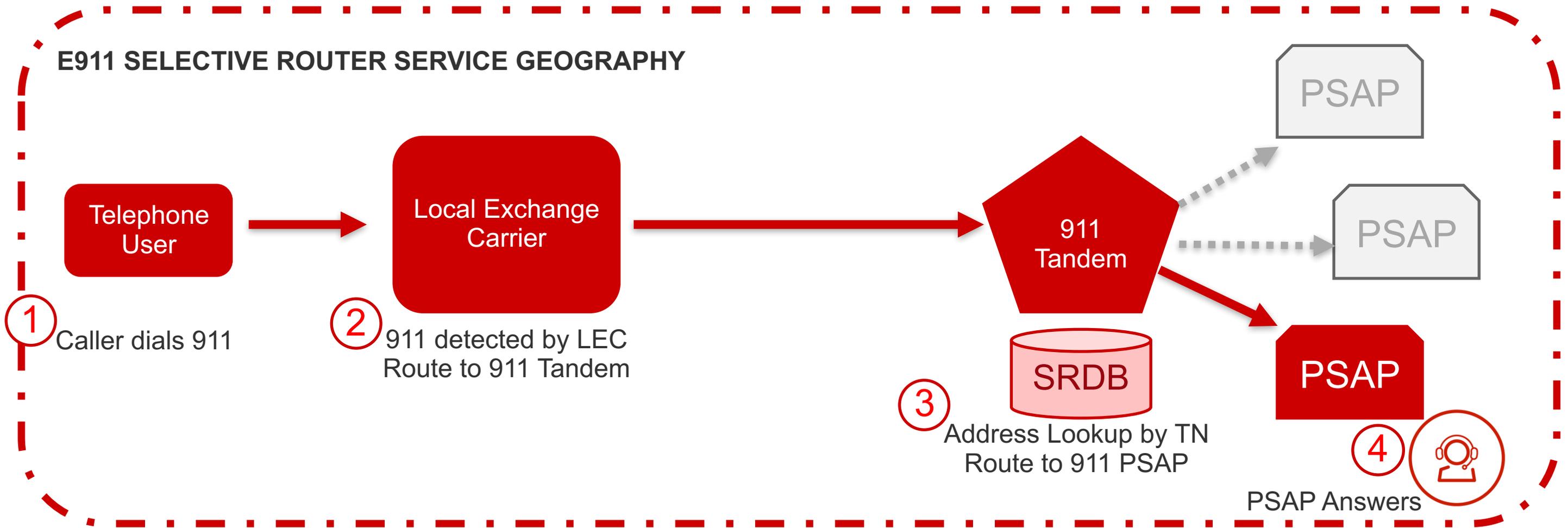




VPC - VOIP POSITIONING CARRIERS CUSTOMER PUBLIC SAFETY CONCERNS

