



**AVAYA**



# STATE OF MONTANA CORRALS SAFETY CONCERNS, LASSOS EXPENSES WITH UNIFIED COMMUNICATIONS SOLUTION

## CHALLENGES

- Centralize telecommunications on a primary and backup data center
- Modernize the telecommunications system
- Implement remote access
- Reduce costs, including for 911 calls
- Establish seven-digit dialing

## VALUE CREATED

- Cost savings on voice circuits of \$50,000 per month
- Eliminated \$168,000 annual costs to call 911
- Decreased time for first responders to reach 911 callers
- Eliminated PSTN costs for dialing between State campus locations
- Time and cost savings from ability to remotely diagnose and repair issues
- Less downtime due to VoIP on fiber not being affected by weather

## E911 Solution Aids Cardiac Victim Within First Week of Deployment

When the State of Montana upgraded its unified communications systems to Avaya, it didn't expect to need the 911 capabilities it had recently brought online so soon. But when an employee showed signs of cardiac arrest, the time it took for emergency services to arrive may have been the difference between life and death.

As with many enterprise and commercial organizations, the State needed to replace the legacy Multi Line Telephone Systems (MLTS) systems that were nearing the end of their useful life. While the telephone devices still functioned, some of the back room equipment dating back to the 1980s had started leaking battery fluid and posed a danger. Additionally, the legacy carrier T1 circuits that supported the 10,000 phone lines and 20 PBXs no longer made the best use of taxpayer funds for this connectivity.

At a high level, the State's unified communications system was anything but unified – rather, it was a siloed architecture that utilized hundreds of separate databases. Additionally, it lacked the remote access capabilities that the current users required. From a maintenance perspective, whenever a problem surfaced, a technician from the Montana State Information Technology Services Division (SITSD) was required to physically travel to the location to complete the assessment and repair. This could take several hours or even days, depending on the time of year and weather conditions. SITSD quickly recognized the benefits that a modern

unified communications system would deliver and identified a unique opportunity “to do more with less” using new solutions that would provide significant cost savings. At the same time, SITSD realized they could further increase system resiliency and reliability by centralizing the solution in a data center and adding a backup data center at a separate location. This flattening exercise would also provide them the opportunity to convert from circuit switched T1 services to new carrier-based SIP, saving tens of thousands in taxpayer money annually. Once they decided to implement this new cost savings vision, SITSD chose a slate of Avaya products to fill the needs of the new design.

## Choosing a Cost-Effective Unified Communications System

From the beginning, Voice Architect Jeff Unger was challenged with spending taxpayer dollars prudently while still finding the most effective solution for the State. With a career history in the



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—Jeff Unger, Voice Architect,  
State of Montana

private sector, Unger had previously used Avaya and held a level of appreciation for the quality and longevity of the products. Based on this experience, he solicited pricing for an Avaya solution, in addition to two other competitor systems for comparison. In the end, the factor that ultimately swayed his evaluation was the cost-effectiveness he was able to obtain moving from Nortel to Avaya Aura®; based on recycled user licensing, the State realized an incentive by installing new Avaya communications solutions. After completion of the installation, the State was able to receive a credit back on licensing, which significantly lowered the total cost of the new system. Additional savings were realized from the SITSD team, as they already understood and had the skillsets to support the Avaya products because of their similarities to the previous solution.

*“With the two systems now integrated through Avaya System Manager, SITSD could go live with one phone, building, or floor at a time seamlessly, without the end user even noticing,” Unger says. “We could go live during the day, requiring a lot less resources on our side and no interruptions on the user side.”*

During the project, SITSD also planned to migrate to a seven-digit internal dial plan, merging the 13 different plans that existed on as many PBXs into one. This migration would allow users to easily dial each

other directly, eliminating the need to use an outside line. Dialing would be similar to users using a home phone, using 1 plus ten digits to call outside the area code. In addition to simplifying the process, SITSD was able to eliminate toll calls made within the State to other offices.

As another part of the project, SITSD wanted to provide for an emergency response system that would be able to more effectively handle 911 calls in the facility. The current systems were creating an excessive administrative workload, and costs were spiraling out of control. Unger and his team researched the available E911 options and found that Conveyant was very responsive to the State's needs. Additionally, the team at Avaya presented the added benefits the Conveyant Sentry E911 solution delivered when coupled with the Avaya Aura platform and the Avaya ability to leverage specific device location-based discovery mechanisms and onsite notification to provide an effective and affordable solution. Monthly operational cost reductions were realized by consolidating and centralizing all 911 call routing utilizing specialized VoIP Positioning Carrier (VPC) services that provided control over the solution that using a SIP carrier alone wasn't able to provide.

## Implementing Seven-Digit Dialing, E911 Capabilities, and Improving Peace of Mind

Understanding that a phased implementation would likely help work through any unexpected issues, SITSD installed the new Avaya unified communications system by building rather than PBX. In Helena, Montana's capital, 6,000 phones relied on the PBX. Because of this large base of users, any installation was likely to become complicated and disruptive. To begin, Unger performed a network study to ensure the new system would work properly on the State's infrastructure. Any configuration

issues the team discovered were repaired as needed.

Taking on each floor at a time, implementation at headquarters started in the basement, continuing through the various floors, and then moving on to the next building. It was during this phase that Unger brought the Conveyant E911 solution online. With this reengineered solution for E911, anyone in a specific building dialing 911 would send a special number to the 911 PSAP indicating the dispatchable address. Additionally, an additional alert with station-specific information was routed to an appropriate internal first responder, providing critical, location-based incident notification. In addition to providing the exact location, staff was able to meet the arriving emergency services and escort emergency personnel to the caller's exact location.

