Arizona
Wireless ALI Record
Standards

Document Description and Purpose

Following is a description of the ALI Record fields relevant to Phase I & Phase II wireless service. The requirements set forth in this document constitute the "standards" established for all Phase I & II ALI Records in the State of Arizona. Covered is 1) content, i.e., what verbiage is to be used in particular fields, and 2) positioning, i.e., which field will be used to populate the content.

It is the intent of the State of Arizona's 9-1-1 Office to provision each PSAP with CenturyLink's 30W ALI data stream before the turn-up of Phase I or Phase II service. Therefore, these standards have developed around the 30W format.

These standards are intended for the use of Arizona's public safety community; the wireless service providers (WSP); as well as, the 9-1-1 database providers.

Finally, these standards have been developed during a period when no national standards are in place. Should national standards be developed and approved, Arizona's 9-1-1 Office will evaluate those standards and make modifications to AZ's standards as deemed appropriate.

Positioning of Data

In order to be ready for the future XML wireless format, AZ's standards call for parsing of data, or populating fields with their respective content.

Example: 123 ½ E Main St Omni

Correct Positioning:

House Number Field:	123
House Number Suffix Field	½
Prefix Directional Field:	E
Street Name Field 1:	Main St Omni*

Incorrect Positioning:

Street Name Field 1:	123 ½ E Main St Omni

* *Note: CenturyLink's 30W ALI data stream does not contain a unique or discretionary field for the direction of the tower sector. Therefore, that information should follow the name of the street in the Street Name 1 field.*

Arizona
Wireless ALI Record
Standards

Capitalization & Punctuation

Capitalization and punctuation shall be used in the following ways:

Capitalization

Acronyms and initialisms (acronyms that are not pronounceable) should be all capitals. Example:

AZ	(Arizona)
PCS	(Personal Communications Service)
WRLS	(Wireless)

Abbreviations – The first letter of an abbreviation should be capitalized, followed by lower case letters. Example:

Ave	(Avenue)
Blvd	(Boulevard)
E	(East)
Hwy	(Highway)
St	(Street)

Punctuation

Although correct English calls for "periods" after abbreviations, they will not be used on the ALI Records. Example:

Ave	(Avenue)
NE	(North East)
PD	(Police Department)
SO	(Sheriff's Office)

Note: Intrado can use caps and lower case as defined above with NCAS solutions. However, the ALI Records of those carriers using the WID solution can only be all caps.

Note: The customer name field is delivered from Intrado's ALI system (it is part of the shell record). This system can only deliver all caps. Therefore, all carriers who are Intrado clients will have their name formatted with all caps (rather than the way the standards designate).

Arizona
Wireless ALI Record
Standards

30W ALI Data Stream Fields

Below are the fields in the 30W ALI data stream that the 9-1-1 system's Wireless Administrator should have input regarding how they are populated.

Customer Name Field
House Number Field
House Number Suffix Field
Prefix Directional Field
Street Name Field 1
Street Name Field 2
State Field
City Field (a.k.a. Community Field)
Locality Field (a.k.a. PSAP= Field)
Police Field (ELT section)
Fire Field (ELT section)
Meds Field (ELT section)

Customer Name Field

This field will be populated with the name of the wireless service provider (WSP). If the carrier in question provides wire line and wireless service, then the name should designate that this is the carrier's wireless service.

Example: Sprint PCS (not just Sprint)

Additionally, following the customer name, the 24x7 telephone number for the provider's security division should also appear. If the provider does not have a security number, then the repair number will be shown instead.

Example: Verizon WRLS _ _ _-_ _ _ -_ _ _ _ (10-digit telephone number)

How each carrier's name and number should appear is found further on in this document in the section titled "Wireless Service Providers Name Standards".

Note: Due to a limited amount of characters allowed in the Customer Name Field (there are 28), abbreviations may be necessary.

Arizona
Wireless ALI Record
Standards

Responsible Party:

The wireless service provider and/or their database vendor, is responsible to ensure that their name, and 24x7 security number, is displayed as described here and in the final section of this document.

It is also the responsibility of the wireless service provider to notify the State of Arizona's 9-1-1 Office at 602-771-0911 if their name or security number changes. This notification will need to be followed by the WSP, and/or their representative, altering the file that contains the information in the "Customer Name" field.

Fields Associated with the Cell Site Street Address

Following are the fields that may be used to identify the cell site address.