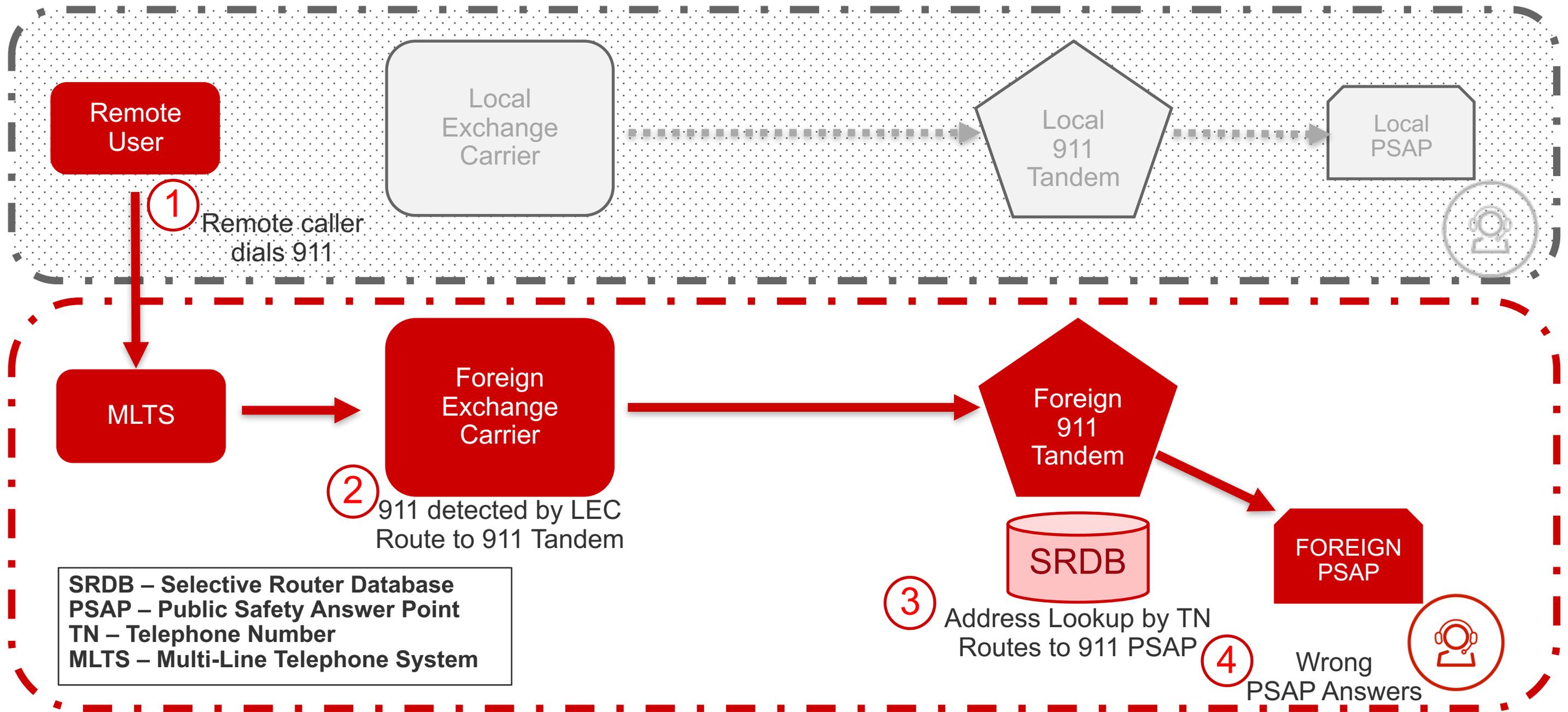
Mark J. Fletcher, ENP
Corporate Solutions Technologist
Chief Architect Public Safety Solutions

