



UTAH COMMUNICATIONS AUTHORITY

KEEPING PUBLIC SAFETY CONNECTED

BeOn for Radio Project - 4/24/2025 – Jeff Guymon / Philip Krebs



PTT Over Broadband LTE and Wi-Fi

Virtual P25 Radio Application

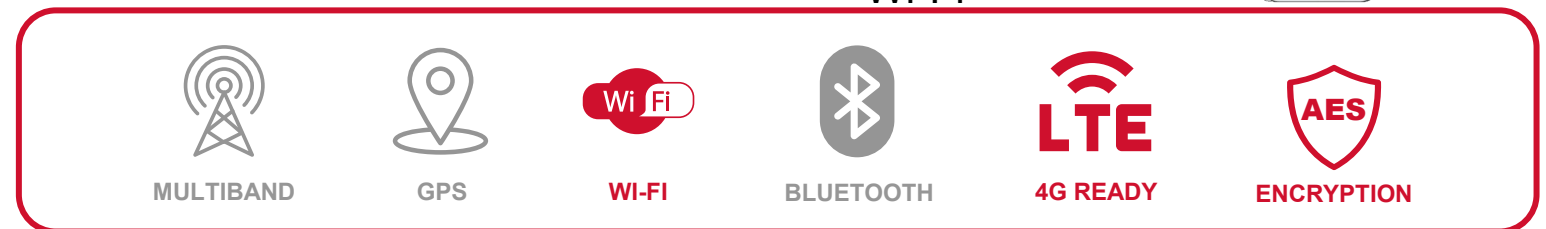
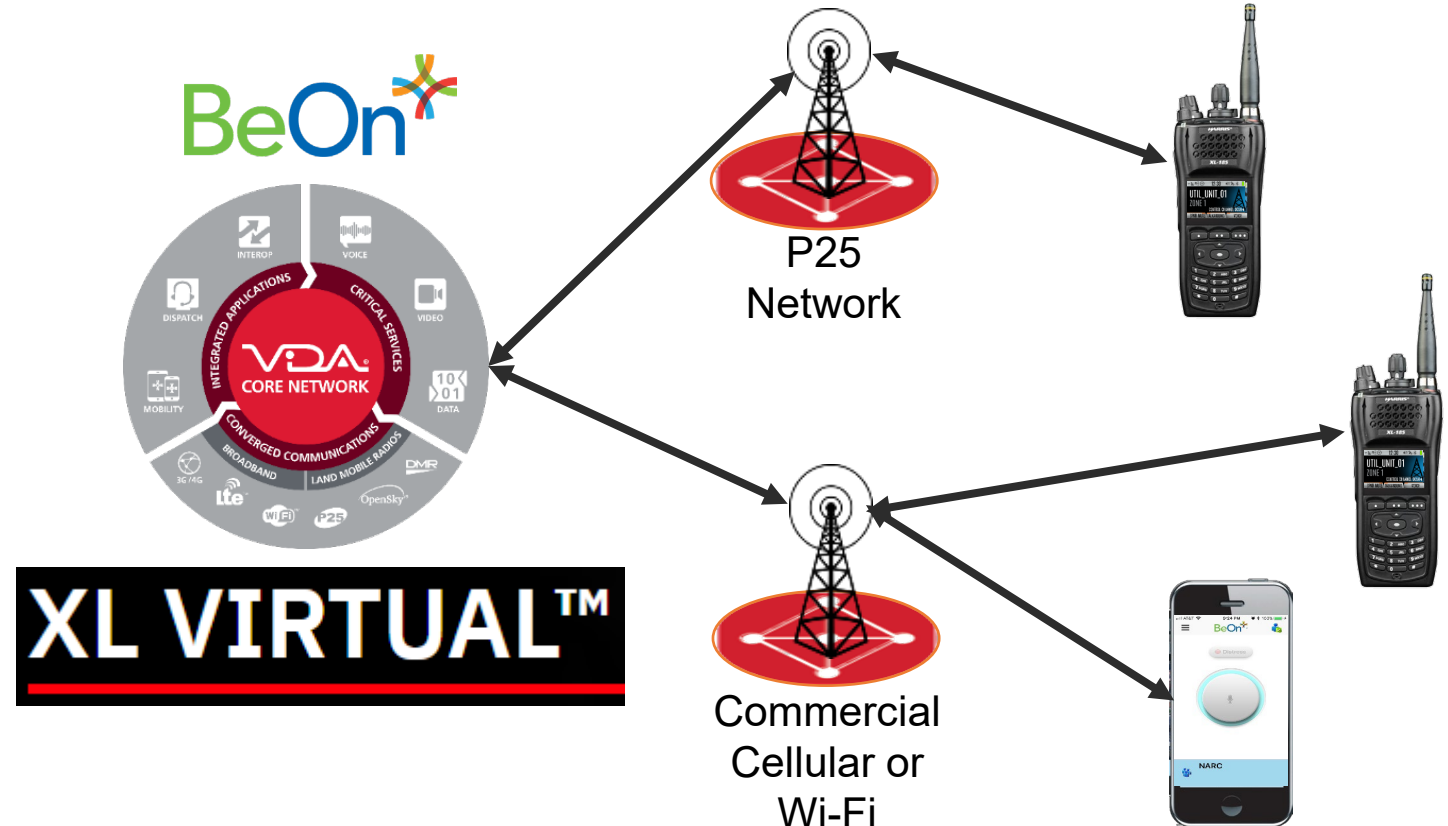
- VoIP based; PTT over LTE & Wi-Fi
- L3H XL platform (Optional Add On)
- Available on Android™, Windows® PC, and iOS™ platforms
- Reduces traffic loading on system
- Supports geographic mapping and utilizes Google® Mapping data

