



Beautiful Sonoma County Community Benefits from Enhanced Local Area Networking Solution

About Petaluma

Petaluma, at the top of San Pablo Bay along Highway 101, is 35 miles from San Francisco and just south of Santa Rosa. It's one of the oldest cities in California, recently celebrating its sesquicentennial anniversary. Petaluma played an important part in the state's early history, supplying chickens, eggs and produce to the boomtowns of San Francisco and Oakland during the Gold Rush. Agribusiness, telecommunications and tourism are Petaluma's largest industries. Today the city's location in picturesque Sonoma County is close to 195 wineries, numerous art galleries, antique shops and restaurants.

Situation

Like many municipalities challenged to operate on a limited budget, the City of Petaluma has to choose technology carefully. By the late 90s, however, city employees had begun to rely heavily on computers for e-mail, word processing, file storage and other basic office functions. The T1 lines that connected Petaluma's municipal offices soon proved inadequate to the task of keeping the city's 350 employees connected. Simple operations took so long that workers sat idle as they waited for their computers to respond. The city needed a solution that would enable workers to perform job responsibilities quickly and efficiently to benefit city residents and businesses.

Solution

To fulfill its mission of delivering excellent service to the community, the City of Petaluma relies on AT&T OPT-E-MAN®, a switched Ethernet service that facilitates real-time communication among the city's local area networks and enhances Internet access. OPT-E-MAN provided all the bandwidth employees need to do their jobs and positioned Petaluma to replace its Centrex phone system with a Voice over IP (VoIP) network.

Networking the Telecom Valley

Petaluma today is an attractive tourist destination known primarily for upscale restaurants and shops, but agribusiness continues to be an important part of the city's economy. The city earned the nickname "the world's egg basket" in the 1800s after local farmers, eager to increase hens' output to feed prospectors flocking to California,

invented the incubator and mechanical brooder, greatly speeding up the hatching process. The annual Butter and Eggs Day Parade is a reminder of the city's agricultural heritage.

The second largest city in beautiful Sonoma County, Petaluma was spared by the huge 1906 earthquake that flattened San Francisco and so many other California towns. It has a well-preserved historic downtown area, with charming Victorian homes and iron-front buildings on the National Register of Historic Places.

In the 1980s Petaluma became known as the Telecom Valley because of companies like Advanced Fiber Communications (acquired by Tellabs), Diamond Lane Communications (acquired by Nokia) and Cerent (acquired by Cisco) that were started or headquartered in the city. Even with such a rich base of local expertise, though, the City of Petaluma was behind the curve when it came to telecommunications. There was "a very substantial lack of technology" when Petaluma IT Manager Tim Williamsen started with the city in 1999. "City Hall was barely wired," he said. "My former boss used to call it a Clean Slate."

City of Petaluma Facts

- **Business Needs**
Increased operational efficiency to better serve residents and businesses
- **Networking Solution**
Mesh network provides easy-to-manage bandwidth to support Petaluma's enterprise applications and Internet access
- **Business Value**
Productivity increases allow workers to more perform their jobs more effectively; cost savings of hundreds of thousands of dollars free precious municipal resources
- **Industry Focus**
City government
- **Size**
56,000 residents



Williamsen's first assignments were Y2K remediation planning, automating the city's utility billing system and expanding City Hall's local area network to include the police and fire stations and other remote locations. Because the city used an AT&T Centrex phone service, he tapped AT&T to upgrade the city's data networking with T1 lines. Almost immediately, he also began looking to the city's future networking needs.

Doing Business Effectively

In just a few years network traffic increased tremendously in Petaluma. Simple operations strained city networks and frustrated users. "The public and our constituents had grown to think that you should be able to do certain things with technology," he said.

"One of my big challenges is to get people around here to realize that your expectations today are not your expectations a year from now and definitely not those of two years ago." For instance, Williamsen said, "In 1999 the T1s were terrific," but by 2005 they were not meeting the city's needs. "Some e-mail attachments were so big they took 20 minutes to open," Williamsen said; the latency caused some workers to believe their computers were broken. Because the life cycle for most technology is just a few years, a five-year-old network is "ancient," he noted. For that reason the flexibility and scalability of the OPT-E-MAN switched Ethernet service were attractive to Petaluma, which needed a solution that would grow as the city found new ways to use it.

The network cost was also appealing – just slightly more than the price of the city's existing network services. To make the deal even sweeter, the city was able to streamline the purchasing process by using the California Department of Telecommunications Services' contract vehicle rather than requesting vendor proposals. "It was a heck of a deal and we didn't have to bid it," Williamsen said. "Even if we had gotten bids, we couldn't have come up with a better deal. AT&T was able to offer us a price that was a far better value than our existing network and the new solution provided a significant increase in capacity and connectivity."