BASIC E911 CALL ROUTING



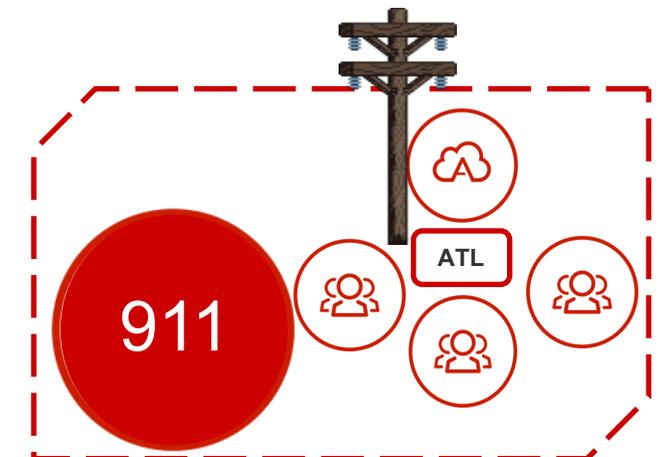
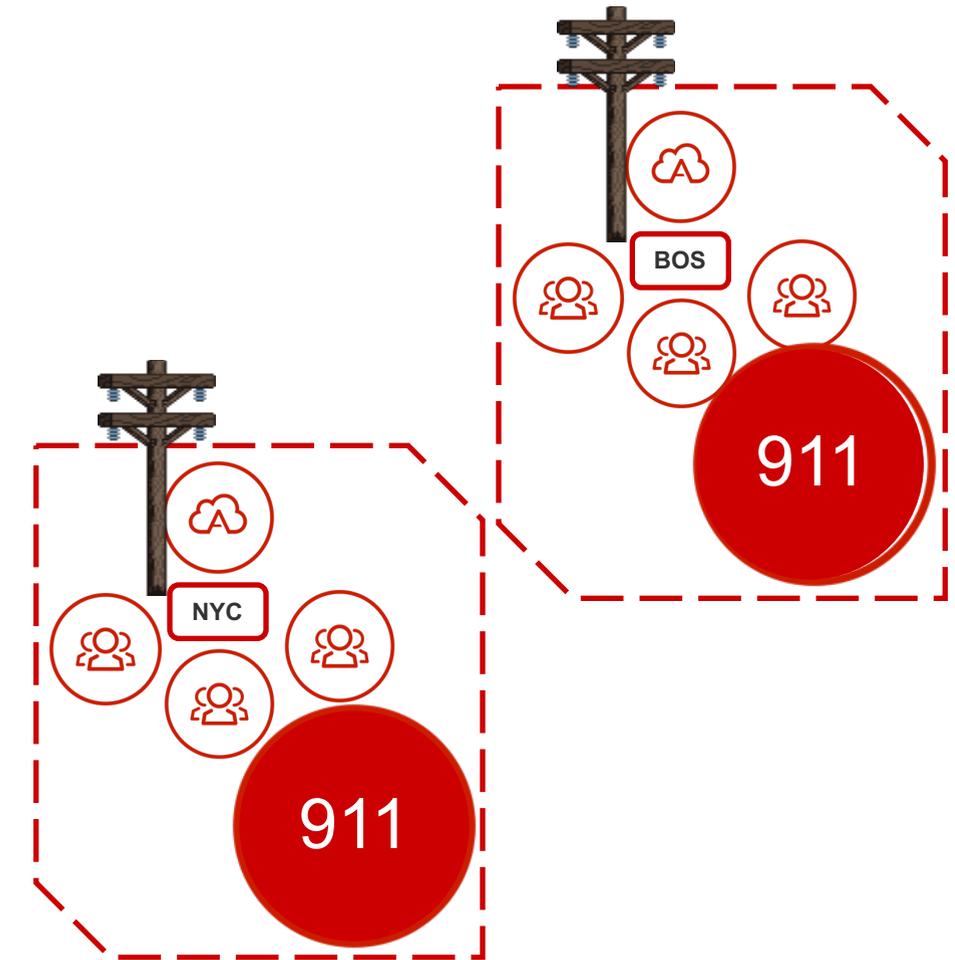
SRDB – Selective Router Database
PSAP – Public Safety Answer Point
TN – Telephone Number