Coverage Enhancement

- Extends coverage outside the traditional LMR footprint
- Economical supplemental coverage WiFi in place of BDA's
- PTT encrypted comms between smartphones and XL radios

P25 Based Comms

- End to end AES encryption
- Woven into L3Harris system architecture
- IP encapsulated packets
- No reoccurring monthly fees



Remember - BeOn is only as good as the network it is connected to!

BeOn Radio over Wi-Fi/LTE

- Available for L3H Mobile and Portable XL radios, with Wi-Fi Client, and Be-On features enabled.
 - All radios purchased through UCA/L3H contract were licensed with these features and take priority over radios not purchased through the contract
- Uses the **same** P25 ID that your radio currently uses
- Uses a **different** set of talk groups than when the radio connects to a site
- The radio does **not** automatically roam between Wi-Fi and P25 LMR
- The radio can automatically roam between LTE and P25 LMR, however UCA does **not** recommend it
- Talk group names on the display **will** be truncated to 8 characters when in Wi-Fi/LTE mode
- In BeOn the emergency button will be disabled
- Each Radio Core is limited to 5000 Users (Radio and Phone Combined)



UCA Action Items

- ☐UCA must enable the radio ID(s) to be used with BeOn
- ☐UCA must configure which talk groups will be used with BeOn on the radio
- ☐UCA must use a server-side license for each radio being used with BeOn
- ☐UCA will need to provide a new programming personality for each agency (Home WA Network Setting not available with distribution dongle)
 - (New Access) Allows the agency to configure BeOn as a “system”
 - (Existing access) Allows the agency to add or remove WiFi Networks at will
 - (Existing access) Allows the agency to configure LTE
 - (Existing access) Allows the agency to configure other settings related to radio ergonomics
- ☐Provide training on how to program the radio for Wi-Fi/LTE

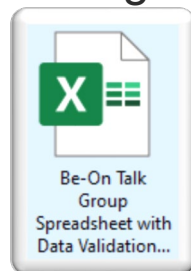


Agency Action Items

- Due to agency IT requirements for changing Wi-Fi passwords often, each agency will need to be able to program their own radios
 - 1st time programming - Requires a L3H cable to configure Wi-Fi, after which Wi-Fi can be used to connect to the radio
 - Programming L3H radios requires a L3H RPM distribution dongle ~\$300 (Utah Contract)
- Agency's IT department will potentially need to open ports on their Wi-Fi/firewall to enable Be-On usage
 - 20000, 20001
- Agency will need to supply UCA with a list of Radio IDs that need to be enabled

ID <-Send These	Alias <-Don't Send These
AAAAUUUU (13540002)	1G-DONALDSON-P

- Talk Groups that the Agency will need access to (can be multiple sets, police, fire, etc). Using UCA's talk group spreadsheet



	A	B	C	D
1	Channel	Profile 1	Profile 2	Profile 3
2	1	SLC_DISPATCH		
3	2	SLC_W-R_2		
4	3	SLC_W-R_3		
5	4	SLC_W-R_4		



Agency Action Items (continued)

