HP mobility solution helps Roseville keep city workers connected

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ROSEVILLE
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"Roseville is very much at the forefront in using IT to serve our citizenry with forward-thinking and leading-edge civic services. With HP's help we found effective ways to provide 'anytime-anywhere' information and service access through advanced infrastructure solutions."

– Tom Freeman, Chief Information Officer, City of Roseville, California

Business need:
Rapidly growing Roseville, California sought to improve the expense model for 1000 desktop users and enable mobile access to Microsoft Exchange for 300 city workers. This access needed to integrate smoothly with an existing Citrix thin-client and HP storage area network implementation – part of the city's strategy to increase efficiency, improve performance, and cut costs.

Solution overview:
Roseville chose HP as its solution provider to update its infra-structure and provide city workers wired and wireless access to Exchange resources from the internal city network, as well as wireless access from non-city network resources. HP deployed Microsoft® Exchange 2003 mobility services and Outlook Web Access 2003 with HP iPAQ hx4705 Pocket PC devices.

**City Hall calls HP to help fulfill service vision**
Roseville's motto, "Tradition • Pride • Progress," reflects its dynamic, progressive civic vision, which extends full service to residents as part of responsible governance. Roseville operates 16 different city organizations, including its own electric company, and seeks the most efficient, cost-effective means to deliver services in a rapidly changing urban environment.

Through its evolved IT infrastructure, which supports more than 50 applications, the city provides online services such as park and recreation schedules and sign-ups, job applications, utilities, permits, and a geographic information system (GIS) with a city map and data on particular parcels of land. "For all functions that a normal civic government oversees, we deploy enterprise applications that integrate with our central system," explains Tom Freeman, Roseville's Chief Information Officer.

Roseville's service vision extends beyond the IT department to fulfill a five-year strategy that creates efficiencies across the entire city. To make the vision real and deliver responsive, easy access to those services, the city depends on a cost-effective IT infrastructure.

Civic managers work steadily to improve the infra-structure. Ten years ago Roseville implemented a city-wide HP network. Building on that, they extended fiber connectivity to all 18 facilities, providing ample bandwidth for all users. "Two years ago we implemented an HP StorageWorks Virtual Array 7400, Fibre Channel storage area network for large UNIX applications, such

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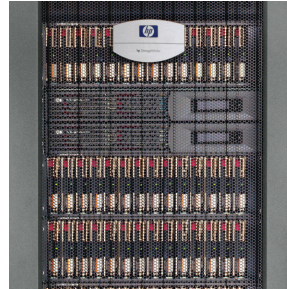
as utilities, finances, and permits," notes Freeman. "Half a year later we began a Citrix MetaFrame XP pilot program to improve services and lower costs with thin clients, which cost about 60 percent less than desktop PCs. Now we're implementing the platform enterprise-wide for all applications."

The city also created an HP storage area network (SAN) to support Microsoft Windows® applications. "By implementing an HP StorageWorks 3000 Enterprise Virtual Array, we cut costs on storage and became more efficient," Freeman maintains. "Fibre Channel interconnectivity between servers and storage improved performance by 50 percent, plus backups now reside in one central location, making management easier and more secure. Using the SAN with HP StorageWorks Business Copy, we now do backups in five minutes rather than five hours, and we keep production online. The pieces of our strategy came together to improve overall operations."

Mobility services for a city on the move
As part of the move to Citrix and thin-client devices, the city upgraded from Microsoft Exchange Server 2000 to Microsoft Exchange Server 2003 for messaging, but still needed to synch up the more than 300 managers and analysts who used handheld devices and required continuous access to information. "We couldn't afford the annual BlackBerry CDMA service contracts for that many people," admits Freeman. "We already deployed 802.11 wireless city-wide, so it made sense to add a mobile solution to the Microsoft Exchange 2003."

After participating in an HP Customer Academy for Microsoft Exchange in March 2004, Roseville engaged HP Services to update its infrastructure to support greater adaptability. HP implemented a 60-day trial of Microsoft Exchange 2003 mobility services with Outlook Web Access, Outlook Mobile Access, and Exchange ActiveSync, along with 20 HP iPAQ hx4705 Pocket PCs. This solution provides mobile wired and wireless access for workers to their Exchange 2003 resources over the internal city network, the Internet, telephones, and pocket PCs.

The rapid implementation and expert support impressed Freeman and his team. "We were amazed when HP said the upgrade to Microsoft Exchange 2003 mobility would be a three-week process," says Freeman. "We thought, 'Right!' Then HP brought in its services consulting engineers and it was fast and furious. At the end of each week we reviewed project plans, checking off completions and assigning next steps. We shared a tremendous amount of information and switched more than 1,000 accounts to Exchange 2003 with mobility features – and the upgrade really did happen in three weeks." HP Services also conducted an 'ad hoc' workshop on how to configure the SAN for optimum results.

Implementation went so well that Roseville changed the project scope mid-stream. "In the original pilot, we planned to move just a few people over, but we ended up doing the whole upgrade," continues Freeman. "In the process, we gained great information from the HP engineers – the knowledge transfer was extremely valuable."

