



# 911 Misroutes

Why they are happening and how to fix them

Kansas 911 Coordinating Council Lunch and Learn

February 28, 2019

# What are 911 misroutes?

911 calls that go to the wrong PSAP

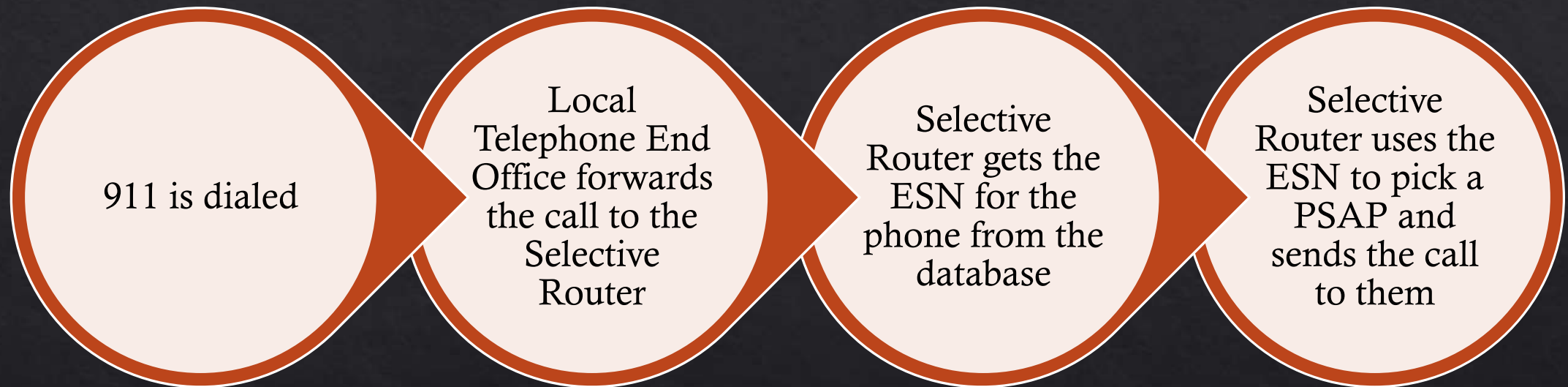
Call-takers might get name and location (ALI) or nothing but the call

Can be **land line, VoIP**, or wireless calls



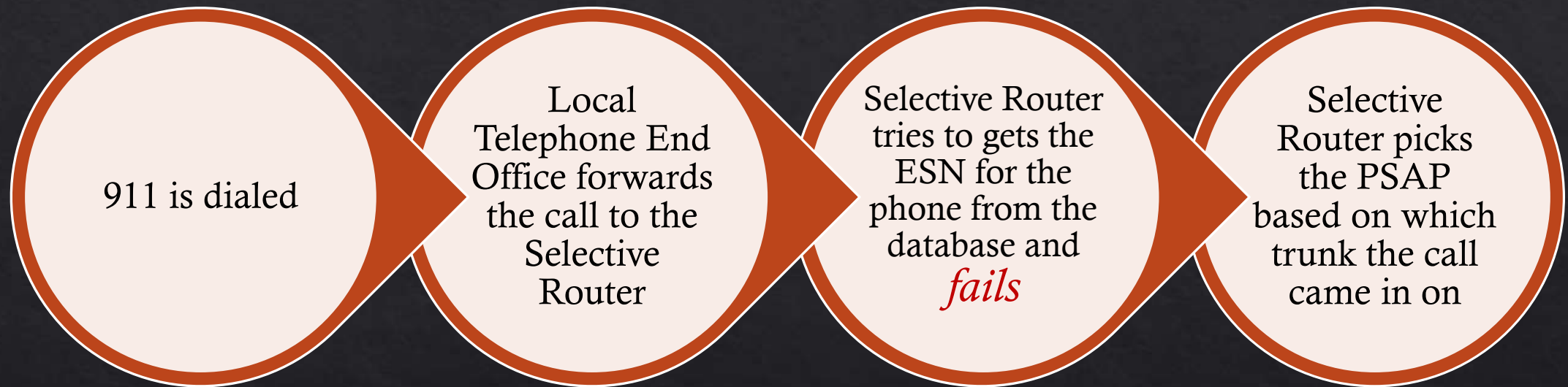
How do they happen?