Terms of Use

- UCA will require agencies to sign an agreement that includes:
 - **Acknowledgment of BeOn Limitations:** BeOn is not a 24/7 public safety solution as it relies on potentially non-mission-critical carriers (Wi-Fi/LTE)
 - **User Responsibility for Issues:** UCA will not be responsible for correcting radio programming or Wi-Fi issues caused by the user (non-P25 system-related troubleshooting)
 - **System Capacity Limitations:** Due to system capacity constraints, licenses may be limited or revoked in the future
 - **Firmware Update Requirement:** Radios must be updated to the UCA-specified firmware version before enabling BeOn

Considerations

- **LTE Usage Costs and Configuration:** If the agency chooses to use the radio on an LTE network, the agency will be responsible for covering the cost of the monthly plan and configuring the radios for LTE usage
- **Supported SIMs:** AT&T and Verizon SIMs are supported

XL-LTE-NA/ XS-LTE-NA	B2, B4, B5, B12, B13, B14, B29, B30, B66
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How to Get Started

- ❑ UCA Agreement – Needs to signed
- ❑ Let UCA know which Radio IDs Be-On will need to be enabled on
- ❑ Fill out the talk group spreadsheet with required talk groups
- ❑ Ability to program - Required
 - Distribution Dongle shipped to UCA – Available through Deb Burton (L3H)
 - Programming Cable - Available through Deb Burton (L3H)
 - Complete BeOn specific Training



iPhone - BeOn

2:49

Sign In Network Settings

These settings change per user

User Id:

WACN: 599335

Same for everyone

LAS1: Test

LAS1 Port: 20000

LAS2: Test

LAS2 Port: 20001

Assigned per user's region

Same for everyone

Save Settings

Android – XL Virtual



12:03

Cancel Save

New Network Configuration

Network Configuration Name

UCA

This name is custom to you

Same for everyone

USER INFORMATION

Region	Agency	User ID	WACN
			599335

These settings change per user

TEST

PRIMARY

LAS IP Address LAS Port

2000

0

Assigned per user's region

TEST

REDUNDANT (optional)

