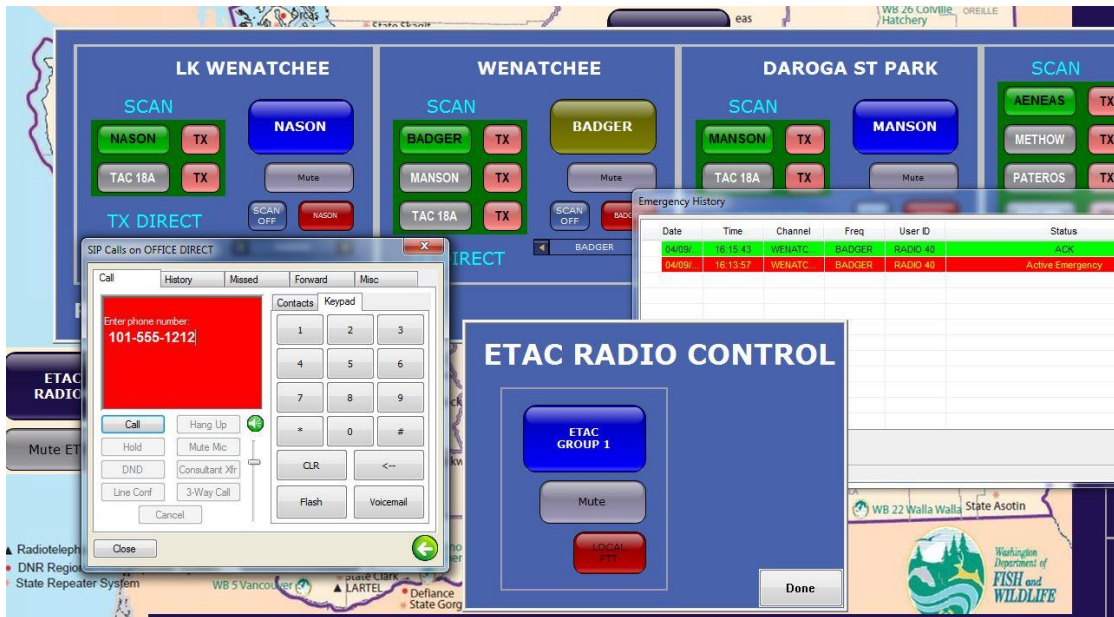


Washington State Department of Fish and Wildlife (WDFW) Telex RoIP Dispatch Center attains PSAP status

Targeted Technology Integration allows WDFW to achieve full Statewide PSAP status for Wildlife incidents in just over 2 years.



Adding SIP, Smartphone integration via ETAC and Man Down Emergency alerts provide essential tools for WILDCOMM

The upgraded Dispatch System contains many new features focused on Inbound Calls, Officer Safety and radio system access options. The WDFW RoIP call center known as "WILDCOMM" can now respond to a Man Down Emergency as well as accept calls from SIP phones, a Smartphone PTT App and receive radio calls all in the same headset, including placing and receiving a satellite phone call.

Images Courtesy of Phase 4 Design

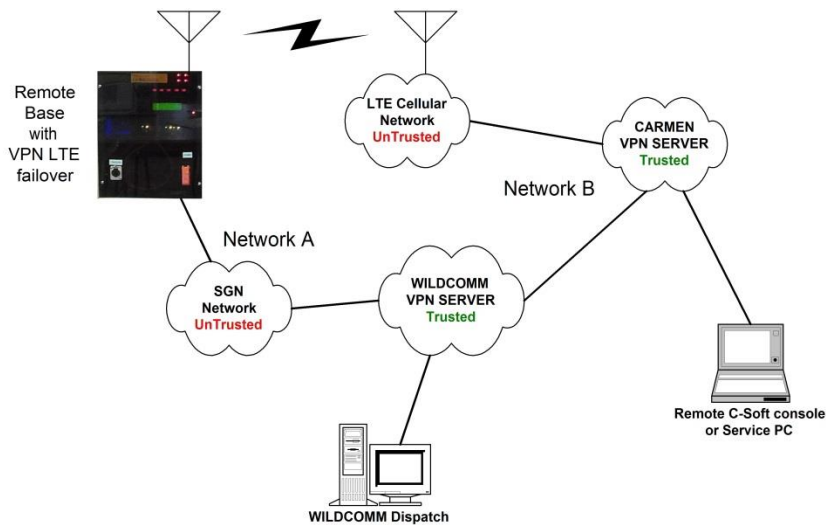
By the end of December 2016 the WDFW had attained nearly 90% radio coverage of the State of Washington. The challenge was how to reach the goals of RoIP/SIP phone integration, LTE Smartphone PTT radio access, Officer Alert response and achieving PSAP status for WILDCOMM.