# When legacy routing works



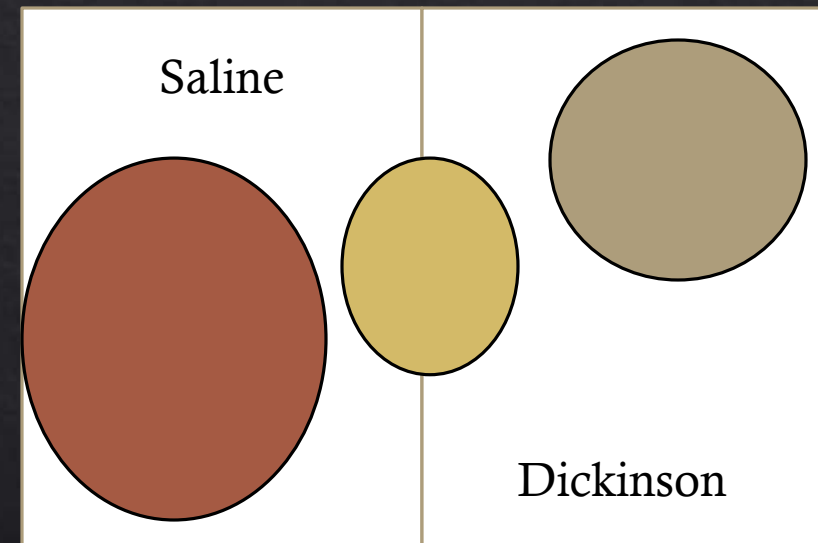
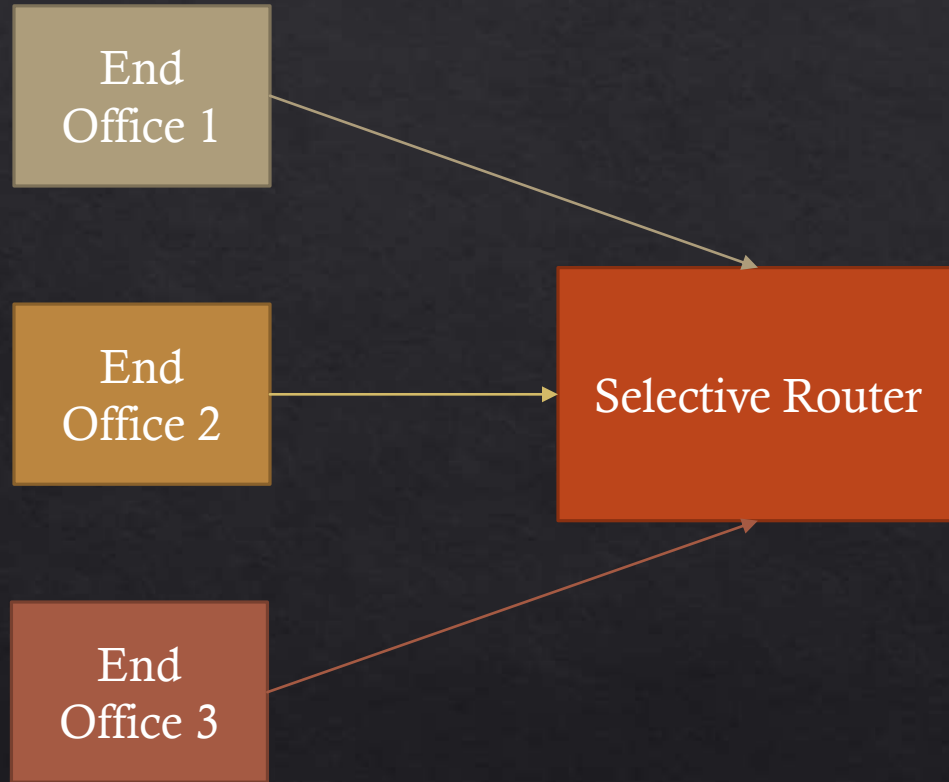
- End Office: Local telephone company equipment that provides dial tone service in a given area
- Selective Router: Telephone switch that allows for 911 call routing based on Emergency Service Numbers (ESNs)

