CONFIRE

Vulnerability Assessment

Project Report
July 22, 2025

ETC Introductions

Budge Currier, ENP
Budge@emergtechconsulting.com

- 30+ years public safety experience
- Former Assistant Director and 911 State Coordinator of the California Office of Emergency Services
- Planning, designing, building, innovating and evaluating NG112/911 systems

Mark Davis, ENP
Mark@emergtechconsulting.com

- 30+ years public safety and military communications experience
- Former Director for interoperability communications and planning for USMC and NATO
- Skilled in customer facing, technical support desk functions

Why are we here?

- Copper theft on March 16, 2025 caused a 911 outage that lasted 7 days
- A high voltage surge caused by a fiber optic cable install on April 16, 2025 caused another 911 outage that is still impacting 911 today
- Both incidents were beyond CONFIRE's control, but negatively impacted CONFIRE's ability to effectively support 911 operations
- This Vulnerability Study is a proactive step taken to assess all critical communication systems to identify and mitigate future outages

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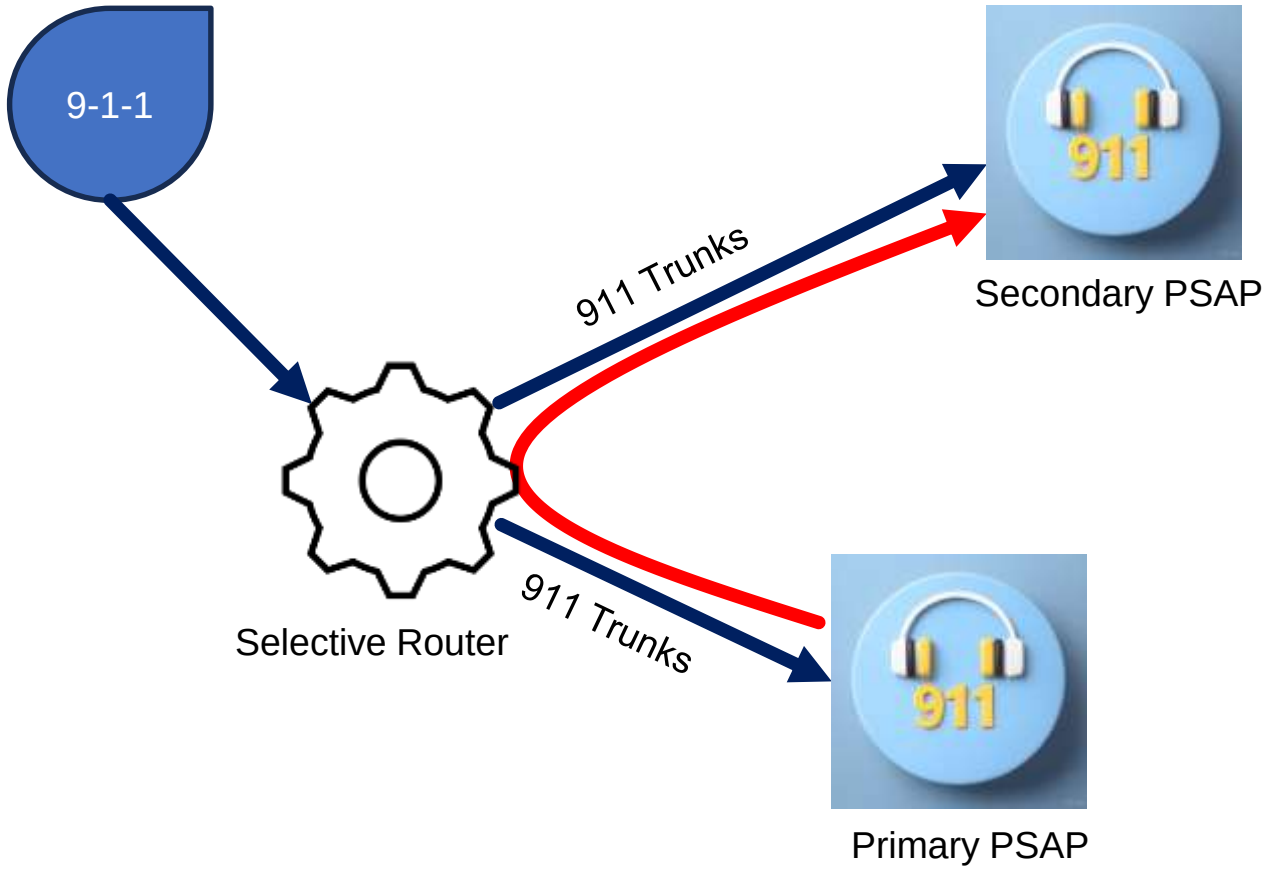
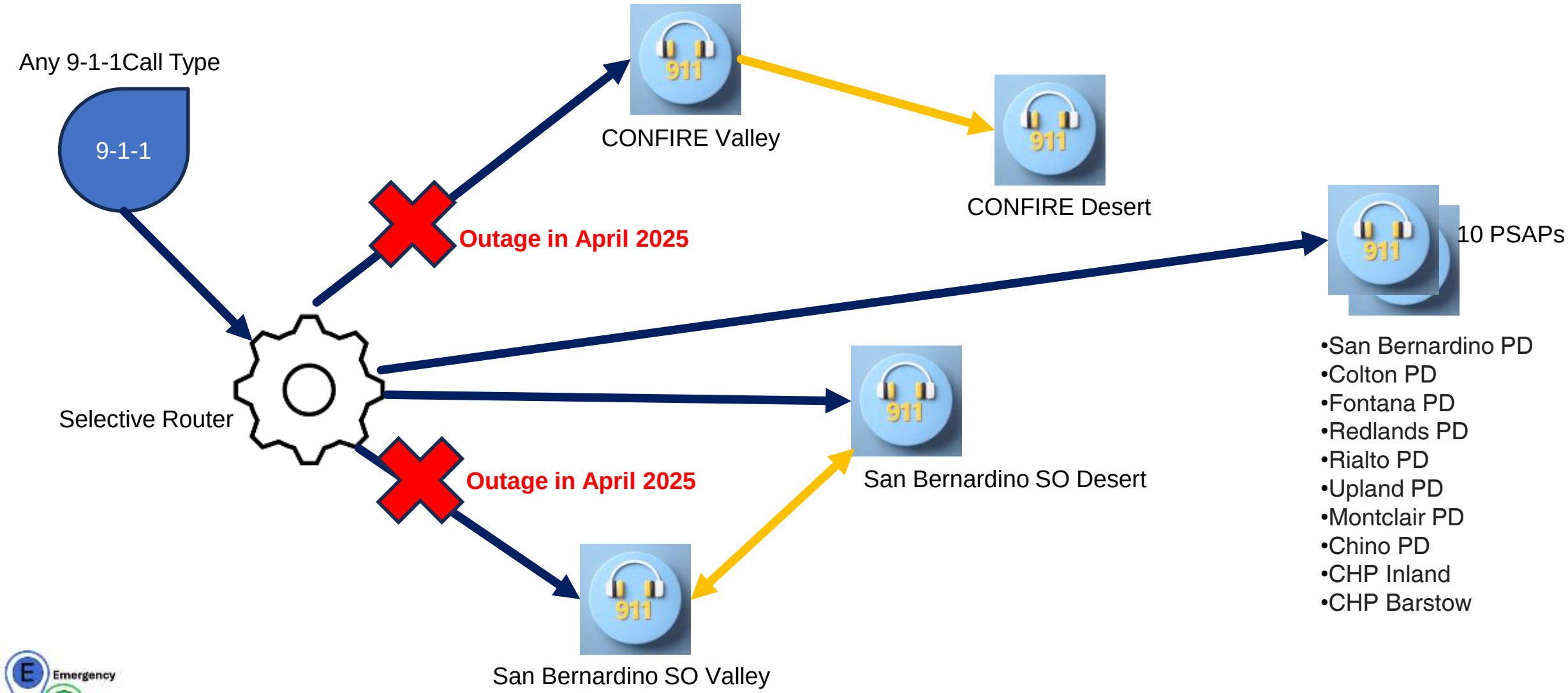
Legacy 911 System Design

Any 9-1-1Call Type



Note: This is a logical call flow. There are extra components in the network and San Bernardino is serviced by multiple Selective Routers and each connecting line consists of several 911 Trunks