With the aid of their technology partner Phase 4 Design, the agency developed a prioritized 2 year plan to stabilize the RoIP Network, integrate SIP phone calls into the C-Soft console, improve remote base availability with LTE failover and implement Emergency response for radio users in the field.

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To address the RoIP network stability, Phase 4 suggested an Encrypted Virtual Private Network (VPN) appliance. This device was specifically designed for RoIP networks and the requirement for transporting Multicast audio packets across a WAN. This transport service was originally provided by the State Government Network (SGN) but it had persistent dropouts of network connectivity. The VPN appliance also provided auto failover as a standard feature. This allowed WDFW to add LTE based Ethernet radios to automatically use the local cellular network and reestablish the RoIP network VPN connection.

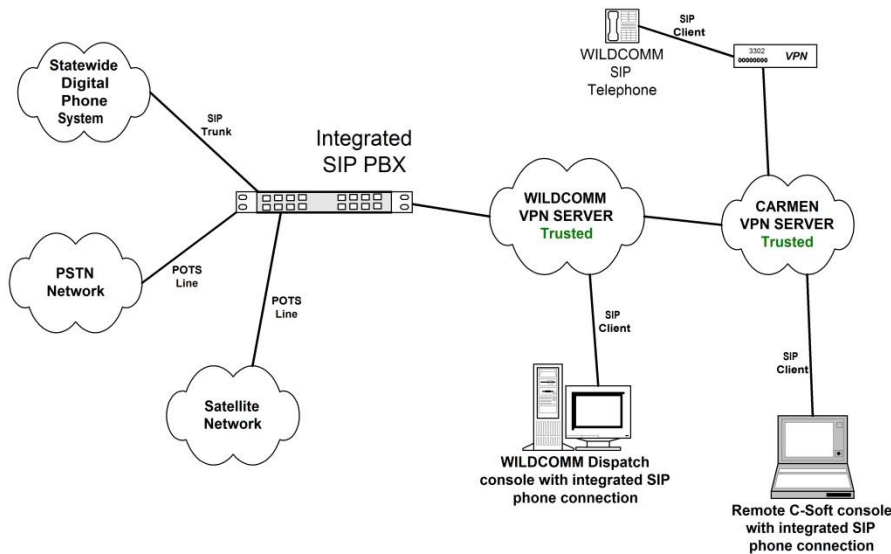
In order for the WDFW to fully realize their LTE backup goal, the agency needed a secure method to connect the failover connection to WILDCOMM. This was accomplished with a service known as CARMEN or "Cloud Access Real-time Multicast Encrypted Network", developed by Phase 4 Design. The CARMEN Service provides an Encrypted address on the Internet that can be used as an alternative meet me point for the RoIP VPN traffic. As an added benefit, CARMEN provided the ability to connect a remote C-Soft console or provide maintenance support services from virtually anywhere.



An encrypted VPN and the CARMEN service allows seamless failover

The Telex C-Soft console has the ability to integrate with a standard SIP phone system. The new system design included a standard SIP PBX as an essential component of the RoIP network. This allowed WDFW the flexibility of providing integrated radio/SIP phone services to WILDCOMM. The PBX will provide a SIP Trunk interface to the statewide digital phone system along with a Plain Old Telephone Service (POTS) Line interface to the Public Switched Telephone Network (PSTN) and connection to a local satellite phone for backup. When CARMEN is added to this configuration, WDFW is able to add SIP phone extensions to the WILDCOMM system during an emergency situation.