# When legacy routing does not work

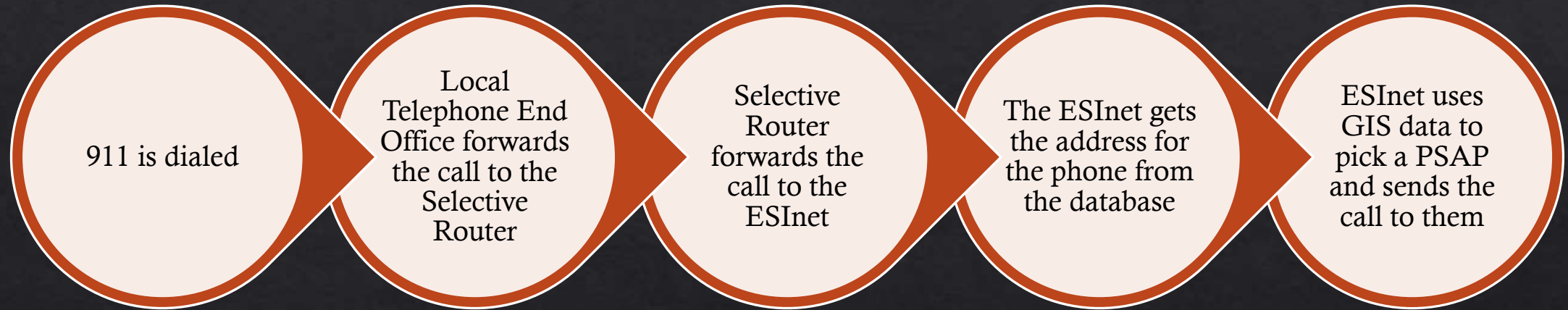


- Trunk: telephone line designed to carry many signals at once

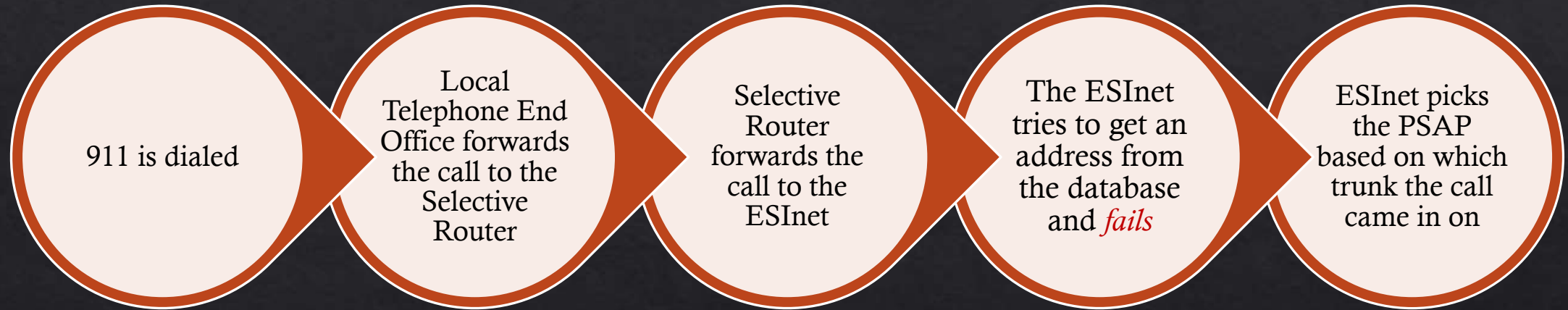
# Legacy routing fallback position



# When ESInet routing works

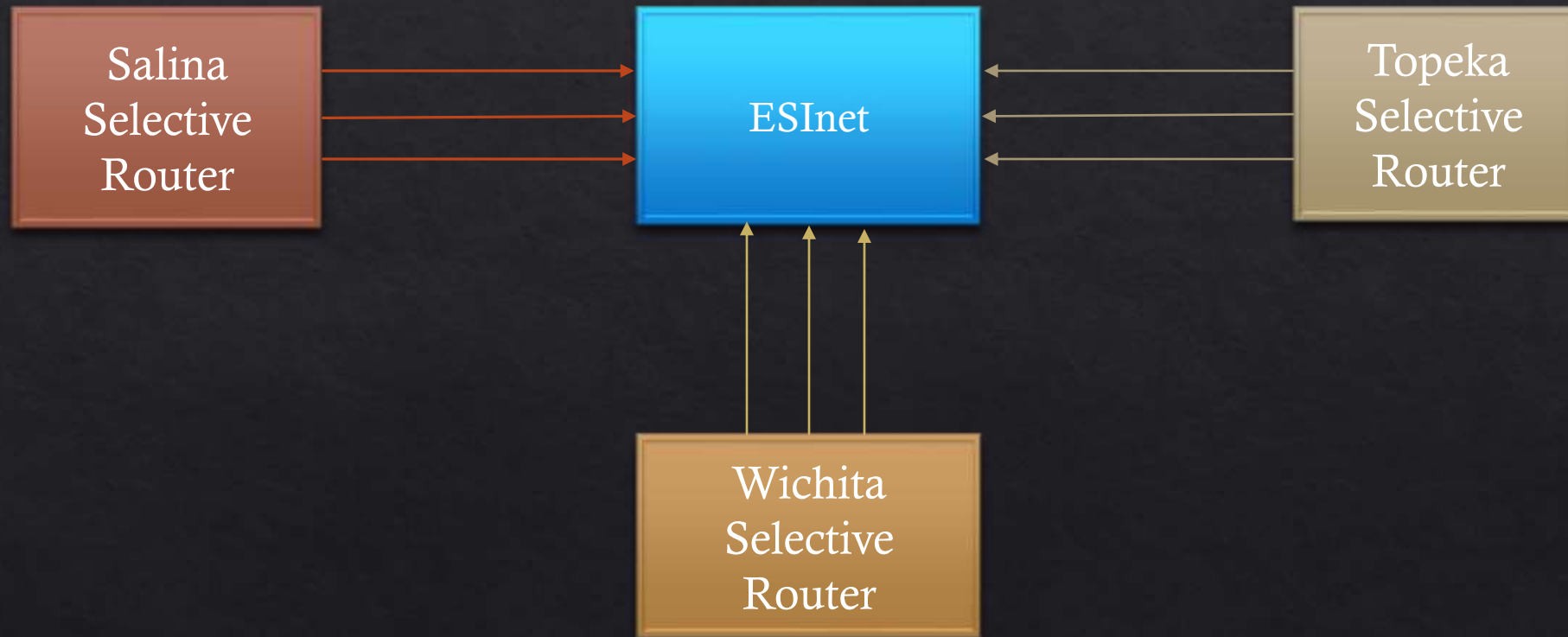


# When ESInet routing does not work





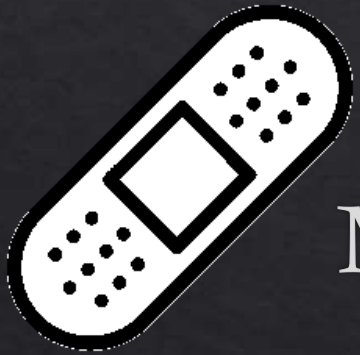
# ESI-net routing fallback position



# Bottom Line

Misrouted calls have a higher chance of ringing in the wrong PSAP with the ESI<sup>2</sup>net than they did with legacy routing

How do we fix them?

