ALI Tips

It is important to note that sometimes the PSAP will report the incorrect reason code when they complete the ANI/ALI form. To assist you in correcting these issues before submitting the ANI/ALI, we offer the following information:

ANI/ALI Tips Cont.

Sometimes a misroute is submitted as a No Record Found. This mistake is made because the PSAP receives no record displayed, however when they obtain the address from the customer, they may not realize that it would make sense for no record to display when the call has been routed to the incorrect PSAP.

ANI/ALI Tips Cont.

This condition will occur most frequently when your neighboring county has a different 9-1-1 Service Provider than your county does. This is due to the fact that Verizon's data is stored on a Verizon ALI storage device and Qwest hosted data is on Intrado's ALI storage device.

ANI/ALI Suggestion

A quick check of your MSAG and the TN at issue via 911IM/911Net will help you to determine the true cause of the ANI/ALI.

In fact, checking every ANI/ALI using this method may negate the need for you to submit an ANI/ALI Discrepancy. As you can check the most current TN in the database, to see if an update, subsequent to the 9-1-1 call has corrected the issue.

Questions?