Case Study Forum

ROI CASE STUDIES

HIGHLIGHTS

Goal: For Norman Regional Health System to deploy a high-performance, highly reliable computing infrastructure for running MEDITECH applications, and lower operational costs, increase efficiency, and continue delivering award-winning quality patient care.

Solution: Two HP StorageWorks Enterprise Virtual Array 8000s, and multiple HP ProLiant DL360 and DL380 servers.

Results: When fully deployed, the solution will improve hospital efficiency and patient care, increase application and storage reliability, and lay the foundation for a comprehensive disaster recovery plan. The solution has a projected, cumulative five-year net benefit of $6,160,896, driven by reductions in IT costs associated with backups and UNIX support, and by increased productivity. The project will have an ROI of 167%, and a payback period of 18 months.

CUSTOMER PROFILE

Norman Regional Health System
http://www.normanregional.com
Norman Regional Health System is a full-service acute care health system, serving Norman and Moore, Oklahoma and the surrounding communities.

Headquarters: Norman, Oklahoma

Industry: Healthcare

Employees: 300 plus physicians and 2,700 employees

Revenue: More than $130 million

Norman Regional Health System Improves Reliability, Reduces Costs, Improves Patient Care, and Gains $6.1 Million in Benefits with an HP and MEDITECH Solution

Norman Regional Health System, a full-service acute care health system based in Oklahoma, decided to move to a multi-facility electronic medical record system from MEDITECH. It was looking for a reliable, scalable end-to-end platform for MEDITECH that would simplify backups, form the basis of a disaster recovery plan, improve productivity, reduce costs, and assist the continuation of quality patient care.

Norman chose HP, because HP was the only vendor with a complete, end-to-end server and storage platform certified to work with MEDITECH's HCIS. The HP platform consists of multiple HP ProLiant DL360 and DL380 servers for running applications and databases, and two HP StorageWorks Enterprise Virtual Array 8000s (EVA8000s) for storage, backup, and disaster recovery.

When fully deployed, the solution will improve hospital efficiency and patient care, increase application and storage reliability, and lay the foundation for a comprehensive disaster recovery plan. It has a projected, cumulative five-year net benefit of $6,160,896, driven by reductions in IT costs associated with backups and UNIX support, and by increased productivity. The project will have an ROI of 167%, and a payback period of 18 months.

Benefits

Objective	Benefits Achieved
Provide a unified, end-to-end environment	The HP storage and server platform ensures that the MEDITECH solution will work optimally in an integrated environment, and provides a single point of contact for help and support.
Reduce costs	Norman Regional will see a projected, cumulative five-year net benefit of $6,160,896 from the HP solution, driven by reductions in IT costs associated with backups and UNIX support, and by increased productivity.
Simplify storage and backups	Rather than having to use multiple backup storage and platforms, Norman Regional will use two EVA8000s, and only have to manage a single platform. Time spent on backups and managing storage will be significantly reduced.

The Challenge: Build a Unified Infrastructure

Norman Regional Health System, a 382-bed, full-service acute care health system serving the towns of Norman and Moore, Oklahoma and the surrounding communities, runs two hospitals, and has a third one under construction. By February 2009, the total beds in the three hospitals will reach 511.

Norman Regional wanted to find a new integrated healthcare information system for handling growth, as well as to meet expanding healthcare regulatory requirements, and to handle the growing need to quickly share medical data electronically. To meet those challenges, it choose a comprehensive, multi-facility electronic medical record system from MEDITECH.

Norman Regional had to build a platform capable of running the MEDITECH applications. It was looking for a platform which would achieve the following:

- **Provide a unified, end-to-end environment.** Norman Regional was using a mix of hardware and software from multiple vendors. Moving into the future, they were looking for an end-to-end solution to ensure the MEDITECH applications worked flawlessly, and for simple support and troubleshooting. By ensuring that MEDITECH applications worked flawlessly, Norman Regional would have a seamless system easily accessed by healthcare providers at any time, from any location in a secure environment.
- **Simplify backups.** With its existing multiplatform environment, Norman Regional was spending too much time managing and backing up data from different pieces of hardware. The challenges of multiple backup technologies, backup strategies, and backup platforms—and there were recovery strategies for each platform—added to the strain. Their goal moving forward was a single backup solution which was easy to administer and ensured critical patient data would be backed up and recoverable.
- **Form the basis of a business continuity plan.** Norman Regional had no easy solution to help it recover in case of a disaster; it could take days to find and recover all the data from various backup devices. Norman was looking for a solution which allowed it to efficiently and effectively recover patient information, MEDITECH data, and business files.
- **Improve productivity.** IT staff at Norman Regional spent substantial amounts of time being trained on multiple platforms, and managing, supporting, and troubleshooting those platforms. With a single platform, Norman now has a common architecture that allows all staff to be trained on the same system, deepening staff knowledge and expertise.
- **Reduce costs.** Hardware and support costs were high for managing multiple platforms. In addition, Norman Regional's hardware was aging, and was becoming increasingly expensive to maintain.