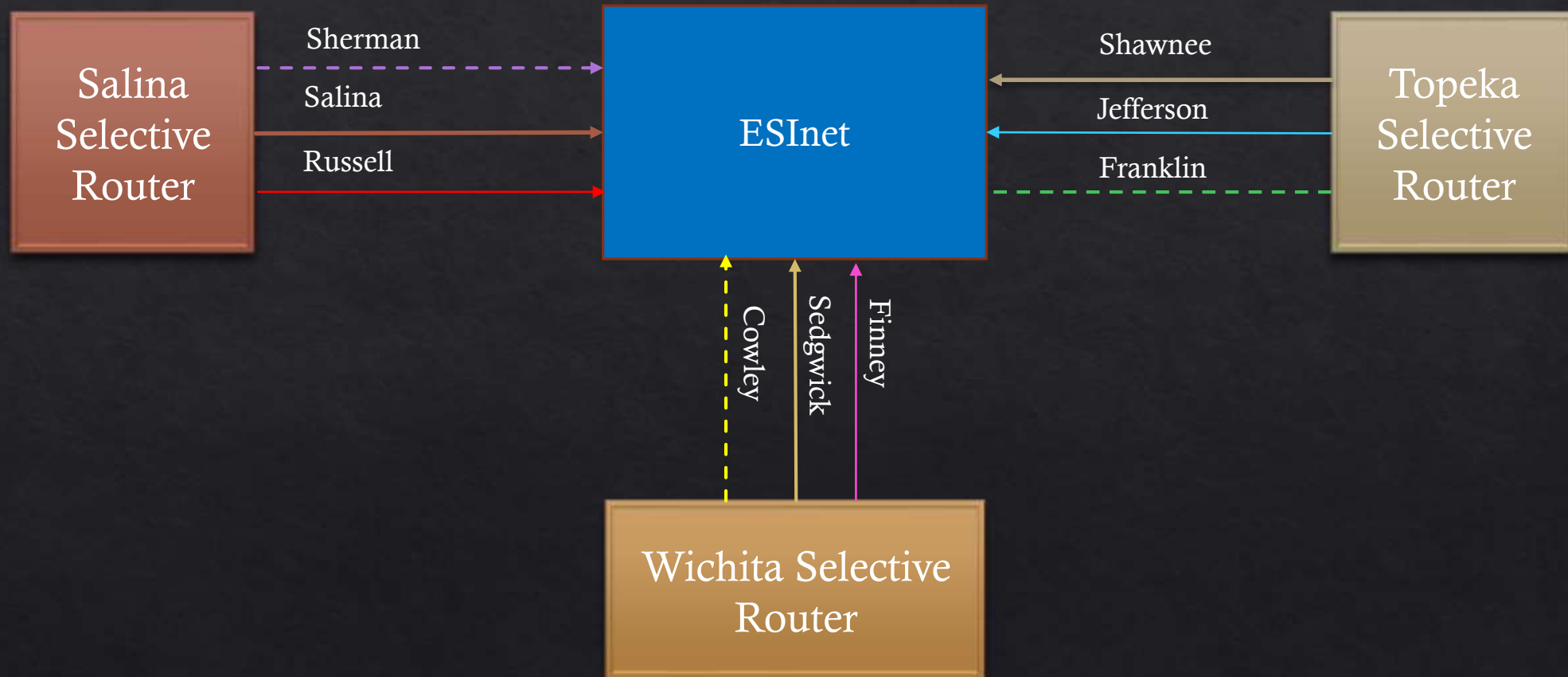


Make the fallback position more intelligent

Clean up the misrouted records



# New fallback position: Local Default Routes



# Local Default Routes

- ◆ PSAPs grouped into geographic areas, with the number of total 911 lines per group as a size limit
- ◆ One PSAP in each group is defined as “Default”
- ◆ All 911 calls for the group that fail to get information from the database will route to that Default PSAP