MULTIPLE E911 SERVICE AREA GEOGRAPHIES



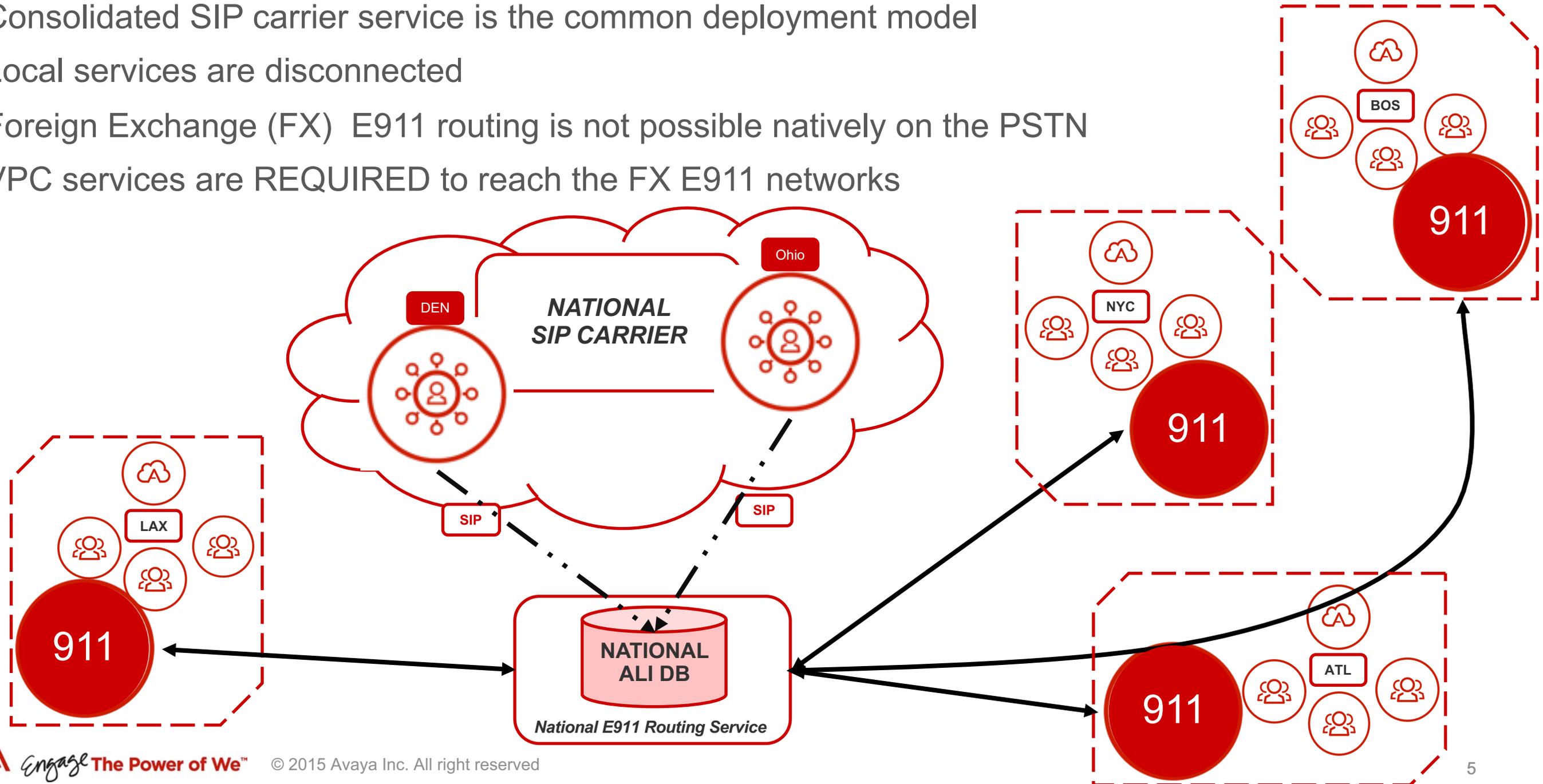
MULTI-STATE MLTS DEPLOYMENTS

- ▶ Employees have mobility around the network
- ▶ 911 calls are detected and routed locally
- ▶ KARI'S LAW has raised awareness
- ▶ Local services provide local connectivity for E911



THE VPC (VOIP POSITIONING CENTER)

- ▶ Consolidated SIP carrier service is the common deployment model
- ▶ Local services are disconnected
- ▶ Foreign Exchange (FX) E911 routing is not possible natively on the PSTN
- ▶ VPC services are REQUIRED to reach the FX E911 networks

