Busy in Bee Cave

Small city makes a big difference with its ambitious IT projects.

Bee Cave, Texas, is a small city with big plans. It has 2,200 residents, but its population is projected to grow by more than 600 percent by 2030. It has a new City Hall, and numerous other big projects are under way. Many of them are IT projects, the kind that normally occur in much bigger cities.

"We want to ensure that investments in IT position Bee Cave as an 'intelligent city' of the future," said Richard Reynolds, chief technology officer for the city. Reynolds and his team have been busy putting in all kinds of infrastructure, in addition to more advanced projects. These include sharing 911 services with a nearby city, unified communications, voice over Internet protocol (VoIP), in-car video for police vehicles and wireless access for the public.

Bee Cave is 14 miles west of Austin. It was incorporated as a city in 1987, but its rapid growth has come in recent years. That growth is due, in part, to an ambitious City Council, which encourages Reynolds to think creatively while planning for the future.

"We definitely try to provide a long-term, strategic view," Reynolds said. "Capacity planning and extensibility are always factors." Those are just a couple of reasons the small, growing community presents a unique opportunity. "That's one of the things that personally attracted me to Bee Cave," observed Reynolds. "It's not often you have an opportunity to get in on the ground floor and design and build things from scratch from day one."

Reynolds' drive and vision — aided by support from government leaders — resulted in him being named 2008 IT Executive of the Year for Public Sector by the Austin chapter of the Association of Information Technology Professionals.

Thriving on Challenge

Reynolds has worked with CDW Government, Inc. (CDW-G) on numerous projects. CDW-G has assisted Bee Cave with network routing and switching, backup, servers, firewalls and more. The company even worked with the city to provide audio and video production equipment for the Council chambers.

Despite the challenges of working in a small city, Reynolds and his team have tackled many projects. The city recently finished deploying an improved public wireless infrastructure in City Hall and the public library. The system allows people access to the city's fiber Internet line so they have much faster Internet connections. Citizens have already given city representatives positive feedback on the expanded services.

Reynolds and his team installed extra security for the wireless infrastructure, reversing the intrusion prevention system to protect against attacks being launched against entities outside the network. This way, no one can use the wireless access to launch cyberattacks from the city's IP addresses.

The city is also setting up private wireless infrastructure for employees in City Hall and the Police Department. It's combining voice and data communications and allowing city employees to access network resources securely when away from the office. "We've done our best to unify most of our communications, so city staff can work from just about anywhere," Reynolds said.

The city also completed a migration to a new, in-car video-recording system for police department vehicles. "Officer safety is a primary concern for having video in the units," said Reynolds. "So anytime an airbag deploys, it will capture the previous 30 seconds. If the vehicle exceeds a certain speed, it'll automatically begin recording. Anytime the officer activates a horn, siren or light, it begins recording."

In addition to creating a safer environment for officers, the new system also increases public safety by giving commanders better information when making decisions. "The system is capable of streaming that video, which would let the chief see in real time what's going on in the units, from his desk," said Reynolds. "He would be able to see what's happening and make a tactical decision on whether he needs to deploy additional assets."

Previously officers had to drive their patrol cars to a docking station to upload video, essentially removing the cars from

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service for a while. With the new secure wireless infrastructure, officers can upload video while staying in service.

More New Projects

Bee Cave is partnering with Lakeway, a neighboring city a few miles away, for a new records management system (RMS) and computer-aided dispatch (CAD) for public safety. Lakeway's public safety answering point (PSAP) serves as the 911 call center that dispatches for the Bee Cave Police Department. The new RMS/CAD system will leverage Lakeway's PSAP and Bee Cave's networks. It will allow Lakeway dispatchers to push maps and incident information out to the mobile data terminals in Bee Cave's police cars, enabling quicker response times to citizens' calls.

The two cities are also considering options for an automated vehicle locator system that would constantly display the location of police cars. This solution will provide additional safety for officers while giving commanders a clearer picture of available resources during an incident.

Bee Cave is also designing a temporary command center that can be used to respond to a local event. The city doesn't have an emergency operations center presently, but the plan calls for using space within City Hall to accommodate the FBI, sheriffs' departments, Austin Police Department and other agencies that would be involved in response to an incident. The plan would let various agencies communicate better, work together more closely and share data in the temporary space.

"We can deploy an additional switch, drop 30 phone lines in there and dedicate 800 numbers to start receiving tips and things along those lines," Reynolds said. "That's something we're planning and designing right now."

Technology for the Future

A microwave backhaul project provided a connection between municipal buildings, with numerous benefits. "That dramatically increased bandwidth for both voice and data," Reynolds said. "And it also eliminated the need for leased lines. This means we'll get about 100 percent return on our investment in a little less than three years. And we did a significant portion of that project in-house, including the tower mounts and fiber termination." The new system also allows IT staff to take snapshots of backups for disaster recovery and send those across the network between buildings.

In the public library, Reynolds and his team set up new workstations for public use. While visitors previously had four stations available to them, they now have 12. And by sharing resources among the 12, the city saves money on energy to power the computers.

With the help of CDW-G and others, Reynolds finds it very satisfying to provide services for the city's residents, businesses and visitors. "It's amazing," he said, "the variety and flavors of technology that we put our hands on, on a day-to-day basis here in Bee Cave, in working with our partners, such as Lakeway, and the vendors that work with us."

It goes with the territory in a small city with leaders who think big. "I feel blessed and fortunate to have the support of our City Council," said Reynolds. "They really are a forward-thinking body, and that makes it easier, when you're in a growth organization that's smaller and more nimble, to effect meaningful change."