

## City Increases Services Despite Decreased Budget and Staff

Colorado Springs integrates voice and data over single platform, improving citywide communication and reducing costs.

EXECUTIVE SUMMARY
<p><b>CITY OF COLORADO SPRINGS</b></p> <ul style="list-style-type: none"> <li>• State and Local Government</li> <li>• Colorado Springs, Colorado USA</li> <li>• 408,307 Citizens within City Limits</li> </ul>
<p><b>BUSINESS CHALLENGE</b></p> <ul style="list-style-type: none"> <li>• Aging PBX voice and data network struggling to keep up with population growth</li> <li>• Single point of network failure, allowing for the entire system to shut down</li> <li>• Decreased voice and data operations budget and staff</li> </ul>
<p><b>NETWORK SOLUTION</b></p> <ul style="list-style-type: none"> <li>• Deploy Cisco's voice over IP (VoIP) network for multiple entry points</li> <li>• Redesign entire backbone network, security platform, and redundancy plan</li> </ul>
<p><b>BUSINESS RESULTS</b></p> <ul style="list-style-type: none"> <li>• Improved citizen access to city services, increased flexibility for voice and data connection and improved data security</li> <li>• Reduced phone service costs</li> <li>• Enabled citizen transactions via voice network or enhanced internet services at any time</li> </ul>

### Business Challenge

The City of Colorado Springs covers 186.1 square miles, making it one of Colorado's largest cities. With an estimated population of 408, 307 within city limits, it is the second most populous city in the state and 48<sup>th</sup> in the country. The city was named the number-one "Best Big City" by *Money Magazine* in 2006 and was listed as the number-one "Best City of 2009" in *Outside Magazine*. Over the past 20 years, approximately 1.3 million people have visited Colorado Springs to partake in the 249 annual days of sun, tech-based economy, and easy access to four million acres of Rocky Mountain wilderness and world-class ski resorts.

The city's 15-year-old legacy private branch exchange (PBX) voice and data network struggled to keep up with the rapid population growth. "Due to the age of the voice and data infrastructure, getting vendor support was difficult, and in some instances, impossible," says Curly Matthews, chief information officer for the City of Colorado Springs. "In one instance, the battery supply for a critical switch failed,

and we had to search eBay to find the necessary equipment to keep the network box functional. Our greatest fear was having a police or fire station shut down for a day or more due to a voice or network failure."

The city had a single point of failure for most voice services due to the routing of voice through a single location and had no ability to re-route traffic. Whenever the PBX had problems, the entire system would shut down, causing a decrease in citizen services. Ultimately these issues left city employees and residents frustrated and disgruntled.

In addition to the failing network, Colorado Springs continues to experience the pressures associated with a downturn economy. In 2009 alone, the number of city employees had decreased by 400, including more than 15 IT staff members. This development forced Matthews and his team to employ technology that could be managed by a smaller staff. "We needed to improve employee productivity with a reduced headcount and budget in our voice and data operations," says

Matthews. “We had to work smarter in order to use technology in ways we had not done before. The effective delivery of services to our fellow employees and citizens is critical to what we do.”

“Our strategy was to deploy a reliable, single network platform that integrated both voice and data over the same architecture, at the same time, and cut overhead costs,” says Matthews. “In addition, we wanted to reduce the inherent risks associated with having a small staff. Cisco is a technology leader in combining voice and data over a single architecture, making the company a natural choice. The flexible technology coupled with the account team’s ability to address both the technical and nontechnical side of the city’s management team demonstrated that Cisco was the best choice for us.”

The decision to pay for an upgraded system was not an easy sell, however, especially because the city went through major budget shortfalls and increasing layoffs. “It was a tough decision to spend the money on a new infrastructure while our friends and colleagues were being laid off,” says Matthews. “But we had reached a breaking point. Historically, the budget to upgrade the city’s voice and data infrastructure was limited due to the economy, but we had begun to experience network and hardware failures on a consistent basis.”

