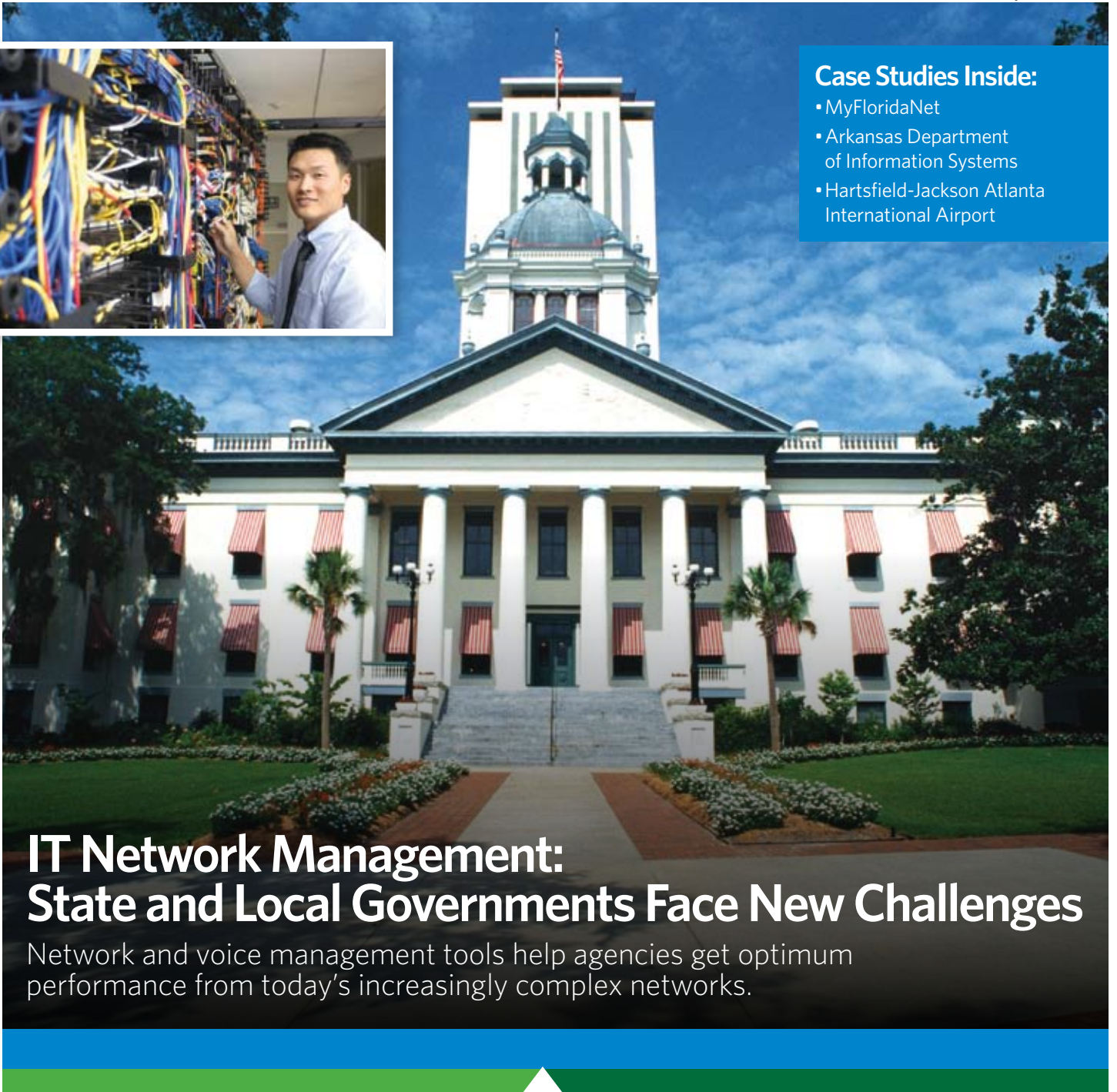




## Case Studies Inside:

- MyFloridaNet
- Arkansas Department of Information Systems
- Hartsfield-Jackson Atlanta International Airport



# IT Network Management: State and Local Governments Face New Challenges

Network and voice management tools help agencies get optimum performance from today's increasingly complex networks.

