AT&T Wireless E911 CCS Network Interface Specification/SS7 IAM Parameters

May 1, 2018

1. Wireless E911 Service

1.1 Introduction

AT&T is using common channel signaling (CCS) technology to support Wireless E911 service. Wireless E911 service will enable wireless carriers to comply with the FCC mandate for providing an Enhanced 911 service to wireless users that is equivalent to the service provided to landline users. The FCC Docket 94-102 requires wireless carriers to make E911 service available in two phases. The first phase (Phase I) requires each wireless carrier to provide a caller's call back number (CBN) and location (serving cell site or sector) to a Public Safety Answering Point (PSAP) when the caller makes a 911 call. The second phase (Phase II) requires each wireless carrier to be able to locate a caller to within a 125 meter radius. In Phase II, wireless carriers will use longitude and latitude coordinates to identify the caller's location to a PSAP. Wireless carriers must make Phase II available by October 2001.

Wireless E911 service supports Phases I and II by allowing a wireless carrier to send the caller's CBN and Emergency Services Routing Digits (ESRD) directly to an E911 tandem switch. The ESRD identifies the cell site/sector and it consists of 10 digits. The Phase II position is provided over an E2 interface as defined in J-STD-036. The ISUP procedures defined in this document will be expanded in the future to allow an AT&T E911 tandem switch to receive a caller's coordinates in a Calling Geodetic Location parameter.

1.2 Reason for Revision

If this document is revised, this section will summarize the change(s).

- 5/1/2018 Removed a Pacific Bell/Nevada Bell publication from 1.3
- 5/1/2018 Merged this document with "Wireless SS7 IAM Parameters" document to create a single document

1.3 Organization of this Document

This document is to be used in conjunction with the following publications:

- GR-905-CORE, *Common Channel Signaling Network Interface Specification Supporting Network Interconnection, Message Transfer Part (MTP), and ISDN User Part (ISUP),* Bellcore, Issue 2, Revision 2, December 1998
- GR-1434-CORE, *Common Channel Signaling Interface Specification Supporting Wireless Service Providers (WSPs),* Bellcore, Issue 3, December 1998
- GR-145-CORE, *Compatibility Information for Interconnection of a Wireless Service Provider with a Local Exchange Network*, Bellcore, Issue 2, May 1998.

The specifications contained in this document will be incorporated into the AT&T Common Channel Signaling Network Interface Specification when it is issued.

Wireless E911 interconnection requirements are defined for the CCS network interconnection architecture and the interface protocol for call setup.

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2. CCS Network Interconnection Architecture

Common Channel Signaling (ISUP) for Wireless E911 is only supported for Type 2C (trunks to an AT&T E911 tandem switch) interconnection as defined in GR-145-CORE. The Type 2C trunks shall be dedicated for Wireless E911 traffic.

3. Interface Protocol for Call Setup

A wireless carrier shall send an Initial Address Message (IAM) containing the following parameters when sending a wireless E911 call to an AT&T E911 tandem.

- Calling Party Number Parameter
- Called Party Number Parameter
- Generic Digits (GDP) Parameter
- Charge Number Parameter
- Calling Party Category Parameter
- Originating Line Information Parameter

3.1 Calling Party Number Parameter

The Calling Party Number parameter shall contain the caller's CBN. Calling Party Number is a required parameter in the IAM.

3.2 Called Party Number Parameter

The Called Party Number parameter shall contain the digits "911" or an ESRD. The Called Party Number parameter includes the digits "911" when the ESRD is provided in the Generic Digits parameter. The Called Party Number parameter contains the ESRD when the Generic Digits parameter is not used.

The wireless carrier shall specify the contents of the Called Party Number (i.e., the digits "911" or an ESRD) at the time the trunk is ordered. Once a trunk is provisioned, the wireless carrier shall adhere to their choice (i.e., a trunk cannot signal the digits "911" for one call and an ESRD for another call).

Called Party Number is a required parameter in the IAM.

3.3 Generic Digits Parameter

The Generic Digits parameter shall contain an ESRD. The type of digits field in the Generic Digits parameter shall be coded 01101 for cell site and sector identification.

A Generic Digits parameter is conditionally required in the IAM. A Generic Digits parameter shall be included in the IAM when a wireless carrier chooses to send the digits "911" in the Called Party Number parameter.

The wireless carrier shall specify whether a Generic Digits parameter will be included in the IAM at the time the trunk is ordered.

3.4 Charge Number Parameter If present, the Charge Number parameter shall contain the caller's CBN. Charge Number is an optional parameter in the IAM.

3.5 Calling Party Category Parameter

The Calling Party Category parameter shall be coded as 11100000 for "emergency service call." Calling Party Category is a required parameter in the IAM[1].

3.6 Originating Line Information Parameter

The Originating Line Information parameter shall be coded either as 00111101 for "cellular services (type1)," 00111110 for "cellular services (type2)," or 00111111 for "cellular services (roaming)."

Originating Line Information is a required parameter in the IAM[2].

[1] The Calling Party Category parameter encoding "emergency service call" is not required on all E911 tandem switches and may be waived in some instances. Wireless carriers seeking to waive this requirement should consult their AT&T representative.

[2] The Originating Line parameter is not required on all E911 tandem switches and may be waived in some instances. Wireless carriers seeking to waive this requirement should consult their AT&T representative.

WIRELESS SS7 IAM PARAMETERS

NCAS (Wireline Compatibility Mode) ESRK (pANI) in the Calling Party Number.

Called Number	= Digits of "11", or "911"
Calling Party Number	= ESRK
Charge Number (optional)	= ESRK (if included)
Calling Party Category	= Emergency Call
OLI	= 00 only, DO NOT SEND 61 or 62
GDP	= DO NOT SEND

Note: DMS100 E911SIG = E911_STD

CAS (Includes HCAS) with the ESRD (pANI) in the GDP.

Called Number	= Digits of “11”, or “911”
Calling Party Number	= MDN (Callback Number)
Charge Number (optional)	= MDN (if included)
Calling Party Category	= Emergency Call
OLI	= 61 or 62
GDP	= ESRD

Note: DMS100 E911SIG = WRLS_STD

CAS (Includes HCAS) with the ESRD (pANI) in the Called Number.

(CAS signaling to be used when the MSC does not support the GDP.)

Called Number	= ESRD
Calling Party Number	= MDN (Callback)
Charge Number (optional)	= MDN (Callback if included)
Calling Party Category	= Emergency Call
OLI	= 61 or 62
GDP	= DO NOT SEND

Note: DMS100 E911SIG = WRLS_CLD