- ◆ Default PSAPs will get transfer buttons to each PSAP in their group



Cleaning Misrouted Records

=

Reporting misroutes to  
AT&T by submitting an ALI  
Discrepancy Report



ALI Discrepancy Reports,  
also known as ALI DRs,  
notify the telephone  
company there was a  
problem with a 911 call.

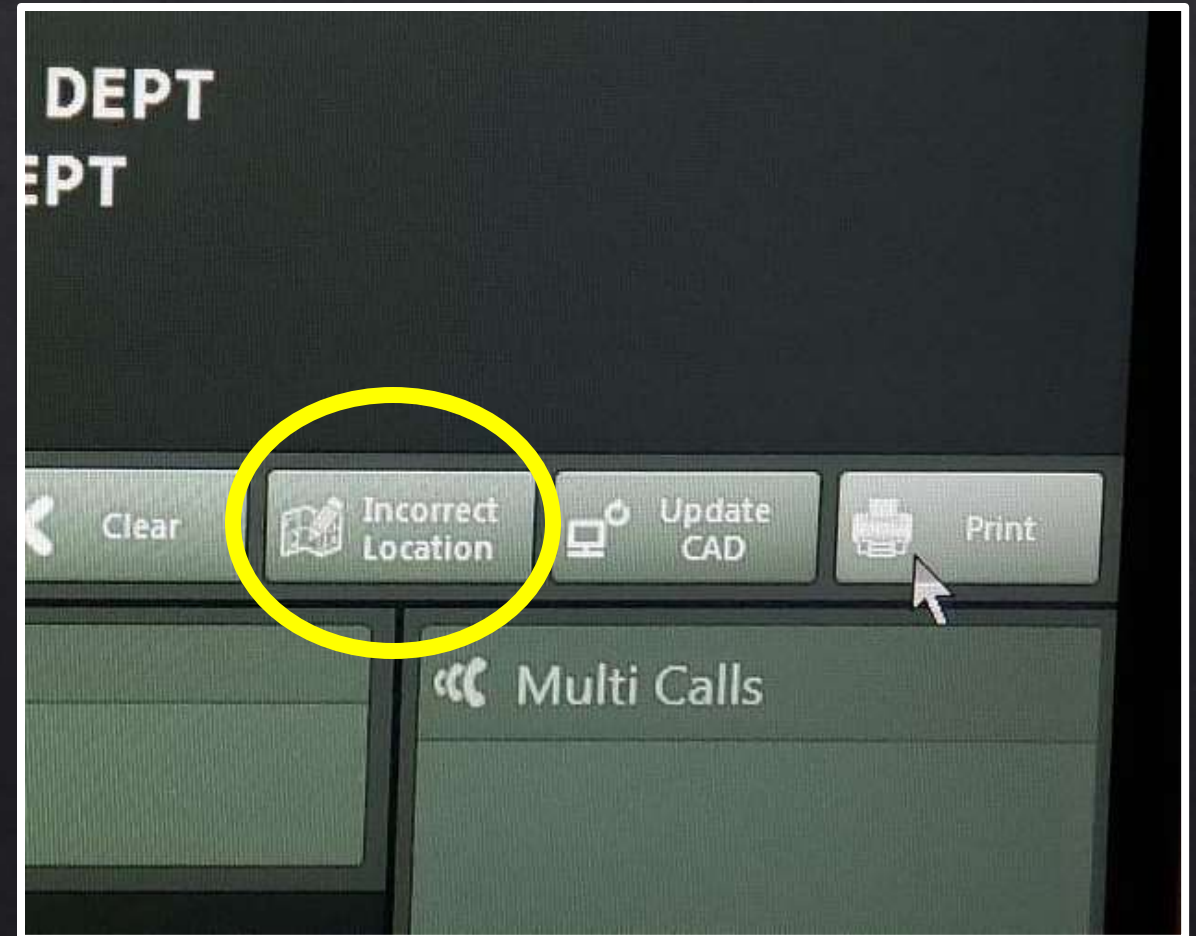
## When do you need an ALI DR?