> "With the HP platform, we'll be able to lower our costs, improve our efficiency, eliminate downtime, and have a business continuity plan in place. Ultimately, our community will benefit as we move closer to a community health record that is reliable, secure and easily accessed by patients, physicians and other healthcare providers."
>
> Ed Fisher
> VP/CIO
> Norman Regional Health System

Norman Regional Choose an HP End-to-End Solution

Norman Regional worked with JJWild, a provider of integrated healthcare delivery solutions to the MEDITECH community, to choose a solution. Technology from several vendors was considered. After working with JJWild on several design alternatives that encompassed Norman's infrastructure, backup, disaster recovery, and healthcare operational continuance options, the choice was easy. Norman Regional felt HP had the most effective and best-integrated server and storage platform certified to work with MEDITECH solutions. In addition, Norman Regional Health System VP/CIO Ed Fisher had previously implemented MEDITECH on an HP server and storage platform at The William W. Backus Hospital in Norwich, Connecticut and was extremely impressed with HP's solution capabilities, performance, and reliability.

"With HP, I get a single platform for both servers and storage," Fisher says. "I was confident that the HP system would be operational from implementation."

He adds, "I have some peer CIOs who decided to choose storage from one vendor, and servers from another vendor, and they've had ongoing issues. One had his systems down for several days; with a complete HP solution, I'm confident with the reliability and availability of my environment."

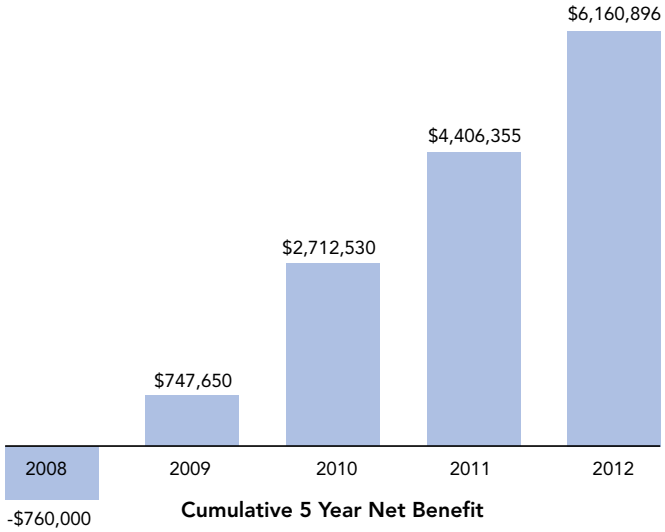
The HP and MEDITECH relationship played a main role in Norman Regional's choice because Fisher knew the companies work together to ensure their systems integrate flawlessly. This level of confidence and integration contributed to the successful pilot and overall, ongoing management of the environment.

Norman Regional purchased multiple HP ProLiant DL360 and DL380 servers for running the applications and databases, and two HP StorageWorks Enterprise Virtual Array 8000s (EVA8000) for storage. The two EVA8000 disk arrays will mirror one another, for business continuity and disaster recovery. The solution was launched as a pilot, and went live into full production in December, 2007.

The Bottom Line for Norman Regional

The HP end-to-end platform for MEDITECH has given Norman Regional a highly reliable, scalable architecture that will lower operational and management costs, improve productivity, increase application and storage availability, reduce downtime*, and lays out the foundation of a comprehensive disaster recovery plan. The redundancy it gives Norman Regional is critical to the availability of Norman's real-time electronic medical records. The HP solution enables Norman staff to focus on patient care at the bedside rather than checking charts and orders at the unit desk, leading to quality clinical outcomes and improved patient experiences.