- House Number Field
- House Number Suffix Field
- Prefix Directional Field
- Street Name Field 1
- Street Name Field 2 (*)

These fields will be used to identify the location of the cell site that is generating the 9-1-1 call. That site will be identified in one of the following ways:

- MSAG valid, legal street address (preferable)
- Intersection
- Descriptor (ex: .Pike's Peak, Mummy Mountain)

Regardless of whether the location is identified by a legal street address, intersection, or descriptor, the information should be followed by a description of the cell sector's coverage area. Specifically:

If the cellular tower:

- Has only one sector then the word "Omni" shall follow the street name
  Example: Mummy Mountain Omni
- Has 2 or more sectors, then the direction of that sector shall follow the street name
  Example: 123 E Main St NW
  Example: I10 – Camelback Rd E

(*) Note: Street Name Field 2 has no specific use, other than to be used (as necessary) for the continuation of the address in Street Name Field 1. If it is not needed for the continuation of the address, this field can be used to further describe the address or cell site/sector. It is important to note, however, that although Street Name Field 2 is part of CenturyLink's 30W ALI data stream, not all database providers have it provisioned, and in turn, display it. Therefore, discussion with the database provider is necessary before requesting that information be placed in this field.

Responsible Party:

The 9-1-1 Wireless Administrator is responsible to advise the WSP, and/or their database representative, how this field should be populated. The Wireless Administrator is also responsible to ensure that the street name entry is MSAG valid.

The WSP, and/or their representative, is responsible to ensure that the ALI Record is populated as advised.

City Field (a.k.a. Community Field)

The City Field is used to identify the cell site along with the community name associated to the cell tower address and/or location. While this field may not be useful to the 9-1-1 call taker, it can be used by the 9-1-1 Wireless Administrator as part of their cell tower management.

Due to advances in technology, the formatting of this field may vary. Before populating the City Field, verify the type of technology being utilized by the wireless carrier.

With traditional wireless technologies (CDMA, UMTS, GSM), **the first eleven characters (9 numbers and 2 dashes) of the field are to identify the particular cell site, cell sector, and Switch ID**. These 3 components will be separated by a "dash" (-) and be sequenced in the order described above. The eleven characters will be followed by a "comma" (,), "blank space", and then the community name related to the cell site address.

Example: 00103-1-001, Sedona
00103 = cell site
1 = cell sector
001 = switch ID

In most cases, the cell sector should be represented in the following way.

0 = Omni
1 = Alpha
2 = Beta
3 = Gamma

In some instances, a wireless carrier will use "4" as a sector ID. When this occurs, "4" should be populated in the community field in the "cell sector" location. When these sectors are used:

Example: 00103-4-001, Sedona

Also, when multiple technologies are in use by the wireless carrier, the WSP may use 7, 8, and 9 in place of 1, 2, and 3 when the sector uses multiple air interfaces. These should also be represented in the "cell sector" location.

7 = Alpha
8 = Beta
9 = Gamma
Example: 00103-8-001, Sedona

Note: Some naming schemes do not use 0 through 3 to represent cell sectors. Rather, they use X, Y, Z or A, B, C. These alternate representations (letters) are not permitted.

Note: The Switch ID should not be confused with the MSC ID. The MSC is the Mobile Switching Center. Within the MSC (center) resides many actual switches. The MSC number (MSC ID) is the "center" the call came into and the Switch number (Switch ID) is the actual box that switches the 911 calls from the tower down the trunks to the Selective Router. The MSC ID is 5-digits, where the Switch ID is 3.

Note: Some 9-1-1 wireless systems may find that they have the same Switch ID for different WSPs. This is permissible.

Note: GSM technology does not use a switch ID. Therefore, in those instances that a carrier is using GSM, the switch ID should be represented as 000.

Note: There are a few instances where the carrier uses a numeric/alpha combination to represent the sector. For the purposes of the standards, we will not include the alpha character (only the numeric) in the community field.

Arizona
Wireless ALI Record
Standards

With new emerging technologies, such as Voice over Long-Term Evolution (VoLTE), changes in the network components may alter the identification of a cell site.

For example, in VoLTE, due to the routing functionality used for the delivery of the 9-1-1 call, an MSC and Switch ID are no longer used. The cell site and cell sector are identified as part of a hexadecimal code associated to the network. The cell site and cell sector may comprise of the first seven (7) characters of the code**; the particular cell site in the first five (5) characters and the cell sector in the next two (2) characters**. For the purposes of the ALI, these two components will be separated by a "dash" (-) and be sequenced in the order described. The eight characters (seven numbers and one dash) will be followed by a "comma" (,), "blank space", and then the community name related to the cell site address.

Example: **0569e-01, Sedona**
0569e = cell site
01 = cell sector

Hexadecimal codes may vary between carriers; therefore, the instructions provided should be considered a guideline. As new technologies for the delivery of wireless 9-1-1 calls develop, for the purposes of a wireless ALI standard, the cell site and cell sector information, if present, will be separated by a "dash", followed by a "comma" (,), "blank space", and then the community name related to the cell site address.