- ◆ When no name/location info came through at all (known as No Record Found calls or NRFs)
- ◆ When the call should have come in at another agency
- ◆ When the address didn't come through or came through wrong
- ◆ When the caller says they've moved but the address on the telephone record hasn't updated



# Gathering the information you need

When a 911 call comes in with bad ALI or no ALI, call-takers should print a Call Information Report by clicking the Incorrect Location button



# Gathering the information you need, cont.

The Incorrect Location button opens a form first that you can fill out with corrected information. It says Submit, but it doesn't submit anything to anyone.

The screenshot shows a software window titled "Incorrect Location Information Report". The window contains a form with the following fields and options:

- Date/Time:** 2/19/2019 11:04:43
- Agency:** JeffersonCounty
- Calling Number:** 7858174153
- Agent:** jfco-1502
- Agent Extension:** 2069

**Problem**

- Insufficient/Incorrect Location Information
- Correct Location Information, no map display
- Correct Location Information, incorrect map display

Other

Calling Number incorrect. Change to

Location Information misrouted, route to

ESN incorrect. Change to

Address incorrect. Change to

At the bottom of the form, there is a large empty text area containing the letter "I".

Buttons: Submit, Cancel

Make sure the correct information is recorded. You can record it on the Incorrect Location form like this:

### Incorrect Location Information Report

222-999-9604 NO RECORD FOUND

#### Problem

Insufficient/Incorrect Location Information

Correct Location Information, no map display

Correct Location Information, incorrect map display

#### Remarks

440 state st, little river needling rice county psap

Or on the ANI/ALI Trouble Report form, which allows for more detail and result tracking

The ANI/ALI Trouble Report form will be available on the Council website



### ANI / ALI TROUBLE REPORT

Name of person submitting report for verification:	
Date of call:	Carrier Name:
Time of call:	Phone Type: Residential
Problem (be specific):	
<b>Information as Displayed on ANI / ALI Screen</b>	
ESN:	Phone Number:
Community:	
Name Displayed:	
Address of Landline:	
Address of Cellular Tower:	
Additional Information:	
<b>Corrected Information</b>	
ESN:	Phone Number:
Community:	
Name Displayed:	
Address of Landline:	
Address of Cellular Tower:	
Additional Information:	
<b>Notes</b>	
Date submitted:	
Person submitting report:	
Disposition:	

Once the information is collected, it must get to the person who can submit ALI DRs for your agency

ANI / ALI TROUBLE REPORT	
Name of person submitting report for verification:	S Massey
Date of call: 02/20/2019	Carrier Name: SWB
Time of call: 1317	Phone Type: Residential
Problem (be specific): Bad Address Information	
Information as Displayed on ANI / ALI Screen	
ESN: 1100	Phone Number: (785) 263-0134
Community: Abilene	
Name Displayed: Bob Smith	
Address of Landline: 507 NW 6th ST	
Address of Cellular Tower:	
Additional Information:	
Corrected Information	
ESN:	Phone Number:
Community:	
Name Displayed:	
Address of Landline: 1411 N Buckeye Ave	
Address of Cellular Tower:	
Additional Information:	
Notes	
Date submitted:	
Person submitting report:	
Disposition:	

# Who can submit ALI Discrepancy Reports?

ALI DRs must be submitted by someone with access to 911Net.