The strength of the new network was apparent immediately. "Our bandwidth increased by 35 to 50 times," Williamsen said. "Finally our staff was able to do business the way they had expected." Easily handling e-mail and file sharing, the network also supported the city's comprehensive financial management system.

Today Petaluma is using its network to create an extranet that will allow vendors to access city account information, and let accounts receivable customers view their monthly balances, processes that formerly required a phone call or letter. It's also working to offer paperless bills and statements to its 23,000 utility customers.

The network will also support the launch of the city's new environmentally advanced Ellis Creek Water Recycling Facility, even though the site is far from City Hall. "Our technology will enable a lot of the green processing," Williamsen said.

The network design and engineering provide high levels of availability, reliability and security – helping to assure business continuity with continuous operations and access to critical information. "OPT-E-MAN's reliability is better than our old T1s," Williamsen said. "We designed it as a mesh network (which routes voice and data between nodes, reconfiguring around broken paths) so if some things go down we have continuity because of alternative routing."

"In the past people had to stand around and wait. Every time you can eliminate two minutes, five minutes, 20 minutes of standing around and waiting, whether it's for an e-mail message or an upload, you're saving the public money."

– Tim Williamsen, City of Petaluma IT Manager

Saving the Public Money

The new network gives Petaluma geographic information services (GIS) capabilities, which it uses to direct safety forces responding to emergencies, and to facilitate property acquisition, development planning and building permits. "With GIS information we're able to make the processes go a lot more smoothly than we could even ten years ago."

For instance, if a resident wants to build an addition, the city is required to notify other property owners within a 300-foot radius. "This used to be a time-consuming process," Williamsen said, "but GIS enables us to do it very easily." Other proposed changes require a thorough review by fire marshals, police or the water department.

"Keeping track of the permit, responsibilities, costs and ordinances was complicated," he said. The city formerly outsourced these processes to a managed hosting provider, but was again able to manage the process internally once it deployed its new network. "Moving that whole system in-house saves us \$70,000 or \$80,000 a year on the permitting process alone," he added.

The network also lets people submit plans electronically, eliminating the need to print multiple copies of large, full-color drawings, bring them to city hall and stand in line. "They don't have to waste their time and they don't have to waste the counter people's time." It also makes it much easier for employees who use handheld computers to measure water usage and upload data quickly to City Hall. "That process was okay with the T1s but it's better with OPT-E-MAN," Williamsen said.

"In the past people had to stand around and wait. Every time you can eliminate two minutes, five minutes, 20 minutes of standing around and waiting, whether it's for an e-mail message or an upload, you're saving the public money. And when you multiply the number of times these kinds of things happen by hundreds of employees, you are about to save a substantial amount of money," Williamsen said.

Easy to Deploy, Maintain and Manage

In addition to improving data networking, AT&T's OPT-E-MAN made it easy for Petaluma to replace its old Centrex phone system with Voice over IP (VoIP) phones. "We basically deployed another 300 computers shaped like phones," Williamsen said. Moving, adding and changing lines can now be accomplished with a few keystrokes; in the past the city had to place orders by phone, and wait for a technician to show up to perform the maintenance. "Moves out and changes were problematic," Williamsen said. "Very commonly a technician would show up at the wrong building to install or move a line, or not have the right phone number. It was hit and miss and there were always delays."

To complicate matters, some city departments purchased their own telephones, making it very difficult for the IT staff to provide support. Adding the VoIP phone system and a Cisco® CallManager, which gives IP phones advanced capabilities, means everyone in the city is using the same equipment. This has created productivity gains when it comes to moves and changes and technical support.

Before installing the VoIP phones the city's IT staff had assured their colleagues that they would see a dramatic improvement, but privately worried about staff reaction. By the end of the first day VoIP was

installed, he said, "We were smiling and thinking, 'this is going to work; we're going to like it.'" Williamsen's group saw that the new system would be easy to deploy, maintain and manage. "They were sold on it immediately," he remembers.

After staff members were trained to understand the new phone and all its features the city experienced a paradigm shift. There are far fewer requests for help with the phones, but IT professionals now are happier to assist when necessary. "We moved from a culture where IT staff would say, 'Your turn' when a user called for help. Now when a user calls, they all say, 'My turn'."

Petaluma's network is slightly more expensive than the city's former system, but Williamsen said the resulting benefits far outweigh the additional expenditure. "The productivity we gained equates to thousands of dollars per month," he said. Gains of a few seconds or a few minutes add up quickly, when multiplied by 350 city employees, each working about 250 days a year. The network has also generated savings of about \$100,000 per year in IT support. "The numbers are very compelling," he said. "I can't think of any projects we've done that worked out better."

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