Responsible Party:

The WSP, and/or their representative, will provide the 9-1-1 Wireless Administrator information to assist in the development of the cell site, cell sector, and Switch ID section of this field where appropriate. The 9-1-1 Wireless Administrator will consider that information in the formation of this field, with the final call regarding how this field will be populated falling to the Administrator.

The WSP, and/or their representative, is responsible to ensure that the ALI Record is populated as advised.

Arizona
Wireless ALI Record
Standards

State Field

This field shall be populated with "AZ".

Responsible Party:

It should be understood that AZ will be populated in this field. In those rare instances, however, where the cell site address falls in an adjoining state, it is the 9-1-1 Wireless Administrator's responsibility to identify and pass the state abbreviation to the WSP, and/or their representative. The WSP, and/or their representative, is responsible to ensure that the ALI Record is populated as advised.

Class of Service Field

In Arizona, the class of service (COS) standards are as follows:

COS	Application
CELL	Not used in Arizona.
MOBL	Phase 0.5
WRLS	Phase 1
WPH1	Phase II, the calling party's X/Y coordinates cannot be sent. Instead, the coordinates of the cell site are received.
WPH2	Phase II, the calling party's X/Y coordinates are sent.

Responsible Party:

The wireless service provider will manage this field via the "External Security/MPC Cross Table Update Form

Arizona
Wireless ALI Record
Standards

Company ID Field

Because this field is necessary to correctly collect and report data on CenturyLink's Wireless Metrics Report, the State of Arizona considers this a required field. This field must be populated with each wireless service provider's unique Company ID (a.k.a., NENA ID).

Responsible Party:

The wireless service provider is responsible to secure a company ID and ensure that it is embedded in the ALI data stream.

Location Field

In an NCAS solution the location field will carry the calling party's ten-digit call back number. The call back number should be proceeded with "CALLBK =".

Note: this rule does not apply to WID (Wireless Integration Device) solutions.

Responsible Party:

The wireless service provider will manage this field via the "External Security/MPC Cross Table Update Form".

ELT (English Language Translations) Field

The ELTs are established per wireless ESN. They shall read:

Police:	Verify Police
Fire:	Verify Fire
Meds:	Verify Meds

Responsible Party:

The MSAG Coordinator is responsible to pass the ELTs (as defined above) to Intrado when they secure the wireless ESN(s).

Locality Field

The Locality Field is established per wireless ESN.

The Locality Field is displayed just above the ELT section of the ALI Record. It should begin "PSAP=".

This section should be populated with the name of the PSAP that should receive the call if the call is able to route correctly. Example: PSAP=Coolidge PD.

There are 25 characters available to populate the PSAP name. This field will use the abbreviations – PD, SO, MO etc. However, the name of the PSAP/jurisdiction (such as Yuma County) should contain as few abbreviations as possible. A list of how names should appear in this field can be found further on in this document – titled "PSAP Name Standards".

Note: There are 25 characters available to define the PSAP name. Some Plant (PEI) systems insert an indent or space before the PSAP name. Therefore, instead of the 26 characters that would otherwise be available, there are only 25.

Note: CenturyLink and Intrado have a requirement that the first four characters following "PSAP=" must be unique. Therefore, there may be a few instances where the name of the PSAP is represented with initials, in addition the full PSAP name. For instance,

Yuma PD	*PSAP=YUPD--Yuma PD*
Yuma County SO	*PSAP=Yuma County SO*

Responsible Party:

The MSAG Coordinator is responsible to pass the PSAP name that populates this field (as defined further on in this document) to Intrado when they secure the wireless ESN(s).

Arizona
Wireless ALI Record
Standards

Wireless Service Providers
Name Standards

Below are the wireless service providers, and how their name should appear in the Customer Name Field.

Note: There are 28 characters available in the Customer Name Field

Company Name	Customer Name Field	# of Characters
AT&T Mobility	AT&T Mobility 800-635-6840	26
Cellular One of NE AZ	Cellular1 NE AZ 928-532-0082	28
Commnet Wireless	Commnet WRLS 720-733-5360	25
Cricket Communications	Cricket 858-882-9301	20
Flat Wireless (aka Cleartalk)	Cleartalk 760-234-0010	22
Sprint PCS	Sprint PCS 866-398-3284	23
T-Mobile USA	T-Mobile USA 877-653-7911	25
Verizon Wireless	Verizon WRLS 800-451-5242	25

Arizona
Wireless ALI Record
Standards

PSAP Name Standards

Below are the names of the PSAPs as they should appear in the locality field. These names will follow "PSAP=". **There should be no other entries other than shown below**.

Note: There are 25 characters available to define the PSAP name.

