Large West-coast Healthcare Provider Depends on VirtualWisdom

Healthcare IT is Mission-critical

Healthcare organizations depend on real-time data to make life-saving decisions. Healthcare IT organizations bear the responsibility of ensuring that the right people have the right information when they need it. To do this, the performance and availability of the applications that support critical patient services must be guaranteed and operating at peak performance.

Of course, we aren't just talking about patient records. We're talking about your entire infrastructure and systems—from EMR to radiology systems, back-office accounting to patient care and monitoring services. Availability of data at all times is not just a regulatory requirement—it is essential to delivering quality care.

Customer Overview

- Large North America healthcare organization
- >200,000 staff supporting >8,000 beds

A major healthcare organization has been on the forefront of digital medical and patient records, which created challenges around the immense amount of data to be managed, securing that data, and making it continuously available. We are constantly reminded that data availability in their case is quite literally a matter of life or death. The following represent some core pain this customer was experiencing.

- Customer over-provisions storage as a practice to avoid any potential over-utilization issues. This, plus strict requirements from their primary application vendor (EPIC) has contributed to massive numbers of devices to manage.

- Management of daily SAN operations is outsourced, but the customer also maintains several residents from their primary storage vendor in-house.

- These resources combined with their own storage team often resulted in a "too many cooks in the kitchen" scenario.

- Data services was complicated. Data duplication, replication and retention requirements are stringent. Fault tolerance is of critical importance.

The SAN Operations team has strict SLAs to the business (and independent regulators), namely a 30 minute SLA on production-impacting issue resolution.

- Prior to Virtual Instruments, the healthcare organization had no way to guarantee this

issue resolution goal could be met, and no solid proactive solution to prevent the issues in the first place.

- Device specific tools from their fabric switch vendor were unable to cohesively alert on and troubleshoot issues that crossed multiple SAN instances and interconnects that were necessary to maintain the redundancy requirements of the patient records environment.

After a critical incident, impacting availability of patient records, they realized the need for a true real-time monitoring solution, and brought Virtual Instruments into the data center. They added direct monitoring (48-port SAN Performance Probes) to production environments in multiple US-based data centers and a lab environment on the West Coast.
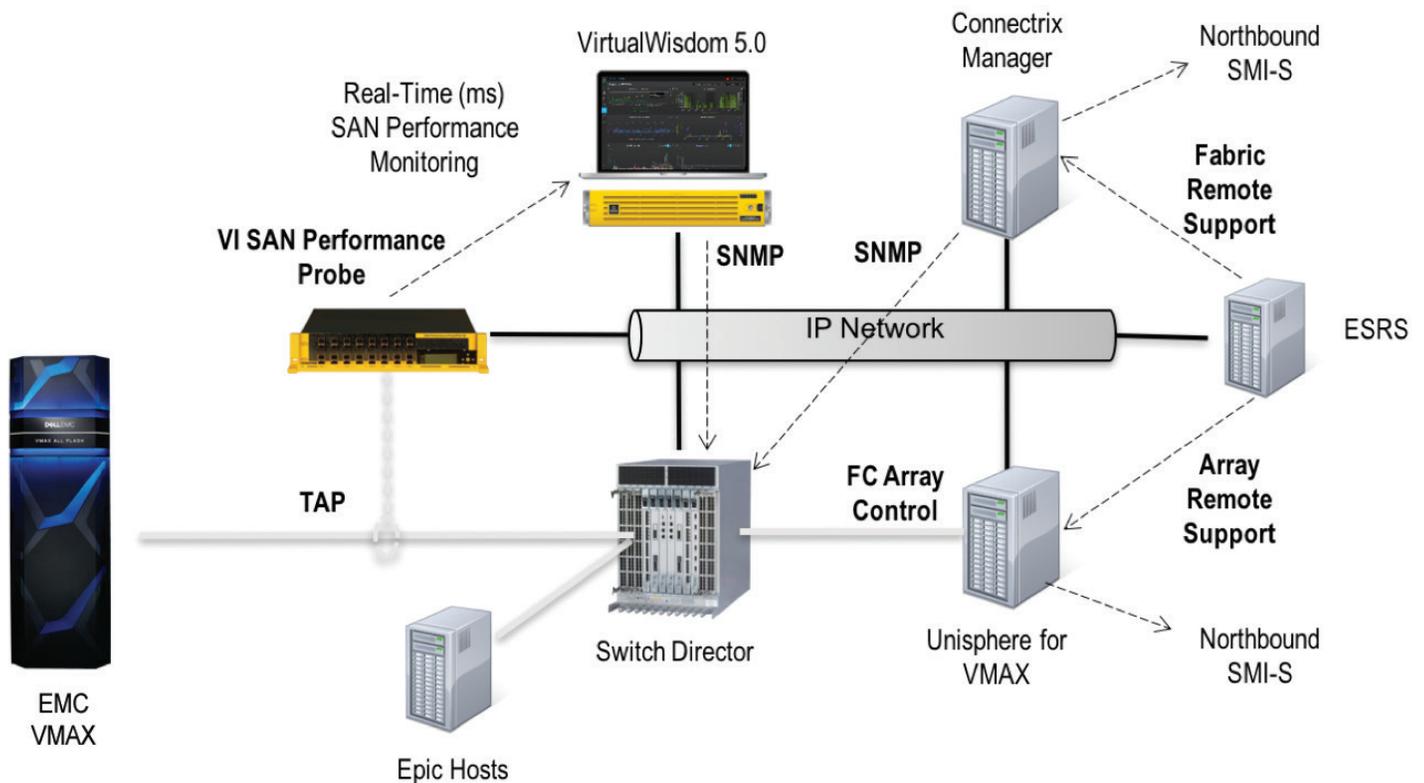

Figure 1: Healthcare Infrastructure Architecture

Infrastructure schema

Data Centers – 5 datacenters across North America

Customer Environment

- Patient Records runs on EPIC

- Recently purchased additional VI solution for monitoring separate applications, including a proprietary Pharmacy Inventory System.

