CITY OF ROCHESTER, NY | PROBLEM SOLVED

To deliver fast data access and reliable storage, Rochester, New York, relies on NetApp All Flash FAS and E-Series solutions, which enable the City to power and safely store data for its website, email, virtual desktops, and police camera systems.

Communication Acceleration for a More Efficient City

Rochester, New York, employees and law enforcement depend on email and virtual desktops to communicate and access the information they need to do their jobs. By moving Microsoft Exchange to NetApp All Flash FAS and using NetApp E-Series for data-intensive video archiving, the city is improving productivity, efficiency, and public safety.

Another NetApp solution delivered by:

SIRIUS
COMPUTER SOLUTIONS

Microsoft Exchange
performance increased

30×

Disk utilization
dropped by up to

97%

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A VIBRANT AND LIVABLE CITY

One of America's first boomtowns, the City of Rochester is home to more than 200,000 residents and is the center of a metropolitan area of over one million people. Visitors come to explore Rochester's wide ranging culinary scene, festivals, shopping, and family-friendly attractions, as well as the nearby Finger Lakes vacation area. Both Forbes and Kiplinger have cited Rochester, New York as one of the best places in America to raise a family due to its low cost of living, top public schools, and low unemployment.

CHALLENGE

Keeping operations efficient and citizens safe

Like any thriving urban center, Rochester strives to preserve public safety and deliver city services as efficiently as possible, through judicious use of taxpayer dollars. IT plays an important role by providing productivity solutions such as email and virtual desktops to city workers. E-mail is critical for communication among its 3,000 employees, so the city must provide reliable application performance at all times. Approximately 200 of those employees, including law enforcement officers, use virtual desktops to communicate and access the information they need to do their jobs in the field. If the systems and applications aren't responsive, productivity could be impacted.

"E-mail is by far the most visible application we run, especially now that most employees access it from their smartphones," says Ryan Strecker, systems engineer with the City of Rochester. "We were experiencing up to 30ms latency with Microsoft Exchange Server during peak hours, which is way above what Microsoft recommends. We knew we had to improve performance as we upgraded to Exchange 2013."

In addition to the email upgrade, the city is also launching new data-intensive initiatives to improve public safety. The City has a camera system of approximately 350 cameras used in public spaces and at City facilities The Rochester Police Department is also planning an upcoming body-worn camera program for law enforcement officers that will generate petabytes of video data.

"Supporting a bodycam initiative involves a lot of storage, so it's important to keep costs down and density high," says Strecker. "But we also needed an enterprise-class solution that would be reliable enough to archive video that could be valuable in a courtroom situation."

SOLUTION

All-flash arrays for responsive e-mail

To optimize performance, the city decided to dedicate an all-flash array to its customer-facing website

BENEFITS

- Drives productivity citywide by increasing Microsoft Exchange performance 30x

- Enables the city to deploy more surveillance cameras, helping to deter crime and enhance public safety

- Gives police officers faster access to actionable information, helping them to be safer and more effective

- Provides outside agencies with quick and secure access to city resources using virtual desktops

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and Microsoft Exchange Server environment. An existing NetApp customer for its VMware virtual server farm and Citrix XenDesktop environment, the city selected a NetApp All Flash FAS (AFF) solution.

"We have always had a great experience with NetApp people and technology, so we were very comfortable going with NetApp flash solutions," says Strecker.

The city selected a NetApp AFF8020 system in a Fibre Channel SAN configuration, with NetApp Professional Services providing deployment services. This entailed an onsite engineer to prep and deploy the AFF system in a non-disruptive fashion.

"We were confident with our NetApp engineer on site, and he assured us there would be no downtime for the migration to AFF or the cutover of the data," says Strecker. "NetApp

kept that promise, and completed the migration in less than a day."

Once the all-flash array was in place, disk utilization immediately dropped by up to 97%, enabling the city to finish copying internal data and smoothly complete its migration to Exchange 2013.

Cost-effective, high-density storage for video
Alongside the flash technology initiative is the city's policy bodycam initiative. When the city selected a software provider for this project, it opted to use NetApp E-Series storage for video data instead of the DataDirect Networks storage, which is usually bundled with the solution. The city also selected E-Series as its backup target for Exchange and other applications.