San Bernardino 911 System Design Today



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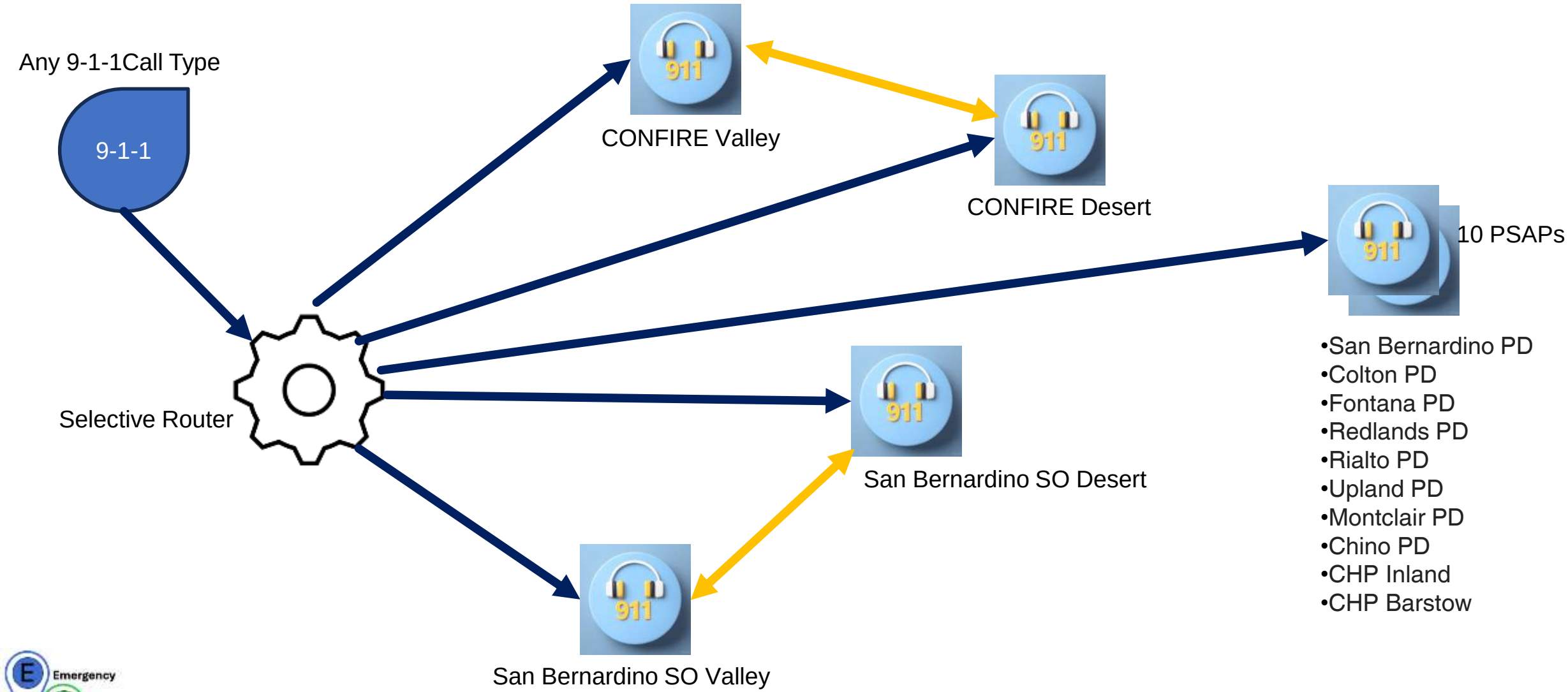
San Bernardino 911 System Design Improvement



