



HEALTHCARE

- **CLIENT**
Gordon Memorial Hospital
- **CHALLENGE**
Replace a badly aging infrastructure with one that can support an electronic health record (EHR) solution and address the hospital's other IT needs—to provide better care to patients, enhance staff efficiency, and lower IT costs
- **SOLUTION**
Vblock System 300 running the MEDITECH 6.0 EHR solution and several dozen other vital hospital applications
- **RESULTS**
Dramatically reduced costs to install, operate, refresh, and power—plus a smaller IT staffing requirement—will produce substantial savings over 10 years

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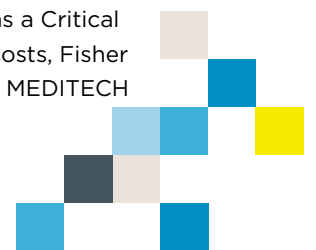
VBLOCK SYSTEMS PROVIDES GORDON MEMORIAL HOSPITAL A HEALTHY WAY TO DEPLOY EHR, IMPROVE PATIENT CARE, AND REDUCE COSTS

SAVINGS ON SERVICES, SUPPORT, HARDWARE REFRESHES, STAFFING, AND MORE ADD UP TO HUNDREDS OF THOUSANDS OF DOLLARS IN BENEFITS

[Gordon Memorial Hospital](#) is a small, 25-bed facility located in Gordon, Nebraska—population 1,612. The hospital provides inpatient care to residents of two Nebraska counties and a portion of South Dakota, as well as outpatient services at an attached walk-in clinic and an off-site clinic in nearby Rushville.

When Tyler Fisher joined Gordon Memorial as Chief Information Officer (CIO) in 2011, the hospital's entire IT infrastructure ran off a single server. Even with the addition of two other servers, this was not only inadequate for the hospital's existing needs, but it also wouldn't support sweeping initiatives such as electronic health record (EHR), which enables a patient's medical history to follow him or her electronically.

To capitalize on Federal incentives available to Gordon Memorial as a Critical Access Hospital (CAH), help improve patient care, and reduce IT costs, Fisher conducted a detailed review of technology solutions and selected MEDITECH 6.0 EHR software running on a VCE Vblock® System.





The Challenge

[IT infrastructure](#) was a key focus almost from the day Fisher arrived at Gordon Memorial. His predecessor had begun an upgrade of the hospital's IT network in conjunction with the installation of a new telephone system. However, it seemed unlikely that the hospital's pre-2005 servers and operating system software could improve network performance or responsiveness without additional enhancements.

With EHR and other planned initiatives on the horizon, a major upgrade of the hospital's IT infrastructure was required. Fortunately, because of Gordon Memorial's classification as a CAH under 1997 Federal legislation, the hospital would be reimbursed for a large part of what would otherwise have been cost-prohibitive technology improvements.

Evaluating EHRs

After comparing a number of software providers' solutions, Fisher chose [MEDITECH](#) for the hospital's EHR. At the time, MEDITECH software was certified to run on several traditional hardware platforms, but was not yet approved for use on the advanced [converged IT infrastructure](#) designed for seamless virtualization by VCE.

"I wanted to ensure that if we invested considerable funds to upgrade the hospital's IT capabilities, we would not only be able to implement a state-of-the-art EHR solution, but also efficiently run all other applications as well," stated Fisher.

Conveniently, Fisher and the hospital's CEO had recently been introduced to the VCE Vblock System when it was demonstrated at an executive technology briefing at EMC, one of VCE's founders. While Gordon Memorial's CEO worked diligently to arrange the financing required for the purchase, Fisher worked closely with MEDITECH to add Vblock Systems as an approved platform for its latest software release, MEDITECH 6.0.

The Solution

In late 2012, Gordon Memorial purchased a Vblock System 300 EX. The pre-designed, pre-integrated Vblock System arrived within approximately four weeks as scheduled and was quickly stood up in only a day and a half. Approximately one week later, the infrastructure was fully configured and ready to run the MEDITECH EHR solution. The hospital also purchased EMC Data Domain and EMC Networker software with DD Boost to optimize and accelerate its backup and deduplication process—so it could maintain a near-real-time copy of its data at its Rushville clinic 15 miles away.

REDUCED SERVICES, SUPPORT, AND STAFFING REQUIREMENTS WITH THE VBLOCK SYSTEM

	VCE Vblock System	Vendor B	Vendor C
Installation and implementation	VB	1,000% of VB	696% of VB
Support costs after year 3	VB	299% of VB	159% of VB
IT staffing requirements	4 FTE	5 FTE	5 FTE

Since that time, Fisher and one of his three IT team members have been working diligently to input the data and launch the EHR solution—rolling out individual capabilities such as support for the nursing staff as the modules become available. But don't think that the Vblock System has been sitting idle, waiting for EHR to make its debut.