# Networking Now

Today's complex networks require more comprehensive management.

Government today relies on information technology more than ever before. IT has become vital to the business of government. Thus the IT network has risen in importance. It's now crucial for networks to perform at a high level to provide both citizens and employees the 24/7 access and support they need and expect, whether filing taxes or dealing with urgent incidents and issues.

That's a huge challenge, especially as networks grow in size and complexity. Today's networks contain multiple technologies supplied by multiple vendors. And new components are added constantly.

Ensuring the reliability and performance of these networks demands a new level of diligence — and sophisticated network management tools. Government IT professionals need visibility into even the smallest network activities, regardless of whether they're managing thousands of connections or maintaining maximum productivity for smaller organizations. With everyone so reliant on the Net, slow response is often worse than no response.

CA has the right software tools for managing networks and keeping them as reliable and responsive as possible. CA technology equips IT departments to spot network and application issues and correct them before crucial government operations and services are disrupted.

## Powerful Tools Bring Results

CA Network and Voice Management (CA NVM) provides optimal delivery of voice and data services through integrated fault and performance management. It gives the granular view needed to see an entire network in detail. With a consolidated view of all

network elements, work proceeds in the most efficient manner possible, freeing staff for other critical duties. And CA's vendor- and platform-neutral approach makes CA NVM the right choice for nearly any system.

At the core of CA NVM are CA SPECTRUM®, CA eHealth® and CA eHealth for Voice. CA SPECTRUM provides fault management featuring alarm notification, comprehensive root cause analysis, recommended fixes and more. CA eHealth manages network performance, documents service levels, provides key reports and aids capacity planning. CA eHealth for Voice enables delivery of reliable, toll-quality voice services.

The CA NVM tools fit within CA's Enterprise IT Management (EITM) vision, which provides cost-effective tools agencies need to govern, manage and secure their IT infrastructures and investments. These tools equip agencies to manage risk, improve service, control costs and align IT with business objectives. Ultimately they help make IT the go-to organization for delivering on the mission.

CA's Application Performance Management (APM) is designed for today's increasingly multifaceted application environment. Web-based and services-oriented systems are now composed of loosely coupled services that call on each other to provide the overall capability delivered to users. Interactions can be complex, and when one part of the system fails, performance degrades or entire transactions can be lost. Static testing doesn't address the dynamic nature of Web services, but by monitoring with APM, IT staff can get a real-time end-to-end view and quickly diagnose and fix problems.

In these complex network environments, there are many more chances for

breakage. Mobile wireless applications; converged voice, data and video networks; public safety interoperability; and mounting information security threats are just some of the factors that make maintaining network reliability and security more crucial and more challenging. Meeting these challenges requires governments to have greater insight into, and governance of, their networks.

## Getting It Done

With comprehensive network management, governments provide better services at lower costs, and improve communication internally and externally. Key to this is the ability to manage the entire network. With today's budget constraints and the need to do more with less, network management tools make even more sense because there are numerous efficiencies to be gained.


With CA's help, state and local governments are achieving more with their networks. They're making stronger connections to help realize their missions. They're adding voice capability to data in order to reduce costs. They're consolidating and sharing infrastructure far more efficiently.

With the right network management, public-sector agencies can better cope with today's network issues. Some agencies are finding that bigger, faster networks can lower costs for themselves and their customers. Some get reporting on all details associated with every piece of their equipment.

Many public agencies have improved visibility into their networks, and are leveraging that knowledge to produce better and more cost-effective network performance. With CA's proven tools available to help, there's no reason not to look deeper into your network and get more out of it. ♦

# MyFloridaNet

Network management tools help Florida attain peak performance of its giant new network.



“You have to rely on the network more and more every day.”

— Charles Ghini, director of telecommunications and radio services, Communications and Information Technology Services, Florida

Florida is home to numerous exotic things, including beaches, palm trees, ocean views and the Everglades. It's also home to an exotic data network. MyFloridaNet is an uncommonly large and complex data transport network for the exclusive use of the state's customers.

MyFloridaNet is a new, state-of-the-art network available for state agencies, city and county governments, school districts, universities and non-profit organizations. The network is based on multiprotocol label switching (MPLS), a technology that allows multiple applications, such as voice, data and video, to share the same circuits while speeding up network traffic flow.