- Norman Regional Health System's bottom line for the project: a projected, cumulative five-year net benefit of $6,160,896, driven by reductions in IT costs associated with backups and UNIX support, and by increased productivity. The project will have an ROI of 167%, and a payback period of 18 months.



Cumulative 5 Year Net Benefit

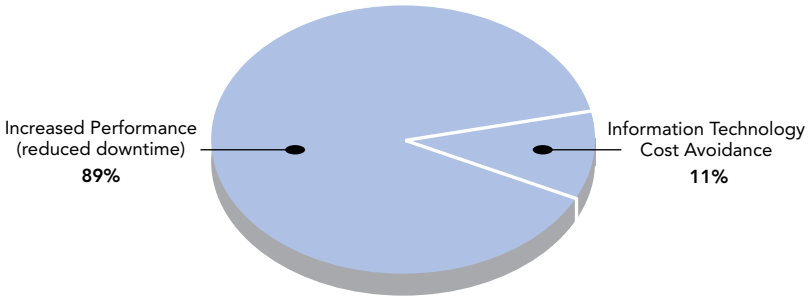
JJWild acts as the one point of contact for Norman Regional should they require help and support, engaging HP if necessary.

Uptime will be dramatically increased, and storage and backups simplified. Rather than having to use multiple backup storage and platforms, Norman Regional will use the two EVA8000 storage arrays, and only have to manage a single platform. Because the EVA8000 is simple to administer, the time spent on backups and managing storage will be reduced. Staff can instead devote their time to other IT initiatives and other organizational priorities.

Norman Regional will also reap significant financial gains. A detailed analysis of the implementation shows Norman Regional will gain a projected, cumulative five-year net benefit of $6,160,896, driven by reductions in IT costs associated with backups and UNIX support, and by increased productivity. The project will have a projected ROI of 167%, and a payback period of 18 months.

Norman Regional will no longer have to support an expensive UNIX environment or perform individual backups and batch processing. As a result, calculations show a projected, cumulative $1,088,373 benefit over five years due to retiring UNIX machines.

*Downtime produces a loss of productivity. Downtime impacts IT labor, as well as physician and patient satisfaction.



Cumulative 5 Year Net Benefit = $6,160,896

> "The HP end-to-end solution is an ideal platform for our MEDITECH system. Because of the relationship between MEDITECH and HP, I know that I'm getting a solution proven to work."
>
> Ed Fisher
> VP/CIO
> Norman Regional Health System

The HP infrastructure will dramatically reduce both scheduled and unscheduled downtime. Scheduled downtime now equals approximately 6 hours per outage. Unscheduled events average 2 hours per event. These events do not include nightly back-up times.

Hospital personnel will benefit from being able to do their job without delays and manual workarounds downtime procedures. As a result, Norman Regional will see a see a projected, cumulative $8,760,074 in increased productivity over five years.

The following chart provides a detailed, five-year analysis:

5 YEAR ANALYSIS

Project Summary	
ROI	167%
Payback Period (in months)	18
Cumulative Net Value	$6,160,896

Project Costs	**Start Up**	**2008**	**2009**	**2010**	**2011**	**2012**	**Total**
HP Investment	$2,200,000	$400,000	$400,000	$0	$0	$0	$3,000,000
Annual Maintenance		$0	$0	$0	$330,000	$330,000	$660,000
Incremental Training		$15,000	$3,000	$3,090	$3,183	$3,278	$27,551
TOTAL PROJECT COSTS	$2,200,000	$415,000	$403,000	$3,090	$333,183	$333,278	$3,687,551

Benefits	**Start Up**	**2008**	**2009**	**2010**	**2011**	**2012**	
Information Technology Cost Avoidance		$205,000	$211,150	$217,485	$224,009	$230,729	$1,088,373
Increased Performance (reduced downtime)		$1,650,000	$1,699,500	$1,750,485	$1,803,000	$1,857,090	$8,760,074
TOTAL BENEFITS		$1,855,000	$1,910,650	$1,967,970	$2,027,009	$2,087,819	$9,848,447

Financial Analysis		**2008**	**2009**	**2010**	**2011**	**2012**
Net Value	($2,200,000)	$1,440,000	$1,507,650	$1,964,880	$1,693,826	$1,754,541
Cumulative Net Value	($2,200,000)	($760,000)	$747,650	$2,712,530	$4,406,355	$6,160,896
Net Present Value	$4,705,226					
Payback Period (in months)	18					
ROI	167%					

Return on Investment (ROI) is the percentage return expected over a specified period of time. ROI is the total benefit divided by the total costs. This ROI metric is good for assessing the multiplier provided by the benefits relative to the total investment and costs.