- EMC VMAX Storage, Brocade Fabric, IBM AIX Servers, Brocade Network Advisor, Dell/EMC Unisphere.

VI Solution Benefits

With the VI solution in place they confidently meet SLAs around availability to business stake holders and time to issue resolution to the operations teams.

- Cross fabric problems that traditionally took days to remediate, can now be identified and resolved in a matter of minutes.

- Re-architected their storage provisioning to isolate workloads (which they now understand better) that were previously creating contention.

- The VirtualWisdom platform has brought together a disparate SAN management team

under multiple vendors to agree on a common monitoring and alerting platform.

- Proactive alerting to vendor teams in conjunction with the monthly Health/Utilization/Performance reports and scorecard tracking have resulted in significant reduction in availability impacting events.

- Current SAN Ops team has embraced Virtual Instruments as an optimal analytic/correlation platform

Key Benefits as the platform has been adopted to monitor Patient Records and the Pharmacy Inventory System:

- Quicker and more effectively provides infrastructure-wide metric correlation that would take multiple tools and people to compile.

- Finds true root cause for incidents that may otherwise go un-solved

- Provides proactive performance monitoring to reduce number of significant incidents encountered.

- VI's Advanced Analytics suite turns data into answers for SAN teams to act on immediately

- Top to bottom Instrumentation is a requirement for the critical nature of the large systems deployed by this healthcare provider. VirtualWisdom fills the end-to end monitoring need that other device specific tools cannot provide.

Customer Value

- Proactively identify and address infrastructure problems before they affect clinical workflow

- Eliminate the risk of unplanned outages and performance slow-downs when virtualizing healthcare systems

- Improve application performance to ensure fast, reliable access to medical records

- Maintain and prove SLA compliance for Joint Commission audits and HIPPA regulations

- Optimize NAS, SAN, server and storage port utilization to avoid unnecessary purchases; divert 50% cost savings to fund strategic healthcare initiatives

- Reduce trouble tickets by up to 80%; direct cost savings to patient care initiatives
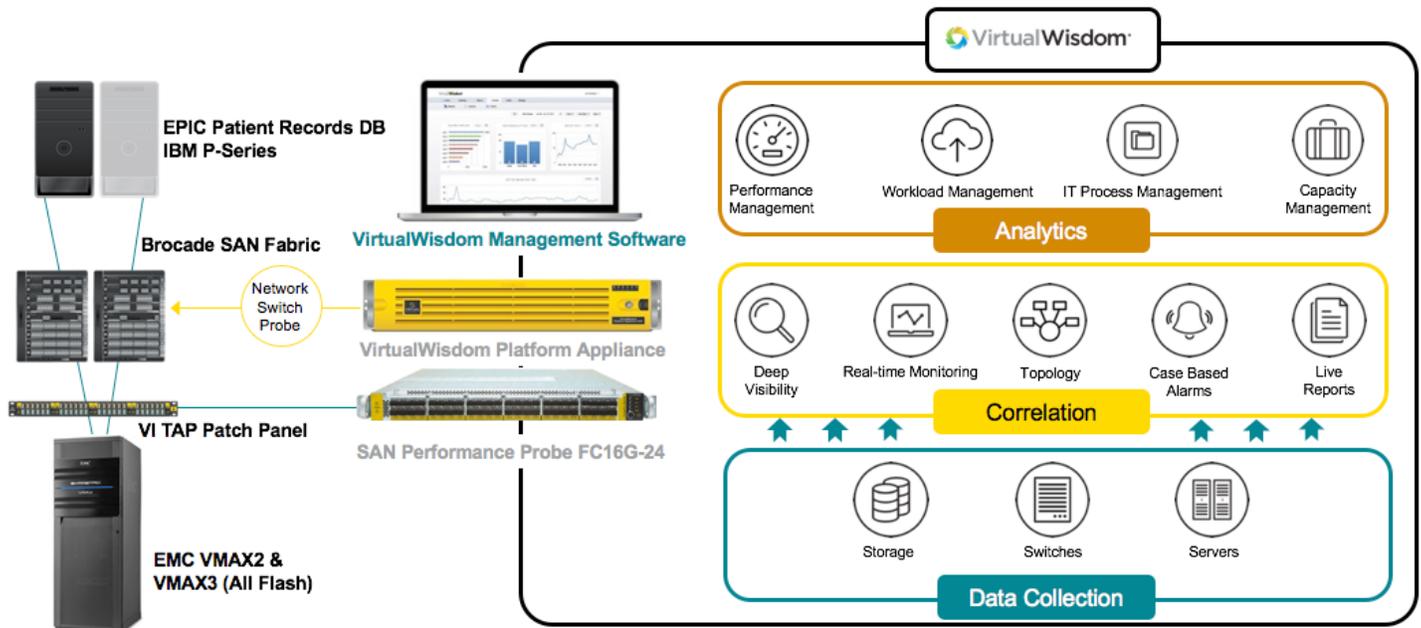

Figure 2: Virtual Instruments Adds Precision Infrastructure Knowledge