The benefits of MPLS have led experts to proclaim it to be the future of networking. It works by setting up

a specific path for a given sequence of packets, identified by a label put in each packet, so the packet is recognized and moved along more quickly than it would be without MPLS.

**“A tool doesn't make a process. But tools empower and make the process work better. That's what the CA tools do for us.”**

— Charles Ghini, director of telecommunications and radio services, Communications and Information Technology Services, Florida

Florida used MPLS to create a faster, more dependable statewide network that's highly robust and secure. It enables the state's technology to work more efficiently while also allowing communications services to evolve with the state's needs. The new network also increases

the state's capacity limits, minimizing the need for future network upgrades.

The large physical infrastructure of communications circuits and routing and switching equipment is spread throughout the state. A set of virtual networks was created running across the physical network that provides state agencies dedicated partitions for their own use. Thus each agency essentially has its own private network. This type of complexity, along with its size, makes managing this network especially challenging.

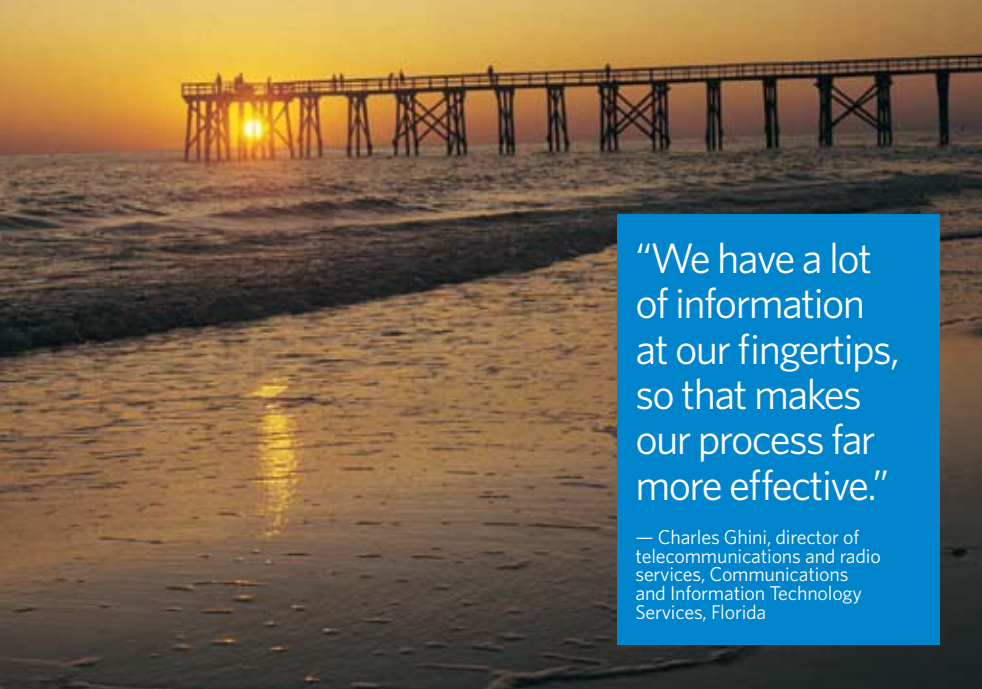
The network is managed by Communications and Information Technology Services (CITS), a division within the Florida Department of Management Services. CITS completed migration of all customers to the new network in spring 2008.

## Visibility Wide and Deep

Excellent network performance is vital to the state and its customers. “You have to rely on the network more and more every day,” said Charles Ghini, director of telecommunications and radio services for CITS. “As networking becomes more complex, you

need a robust, capable and well managed network to run your business, especially the business of government these days.”

Ghini listed law enforcement agencies and continuity of operations as two examples of areas in which network



“We have a lot of information at our fingertips, so that makes our process far more effective.”

— Charles Ghini, director of telecommunications and radio services, Communications and Information Technology Services, Florida

reliability and performance are critical. Services simply must be available at all times. Ghini added that CA eHealth® and CA SPECTRUM® are invaluable tools when it comes to keeping the network running smoothly. While CA eHealth monitors and maintains network performance, CA SPECTRUM helps CITS detect and correct network errors. “A tool doesn’t make a process,” Ghini said. “But tools empower and make the process work better. That’s what the CA tools do for us.”

