



## OSIS TRANSFORMS COMMUNITY HEALTHCARE WHILE ENHANCING SECURITY AND PERFORMANCE WITH VMWARE



### INDUSTRY HEALTHCARE

### LOCATION CINCINNATI, OHIO

### KEY CHALLENGES

- Support growing demand for hosting services from FQHCs
- Provide high performance and availability for practice management and EHR applications
- Enhance security, HIPAA compliance, and disaster recovery (DR)
- Reduce capital expenditures (CapEx) and operating expenditures (OpEx) to keep prices competitive

### SOLUTION

As OSIS focuses its business on providing hosting services to nonprofit community health centers, the company strives to continually improve performance, security, compliance, and DR while keeping prices competitive. OSIS upgraded to VMware vSphere® 6.5 and used VMware vRealize® Operations™, VMware vRealize Log Insight™, VMware NSX®, and VMware Horizon® to improve services and meet new business demands.

Federally Qualified Health Centers (FQHCs) qualify for federal funding and enhanced Medicare and Medicaid reimbursement because they provide healthcare to underserved areas and populations. They therefore face unique demands—grant opportunities and federal reporting, for example—that are often ignored by technology vendors focused on larger hospitals and independent physician practices.

OSIS, previously known as Ohio Shared Information Services, provides technology assistance tailored to the specific needs of FQHCs, helping them focus on patient care, maximize their technology investments, and strengthen the reporting and compliance that are necessary for funding and financial incentives. The company specializes in hosting and advisory services for Quality Systems, Inc. (QSI) NextGen Healthcare electronic practice management (EPM) and electronic health records (EHR) applications used by community health centers. As OSIS transitions from a consulting firm to a service provider, it is using VMware® technologies to double hosting capacity, deliver 100 percent uptime, improve services, and save half a million dollars. OSIS is a nonprofit technology services organization that provides expert NextGen Healthcare technology hosting and assistance exclusively to 44 community health centers in 28 states.

### The Challenge

Community health centers rely on OSIS to host their most critical healthcare applications, so downtime is not an option. OSIS reduced downtime to zero in recent years by switching from Microsoft Hyper-V to VMware vSphere, stabilizing its environment at a crucial time. “More and more FQHCs are approaching us to host their practice management and EHR applications,” says Jeff Lowrance, Chief Executive Officer at OSIS. “That means we need to operate like a world-class hosting provider when it comes to performance, security, compliance, and DR. We also need to reduce costs wherever possible to keep our prices affordable for nonprofit community health centers.”

As OSIS grew, its Microsoft SQL Server database clusters were reaching capacity. Because the SQL environment uses raw device mapping (RDM) and supports a large number of clients with multipathing, OSIS was approaching the limit of 1,024 storage paths per VMware ESXi™ host. Lowrance wanted to avoid the hardware and licensing costs of building out a new SQL environment, but faced a pressing need to onboard more customers. “We could have purchased the host servers and licensing and tasked our infrastructure and DBA teams with the buildout, but it would have been a big investment for a nonprofit like us,” he says. “We preferred to take a smarter, software-based approach.”

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JEFF LOWRANCE  
CEO  
OSIS

#### BUSINESS BENEFITS

- Doubled capacity to accommodate new clients, accelerating time to revenue
- Delivered 100 percent uptime with stronger security, compliance, and DR
- Improved performance for users by reducing antivirus scanning overhead by 90 percent
- Saved over \$500,000 in CapEx and OpEX

#### VMWARE FOOTPRINT

- VMware vSphere 6.5 Enterprise Plus
- VMware NSX Standard 6.3.4
- VMware vRealize Operations 6.6.1
- VMware vRealize Log Insight 4.5
- VMware Horizon 6.2

#### APPLICATIONS VIRTUALIZED (700 VIRTUAL MACHINES/38 PRODUCTION HOSTS/10 DR HOSTS)

- QSI NextGen Healthcare EPM and EHR
- Microsoft SQL Server, Exchange Server, SharePoint, Remote Desktop Services, File Services, and Active Directory

#### PLATFORM

- HP ProLiant/3PAR/EVA
- HP Virtual Connect
- Cisco network

#### The Solution

To solve the problem, OSIS upgraded to vSphere 6.5, which supports up to 512 LUNs and 2,048 paths. “Upgrading to vSphere 6.5 doubled the lifespan of our SQL environment by greatly improving storage infrastructure scalability,” says Lowrance. “We can keep provisioning new customers for a long time at no additional cost.” OSIS also benefits from a new co-located DR site and a VMware vCenter Server® Appliance™ in vSphere 6.5 that reduces operational complexity. Instead of a Windows-based server, the appliance is a preconfigured Linux virtual machine optimized for running VMware vCenter®. To keep vCenter accessible even during a disaster, vCenter High Availability replicates data from the active vCenter Server Appliance to a backup vCenter appliance. If key services are lost or a full failure occurs, the passive vCenter Server will take over within a few minutes.