If you have access, you have a token



Each PSAP must decide who will submit these reports and how that person will get the information

# What happens after it is submitted?

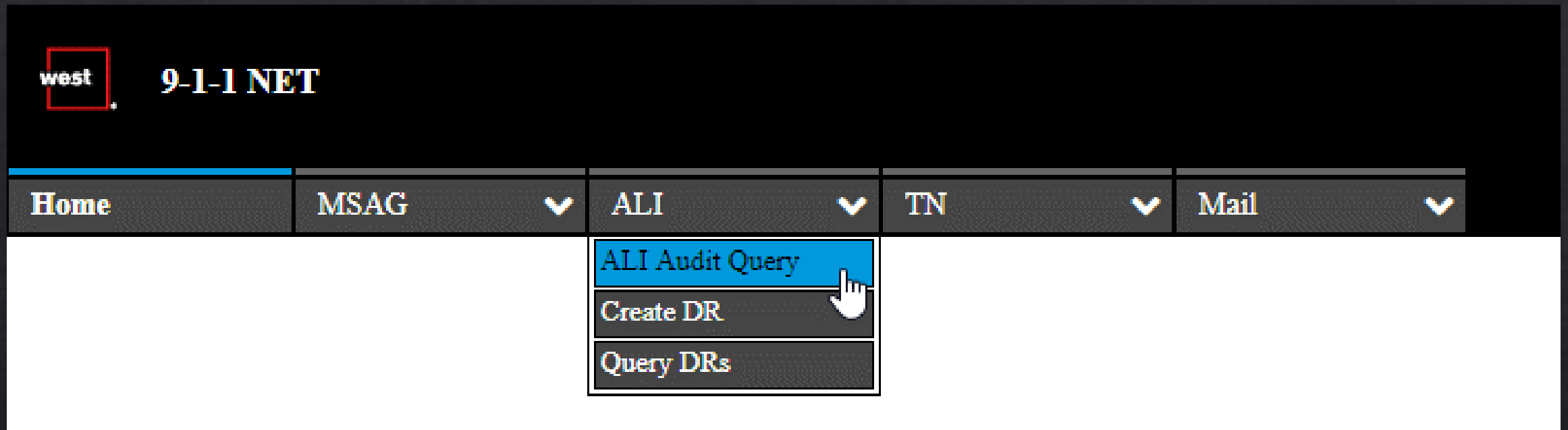
AT&T's Database Integrity Unit takes over

- ◆ They research to see if it was a network error or a bad/missing telephone record that caused the error
- ◆ They contact the telephone company responsible for the number and give them the corrected information
- ◆ They monitor the record to see if and when the telephone company fixes the record, sending reminders until they do

# How to submit an *ALI* Discrepancy Report



# Go to 911Net



The screenshot shows the top navigation bar of the 9-1-1 NET application. The header includes a 'west' logo and the text '9-1-1 NET'. Below the header is a horizontal menu with five items: 'Home', 'MSAG', 'ALI', 'TN', and 'Mail'. Each item has a dropdown arrow. The 'ALI' dropdown menu is open, showing three options: 'ALI Audit Query' (highlighted in blue with a mouse cursor), 'Create DR', and 'Query DRs'.

west	9-1-1 NET			
Home	MSAG	ALI	TN	Mail
		ALI Audit Query		
		Create DR		
		Query DRs		

Try to query the number that called 911

# You'll need the phone number and date range

## ▼ ALI Audit Query

\* Enter at least one 10-character identifier for the ALI Audit record.

ANI TN

CBN

ESQK/ESRK

ALI Response Dates and Times From: \*Date  Time

To: Date  Time

State

Response Type  ▼

MSAG Comment

Reset

Submit

You'll get a list of calls

▼ ALI Audit Query Results - 12 Records		
Details	Create DR	
Viewing page 1 of 1 (12 records).  < <Previous Page 1 Next Page> >		
<input type="checkbox"/> 0 records selected of 12 records returned.		
<input type="checkbox"/> Response Date and Time▼	Response Type	ANI TN
<input type="checkbox"/> <a href="#">2018-11-02 10:22:23</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-11-02 10:22:23</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-18 14:55:01</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-18 14:55:01</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-17 15:16:33</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-17 15:16:33</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-16 11:33:43</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-16 11:33:43</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-10 13:22:10</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-10 13:22:10</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-04 15:17:54</a>	NRF	620-227-7756
<input type="checkbox"/> <a href="#">2018-10-04 15:17:54</a>	NRF	620-227-7756

# Select a call to view or correct the ALI

▼ ALI Audit Details Print Export

**Details** Create DR

Viewing Record 1 of 1 selected records. << Previous Record 1 Next Record >> [Return to Results](#)