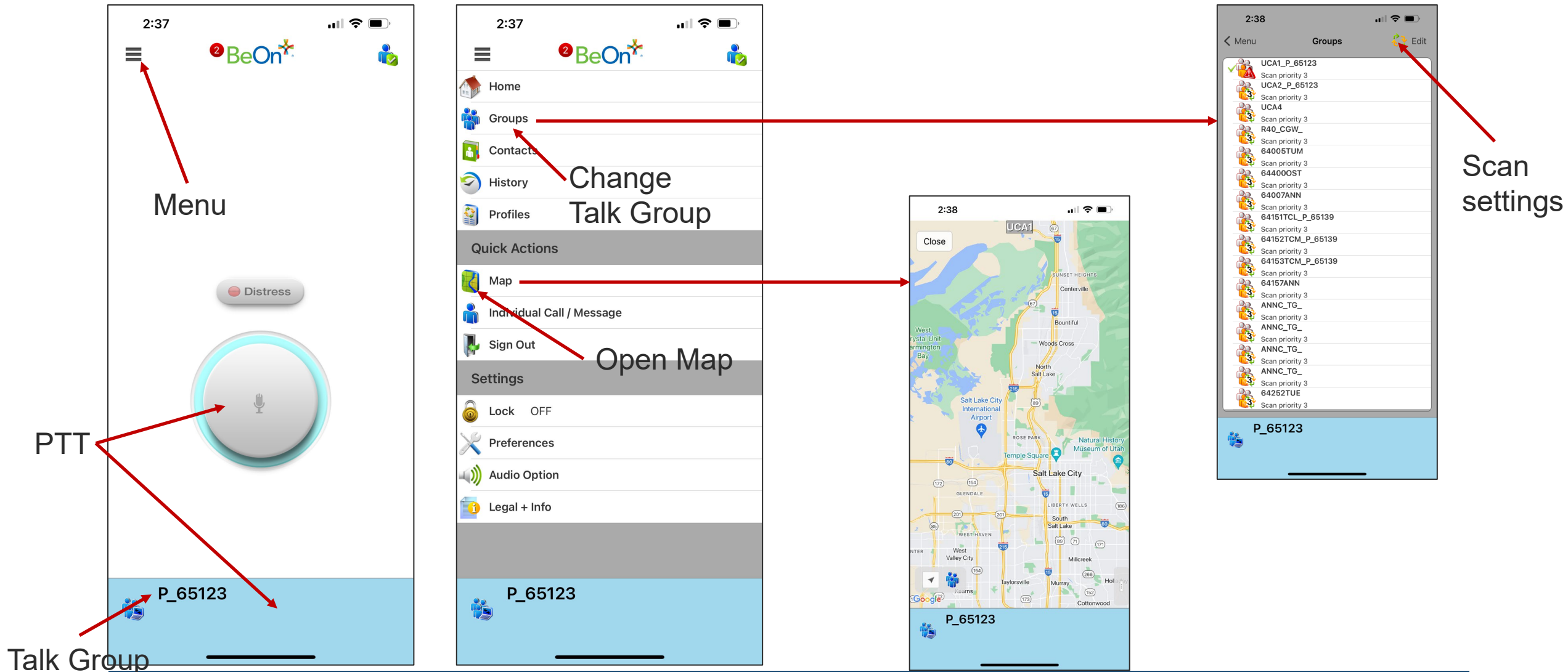
LAS IP Address LAS Port

2000

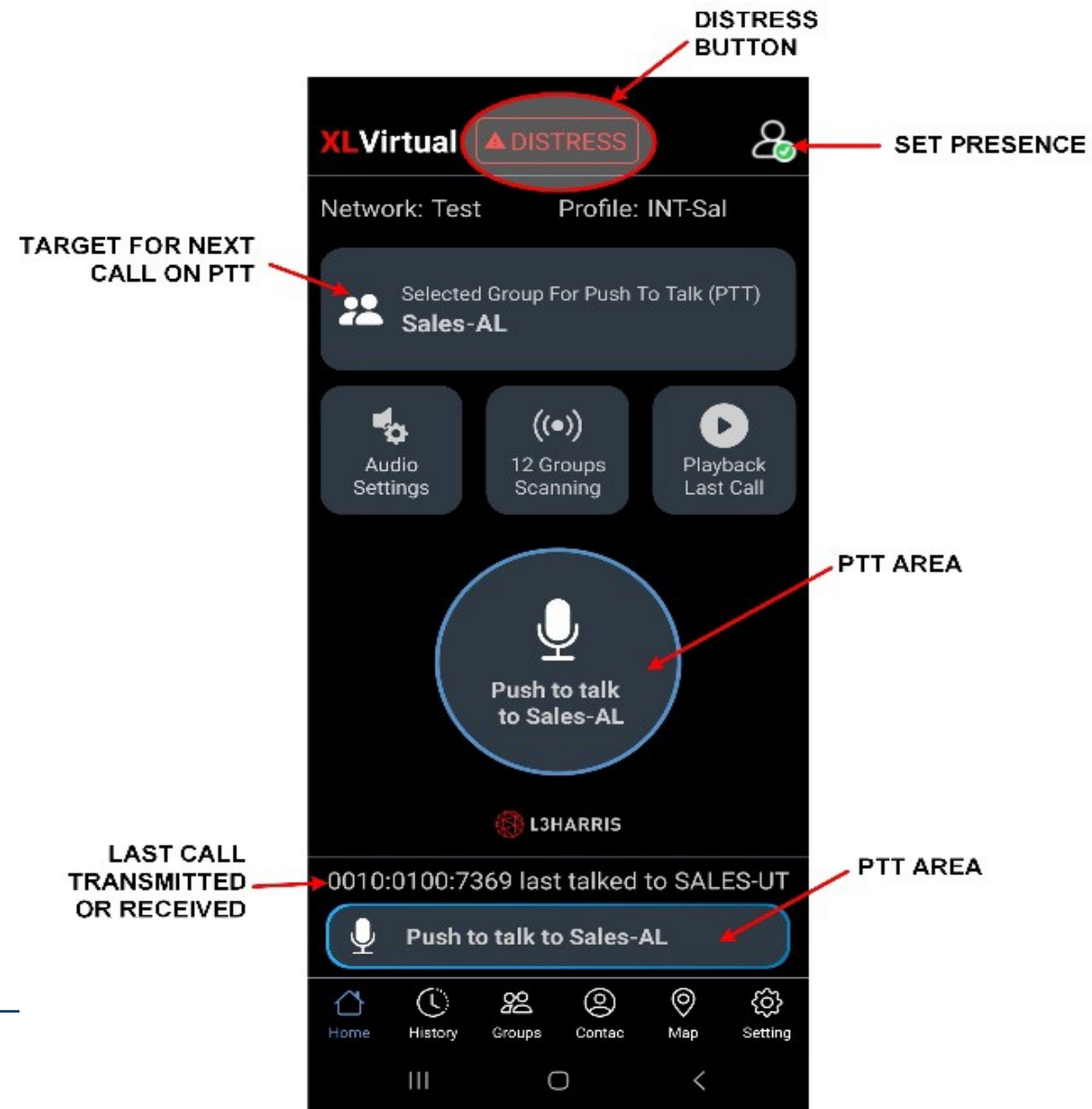
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Same for everyone