All too soon, the State experienced a real-life example of the solution's effectiveness. An employee was experiencing chest pains and dialed 911. The call was routed properly, and the Caller ID alerted the PSAP of the dispatchable building address. To enable a call back directly to the station, the system established a dynamic call forwarding that would allow emergency services to call back to the employee, whether they had a direct number or not. With the internal team having full situational awareness, they were able to meet paramedics at the building front door, leading them immediately to the basement where the caller was located. This cut down response time to just a few minutes, and it is this speedy response that is attributed to saving the employee's life, as well as increasing safety and peace of mind among State employees.

*"We didn't expect to need E911 so soon," recalls Unger. "The employee was a brand-new user, one of the first 100 people on the system. You always think in the back of your head, 'Did I do everything right?' Seeing the EMTs come through the right door was amazing - it worked."*

## Creating Cost Savings for Taxpayers

Besides the intangible benefit of improved employee safety, the new Avaya system is also saving taxpayers money each month through improved efficiencies. Conservatively, Unger estimates that, on the reduction of E911 required voice circuits alone, the State of Montana saves \$50,000 per month while increasing situational awareness and effectiveness of the solution. Since the 911 calls can now use centralized dispatchable address numbers, and the internal solution can provide specific location information onsite without having to go through the carrier, SITSD enjoys an additional savings of \$168,000 each year. All of these savings on public safety come on top of the savings realized by eliminating toll charges for calling between state offices.

By moving to VoIP over a fiber network, the system experiences more uptime and therefore requires fewer repairs. Previously, weather incidents or external damage could knock out a telecommunications cable, which is no longer an issue. If a problem does arise, the Avaya Diagnostic Server lets SITSD remotely troubleshoot the problem, eliminating the need for staff to travel to diagnose a problem.

## Ensuring a Solid Unified Communications Future

The move to Avaya products has just begun for the State of Montana. In the coming months, SITSD will continue rolling out Avaya Aura to all State sites. The team will also deploy Remote Worker, which allows State employees to work from home and ensures business continuity during a weather-related closure. It will also enable employees to telecommute, creating further cost savings. Finally, SITSD also has plans to install the Avaya Notification Solution to proactively push alerts to employees, such as natural disaster updates or

## TRENDS IN E911

Next-generation 911 capabilities are changing the way emergency responders save lives. New laws require direct access to 911 without knowing and dialing access codes, saving valuable seconds. Onsite notifications provide internal staff with critical situational awareness allowing them to direct emergency personnel.

The Conveyant Sentry E911 application has been purpose-built for next-generation 911 while fully supporting legacy 911 environments. Text messages and Breeze snap-ins allow for team formation, conferencing in the relevant responders and presenting them with relevant 911 information. The combination of Avaya Aura and Sentry E911 delivers enterprise situational awareness, getting the right information to the right people at the right time.

Sentry E911 can utilize the MAC address on the data switch port level and Layer 3 subnet information to pinpoint where a 911 call originated from, in addition to database correlation for closed networks not accessible to other applications, such as those in use by the US Government. Internal staff can track the location of a caller when 911 was dialed, even if the user is on a wireless phone. Maps, floor plans, and historical records of alerts can all be accessed. In addition to Avaya Corporate, the solution is used by the U.S. Senate as well as FBI PBXs supporting a plethora of field offices across the country.

## About Avaya

Avaya enables the mission critical, real-time communication applications of the world's most important operations. As a global leader in delivering superior communications experiences, Avaya provides the most complete portfolio of software and services for contact center and unified communications — offered on premises, in the cloud, or a hybrid. Today's digital world requires communications enablement, and no other company is better positioned to do this than Avaya. For more information, please visit [www.avaya.com](http://www.avaya.com).

other warnings. Departments have also asked for Avaya Aura Breeze to block unwanted calls.

*“Avaya has a solid technology heritage, which is very valuable to us as we replace our systems,” says Unger. “The legacy system we used has been running since the 1980s, and we expect the Avaya system to last just as long.”*

As SITSD continues to implement Avaya systems, it looks forward to introducing new capabilities that save taxpayer money while improving communication statewide. Avaya Breeze will not only screen and block unwanted calls for the public defender and other offices occasionally subject to abusive calls, but also introduce TLS 51 secure calling to prevent the risk of hackers recording calls.

The outlook for its partnership with Avaya is optimistic, particularly with Avaya's fast response to SITSD's questions. *“Avaya tech support is A-Number-1. It's amazing that I can say, ‘Hey, look at this,’ and my Avaya representative will jump on a call, bring the resources together, and get the issue fixed in a timely manner. Issues don't sit and wait,”* Unger says.

## Learn More

For more information, contact your Avaya Account Manager or a member of the Avaya Connect channel partner program, or access other materials by clicking on Resource Library at [www.avaya.com](http://www.avaya.com).

### SOLUTIONS

Avaya Aura®

Avaya Aura® Session Manager

Avaya Aura® Messaging

Avaya Aura® Communication Manager

Avaya Diagnostic Server

Avaya Session Border Controller

Conveyant Sentry e911 Emergency Location Management

## About the State of Montana State Information Technology Service Division (SITSD)

The mission of the State Information Technology Services Division is to provide shared IT services to support the needs of the state and citizens of Montana. SITSD has a vision of being an organization that focuses on customer service, innovation, technology that supports Montana citizens and businesses, technology that makes government more effective and efficient, security and data protection, and enterprise platforms that provide advanced and affordable technology for State and local government.

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