MPLS networks are more technologically complex than most networks. Managing this type of network presents a big challenge, and Ghini is happy to have CA network management tools on his side. Florida really needed a best-of-breed solution for its network management. “That’s why we selected CA,” said Ghini.

Powerful network management capabilities are especially important for Florida’s network because it supports such a large user base with varying needs. “When you have a diverse customer base, as in government — such as health, police and road construction — you need a way to provide connectivity while also providing the privacy and security each agency and department needs for its own information,”

said Ghini. “You need a capability that can provide a set of secure, virtual networks across a common physical infrastructure.”

CA helps Ghini see what’s going on inside the network. That kind of visibility lets Florida do more with its network. “We are far more confident of stressing and pushing the limit of the network because we can measure and see how it reacts very quickly,” said Ghini. “Information is the key to success in our business. You see it, you feel it right away. That is really a big plus, to have that type of granular visibility of every aspect of the network.”

Using the CA tools, CITS can monitor the activities on MyFloridaNet extensively to enable maximum network performance. The tools also help Ghini and his staff observe what’s happening across numerous jurisdictions and organizations.

#### Increasing Opportunities

CITS proactively monitors numerous activities, employing availability probes that indicate how things are changing on the network. When it comes to troubleshooting problems, common visibility allows people to collaborate quickly on finding solutions. The tools help Florida ensure optimum uptime

and keep the network performing as it should for the state’s customers.

“Everybody who uses the network, from customer to provider, is using the same tools,” Ghini said. “That increases the efficiency and effectiveness of our process. We have a lot of information at our fingertips, so that makes our process far more effective.”

Even with its huge size, the new network is more secure than what Florida had in place before. With all the monitoring CITS does, it has a clearer picture of everything, which helps with security.

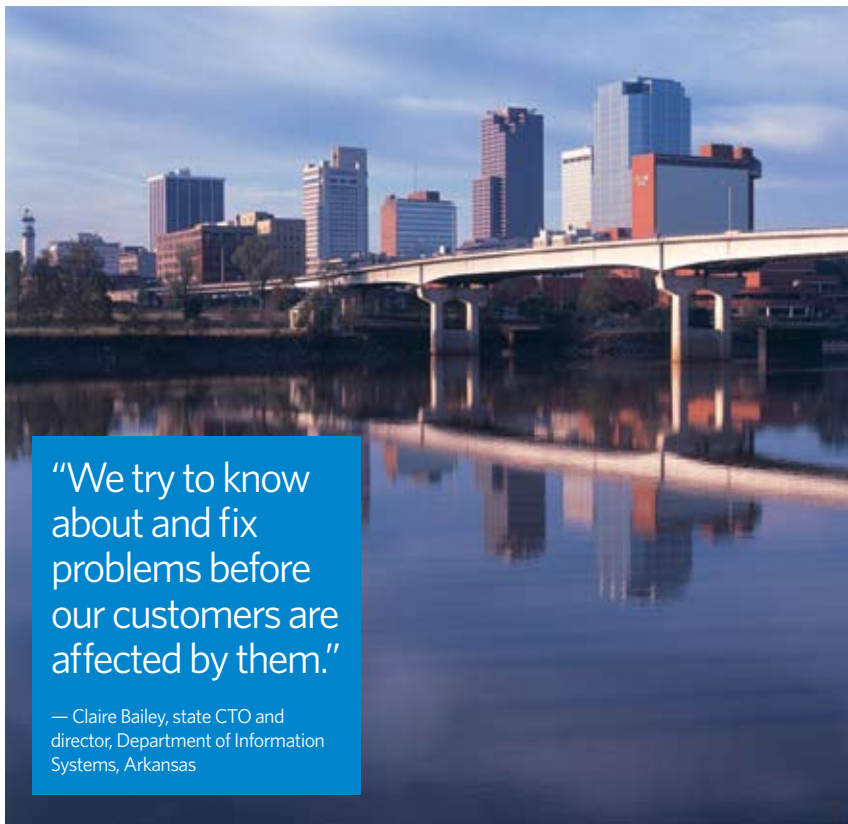
Although the network is new and already quite large, there is room for growth. In fact, the network is expanding every day. “The larger we are, the more economies of scale we bring to the state, and the lower our price becomes,” Ghini said.