BeOn Use Overview (iPhone)



XL Virtual Use Overview (Android)



Emery County BEON uses

- Thru Starlink for remote Communication
- Thru WiFi at schools, and other large buildings.
- Thru phones for access out of area great for admin.
- Other Emery County Recommendations/experience.

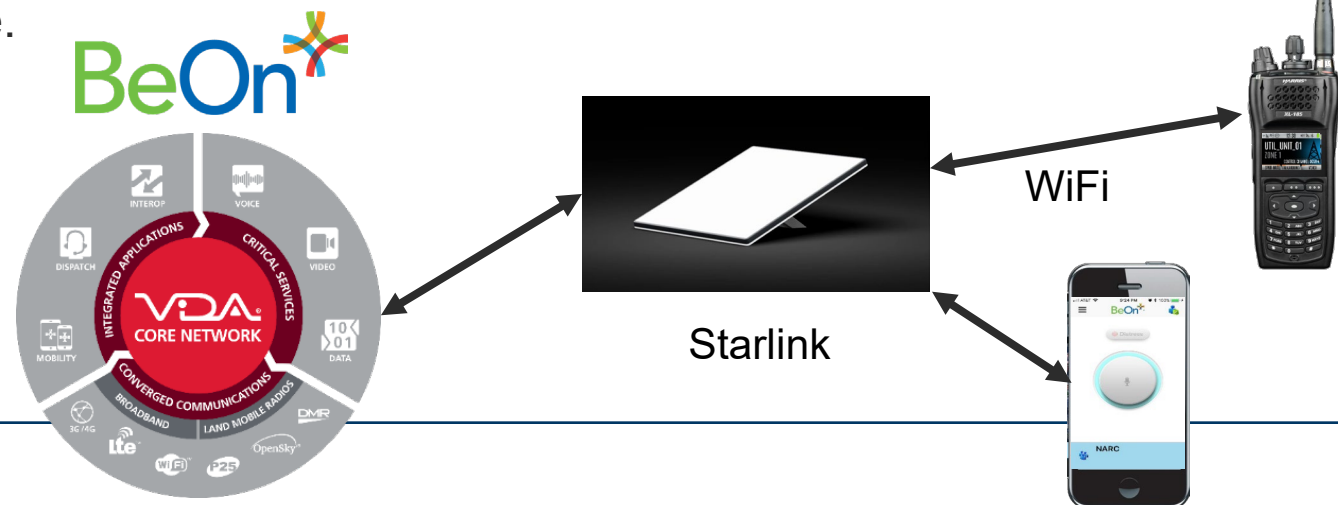
Emery County BEON with Starlink

Located in SE Utah Diverse rugged landscapes with Mountains and valleys, slot canyons, thousands of miles of roads.



Impossible to ever build out LMR or Cell for complete coverage

Radio's and phones connect thru Starlink which communicates to satellites thru the BEON app & provides coverage to fill in where LMR is not available.



Starlink Connectivity



- Purchase a starlink Mini-\$300 Standard-\$350 Performance \$2000 used work great.
- Larger slightly better. My testing didn't show measurable differences.
- Roaming plan Residential First month \$50 50 Gb 200mb up and down then change plan to backup \$5 per month only .5 mb up and down unlimited but good enough for audio. Business plan \$65 per month 50gb priority up and down. 2Tb plan \$540 limit 8 per email.
- DON'T USE FOR VIDEO/ body camera's etc. it will bankrupt you.
- Program Wifi to be what you will have the radios programmed to use.
- Range for the Starlink is around ~600-1000 feet.
- Go thru Agency process previously outlined by UCA & Program radio's with the same Wifi
- Other benefits CAD connectivity, reports, 12 lead for ambulance. Cell connectivity. Patients/subjects call family.

