Array NETWORKS

Providence Medical Center

vAPV CASE STUDY

Providence Medical Center

Hospital optimizes in-house eCW implementation with Array virtual application delivery controller; assures high levels of service and performance for medical personnel.

Background

Providence Medical Center, located in Kansas City, Kansas, is a 400-bed acute care hospital and Level 4 Trauma Center that sees upwards of 35,000 emergency room visits per year. The center has more than 1,300 staff, and nearly 50 health providers (medical groups, individual physicians and other professionals) that provide health services to patients. The hospital provides a full range of services including sleep disorders and sports medicine clinics. In 2015 Healthgrades recognized Providence as one of America's 100 best hospitals for coronary intervention care.

In 2013 Providence Medical Center was acquired by Prime Healthcare, which was named by Modern Healthcare magazine as the fastest-growing hospital system in the United States. Based in

Industry

Healthcare

Challenges

Performance of critical electronic medical records application was compromised due to a faulty carrier circuit

IT management wished to bring eCW application in-house to provide better performance and flexibility

Overall strategy of data center virtualization needed to be considered

Solution

vAPV virtual application delivery controller running in a VMware virtualized environment

Benefits

24/7 availability for users, regardless of traffic load

Extremely low latency gives users an effortless user experience

2048-bit SSL transaction processing helps secure confidential patient information and comply with HIPAA and other regulations

Positioned to scale services as needed in the future by simply adding more eCW virtual appliances and vAPV virtual application delivery controllers

Ontario, California, Prime Healthcare's mission is to save and improve hospitals so that they can deliver compassionate, quality care to patients and better healthcare for communities.

Challenges

Some years ago, Providence Medical Center made the decision to move to electronic medical records, which can reduce costs and errors while improving quality of care for patients. In addition, to provide better transparency and information for patients, a secure portal for personal health records was a requirement.

Management selected eClinicalWorks as the foundation for both EMR and the patient portal. eCW is the leading provider of cloud-based electronic health records services, serving more than 100,000 physicians and 850,000 medical professionals worldwide. eCW maintains nine data centers strategically located throughout the United States.

The cloud-hosted eCW service worked very well for Providence Medical Center for quite some time. However, as EMR adoption and workloads grew, IT staff began to see performance degradation in data flow to and from corporate offices in California. The issue was traced to a single carrier circuit, but unfortunately the problem could not be resolved. Switching to one of the eCW data centers closer to Kansas City to bypass the troublesome circuit was also not an option due to corporate policies.

Solution

After efforts to resolve the performance issues were unsuccessful, Providence decided to bring the eClinicalWorks implementation in-house, running on the private cloud. Chad Pease, IT Manager at Providence Medical Center, noted, "We're about 85% virtualized today, aiming for 100% in the near future." Virtualizing the eCW 10e platform implementation thus fit well with the overall virtualization strategy for the hospital.

eClinicalWorks has used Array Networks' APV Series application delivery controllers in its cloud data centers for many years to provide scalability, availability, performance and security for patient data and medical records.

"[The vAPV has] been a very good experience, we've really enjoyed that once it was installed, we haven't had to touch it since... it's been a very solid system for us."

Chad Pease
IT Manager, Providence Medical Center

For private-cloud based deployments, eCW recommends the use of an application delivery controller to assure the same high levels of service as that of eCW's cloud-hosted EMR solutions. In addition, 2048-bit SSL processing is required in order to keep confidential patient information secured against interception or other malfeasance. Based on their long and successful track record with the APV Series, it is the only application delivery controller eCW recommends for use with on-site deployments.

Longtime Array reseller Technology Integration Group (TIG), a global reseller based in San Diego, recommended the vAPV virtual ADC version to Providence, in keeping with the hospital's virtualization game plan. The vAPV virtual appliance includes all capabilities of dedicated APV Series appliances, with the exception of hardware SSL acceleration. This function is performed via software in the vAPV. Working in their VMware environment, the TIG systems

engineer worked with the Providence IT team to install and configure the vAPV.

"It went really smooth on the install," commented Pease. "We just downloaded the software, bought a license, applied the needed resources, then worked with the TIG sales engineer who set everything else up in a remote session. It was pretty simple," he added.

The vAPV virtual ADC has continued to perform impeccably since the deployment, reported Pease. "It's been a very good experience, we've really enjoyed that after it was installed, we haven't had to touch it since," he said. "We had one small problem early on, but that was quickly resolved with the help of Array's Technical Support team. Other than that, it's been a very solid system for us," he continued.

Benefits

The vAPV virtual ADC balances traffic loads across the eClinicalWorks virtual appliances, providing a high level of performance and throughput. This in turn gives physicians, medical professionals and others accessing the EMR application an effortless user experience with no perceptible latency or delay.

As Providence Medical Center continues to grow and add new EMR users, the vAPV will help the hospital to easily scale to accommodate new workloads by distributing data traffic among multiple eCW virtual appliances and servers. Additional vAPV virtual appliances can easily be added and placed into high-availability configuration as needed.

In addition, the vAPV's software SSL acceleration capabilities help ensure the security of vital and confidential patient information, helping to meet HIPAA and other regulatory requirements.