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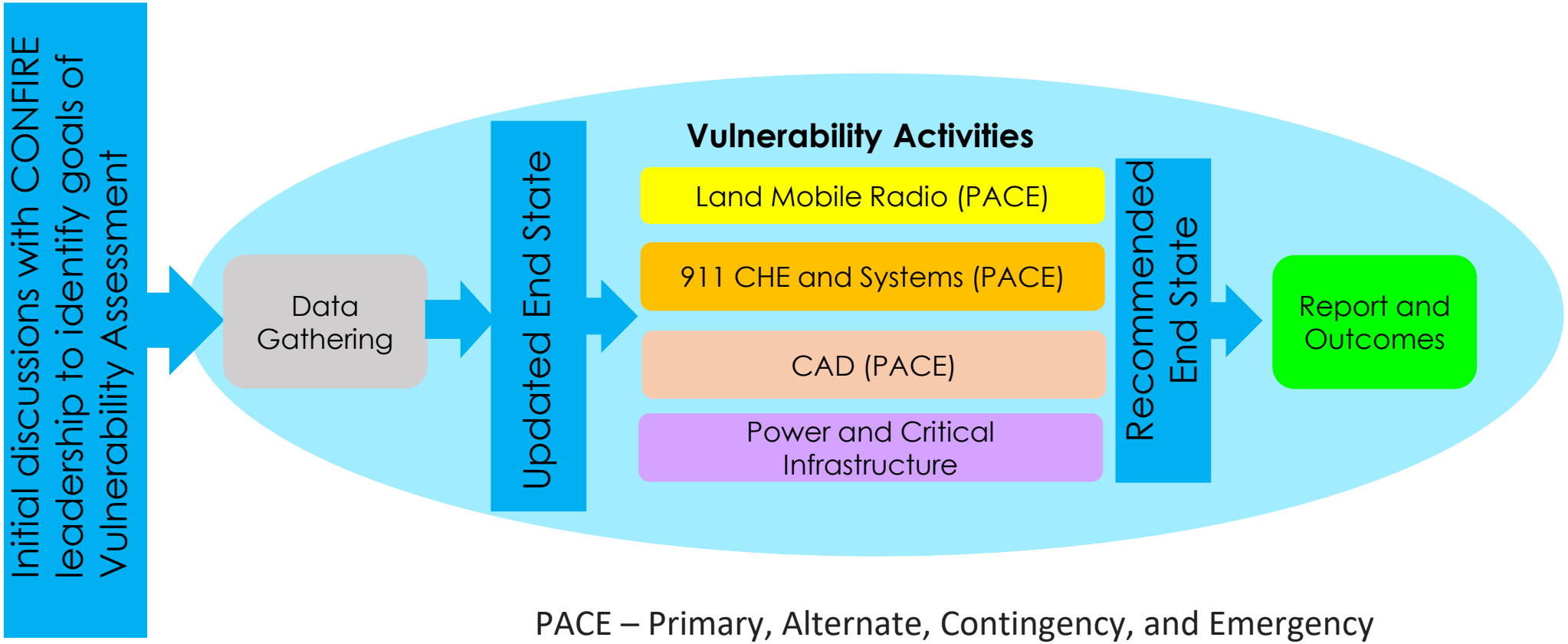
Technology Vulnerability Assessment Overview



PACE – Primary, Alternate, Contingency, and Emergency
CHE – Call Handling Equipment
CAD – Computer Aided Dispatch

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PACE Overview

Primary:
The best, and intended method of communication

Alternate:
Another common, but less optimal method of communication

Contingency:
Method may not be as fast, convenient, or reliable, but it can accomplish the task

Emergency:
Method of last resort. Emergency methods may cause delays or affect operations

Technology for each alternative
Impact to users (operations and interoperability)
Implementation time
Cybersecurity implications
Quality of the solution
Triggering event
Decision authority
Rollback methodology

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Primary:
The best, and intended method of communication

LMR:
County Radio System

911 System and CHE:
Dual Trunked Legacy 911 System and Dual Hosted 911 Call Handling System

CAD System:
Dual Server Supported CAD System

Power and Critical Infrastructure:
Valley and Desert 911 centers running on commercial power with full network connectivity

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Alternate:
Another common, but less optimal method of communication

LMR:
County VHF Radio

911 System and CHE:
Single 911 Center
(Valley or Desert)

CAD System:
Single CAD System
(Valley, Desert or Training)

Power and Critical Infrastructure:
UPS handles load until switch to Generator Power

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Alternate:
Another common, but less optimal method of communication

LMR:
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(Valley or Desert)

CAD System:
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(Valley, Desert or Training)

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UPS handles load until switch to Generator Power

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Contingency:
Method may not be as fast, convenient, or reliable, but it can accomplish the task

LMR:
CRIS Radio System

911 System and CHE:
If all 911 lines are down, switch to Admin Lines and IP PBX

CAD System:
Manual Tablet Command with Lightning

Power and Critical Infrastructure:
External Generator Support

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Emergency:
Method of last resort. Both Valley and Desert Locations are NOT available – **Alternate Location**

LMR:
Consolettes or IP Talkgroups

911 System and CHE:
Remote 911 Call Handling System or IP PBX

CAD System:
Tablet Command or CAD template Document

Power and Critical Infrastructure:
Separate Facility with backhaul connectivity, backup power and space for 911 Operations

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911 CHE and Systems – Vulnerabilities

Vulnerability	Risk	Mitigation (Short Term / Long Term)
Legacy 911 System	High	Implement PACE Plan / NG 911
Copper Based Admin Lines	High	Install IP PBX to augment Admin lines
911 CHE System	High	Finish Hosted Configuration / Cloud CHE
Legacy 911 lines	High	Finish install of 911 lines at Desert Location
Alternate Location Limits	Medium	Install IP PBX / NG 911 and Cloud CHE
911 CHE High Call Volume	Medium	Consider AI for high call volumes & Admin lines

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Thank You!

Questions?

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