Net Present Value (NPV) represents the cumulative present value of the expected return of a project over a specified period of time minus the initial costs of the project. This dollar figure provides visibility on the actual value of a project, taking into consideration the time value of money - the ongoing benefit of a project in today's dollars. NPV tells you the magnitude of the project and if the project generates a profit.

Payback Period (or breakeven) is the timeframe it takes for the project to yield a positive cumulative cash flow. Payback period is a key measurement of risk but does not take into account cash flows after the payback period.

ROI, NPV and Payback should be used in conjunction to understand the rate, size and timing of the return.

Net Value (or Net Benefit) is the benefit delivered to the organization for the investment made in the project. Net Value is calculated by taking the total benefit minus the project costs.

Norman Regional worked with JJWild, a provider of integrated healthcare delivery solutions to the MEDITECH community, to choose a solution. Technology from competing companies and others was considered. After working with JJWild on several design alternatives that encompassed Norman's infrastructure, back-up, business continuity plan, and healthcare operational continuance options, the choice was easy. Norman Regional felt HP had the most effective and best-integrated server and storage platform certified to work with MEDITECH solutions. In addition, Norman Regional Health System VP/CIO Ed Fisher had previously implemented MEDITECH on an HP server and storage platform at The William W. Backus Hospital in Norwich, Connecticut and was extremely impressed with HP's solution capabilities, performance, and reliability. A single-vendor platform such as HP's is less costly for health care institutions than a mixed-environment platform, such as would have been required with other solutions. Single-vendor platforms are better integrated, have less downtime, and require less maintenance and troubleshooting. In addition, working with JJWild, there is a single point of contact with a single-vendor solution, mitigating the finger pointing which may occur in mixed environments

About Norman Regional Health System
Norman Regional Health System is an award winning 382-bed, full-service acute care health system, serving Norman and Moore Oklahoma and the surrounding communities since 1946. It has more than 300 physicians and 2,700 employees on staff, dedicated to providing quality and compassionate healthcare. Opening in the spring of 2009 will be a new, 129-bed hospital featuring cardiology, neurology, orthopedics and women's and children's services.

About Hewlett-Packard Company, StorageWorks Division
HP is a technology solutions provider to consumers, businesses and institutions globally. The company's offerings span IT infrastructure, global services, business and home computing, and imaging and printing. HP StorageWorks solutions help enterprises optimize current resources, manage multivendor environments and evolve to open architectures. For more HP StorageWorks customer stories, go to www.hp.com/go/storage/casestudies. For more information on how working with HP can benefit you, contact your local HP representative, or visit HP at www.hp.com.

About JJWild
JJWild develops and delivers integrated IT solutions that empower organizations using the MEDITECH Healthcare Information System (HCIS) to optimize healthcare delivery. Leveraging their in-depth technology and application consulting expertise, JJWild offers comprehensive solutions that integrate people, processes, and technology to ensure healthcare organizations realize the full potential of their MEDITECH system. Recently acquired by Perot Systems, JJWild can now offer their customers an even wider range of products, services, and support for the MEDITECH community. A partnership with JJWild brings with it an experienced and extensive team of healthcare consultants and technology experts dedicated to helping you achieve your strategic goals.

About MEDITECH
MEDITECH has been the leader in the Health Care Information Systems (HCIS) industry since 1969. MEDITECH's applications unify clinical, administrative, and financial information across a health care organization, including acute care, long-term care, home health care, and physician practices. Today, more than 2,000 institutions worldwide use MEDITECH's information systems. For additional information on MEDITECH products and services, visit www.meditech.com.

About Case Study Forum
Case Study Forum is the leader in the writing and production of ROI-focused Case Studies. In addition to a customer success story, each ROI Case Study provides insight into the business impact—the revenue, productivity and cost savings the customer achieved as a result of the investment made in the solution or service. For more information, please contact Case Study Forum at 508-380-8886, or visit www.CaseStudyForum.com.

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