



Krishna Institute of Medical Sciences (KIMS) Hospitals operate 12 multi-speciality hospitals with an aggregate bed capacity of over 3,000 including over 2,500 operational beds. The hospitals offer a comprehensive range of services, including cardiac sciences, oncology, neurosciences, organ transplantation, maternal and childcare.

#### Partner

Gowra Bits & Bytes Pvt Ltd. (GBB) is an end-to-end IT infrastructure solutions and services company that transforms businesses through innovative technology.

#### Industry

Healthcare

#### VMware footprint

- VMware® vRealize® Operations™
- VMware vSAN™
- VMware vSphere®

## VMware Predictive Analysis helps KIMS Hospitals Rightsize Business Infrastructure to Support Growth

The Krishna Institute of Medical Sciences (KIMS) Hospitals vision to provide best-in-class healthcare specialty services required a strong, robust IT framework to support its growth aspirations and consolidate its position as the top healthcare provider in South India. VMware vSAN and VMware vRealize Operations supported the healthcare provider in reducing and rightsizing its IT infrastructure to deliver efficient service and improve the patient experience.

### A dashboard view for better business outcomes

The future of healthcare is digital, and KIMS Hospitals is at the forefront. KIMS Hospitals are equipped with modern medical technology and equipment, including the latest 4-Arm HD da Vinci Robotic surgical system, an O-arm multi-dimensional surgical imaging system and 2-Tesla MRI machines. The focus on technology has expanded options for medical treatments offered and transformed clinical care and patient care delivery. KIMS Hospitals adopted this “technology first” approach and required an agile, robust IT infrastructure capable of managing big data through complex systems and multiple applications located within secure, centralized storage.

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“At KIMS Hospitals our IT infrastructure is designed to facilitate patient engagement. VMware vSAN Enterprise 7 is an on-premises, scalable solution with in-built redundancy ensuring that we continue to leverage our technological superiority in delivering patient care. Especially during the pandemic, we would not have been able to respond so fast and effectively without this VMware scalability option.”

Naveen Kumar S, General Manager of IT, KIMS Hospitals

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## Reigning in server sprawl and cost inefficiencies

As KIMS Hospitals focused on providing high-quality care, digital dependence increased. The IT teams were constantly called on to support new applications, manage new data types, and increase storage and network capabilities. Inadequate data analytics on workload performance of the existing IT infrastructure resulted in ad hoc, onsite or pay-on-demand scalable cloud storage options. Every new application or storage racks added a layer of complexity to the maintenance and management of the applications, systems and infrastructure.

With many mission-critical workloads on AWS and a few applications running on outdated operating systems, network security was open to the risk of ransomware attacks. Furthermore, to reduce dependency and costs on AWS, approximately 70TB of critical Picture Archiving and Communication System (PACS) data was spread on Network-Attached storage or multiple storage workloads. As business increased, additional workloads were connected to physical server blades and on Microsoft Hyper-V Clusters, reducing redundancy and increasing security-related challenges.

A server sprawl across locations, networking platforms supporting multiple users reducing transaction time, and an absence of a centralized dashboard view of the workload spread made it difficult for the IT team to get a comprehensive view of IT infrastructure and performance.

The VMware vSAN solution with Dell hardware was selected as it supported KIMS Hospitals future business need for scalability, redundancy and cost efficiencies. VMware vSAN

offers virtualized storage, which, together with VMware vRealize Operations management capabilities and advanced security, allows for seamless data transfer and interaction between networks and applications. Gowra Bits & Bytes Pvt Ltd., (GBB) completed the implementation with support from the VMware team.

## Deployment achieved through analytics, best practices and minimal downtime

With workloads shared across multiple physical, Hyper-V drives, and AWS cloud, the VMware Optical Prime Live Optics tool was deployed to capture, collect and analyze performance information from numerous server operating systems, allowing the GBB team to assess the current workload environment.

The implementation came with a set of challenges for the GBB team, who, in addition to maintaining low downtime and redundancy protocols, had to partner and gain acceptance for the solution from application vendors to avoid dependency-related issues during implementation. Close coordination and teamwork between the GBB and the KIMS Hospitals IT teams ensured the migration was completed successfully. To test the system's robustness before and after deployment, the GBB team ran tests on performance to ensure it met IOPS benchmarks. Post-migration, the metrics collated far outperformed the benchmarks, confirming the robustness of the solution.

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“Given that this was not a green field project, on ground execution of the project without backup automation posed a risk which was mitigated successfully by our team using VMware best practices and carefully planned downtime activities.”

Subbaram Gowra, Managing Director, GBB

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## VMware optimizes efficiencies and utilization with Software-Defined Storage

Today, KIMS Hospitals has six VMware vSAN Ready Dell Nodes and two 10G Network Switches, allowing the IT team to implement enterprise-scale computing with no downtime and higher cost efficiencies.



The VMware vSAN solution is easy to set up and manage and delivers a modernized, cost-effective, on-premises, cloud solution to KIMS Hospitals. It modernizes hyperconverged infrastructure (HCI) and is an excellent solution for traditional virtual machines and cloud native applications. It provides the IT administrators at KIMS Hospitals a virtual data plane with real-time analytics on storage attributes of VMs, including capacity, performance and availability, giving better control and understanding of workload and performance.

### Maximizing efficiencies, actionable insights, integrated configuration management

The KIMS Hospitals IT infrastructure today can be viewed on a single dashboard. It also provides detailed analytics of machines, hosts, network adapters, data storage and more across private, hybrid and multicloud environments enabling real-time optimization of performance, capacity and costs through predictive analysis.

The VMware vSphere Hypervisor allows more efficient operations by monitoring and sharing unutilized memory and

processing resources within multiple guest VMs. Access to this detailed business analytics allowed the KIMS Hospitals team to move 80 percent of workloads from AWS to HCI, adding huge savings to monthly billings.

Future growth and upgrades are more accessible and are now completed in two to three days with minimal downtime and interruptions to operational workflows. Overall, 98 percent of the issues faced by the IT team before implementing VMware vSAN have been solved, allowing for higher efficiencies within the IT team at KIMS Hospitals.

### Real-time, easy to manage, cost-effective

With the completion of the infrastructure and software deployment, KIMS Hospitals today can manage its healthcare apps and solutions within a flexible, agile IT infrastructure that supports its growth over the next five years. It provides the KIMS Hospitals IT team the ability to deliver upgrades on-demand with lower total costs and better IOPS. In addition, upgrades and maintenance activities are completed with zero downtime. The cost savings from on-premises servers against cloud computing vendor support have been substantial.

### A digital-first, patient-centered future

Digital innovation ensures KIMS Hospitals is well ahead of its competitors. Together, VMware solutions are transforming IT and application strategies at KIMS Hospitals to safely accelerate digital-first, patient-centered experiences and build innovation, agility and resiliency into the organization's core.