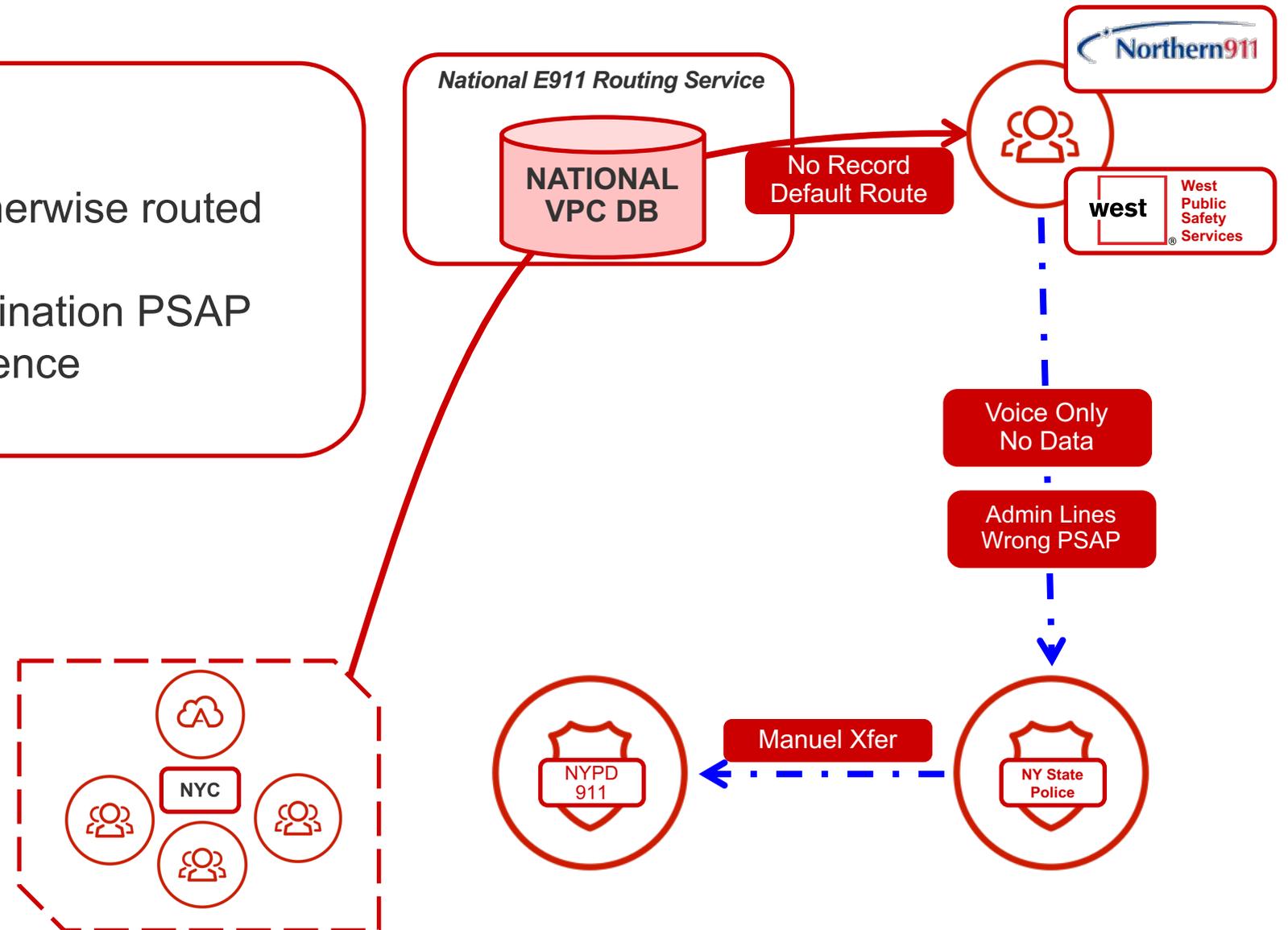


VPC CALL ROUTING FAILURES

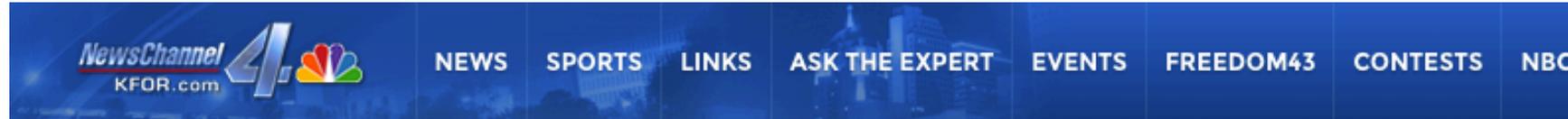
- ▶ MLTS transmits incorrect TN for caller ID
 - VPC cannot route as there is no valid number
 - **No visibility to the source of the call**
- ▶ Access to VPC is via 10-digit access number
 - Carrier network routing issue
 - **Call cannot complete**
- ▶ Missing or incorrect entry in VPC Database
 - VPC cannot route as there is no valid number
 - **No visibility to the source of the call**

WHEN CALLS CANNOT BE ROUTED BY THE VPC

- Managed by or contracted by the VPC
- **PSAP of Last Resort** – Calls that cannot be otherwise routed
- Location details are not available
- Often administrative line connectivity to the destination PSAP
- Additional charges may apply ~\$200 per occurrence



JANUARY 26, 2015 - DELANO CALIFORNIA



DELANO, Calif. (KGET) – A California boy is dead after he collapsed during his middle school gym class.

Some say a mis-routed 911 call delayed help from arriving.

Delano police say as the boy was dying on the school track, several minutes were lost as the school’s 911 call was routed through a service in Canada.

When a school employee called 911, the call was answered by Northern 911, a company based in Canada.

“There was a Northern 911 operator that answered the initial 911 call. They then, in turn, transferred over to Delano Police Department regular business line,” said Raul Alvizo, with the Delano Police Department.

18 MONTHS LATER

WHAT WENT WRONG?

UNANSWERED

IS IT STILL BROKEN?

UNANSWERED

WAS IT EVER TESTED?

UNANSWERED

WHAT IS THE LAW?

UNDECIDED

JULY 2016 – ANCHORAGE ALASKA

911 call misrouted by 2,500 miles



Credit: [Shutterstock](#)