### Network Solution

The Cisco team worked with Matthews, Jesse James, manager of infrastructure services, and Matthews’ staff to develop a strategic solution that best suited the city’s needs. “Any vendor can sell a switch or a phone,” says Matthews. “Cisco brought innovative ideas to the table that would bring our city’s voice and data infrastructure up-to-date and in line with state-of-the-art technology.”

Cisco’s voice over IP (VoIP) network gave Colorado Springs the ability to have multiple entry points for voice and data connections for employees and citizens. “Now, if the primary switch location were to fail, the city can automatically switch over to the backup voice and data site,” says Matthews.

The upgraded voice and data network plan included a redesign of the city’s entire network backbone and a security platform. The security component consisted of an inherent redundancy plan, protecting the city’s infrastructure against malicious attacks, cybercrime, and citizen identity theft.

### Business Results

Since October 2009, Colorado Springs has seen several benefits from implementing Cisco’s VoIP platform. Citizens can reach every city department at any time, thus improving services to citizens and increasing communication between each city building. In addition, the redundant design of the

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— Curlie Matthews, Chief Information Officer, City of Colorado Springs, CO

new system helps ensure a complete citywide connection to the Internet. Therefore, if the primary Internet connection fails, the system automatically switches to the backup site, allowing citizens to continue conducting business with the city via Internet.

Colorado Springs has also seen a reduction in its overall cost of phone service. “With the legacy system, if I wanted to call someone in the police department from my desk phone, I would have to dial a seven-digit number and pay local fees,” says Matthews. “With the implementation of the Cisco VoIP platform, now I just dial a five-digit number with no incurred costs. This saves you major tax dollars if you are a citizen of Colorado Springs.”

The VoIP network also improved city efficiencies and reduced costs. Even though Matthews’ staff was reduced by a third, all voice and data departmental requirements are fully met. “My entire network engineering group is now qualified to support both our voice and data operations,” says Matthews. “With the hundreds of moves, additions, and changes that the city has undergone as a result of restructure and reorganization, the VoIP platform allowed us to stay on top of all administrative changes. When a city employee relocates, they can simply pick up their phone and computer, move to a new office, plug in, and the network will automatically identify them, update their location in the database and continue to provide support. All of this can happen without having to dispatch one person into the field.”

Today the network, Internet and data are readily available both internally and externally, and the installed Cisco security platform prevents attacks on the city’s infrastructure. “We see nearly 20,000 cyber attacks a day on our network,” says Matthews. “Our level of confidence in the security of employee and citizen data has increased 100 percent as a direct result of the network infrastructure built around Cisco’s routers and switches.”

## PRODUCT LIST

### Routing and Switching

- Cisco Aggregation Services Routers (ASR)
- Cisco Nexus and Catalyst® Switching

### Security and VPN

- Cisco Adaptive Security Appliances (ASA)
- Cisco Monitoring, Analysis and Response System (MARS)
- Cisco 802.11x Borderless Network Solution Components

### Voice and IP Communications

- Cisco CallManager with CUWL Licensing
- CUVA Video Cameras

### Wireless

- Cisco 1142 Access Points
- Cisco Wireless Controllers

## Next Steps

Matthews plans to fully utilize the caller-feature functionality of the Cisco VoIP platform in order to automate as many interactions as possible with the public. Enhanced Internet services will enable citizens to fully interact with the city, day or night, based on the open architecture and security inherent in the new voice and data technology.

“We plan to increase citizens’ access to information on the operations of the city so they are more aware of the decision-making process and understand how tax dollars are being spent to deliver services to the entire community,” says Matthews. “With the reduction in overall staff, we have to make this information available and easily accessible to citizens. Having the right technology to allow a citizen to log into the city’s infrastructure, yet at the same time protect that infrastructure from malicious attacks, is key to how a local government is able to provide services and be accessible to its citizens.”

## For More Information

To find out more about the Cisco's state and local government solutions, go to:

[http://www.cisco.com/web/strategy/government/us\\_state\\_local/index.html](http://www.cisco.com/web/strategy/government/us_state_local/index.html)



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