

What a GIS “Dispatch  
Mapping” Provider  
Needs from others  
involved in Wireless  
E911

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## What a PSAP needs to plot W911 calls on a GIS map:

- A competent GIS system with decent map data behind it.
  - *(Attend our break-out later for more details on this)*
- A link between the ALI controller and the GIS “dispatch mapping” software over which the W911 ALI data would be sent to the GIS mapping system

# What a PSAP needs to plot W911 calls on a GIS map:

- For Phase 1:
  - A predictable set of data (p/ANI or consistent location text) under which to “file and retrieve” cell site/sector coverage polygons.
  - This data must be provided well in advance to the GIS system so that the GIS map developer or maintainer can build in a cell site/sector coverage depiction.
  - A phase 1 sector coverage polygon can look like this on a “dispatch mapping” screen:

Approximate coverage provided by the North facing sector of this cell site:

The screenshot displays the GeoLynx Locator Map interface. The main map shows a street grid in Ada, MN, with a yellow semi-circular coverage area centered on a cell tower icon. A red star icon is also present on the map. The text 'Ada' is prominently displayed in the center of the map. The interface includes a toolbar at the bottom with icons for Zoom In, Zoom Out, Pan, View Select, Call Log, Air Photo Off, Map Inset, Lynx Track, Information, Center Map, Print Map, Clear Calls, Measure, Setup, Auto Fax, and Find GPS. On the right side, there is an Overview map, an address input field, and sections for Caller Information, Responders, and call details.

**GeoLynx**  
GeoLynx Locator Map

Overview

Enter Address to Locate:

**Caller Information**  
\*\*\* CELL TOWER ADDRESS \*\*\*  
101 3RD AVE SOUTH  
ADA, MN  
TOWER NORTH FACE

**Responders:**  
ESH 9999  
VERIFY FIRE  
VERIFY LAW  
VERIFY MEDICAL

XXXXXXXXXX WIRELESS E911 CALL XXXXXXXXXXXX  
Verify Location And Callback Number  
Callback Number: (651) 247 - 6067

X: -96.51607 Y: 47.294963

**9-1-1**  
POLICE • MEDICAL • FIRE  
EMERGENCY  
**NENA**

**9-1-1**  
**CRITICAL**  
**ISSUES**  
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# What a PSAP needs to plot W911 calls on a GIS map:

- For Phase 2:
  - The caller's latitude and longitude in a consistent and predictable format, always in the same place in the ALI record.
  - Including Phase 1 data also is a plus.
  - Then a Phase 2 caller's location can be plotted to the level of accuracy inherent in the data provided by the wireless carrier in the following manner:

Caller's  
Location

Based on  
Lat/Long  
provided

**GeoLynx**  
GeoLynx Locator Map

Donaldsonville

185 Av, 180 Av, 170 Av, 160 Av, 150 Av, 190 Av, 280 St, 290 St, 300 St, Co Hwy 24, Co Hwy 27, Co Hwy 142, State Hwy 9

SHERIFF

X: -96.488488 Y: 47.235546

Overview

Enter Address to Locate:

**Caller Information**  
\*\*\* CELL TOWER ADDRESS \*\*\*  
101 3RD AVE SOUTH  
ADA, MN  
VERIFY LOCATION

**Responders:**  
ESH 9999  
VERIFY FIRE  
VERIFY LAW  
VERIFY MEDICAL

\*\*\*\*\* WIRELESS E911 CALL \*\*\*\*\*  
Verify Location And Callback Number  
Callback Number: (651) 247 - 6067  
X = -96.472523 Y = 47.257906

Zoom In, Zoom Out, Pan, View Select, Call Log, Air Photo Off, Map Inset, Lynx Track, Information, Center Map, Print Map, Clear Calls, Measure, Setup, Auto Fax, Find GPS

Lat/Long provider by carrier in ALI data packet

- The following are the forms GeoComm has its customers use to collect the information from the carriers for plotting Phase 1 calls.

**Cell site/sector coverage data sheet**  
 In the spaces below, please provide the requested information.

Wireless carrier name: \_\_\_\_\_ Contact person: \_\_\_\_\_  
 Tel#: \_\_\_\_\_ E-mail: \_\_\_\_\_ Generic location name for this site: \_\_\_\_\_

Identifier number for this site (if any): \_\_\_\_\_ Omni directional  or sectorized  (please check one)

Type of service at this site:  800 Mhz. AMPS  1.9 Gmz PCS  800 Mhz. ESMRS

Latitude/longitude of the tower: \_\_\_\_\_°N. Latitude x \_\_\_\_\_° Degrees W. Longitude

Tower elevation above the ground: \_\_\_\_\_ ft.

Plain English of desired coverage area: \_\_\_\_\_

Address of the tower (if any) : \_\_\_\_\_ City: \_\_\_\_\_, State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Will carrier be employing ESRD/pANI method or ESRK method?** \_\_\_\_\_ ESRD \_\_\_\_\_ pANI

*(Note: ESRD/pANI method implies that a digit string [Pseudo ANI =p/ANI] specific to the cell site or sector will be sent to the 911 network with the 911 call and that digit string will be used to selectively route the call within the 911 network and to retrieve a record from the E911 ALI database which will contain site and sector text info as well as caller's MDN info. The ESRK method assumes that all 911 calls destined for a given 911 center will carry the same ESRK and that the 911 center will use that ESRK to retrieve ALI data which will contain info such as the lat/long of the cell site from the E911 ALI database.)*

**If omni**, E911 p/ANI or ESRD number sequence applied to this site: \_\_\_\_\_ to \_\_\_\_\_ or the lat/long and other text data that will be returned with the ALI under the ERSK method : \_\_\_\_\_ (use the exact format, please)

**If sectorized:**

- a. Direction/azimuth of sector 1: \_\_\_\_\_° ; p/ANI sequence: \_\_\_\_\_ to \_\_\_\_\_
- b. Direction/azimuth of sector 2: \_\_\_\_\_° ; p/ANI sequence: \_\_\_\_\_ to \_\_\_\_\_
- c. Direction/azimuth of sector 3: \_\_\_\_\_° ; p/ANI sequence: \_\_\_\_\_ to \_\_\_\_\_
- d. Direction/azimuth of sector 4: \_\_\_\_\_° ; p/ANI sequence: \_\_\_\_\_ to \_\_\_\_\_

Or, if ESRK method is used, please provide the exact lat/long the each sector as well as the unique sector identified in the exact format it will be in the ALI record:

(EXAMPLE: 44.1234 87.4567 3NNE) [Decimal latitude, space, longitude, space, N3 = 3 faces, NNE = this is the face oriented North Northeast]

**If sectorized:** General English descriptor of area covered by a sector (e.g. "I-94 S. of Hwy 27") and the average "depth" of this sector's practical coverage. (i.e. "1.9 miles from tower")

- a. Sector 1: \_\_\_\_\_ Depth: \_\_\_\_\_
- b. Sector 2: \_\_\_\_\_ Depth: \_\_\_\_\_
- c. Sector 3: \_\_\_\_\_ Depth: \_\_\_\_\_
- d. Sector 4: \_\_\_\_\_ Depth: \_\_\_\_\_



That's all for now folks.

*Stop by and chat with  
Bob White of Plant  
Equipment and me  
during the break-outs for  
much more detail.*

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