In setting up such a large project, a state certainly needs to choose the right partners. Florida has been very happy with its partnership with CA and looks forward to continuing it in the future. Ghini noted that working with CA has been a very positive experience. He said the team at CA was responsive, knowledgeable and helpful.

“We were trying to empower our customer,” he said. “We wanted to make sure we avoided any type of miscommunication between the different help desks, for example, so we wanted one set of tools, from provider to customer. And we wanted a powerful tool. That’s what the set of CA tools brings to the table.” ♦

# Arkansas Department of Information Systems

Agencies across the state benefit from the department's top-notch network.



“We try to know about and fix problems before our customers are affected by them.”

— Claire Bailey, state CTO and director, Department of Information Systems, Arkansas

Arkansas's network is also a key part of the telecommunications system for state police, the state's Department of Emergency Management and other public safety agencies.

With so many activities, keeping the state's network running smoothly is a tall order. Among products the state uses are CA eHealth®, which monitors and maintains performance, and CA SPECTRUM®, which finds and corrects network errors.

“We try to know about and fix problems before our customers are affected by them,” said Claire Bailey, Arkansas's chief technology officer and director of the DIS. “We want to ensure customer satisfaction every time.”

The network management tools allow the DIS to have detailed visibility into its network. It's one of many ways in which the DIS is helping the state achieve its mission. The improved technology helps provide more information for decision-makers, for example.

For the Arkansas Department of Information Systems (DIS), customer satisfaction is paramount. Thus the DIS strives to correct network problems before they have a chance to affect its customers.

The agency provides Internet access, equipment hosting, network services and more to customers at the state, county and city levels. These public-sector agencies count on the DIS to deliver solid network performance.

The DIS is also the driving force behind such systems as the state's driver's license renewal system, the Arkansas Public School Computer Network and the state's tax systems. In partnership with the Office of the Secretary of State, the DIS provides the

“By staying vendor-neutral, we don't hit proprietary walls, and that is critical.”

— Claire Bailey, state CTO and director, Department of Information Systems, Arkansas

network for Arkansas's effort to comply with the federal Help America Vote Act, which is designed to upgrade voting processes.

Arkansas understands that the public expects government services to be always on. It was one of the first states to implement an automated Internet process for citizens renewing vehicle registrations. For this and other 24/7 services, the state depends on the DIS to maximize uptime and prevent capacity shortages.

## Network Helps Many

Strong network management also helps save money for the state. Without the automated network management tools, the DIS would have to spend more money on staff to achieve the same level of performance.

A solid network also provides the state with technology that helps improve work processes. With today's tight budgets, that's especially important. For example, Bailey predicts less travel and more Web meetings now

that voice, video and data can be more easily converged. The current DIS network makes it easier than ever before to hold online meetings.

A well managed network has other financial benefits as well. For example, having a shortage in bandwidth can turn out to be expensive, but so can having too much bandwidth. Reports provided by the network management tools help the DIS to plan accordingly and achieve optimum network usage.

Arkansas's network is changing. It's migrating to more complicated environments, such as multiprotocol label switching, a technology that speeds up network traffic flow. The DIS is also working with the University of Arkansas and other educational institutions on a regional network that will allow bridging among several smaller networks. Bailey said the ability to monitor the network in detail will help minimize any complications.

That goes for both the ambitious new projects and the day-to-day life of the current infrastructure. "It's a



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— Claire Bailey, state CTO and director, Department of Information Systems, Arkansas

network; problems are going to exist," said Bailey. "But the customers may not always know to call us when they see a type of fluctuation." Having the right tools to monitor the network lets the DIS see and handle these types of issues, often before they become a problem for customers. And built-in diagnostics help the DIS analyze and respond to issues, such as connection errors, immediately.

#### Visibility Pays Off

The DIS also maximizes productivity by taking a vendor-neutral approach. That's a big issue because there are so many different vendors in the marketplace. "It's a definite factor for us," said Bailey. "By staying vendor-neutral, we don't hit proprietary walls, and that is critical. We need to work well with all vendors."

The DIS also provides network insight to its customers. "Not only do we have the network technicians who are getting the notifications go in and look, but the call center agents have the ability to see what is happening on the network too," said Bailey.