Displayed PSAP Name	KS-ESINET WICHITA HOST	Date of Call	2018-11-02	Time of Call	10:22:23
Class of Service		Response Type	NRF		
ANI TN	620 227 7756	CBN		ESQK/ESRK	
Pilot TN					
Customer Name		COID 1	SWBT		
House #		Suffix			
Dir		Street			
Community		County		State	KS ESN
Location					
Latitude	0	Longitude	0		
TN Comment					
MSAG Comment					

English Language Translations(ELTs)

Law	
Fire	
Medical	

If you can't find the call, you can enter information from scratch

Enter as much as you know

The screenshot shows the '9-1-1 NET' web application interface. At the top, there is a navigation bar with 'Home', 'MSAG', 'ALI', 'TN', and 'Mail' menus. The 'ALI' menu is expanded, showing 'ALI Audit Query', 'Create DR' (highlighted with a mouse cursor), and 'Query DRs'. Below the navigation bar, there is a 'Create ALI Discrepancy Report' button and a 'Create DR' button. The main content area is titled 'Report/Call Information' and contains several form fields and checkboxes. The 'Report Type(s)' section has checkboxes for 'Incorrect Address', 'Misroute', 'No Record Found(NRF)', and 'Other'. Below this are fields for 'Call Taker', 'Your PSAP Name', and 'Call Taker Comments'. The 'Displayed ALI Information' section includes fields for 'Displayed PSAP Name', 'Date of Call', 'Time of Call', 'Class of Service', 'ANI TN', 'CBN', 'ESQK/ESRK', 'Pilot TN', 'Customer Name', 'COID 1', 'House #', 'Suffix', 'Dir', 'Street', 'Community', 'County', 'ESN', 'Location', and 'TN Comment'. At the bottom, there is a section for 'English Language Translations(ELTs)' with fields for 'Law', 'Fire', and 'Medical'.

west 9-1-1 NET ks191asw

Home MSAG ALI TN Mail

▼ Create ALI Discrepancy Report

ALI Audit Query  
Create DR  
Query DRs

Create DR

Report/Call Information

\*Report Type(s):  Incorrect Address  Misroute  No Record Found(NRF)  Other

Call Taker

Your PSAP Name

Call Taker Comments

Displayed ALI Information

Displayed PSAP Name

Date of Call  Time of Call

Class of Service

ANI TN    CBN    ESQK/ESRK

Pilot TN

Customer Name  COID 1

House #  Suffix

Dir  Street

Community  County  ESN

Location

TN Comment

English Language Translations(ELTs)

Law

Fire

Medical

And you can view your past DRs to see what has been done

The screenshot shows a web application interface for '9-1-1 NET'. At the top left, there is a 'west' logo and the text '9-1-1 NET'. At the top right, there is a user profile icon with the name 'ks191asw' and a dropdown arrow, and an AT&T logo. Below the header is a navigation bar with tabs: 'Home', 'MSAG', 'ALI', 'TN', and 'Mail'. The 'ALI' tab is selected, and a dropdown menu is open showing three options: 'ALI Audit Query', 'Create DR', and 'Query DRs'. The 'Query DRs' option is highlighted with a blue background and a mouse cursor is pointing at it. Below the navigation bar is a search form titled 'Query ALI DRs'. The form contains several fields and dropdown menus: 'Query Type' (Active), 'Status' (All), 'Report Type' (All), 'Date Created: From' (yyyy-mm-dd hh:mm) and 'To' (yyyy-mm-dd hh:mm), 'Created By' (Sherry Massey - KS 9), 'Reason' (All), 'Age' (=), 'Transaction ID', 'Referral Status' (All), 'Referred To:' (two input fields), 'MSAG Valid at DR Submission' (All), 'PSAP Name', 'Date of Call: From' (yyyy-mm-dd) and 'To' (yyyy-mm-dd), 'Class of Service', 'ANI TN' (three input fields), 'CBN' (three input fields), 'ESQK/ESRK' (three input fields), 'Customer Name', 'COID 1' (input field), 'House #: From' (input field), 'To' (input field), 'Suffix' (input field), 'Dir' (input field), 'Street' (input field), 'Community' (input field), 'County' (input field), and 'ESN' (input field). At the bottom of the form is a text area for 'ALI DR Comments'. There are two buttons at the bottom: 'Reset' and 'Submit'.

# Summary

- ◆ Telephone numbers that are not in the database are the problem
- ◆ Legacy routing hid the problem, and NG911 routing exposed it
- ◆ Smarter selection of default PSAPs will alleviate some of the worst effects
- ◆ Fixing the problem will require PSAPs to submit ALI DRs when they get a call with missing or inaccurate ALI

Questions?

