

Infrastructure Optimization

Evidence Case Study: Alamance Regional Medical Center

Speed Complex Application Deployments and Upgrades, While Reducing Costs

Situation

Alamance Regional Medical Center (ARMC) has a staff of 2,200 end-users, including physicians, nurses and administrators. IT supports 75 wide-ranging applications, from Eclipsys Sunrise Clinical Manager and Siemens NOVIUS Radiology to Kronos Workforce, for approximately 1,500 PCs and thin clients. Deploying, updating and supporting these applications were incredibly time-consuming and challenging:

Deploying updates and hotfixes:

ARMC was challenged with more than 80 application updates and hotfixes needed to keep its applications current and secure every year. To handle hotfixes, typically IT would wait until they were incorporated into an application's service pack and then deploy each pack once a quarter. IT would have to go computer by computer to apply updates, logging users off and compromising end-user productivity.

Time-consuming regression testing:

ARMC's IT team spent 215 hours every year on regression testing alone to ensure applications would not conflict once installed. Because of this and other steps that are part of a conventional installed environment, it took more than 5,228 hours to deploy new applications per year, time which could have been better spent attending to more strategic IT initiatives.

Managing multiple Java versions:

Many of ARMC's applications were switching over to be Web-based and used different versions of Java. For instance, its HVAC team uses a critical application that runs one version while ARMC's new Web-based time and attendance package uses a different version, and its iTMS work-call reporting application uses yet another. However, only a single Java version can be installed on a client operating system. Because the entire OS is essentially hard-coded to a specific Java version, this can prevent other desktop and Web applications from functioning correctly. Andy Gerring, senior network administrator, says ARMC jerry-rigged a way to make them all work, but "it was a nightmare and resulted in many helpdesk calls when local applications blew up."

Handling server silos:

ARMC had a similar problem to Java with applications that run different versions of Crystal Reports, such as Sunrise Clinical Manager and Sunrise Records Manager. ARMC had 6 silos on 16 servers in order to avoid conflicts between these and other applications.

ARMC needed a solution to address all of these core challenges, enable them to vastly simplify and accelerate application deployment and upgrades, and establish a much more flexible, cost-effective way to manage their IT infrastructure. They decided to evaluate Microsoft® SoftGrid® Application Virtualization.

Solution

Microsoft SoftGrid Application Virtualization transforms applications into virtualized, network-available services resulting in dynamic delivery of software that is never installed, never conflicts, and minimizes costly application compatibility testing. Users and their application environments are no longer machine-specific, and the machines themselves are



<http://www.armc.com>

Country or Region: United States

Customer Size: 2,200 employees

Customer Profile:

Alamance Regional Medical Center, which serves central North Carolina, was named by Microsoft Healthcare User's Group (MSHUG) as the 2005 Hospital of the Year for using Microsoft® technology to improve patient care quality. ARMC's 2,200 employees are dedicated to setting the statewide standard for excellence and responsiveness via comprehensive services and technologies that help more than 200,000 people each year.

Situation:

Manage 75 applications for 2,200 PC and thin client users, while accelerating deployments and upgrades and reducing costs.

Solution:

Implement Microsoft SoftGrid® Application Virtualization and dynamic streaming solution

Benefits:

- Save more than \$1.5 million in application management costs over 3-year period
- Achieve time-to-payback in 5.4 months
- Eliminate over 200 hours of regression testing
- Deploy new applications in 1/10th the time; upgrade applications in 4 hours instead of 8 days
- Eliminate 5,000 hours of annual end-user downtime, saving \$100,000 in lost productivity
- Decrease helpdesk call volume by 30%, while resolving issues in half the time

Software and Services:

Microsoft SoftGrid Application Virtualization

Vertical Industries:

Healthcare Providers

no longer user-specific, enabling IT to be flexible and responsive to business needs, and significantly reducing the cost of PC management.

SoftGrid's unique ability to virtualize all key components of any Microsoft Windows®-based application allows administrators to accelerate each step of the application management process by compressing the time necessary for packaging and preparing applications, deployment, patch management and updates, support and termination. IT administrators make all changes from the SoftGrid Management Console to ensure that users automatically receive the latest application version the next time they log on to the network.

The virtualization of applications happens with the SoftGrid Sequencer, a wizard-based tool that packages Windows application for real-time streaming as network services. The Sequencer uses a once-per-application process to protect the application's integrity and does not modify its source code.

Microsoft SoftGrid Application Virtualization is an integral tool in the Microsoft Desktop Optimization Pack for Software Assurance solution, a dynamic desktop solution available to Software Assurance customers that helps reduce application deployment costs, enable delivery of applications as services and better manage and control enterprise desktop environments.

Benefits

Upon deploying SoftGrid, ARMC immediately realized transformational benefits in terms of the way it manages applications, and the time and costs required to do so.

According to Gerringer, "When we first implemented SoftGrid we had planned on a 30-day trial, but it worked so well and so easily that we were able to confidently go into production right away. We turned our entire environment into a dynamic, service-based infrastructure. We can update even the most complex package for all our computers in one easy step."

The following chart, which ARMC built with Microsoft's Forrester TEI-compliance Return on Virtualization™ (ROV) Calculator, details the savings ARMC is realizing with SoftGrid. The ROV Calculator is based upon the premise that every step in the application management lifecycle –deployment, update, support and termination – must be examined in order to determine its true overall costs to the organization. Calculations are based on the time required by IT staff, as well as by end-users who experience downtime during the various processes.