If there's an outage, for example, call center agents can see which sites are affected. They can then update the call center message so people know the DIS is aware of the problem and is working to resolve it.

Arkansas wants to ensure every child in the state attending a public school has safe access to the Internet. The DIS

is using the network management tools to analyze the technology requirements for the project. Thus the DIS has a clearer picture of the existing capacity and future needs, providing valuable information as the project moves forward.

The DIS's move to enhance its network visibility also helped when the state was hit earlier this year by a series of tornadoes. Using network management tools, Arkansas could see which systems were impacted as storms rolled through the region. That helped keep critical communications going and aided prioritization for restoring services. The DIS could see when power was restored at affected sites and where things were happening across the state.

That's the kind of visibility that fits in perfectly with the DIS mission to satisfy all customers at all times. There are more than 2,500 locations on the IT network that serves Arkansas. The DIS is committed to keeping that network running smoothly for the benefit of its customers, and the state's citizens. ❖

# Hartsfield-Jackson Atlanta International Airport

As IT becomes more important to the airport, so does network performance.

“We are currently adding new airport systems to our network on a regular basis. That requires us to more accurately monitor what the infrastructure is doing.”

— Myreon Guyton, IT infrastructure supervisor, Information Services, Hartsfield-Jackson Atlanta International Airport



The Hartsfield-Jackson Atlanta International Airport is the busiest airport in the world, and it's expanding. With funds from Atlanta's Capital Improvement Program, the airport can keep pace with the rapid growth of the city itself.

Serving nearly 90 million passengers last year, the airport now depends on IT more than ever before. That responsibility is extremely important to Myreon Guyton, IT infrastructure supervisor for Information Services, a division within the airport's Department of Aviation.

“Network performance has become increasingly important,” said Guyton, “not just in recent years, but in recent months. We are currently adding new airport systems to our network on a regular basis. That requires us to more accurately monitor what the infrastructure is doing.”

Guyton and his team depend on CA SPECTRUM® to monitor activities on the airport's vast network.

“The airport actually presents a unique challenge,” Guyton said. “We have equipment scattered all over our sprawling campus.”

One reason the airport chose CA SPECTRUM is the tool's ability to show detailed equipment information. It allows IT staff to create and name groups and subgroups of equipment, and efficiently manage the related information. It lets Guyton and his staff know where everything is, be aware of changes and have documentation available whenever needed.

## A Good Fit

CA SPECTRUM has become a vital tool in the division's efforts to serve the airport and its customers.

“Everyone will presume that things will work all the time,” said Guyton. “We've set up a mentality here where we try to respond to an error situation with a sense of urgency. So if there's a piece of equipment down, or a process has failed, with that mindset — with

our goal that we've set as an organization — it does create a challenge for us. We want to support customers even before they notice an outage.”

CA SPECTRUM helps with that effort in numerous ways. It enables staff to run detailed, customized reports on availability and problems. It lets staff check service levels against the department's service-level agreements. CA SPECTRUM also improves productivity by allowing IT staff to isolate network outages quickly.

When choosing CA SPECTRUM, the IT team knew what it was looking for.

“We wanted to go with a more robust network monitoring system,” Guyton said. “The system we were using before didn't give us some information we needed, like root cause analysis, keyword filtering for various events or the type of event correlation we wanted. Those were the main driving factors, along with the reporting; that was big for us.”

The reporting function gives visibility into the network that Guyton and his staff didn't have before. It also helps with asset inventory; it can report on assets by category, such as by group or vendor.

The keyword filtering that works on various alerts is another feature Guyton really likes. It eliminates false positives and allows staff to focus on the real network issues. CA SPECTRUM also lets users model the relationship that a device has to other devices on the network. That gives a quick understanding of the effects a problem device will have on others.

Guyton is so pleased with the performance of CA SPECTRUM — and CA itself — that he would be happy to do more projects with the company. With the airport's network continuing to expand, he may soon get the chance. ❖

CA, one of the world's largest information technology (IT) management software companies, unifies and simplifies the management of enterprise-wide IT for greater business results. Our vision, tools and expertise help customers manage risk, improve service, manage costs and align their IT investments with their business needs.

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