Mounting\Power considerations

- Outside with a good ground plane away from other antennas
- 12V power works but has problems pushing thru weather 24-30V 2A is better.

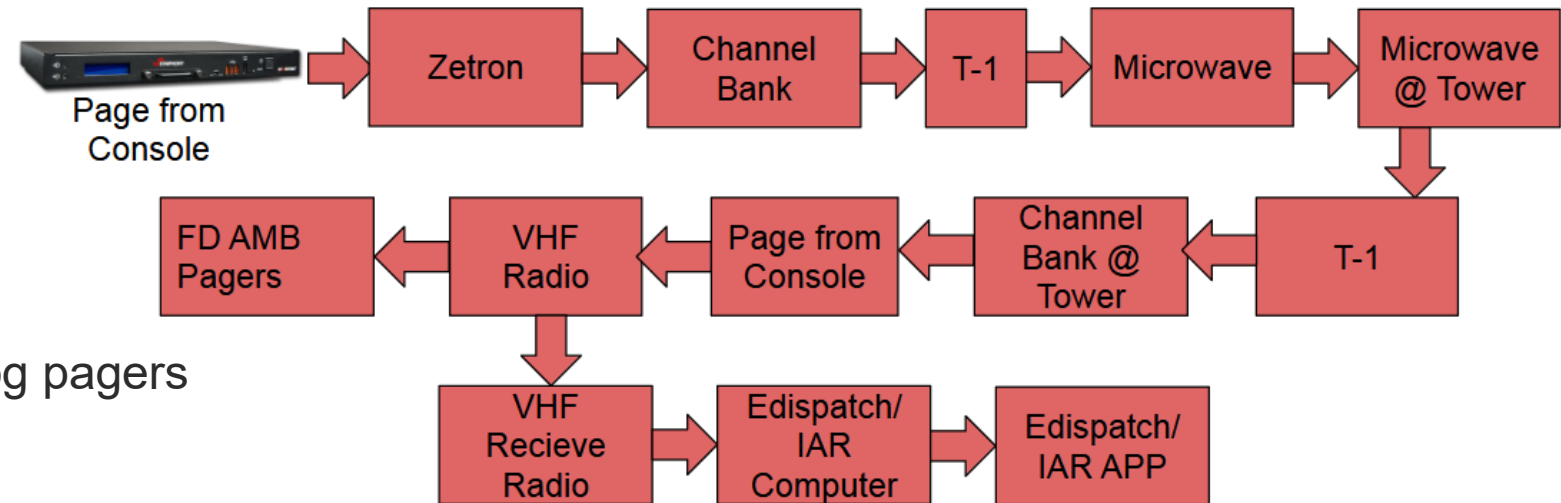


WiFi BEON at schools, and other large buildings.



- Work with IT at schools others to open port 20000 and 20001
- Whitelist IP addresses 69.162.250.175 and 69.162.250.171
- Request that they put the WiFi and password you have in the radios
- Ask IT to prioritize traffic(QOS) low latency on the wireless VLAN
- Request that all devices on the system have backup power.
- TEST!!! If LMR will work stay with it. Use BEON as a backup TEST!!!TEST and Educate.

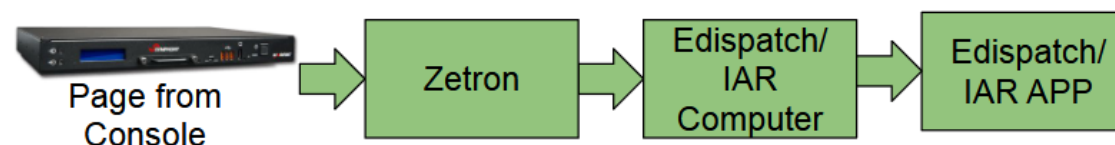
Paging Alternative



Many points of failure.
Leave one in place for analog pagers if they are still using them.

Less Points of failure
PunchDown Audio Mic input to Zetron input

UCA change Zetron to VOX If tone remote



Paging App integration

- Spillman Rapid Notification
- IamResponding Push from CAD into IAR app for call notes
- Page from APP if CAD is down.