Note: CenturyLink and Intrado have a requirement that the first four characters following "PSAP=" must be unique. Therefore, there may be a few instances where the name of the PSAP is represented with initials, in addition the full PSAP name. For instance,

Yuma PD *PSAP=YUPD-Yuma PD*
Yuma County SO *PSAP=Yuma County SO*

Wireless 9-1-1 System PSAP	Name on ALI Record	# of Characters
Apache County		
Apache County SO	Apache County SO	16
Coconino County		
Coconino SO/Flagstaff PD	Coconino SO Flagstaff PD	24
Dept. of Public Safety	Flagstaff-DPS	13
Grand Canyon National Park Service	Grand Canyon Natl Park	22
Williams PD	Williams PD	11
Cochise County		
Benson PD	Benson PD	9
Bisbee PD	Bisbee PD	9
Cochise SO	Cochise County SO	17
Douglas PD	Douglas PD	10
Fort Huachuca FD	Fort Huachuca FD	16
Huachuca City PD	Huachuca City PD	16
Sierra Vista PD	Sierra Vista PD	15
Willcox PD	Willcox PD	10

Arizona
Wireless ALI Record
Standards

Gila County		
Gila SO, Globe	GCSO Gila County SO Globe	25
Gila SO, Payson	Gila County SO Payson	21
Globe PD	Globe PD	8
Payson PD	Payson PD	9
Gila River Indian Community		
Gila River Indian Comm.	Gila River Indian Commnty	25
Graham County		
Graham County SO	Graham County SO	16
Greenlee County		
Clifton PD	Clifton PD	10
Greenlee SO	Greenlee County SO	18
La Paz County		
La Paz County SO	La Paz County SO	16
Maricopa Region 9-1-1		
Apache Junction PD	Apache Junction PD	18
Avondale PD	Avondale PD	11
AZ State University PD	ASU PD	6
Buckeye PD	Buckeye PD	10
Capitol PD	Capitol PD	10
Chandler PD	Chandler PD	11
Dept. of Public Safety	DPS-Phoenix	11
El Mirage PD	El Mirage PD	12
Ft McDowell PD	Ft McDowell PD	14
Gilbert PD	Gilbert PD	10
Glendale PD	Glendale PD	11
Goodyear PD	Goodyear PD	11
Luke Air Force Base	Luke AFB	8
Maricopa County SO	Maricopa County SO	18
Mesa PD	Mesa PD	7
Paradise Valley PD	Paradise Valley PD	18
Peoria PD	Peoria PD	9
Phoenix FD	PFD Phoenix FD	14
Phoenix PD	Phoenix PD	10
Rural Metro FD	Rural Metro FD-Phoenix	22
Salt River Tribal PD	Salt River Tribal PD	20
Scottsdale PD	Scottsdale PD	13

Surprise PD	Surprise PD	11
Tempe PD	Tempe PD	8
Tolleson PD	Tolleson PD	11
Wickenburg PD	Wickenburg PD	13
Mohave County		
Bullhead City PD	Bullhead City PD	16
Colorado City PD	Colorado City PD	16
Kingman PD	Kingman PD	10
Lake Havasu City PD	Lake Havasu City PD	19
Mohave County SO	Mohave County SO	16
Navajo County		
Navajo County SO	Navajo County SO	16
Pinetop-Lakeside PD	Pinetop-Lakeside PD	19
Show Low PD	Show Low PD	11
Snowflake-Taylor PD	Snowflake-Taylor PD	19
Whiteriver PD	Whiteriver PD	13
Page, City of		
Glen Canyon National Park Service	Glen Canyon Natl Park Svc	25
Page PD	Page PD	7
Pima County		
Marana PD	Marana PD	9
Oro Valley PD	Oro Valley PD	13
Pima County SD, Ajo	PCSD Pima County SD Ajo	23
Pima County SD, Tucson	Pima County SD Tucson	21
Tucson E911	City of Tucson	14
Pinal County		
Casa Grande PD	Casa Grande PD	14
Coolidge PD	Coolidge PD	11
Eloy PD	Eloy PD	7
Florence PD	Florence PD	11
Pinal County SO	Pinal County SO	15
Santa Cruz County		
Nogales PD	Nogales PD	10
Santa Cruz County SO	Santa Cruz County SO	20

Arizona
Wireless ALI Record
Standards

Winslow, City of		
Winslow PD	Winslow PD	10
Winslow FD	WFD-Winslow FD	14

Arizona
Wireless ALI Record
Standards

Yavapai County		
Camp Verde MO	Camp Verde MO	13
Cottonwood PD	Cottonwood PD	13
Prescott PD	Prescott PD	11
Sedona FD	Sedona FD	9
Sedona PD	SPD-Sedona PD	13
Yavapai SO	Yavapai County SO	17
Yuma County		
Somerton PD	Somerton PD	11
Yuma PD	Yuma PD	7
Yuma SO	YCSO-Yuma County SO	19