Shortly after the new IT infrastructure was installed, Gordon Memorial began to move almost all of its other applications to the virtualized environment running on the Vblock System. This included:

- Domain name server
- [Microsoft](#) Exchange server
- Microsoft SharePoint server
- DrFirst e-prescribing
- Pharmacy med-dispensing server
- 3M coding solution used to translate ICD-9 codes for billing
- Craneware revenue integrity solutions for optimum pricing and reimbursement
- Meaningful Use reporting software
- Time-and-attendance system
- Informational wiki's tailored to the needs of the clinical team
- [Virtual desktop infrastructure \(VDI\)](#)

In short, Gordon Memorial is currently running almost the entire hospital on 100 virtual machines (VMs) on a single Vblock System. This includes its EHR and an exciting hospital-wide VDI solution supporting approximately 300 clients for the clinic team and administrative staff.

Expanding Storage Capacity on the Fly

Although the hospital had purchased four separate blades for VDI and its other clinical and administrative applications (apart from EHR), before the EHR was online, all the hospital's applications cohabitated for a time on the same host, using the same storage. When the EHR solution was added to the platform, Gordon Memorial suddenly realized it needed to install those additional blades and expand its storage to maintain the desired performance level.

The hospital's IT team was able to upgrade from the existing EMC VNX 5300 storage array to a VNX 5500 and install Gordon Memorial's unused blades in one day—moving all of the hospital's VMs while the applications remained live.

"The Vblock System made the migration so seamless that our staff had no idea they were moving from one host cluster and set of storage to another," Fisher remarked. "Everything happened so quickly that perhaps for one mouse click, the system might not have responded. But that was it."

The Results

Fisher and his team chose the Vblock System because of its superior functionality—the system's advanced converged infrastructure would be able to deliver the extraordinary efficiency and agility of virtualization to enable Gordon Memorial to meet patient requirements in today's uncertain healthcare environment. In addition, it offered a state-of-the-art [backup solution](#) essential for protecting EHR data.

But to cost-justify the investment and help earn the hospital board's favor, Fisher prepared a detailed 10-year total cost of ownership (TCO) analysis that compared the Vblock System to its two closest competitors.

The initial cost of the Vblock System hardware for the EHR solution was 3% higher than Vendor B and approximately 48% higher than Vendor C. But by virtually any other measure, the Vblock System was dramatically superior—delivering a better TCO than the other finalists. These benefits included:

- **Services**—Installation and implementation was as little as 10 percent of the cost of installation of the other vendors' systems
- **Support**—Annual costs for single-call support from VCE were 35 percent to 66 percent less
- **Hardware refreshes**—Estimated to be \$152,000 less for Vblock Systems over 10 years
- **Point-of-care devices**—Upgrade of thin clients used in the Vblock System-based VDI solution are projected to be \$24,000 less than with traditional workstations
- **Energy savings**—Up to \$38,000 saved over 10 years due to thin clients
- **Staffing**—The simplified operations and management of Vblock Systems will allow the IT team to remain at 4 FTEs, rather than expanding to 5 FTEs as the other solutions will require
- **Bottom line**—With an estimated \$695,000 in savings beyond the initial cost of the Vblock System hardware, the hospital's 10-year TCO is expected to be substantially less with VCE

"When I finished my presentation to the hospital board, the chairman said that it would be foolish not to purchase the Vblock System'," stated Fisher. "That's how clear we felt the decision was."

Simplified Management and No Downtime

Gordon Memorial also benefits from the ease of management of the Vblock System, elimination of downtime, and highly responsive support. VMware vSphere provides essential insight into the hospital's IT capacity and performance—making it easy to manage and provision compute, network, and storage resources and maintain high availability and full security.

Fisher said that beyond vSphere, he and his staff only need to “touch the Vblock System components once a month or so.” This results in significant savings in time and effort.

Since the Vblock System began running most of the hospital's applications in 2013, there have been no major issues or unexpected downtime and support from VCE has been responsive and proactive. Gordon Memorial has just one number to call, as opposed to calling the six different vendors included in some proposals.

“Our interaction with VCE regarding support has been great,” Fisher noted. “Their customer advocate stays in constant touch with us and anticipates our needs before they arise.”

Realistic Revenue Potential

Gordon Memorial is also beginning to explore the possibility of leveraging excessive virtualized capacity to act as a service provider for other local medical institutions. Even running the hospital's ambitious VDI and EHR solutions, Gordon Memorial has a lot of excess CPU, RAM, and storage capacity.

Although the hospital is small and isolated, it's a member of the Rural Nebraska Healthcare Network. Nine hospitals are connected through a recently installed, high-speed fiber optic network.

“We're investigating whether other hospitals within the network that don't have a virtualized infrastructure might be interested in accessing our virtualized solutions as a service,” said Fisher. “We've got the platform to handle it and we can easily expand the infrastructure if needed. So, I think, thanks to our Vblock System, we may be able to capitalize on some revenue-generating possibilities soon.”

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— Tyler Fisher
Chief Information Officer
Gordon Memorial Hospital

ADDITIONAL COST SAVINGS AND PROFIT POTENTIAL

	VCE Vblock System	Vendor B	Vendor C	Vblock Savings
Projected 10-year hardware refresh costs	\$80,000	\$232,000	N/A	\$152,000
Upgrade costs for point-of-care devices	\$56,000	\$80,000	\$80,000	\$24,000
Reduced energy costs due to thin clients with Vblock Systems VDI	– \$38,000	No savings	No savings	\$38,000