Unit/Officer	Long Message Email Address	Action
S581	GreenRiver-EMT-CAD@edispnoc.com	 X
S561	Emery-EMT-CAD@edispnoc.com	 X
S551	CastleDale-EMT-CAD@edispnoc.com	 X
S541	Ferron-EMT-CAD@edispnoc.com	 X
S521	Huntington-EMT-CAD@edispnoc.com	 X
S551	mickjay78@gmail.com	 X
S541	mickjay78@gmail.com	 X
S541	jeffg@emery.utah.gov	 X
S551	jeffg@emery.utah.gov	 X
S522	Huntington-EMT-CAD@edispnoc.com	 X
S705	EmeryCo-SAR-CAD@edispnoc.com	 X
S551	1610615180@iaralerts.com	 X
S521	1610616285@iaralerts.com	 X
S581	1610616301@iaralerts.com	 X
S541	1610616299@iaralerts.com	 X
S561	1610616300@iaralerts.com	 X
S522	1610616285@iaralerts.com	 X
S582	1610616301@iaralerts.com	 X
S461	emeryfire@outlook.com	 X
S461	Emery-FIRE-CAD@edispnoc.com	 X
S441	Ferron-FIRE-CAD@edispnoc.com	 X
S451	Orangeville-FIRE-CAD@edispnoc.com	 X
S411	CastleDale-FIRE-CAD@edispnoc.com	 X
S481	GreenRiver-FIRE-CAD@edispnoc.com	 X
S431	Cleveland-Elmo-FIRE-CAD@edisonoc.com	 X