“As a hosting provider, we need to provide fast answers and quick recovery in a disaster scenario,” says Lowrance. “The vSphere 6.5 vCenter Server Appliance is so much faster than the previous Windows version—we’ve seen a performance increase for every task we do in vCenter. And the built-in high availability has already proven its value by averting downtime for vCenter. With VMware as our DR foundation, we have peace of mind that we can recover quickly.”

Another critical capability for a hosting provider is intelligent operations. To allow the IT team to continuously right-size and efficiently monitor its environment, OSIS uses VMware vRealize Operations. The team also uses vRealize Log Insight for log management and analytics. “VMware makes it easy for us to access the information we need when we need it,” says Lowrance. To improve performance for host servers while keeping virtual machines malware free, OSIS uses the guest introspection service in VMware NSX. By offloading security functions to a dedicated security appliance on each host, guest introspection removes the need for an antivirus agent within the guest operating system, improving scan times and overall performance.

“Using VMware NSX guest introspection in conjunction with Bitdefender antivirus software has reduced our scanning footprint by 90 percent, freeing up CPU cycles and eliminating bottlenecks,” says Lowrance. “We no longer need to have an agent on all 700 virtual machines, and we can do real-time scanning to catch threats faster.” OSIS is also using VMware Horizon virtual desktops to make it easy for employees to connect to health centers’ systems to provide consulting services and performance tuning. Instead of dealing with the complexity of having multiple customers’ VPN solutions running on a single computer, consultants simply log in to a virtual desktop tailor-made for interfacing with a particular customer.

#### Business Results & Benefits

By upgrading to vSphere 6.5 and deploying additional VMware tools to enhance performance and visibility, OSIS can better secure its application infrastructure, streamline compliance, and improve the protection of sensitive customer data. “The latest capabilities in vSphere 6.5 are very important to a hosting provider and are proving to be critical as we pivot our business in that direction,” says Lowrance. “The ROI was paid in full with increased performance, scalability, and visibility into our environment.”

### **Doubling Capacity and Achieving Big Cost Savings**

OSIS doubled its SQL capacity just in time to onboard new members, allowing the company to bring in revenue faster while reducing CapEx and OpEx costs by over \$500,000. “By supporting twice as many storage paths, vSphere 6.5 saved us more than \$400,000 in SQL Enterprise licensing costs and new hardware,” says Lowrance. “We also saved over \$100,000 on labor because we didn’t need to build and maintain an additional SQL environment in order to grow the business.”

### **Enhancing Security, Productivity, and Compliance**

Using guest introspection in NSX has improved performance for users while helping OSIS provide better security. Faster antivirus scans free up resources for other processes such as data protection, giving OSIS larger backup windows as its data grows. With increased visibility, IT staff can be more productive and effective at meeting the compliance needs of community health centers. “vRealize Log Insight is saving hours a week for our IT staff, and it’s important for ongoing HIPAA compliance, including reporting and log retention,” says Lowrance. “As new compliance requirements come along, we’ll be prepared.”

### **Zero Downtime, Robust DR**

Since OSIS moved to VMware three years ago, it has had zero customer-facing downtime. If a disaster were to occur, the company can completely failover the entire production environment to its DR site and be up and running in minutes. “We’re far surpassing the original Service Level Agreements (SLAs) we set forth with a lot of our members, going from a 24-hour recovery window to minutes,” says Lowrance. “With VMware, we’re able to reposition ourselves to go for larger business. We’re prepared to meet SLA requirements that we haven’t even seen yet.”

### **Looking Ahead**

In the near future, OSIS plans to further enhance security by using encrypted VMware vSphere vMotion®, another new feature in vSphere 6.5, to replicate data to its DR site. “vSphere 6.5 and NSX enable us to offer more secure EPM and EHR hosting, and that’s a very competitive, attractive option for community health centers,” says Lowrance. “If we hadn’t moved to VMware, we wouldn’t be where we are today, and we wouldn’t be poised for the growth opportunity we have moving forward.”