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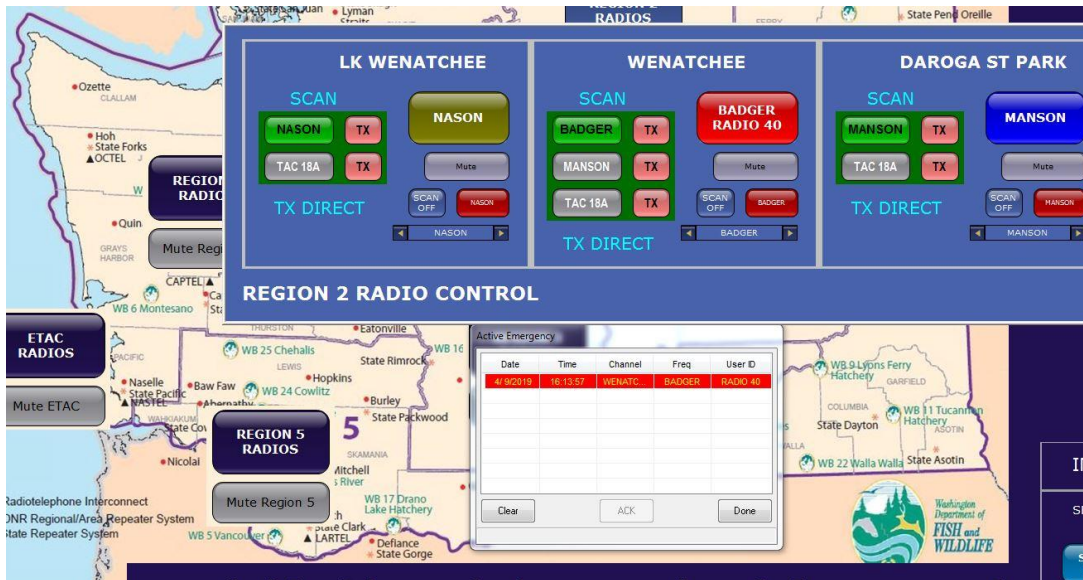
Integrating multiple services with a SIP PBX is a normal task

By the beginning of 2018, the WDFW dispatch center had now achieved 2 of their long term goals with the stabilization of the RoIP network and integrating SIP phone capabilities into the WILDCOMM C-Soft console. The impact of using an integrated SIP PBX was immediate. With the addition of an Automatic Call Director (ACD) handling inbound calls, the dispatchers no longer had to accept and then transfer calls for other departments. This could amount to 2 in 5 calls requiring a transfer and it is now done automatically. Traffic studies revealed that, post ACD, the center was handling as many as 100 calls a day for service with an average call length exceeding 140 seconds.

Accessing remote wilderness areas or underground facilities can be difficult with traditional LMR coverage. The WDFW needed a solution for areas that were not covered by traditional means but may have a cell site to service the local users. With this in mind, Phase 4 Design developed the ETAC solution to bring a Smartphone PTT app like ESChat into the Telex C-Soft console as a standard radio interface. No additional training was required for the dispatchers because it looked like every other radio on the console. An ETAC channel can be patched to a different radio or added to a SIP phone call. ETAC also allowed administrative personnel to be in contact with WILDCOMM without having to carry a radio.

With an eye on Officer Safety, the WDFW radios all have a single button to signal an Emergency or Man Down. Based on the radio fleet, MDC-1200 was chosen as the common signaling format to enable this feature. This information was programmed into the radios and the C-Soft consoles in WILDCOMM. The Man Down signal was also added into the console light tower display system. This was a way to give an additional visual queue that an emergency had been triggered. Enabling MDC-1200 also allowed radio ID's to be sent to the console and displayed as the calling car number or name.

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During a Man Down Emergency the radio channel flashes red with an alarm at all WILDCOMM consoles until it is acknowledged

The agency covers wildlife enforcement calls in the State of Washington and has for some time. This fact made WILDCOMM the natural PSAP for all 911 calls for servicing a wildlife incident. After a lot of hard work and smart technical choices, WDFW was ready to apply for statewide PSAP status.

WILDCOMM is now the destination for all 911 incidents involving fish and wildlife in the state of Washington.

When asked about his level of success, Captain Phil Johnson, the Radio Communications Center Manager said,

"Our partnership with Phase 4 Design has made all of these milestones possible and we would not have achieved this level of performance and capability without their expertise."

Next Steps: Establish a mobile EOC, integrate WiFi and Satellite PTT radios into ETAC and the Telex C-Soft console, and Join the 911/E911 community.

Phase 4 Design, Inc. is located in the Pacific Northwest, near Seattle, Washington. We have been providing solutions to complex technical problems since 1989. Our nearly 45 years of combined experience in the areas of Two-way Radio/Public Safety/Paging, Telephony, LAN/WAN Network Design and Software System Design, makes Phase 4 Design, Inc. uniquely qualified to support Telex Radio Dispatch System Design, Implementation and Maintenance. Services are available Worldwide.

For more information contact Mike or Dave Grant at 425.402.7308. Visit our website at www.phase4.org.