"We were already familiar with NetApp, so we knew that nothing

could touch NetApp E-Series for price, density, and reliability—all critical factors in supporting a police bodycam program," says Strecker.

BUSINESS BENEFITS
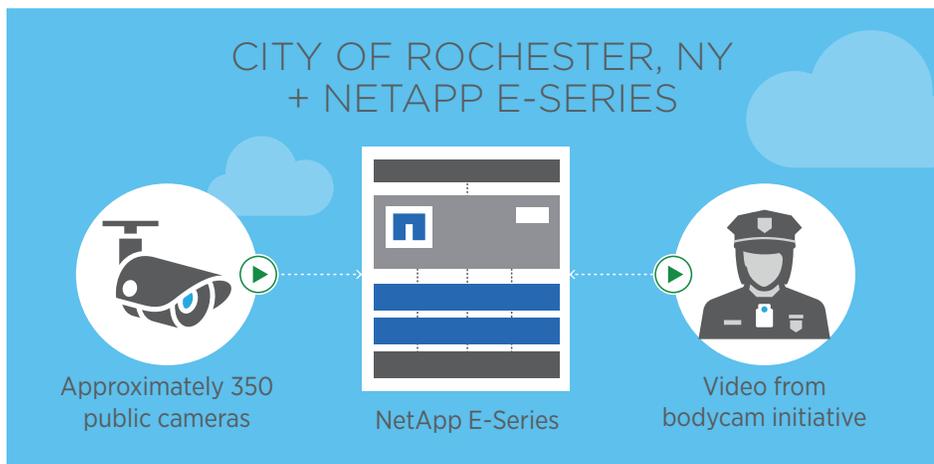### Enhancing communications and productivity
Rochester now has a robust, scalable platform to support new city services and sustain high performance for Exchange and other business-critical applications. Latency is now always sub-millisecond, increasing Exchange performance up to 30-fold.

For now, virtual desktops remain on a NetApp FAS8040 system, however, the city has the option to move them to flash storage if it decides to augment the implementation or if its needs change. "Citrix is running very well right now, but it's nice to know that NetApp offers the flexibility for us to expand our use of virtual desktops without worrying about performance," says Strecker.

Supporting new public safety initiatives
With NetApp, Rochester can continue to support public safety through technology innovation. High-performance virtual desktops give police faster access to information while on patrol, helping them to be effective in the field.

"We're also using virtual desktops to give outside agencies and remote

CITY OF ROCHESTER, NY + NETAPP E-SERIES

Approximately 350 public cameras

NetApp E-Series

Video from bodycam initiative

NetApp®

vendors that provide services to Rochester access to city systems and resources as appropriate," says Strecker. "We can be much more flexible in how we conduct business without compromising security."

A flashy online presence
The benefits of moving to a flash-enabled environment can be felt in many aspects of life in Rochester. The city's public-facing website for instance, is one property that has seen improvement.

"I live in the city and I use the website, so I experience the improvements firsthand," says Strecker. "It's been great. The changes that NetApp All Flash FAS has brought to our systems are having a very positive impact on the city—helping to accelerate and enhance daily activities for our city's residents."

SOLUTION COMPONENTS

NETAPP PRODUCTS

NetApp AFF8020 System (Exchange)

NetApp FAS8040 System with Flash Cache (VMware, Citrix)

NetApp E5660 and E2700 Systems (camera data, backups)

NetApp Data ONTAP 8.x

NetApp SANtricity

NetApp OnCommand Performance Manager

NETAPP PROFESSIONAL SERVICES

All Flash FAS implementation services

All Flash FAS installation services

Microsoft Exchange All Flash FAS migration services

ENVIRONMENT

Applications: Microsoft Exchange Server 2013

Server Virtualization: VMware vSphere

Desktop Virtualization: Citrix XenDesktop

PROTOCOLS

FC-SAN

NFS

PARTNER

Sirius Computer Solutions

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https://www.netapp.com/us/products/storage-systems/all-flash-fas

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