ARMC TOTAL COST OF OWNERSHIP	WITHOUT SOFTGRID	WITH SOFTGRID
Total Cost of Ownership (1 Year)	\$ 739,199.23	\$ 390,527.34
Total Cost of Ownership Per User (1 Year)	\$ 366.00	\$ 177.51
Total Cost of Ownership (3 Years)	\$ 2,290,173.68	\$ 713,683.15
Annual TCO per user over 3 Years	\$ 347.00	\$ 108.13
SAVINGS		
1 Year SoftGrid vs. previous state savings	\$ 348,671.88*	
3 Year SoftGrid vs. previous state savings	\$ 1,576,490.53*	
TIME TO PAYBACK		
Previous state vs. SoftGrid	5.4 months	

* Cost savings are based on the amount of time no longer needed to be spent on application management. This time may be redeployed to other strategic areas.

"SoftGrid let us quickly turn our entire application environment into on-demand services. This not only saves us significant costs, it also makes us more agile and greatly accelerates our ability to get applications to end users the moment they need them."

Andy Gerringer

Senior Network Administrator

Alamance

In addition to dramatic TCO savings, SoftGrid is helping ARMC resolve its critical application management challenges:

Eliminate application conflicts and reduce server farm:

Because Microsoft SoftGrid Application Virtualization allows any application to run alongside any other without conflict, SoftGrid enables ARMC to run any Web-based application or Crystal Report version without worry, regardless of what else is running on the client. As a result, ARMC reconfigured its Terminal Services farm as a single flat silo, cut the number of servers from 16 to 10, and reduced annual server operating costs by 30%, from \$98,936 to \$62,726. "We were able to redeploy the other servers for performance purposes, eliminating potential problems from memory-hogging applications," Gerringer noted.

Cut time and costs for managing applications:

Because applications are never installed and can never conflict, ARMC no longer has to regression test them, saving IT over 200 hours every year. This has significant impact on the entire deployment process, which now takes an average of 8 hours—instead of 87—to roll out a new application enterprise-wide, no matter how complex. This translates to IT spending only 80 hours per year instead of 1,324 hours on deployments. Annual upgrade time is slashed from 8,248 hours to just 365 hours—and upgrades and hotfixes can be done more frequently, keeping applications current for end-users.

Even terminating applications is significantly easier. Without SoftGrid, ARMC could spend 419 hours handling its 5 terminations per year, between imaging the test and packaging systems, removing the application, tracking changes, regression testing to make sure that the uninstall process didn't pull out other applications' DLLs, user acceptance testing, testing a sample of production machines, and documenting the whole process. SoftGrid cuts just about every step in the traditional termination process. ARMC simply disables the application and rights at the management console. It takes just one minute to terminate an application for all users enterprise-wide.

Slash end-user downtime:

In the past, ARMC had to take possession of PC users' machines when deploying, upgrading and terminating applications. This resulted in nearly 5,000 hours of end-user downtime every year. Now, end-user downtime is virtually eliminated—it is only needed for backend database changes—recouping about \$100,000 for ARMC in lost productivity annually.

Reduce help desk burden:

Without SoftGrid, problems with one application affect other applications and the operating system, making it difficult to quickly pinpoint an end-user problem. ARMC estimates that, before using SoftGrid, it handled 2,200 end-user support calls per year, with 50% resolved by the help desk and 50% resolved by the more expensive administrative and second-level support staff. Because SoftGrid isolates the problems of a single application, supporting end-users is easier and less time-consuming. ARMC expects its volume of calls to decrease by 30%, while its help desk handles more calls without escalation, and resolves them in half the time previously required.

\$1.5

million in savings

Alamance saved more than \$1.5 million in application management costs over a three-year period.

The following is a breakdown of the major savings ARMC achieved in the key application management areas:

APPLICATION MANAGEMENT	WITHOUT SOFTGRID	WITH SOFTGRID
Annual Application Regression Testing Time (in minutes)	13,075.0	N/A
Total Time to Production (Single Application) (in minutes)	5,228.00	484.00
Annual Cost of Deployment	\$ 60,909.24	\$ 3,709.62
Annual Cost of Updates	\$ 379,288.65	\$ 16,801.42
Annual Support Cost	\$ 81,061.61	\$ 24,149.88
Annual Termination Costs	\$ 19,294.90	\$ 3.85
Annual Administration Costs	\$ 540,544.40	\$ 44,664.77
Annual productivity loss from downtime	\$ 99,708.83	\$ 1.51
Annual Application Management Cost	\$ 640,263.23	\$ 44,666.28

Microsoft Infrastructure Optimization

With infrastructure optimization, you can build a secure, well-managed, and dynamic core IT infrastructure that can reduce overall IT costs, make better use of resources, and become a strategic asset for the business. The Infrastructure Optimization model—with basic, standardized, rationalized, and dynamic levels—was developed by Microsoft using industry best practices and Microsoft's own experiences with enterprise customers. The Infrastructure Optimization model provides a maturity framework that is flexible and easily used as a benchmark for technical capability and business value.

For more information about infrastructure optimization, visit:
www.microsoft.com/io

To learn how Microsoft SoftGrid and the Microsoft Desktop Optimization Pack for Software Assurance can help you and for complete systems requirements, please visit:
<http://www.windowsvista.com/optimizeddesktop>.

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Hours of Downtime
Eliminated

Alamance eliminated 5,000 hours of annual end-user downtime, saving \$100,000 in lost productivity.

For More Information

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234 in the United States or (905) 568-9641 in Canada. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to: www.microsoft.com

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