How did a 911 call from Anchorage, Alaska, end up 2,500 miles away in a call center in Ontario? The answer may surprise you, and it is not an uncommon problem.

WHAT WENT WRONG?
UNANSWERED

IS IT STILL BROKEN?
UNANSWERED

WAS IT EVER TESTED?
UNANSWERED

WHAT IS THE LAW?
UNDECIDED

HOW MANY OTHERS ?
UNKNOWN

911 VPC TESTING IS NOT STANDARDIZED

- ▶ 911 testing has an operational impact on PSAP resources
 - Additional workforce
 - Limited trunk facilities
 - Must be scheduled
- ▶ Not all VPC Carriers offer test capabilities
 - Bandwidth – 933 Test Facility – **Automated** address readback
 - Level 3 – ?????
 - TCS – ?????
 - West (Intrado) – ?????

WHAT IS NEEDED

- ▶ Tier 1 VPC carriers must provide
 - Automated 911 ANI testing facilities (933)
 - Automatic 911 ANI trouble reporting (TBD)
 - Require reporting of all default routed calls with disposition
- ▶ Customer / Industry education
 - 911.gov FAQ page on VPC
 - Customer / End User focused
 - PSAP focused
- ▶ Installer Compliance
 - Require installers to provide a Statement of Emergency Communications Uniform Response Education (SECURE) document that outlines in detail the functionality provided in the system, and affirms that proper testing has taken place to ensure the system meets or exceeds Local, State and Federal requirements, and that the proper PSAP will be reached and the appropriate information will be displayed to the call taker to facilitate a response to the dispatch-able address of the caller.
- ▶ Promote compliance via Fire Code and Building Inspection
 - *“A building that cannot reach 911 should not be issued a certificate of occupancy”*,
Admiral David Simpson, FCC PSHSB Chief, 911 Goes to Washington, 2014