CAD to lamResponding API

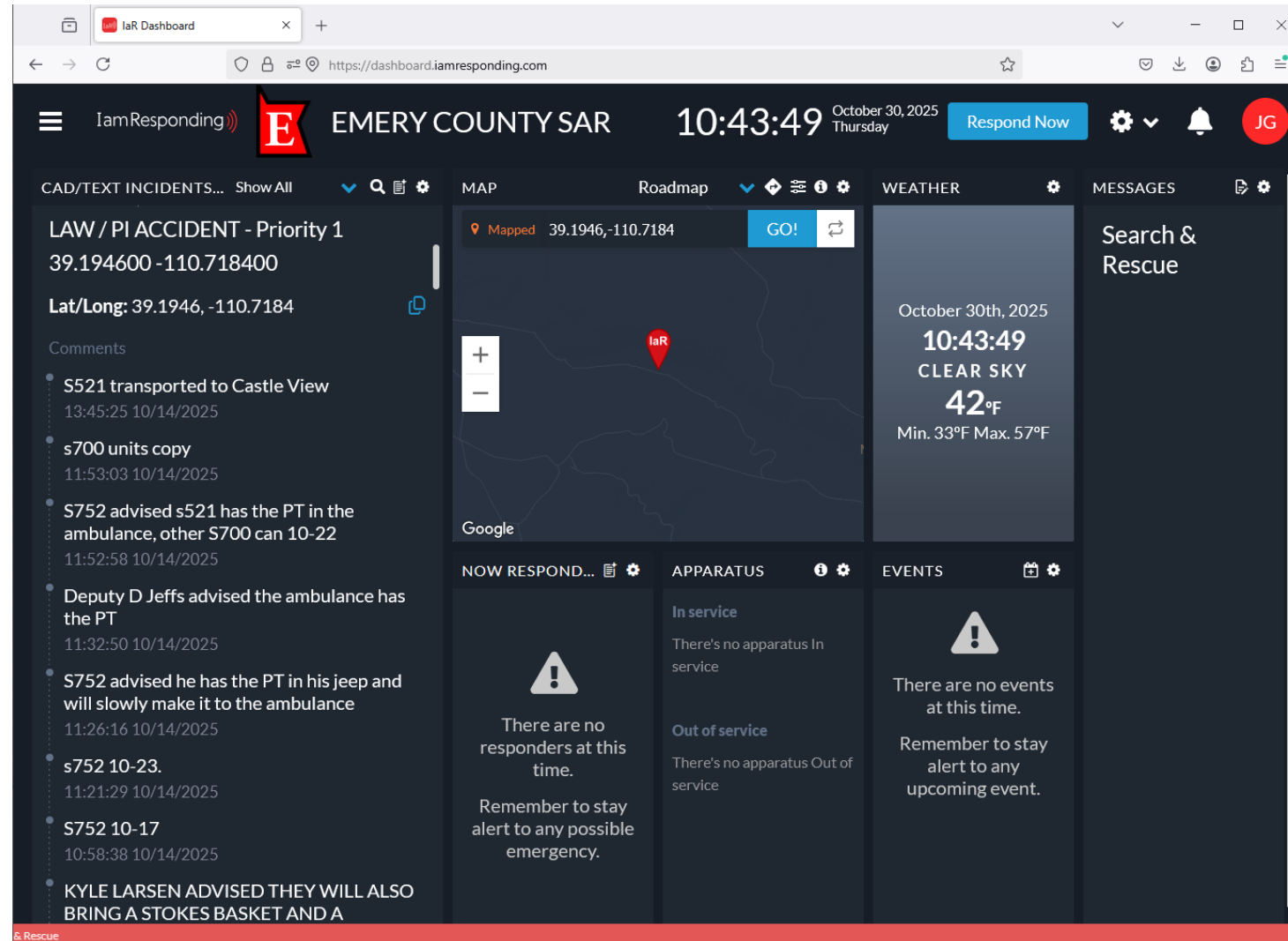


- Seamless Integration:** The IaR CAD Incidents API is a straightforward POST endpoint, designed to receive XML or JSON payloads.
If your CAD system already exports XML or JSON files when incidents are created, updated, or closed, lamResponding's FileWatcher software can monitor those files and securely send them to the API. For Spillman Flex users, lamResponding's CADConnect software integrates directly with the DataExchange API, ensuring seamless communication between your CAD and lamResponding.
- Real-Time Data Transfer:** Unlike SMTP, the CAD API delivers information instantly and directly, minimizing delays and ensuring first responders receive critical data in real time.
 - With the API or CADConnect, responders can receive real-time updates throughout an incident's lifecycle, such as address changes, unit statuses, and comments entered into CAD.
- No Character Limits:** The API eliminates the character limits of SMTP, ensuring that all critical information is transmitted without truncation.
- Potential for Enhanced Integration with RapidSOS:** By utilizing the CAD API, your agencies may also have the opportunity to receive additional incident data from the RapidSOS platform. This could provide field responders with critical location data, health profiles, and multimedia details, improving situational awareness and response times, particularly in hard-to-locate areas.

Key Requirements:

- For agencies using Spillman Flex, CADConnect integrates directly with the Spillman DataExchange API.
A Spillman user account with appropriate permissions (e.g., `xmlquery`, `tab_sycad`, `tab_cdcdesc`, `tab_syunit`) will be required.
- For other CAD systems, the IaR CAD Incidents API requires either direct integration with your CAD system's existing API or the ability for your CAD to export XML or JSON files during incident updates.
. FileWatcher can facilitate secure, seamless connections for systems meeting these criteria.

IamResponding interface from CAD



The screenshot displays the IamResponding web interface within a browser window. The browser's address bar shows the URL <https://dashboard.iamresponding.com>. The interface header includes the IamResponding logo, a red 'E' for Emery County SAR, the text 'EMERY COUNTY SAR', the time '10:43:49', the date 'October 30, 2025 Thursday', a 'Respond Now' button, and user profile icons for settings, notifications, and a user labeled 'JG'.

The main content area is divided into several sections:

- CAD/TEXT INCIDENTS...**: A list of incidents with details for 'LAW / PI ACCIDENT - Priority 1' at coordinates '39.194600 -110.718400'. It includes a 'Lat/Long: 39.1946, -110.7184' and a list of comments with timestamps from 10/14/2025, such as 'S521 transported to Castle View' and 'S752 advised s521 has the PT in the ambulance'.
- MAP**: A map view showing the location 'Mapped 39.1946,-110.7184' with a 'GO!' button and a red pin labeled 'IaR'.
- WEATHER**: A weather widget for 'October 30th, 2025' showing '10:43:49', 'CLEAR SKY', '42°F', and a range of 'Min. 33°F Max. 57°F'.
- MESSAGES**: A section titled 'Search & Rescue'.
- NOW RESPOND...**: A status section with a warning icon and text: 'There are no responders at this time. Remember to stay alert to any possible emergency.'
- APPARATUS**: A section with 'In service' (no apparatus in service) and 'Out of service' (no apparatus out of service) status.
- EVENTS**: A section with a warning icon and text: 'There are no events at this time. Remember to stay alert to any upcoming event.'

A red status bar at the bottom left of the interface indicates 'S. Rescue'.

POCs:

- BeOn Phone/BeOn Radio requests – Submit a ticket
- BeOn Agreements – Chris Hughes – chughes@uca911.org
- Programming Cables/L3H – Deb Burton - deb.burton@L3Harris.com
- Project/General Questions – Dan Dialogue – ddialogue@uca911.org



Backup