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Access, resilience, service: the power of intelligent design

Forward-thinking Roseville knows that the ability to adapt to change and keep the city working better depends on a stable, resilient IT infrastructure, which they plan and implement with trusted providers such as HP. A single HP ProLiant DL380 server hosts all 1,000 mailboxes and powers the mobility access Roseville gained in the recent Microsoft Exchange 2003 upgrade, which surprised Freeman. "I was skeptical about the servers," he admits.

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"We were ready to go to a multi-server platform, but HP said we didn't need it for 1,000 users." Roseville also used a ProLiant DL360 for running Microsoft Internet Security and Acceleration (ISA) Server 2004 to act as a secure firewall between the Exchange 2003 server and the outside world.

For the 1,000 desktop users, the city uses a multi-server front end farm to support the Citrix enterprise solution. The city replaced high-end PCs with smart client PCs to support the Citrix direction; 20 HP ProLiant DL380s provide the Citrix farm front end. "Those servers do all the work typically done at the desktop, and keep everybody's data on the SAN," he explains. "We no longer worry about PCs crashing and people losing their data. SAN storage is much more efficient, giving us high performance, high availability, and improved backups and management controls."

With the HP iPAQ Pocket PCs and Exchange ActiveSync, Freeman extends mobility to those who most need it – city workers serving the people of Roseville. For example, Central Services Director Bill Stephens worked off-site, but could still send and receive e-mail. Says Freeman, "He just sent this message: 'I am using Exchange mobility right now – I'm on an oral board all day, but have been able to keep up with e-mail during breaks.'"

Future plans include using the iPAQ Pocket PCs for training and pushing information out into the field. With HP collaboration, Roseville continues to find the most effective ways to help its workers and residents access information – at the time and place they need it. "Right now we're sitting in an enviable situation," concludes Freeman. "We have the Citrix software, we have the SANs, we have Exchange 2003 and mobility – we are really set up to service our constituents. HP continues to be a strategic alliance for us."
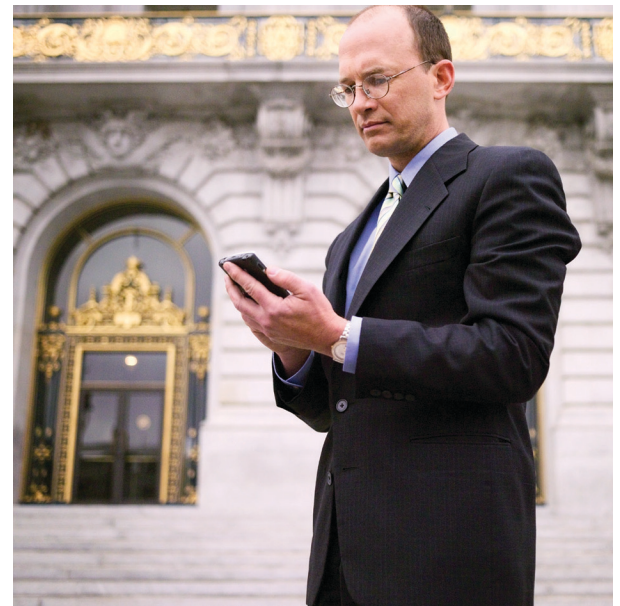
About Roseville CA

Roseville (www.roseville.ca.us), 15 miles northeast of Sacramento, is one of the fastest-growing cities in California, with an average six percent growth rate. Recent city expansion increased the population to 150,000. Full-service Roseville enjoys strong employment figures and is one of the top 10 retail markets in the state.

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Challenges

- Overcome cost barriers to providing BlackBerry devices

- Improve IT services and reduce total cost of ownership

- Enable mobile city workers to synch up their handheld devices to centralized data

- Simplify infrastructure management and make it more efficient

- Establish virtualized SAN storage to improve access and reliability

Solution

Hardware

- More than 20 HP ProLiant servers, including models DL380 and DL360

- HP StorageWorks storage area networks (SANs) based on StorageWorks 3000 Enterprise Virtual Array (EVA3000) and HP StorageWorks Virtual Array 7400 (VA7400) systems

- HP iPAQ hx4705 Pocket PCs

Software

- Microsoft Exchange Server 2003, with Outlook Web Access, Outlook Mobile Access, and Exchange ActiveSync

- Microsoft Windows® Server 2000 and 2003 operating system

- Microsoft Internet Security and Acceleration (ISA) Server 2004

- HP StorageWorks Business Copy Virtual Array

- Citrix MetaFrame XP

HP Services

- Consulting

- Solution design

- Implementation and support

Results

- Provides city workers with wired and wireless mobile access to Exchange mailboxes via Internet, city intranet, WAP-capable cellular telephones, and HP iPAQ Pocket PCs

- Reduced storage backup time from five hours to five minutes

- Consolidated 1,000 desktop PCs to thin-client devices supported by 20 ProLiant servers

- Provides high availability and better control and support of critical applications

- Achieves significant cost savings of 60 percent for desktops

- Knowledge transfer to City of Roseville technical and end-user staff

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