Rotech experiences dramatic performance, efficiency and availability gains while lowering costs using IBM WebSphere Virtual Enterprise.

Overview

■ **Challenge**
 Enhance efficiencies of business processes by eliminating server failures and providing high availability for applications

■ **Why IBM?**
 IBM provided total solution including servers, software and consulting sevices

■ **Solution**
 Dynamic clustering of application servers with single point of management to prevent outages

■ **Key Benefits**
 Eliminated maintenance headaches and made IT staff available to develop needed components, which will allow Rotech to reposition a number of employees from manual processes and improve automation; projected decrease in costs and increase in revenue

Caring for the patient is Rotech Healthcare's number one job, which it does with a number of applications deftly managed by IBM WebSphere Virtual Enterprise.

The aging U.S. population is causing steady growth in the market for home health care goods and services. This is an industry that depends upon the ability of companies such as Rotech Healthcare Inc. to wrap patients in a cocoon of services that turns homes into valid alternatives to hospitals and convalescent homes. Based in Orlando, FL, the 4,500-employee company has 450 local stores within the U.S. providing pharmaceuticals, medical equipment and home-based medical services. Nothing can interrupt

"The performance of our applications has been phenomenal. The speed of interactions has exceeded our expectations."

– Marlin Clark, Director of Information Systems-Technology, Rotech Healthcare Inc.

Key Components

Software

- IBM Rational® Software Architect
- IBM WebSphere® Application Server, Version 6.1
- IBM WebSphere Virtual Enterprise, Version 6.1
- IBM WebSphere MQ
- IBM WebSphere Process Server

Servers

- IBM System p4
- IBM System p5™ 510
- IBM Sytem p 550

"The efficiency of our IT team has improved enormously compared to where we started out initially with siloed systems."

– Marlin Clark

the flow of information between the company's Florida data center and its employees if the company is to make home health care work for its patients. Efficient and cost-effective communications are essential.

However, due to numerous single points of failure in the underlying infrastructure for up to 40 key internal applications, the flow of information at Rotech was frequently interrupted. Applications ran on approximately 20 disparate servers that ran different versions of third-party application servers. The motley mixture became a management issue because versioning, tracking and keeping machines up to date required more and more attention. Even so, servers failed on a weekly basis.

"It's normal for our team to spend up to 20 percent of our time doing maintenance," says Marlin Clark, director of information systems - technology, "but we were devoting up to 50 percent of our time just trying to keep applications from crashing. It was a losing battle, however. Applications were failing and we were taking time away from building new infrastructure pieces for new technology in other areas. We needed to overhaul our application server infrastructure, from servers right up through middleware."

Building the momentum for change

The IT team decided to talk to vendors for application servers to establish a new standard that would provide a single management interface for administering the disparate machines. "We talked with BEA and IBM, but only IBM showed a commitment to helping us change," says Clark. "IBM brought people to the table who could answer all our questions. But what really brought us to the IBM roadmap was that we found we could get a complete solution with software and servers rather than having to deal again with isolated pieces of technology. I didn't want a full wall-sized diagram to keep track of all our components. I wanted a single point of management for deployment and control."

That single-point-of-management solution for Rotech is based on IBM WebSphere Virtual Enterprise, Version 6.1, which provides application infrastructure virtualization, centralized workload management and administration for Java applications running on WebSphere Application Server and other application servers from Apache, BEA, JBoss and PHP.

"We wanted automation to prevent outages, and effective load balancing and proxying of requests so that we wouldn't have to effect our changes in the wee hours of the morning," says Clark. "We also wanted to be able to bring hardware in and out of the environment."

WebSphere Virtual Enterprise works with IBM WebSphere Application Server, Version 6.1 to provide dynamic clustering of the application servers in the environment. As WebSphere Virtual Enterprise software receives requests from the application, it recognizes where that application is deployed, assesses the workload across that server, moves the request to a server that has the available processing resources, then passes the data on to the server that runs the application.

Three IBM System p 550 servers and an IBM System p4 server make up the application server nodes in the cluster, and two IBM System p5 510 servers run are the On Demand Routers, which run the Operations Controller and Optimizer of WebSphere Virtual Enterprise.

Rotech found it critical for teams to govern changes that affect the software architecture, to ensure architectural integrity and ongoing alignment with current requirements and business goals. Using IBM Rational Software Architect as the integrated development environment for model driven development, Rotech created well architected applications and services.

Reaching the customer faster and adding revenue
WebSphere Virtual Enterprise running on System p servers has optimized Rotech's application environment and provided a flexible, scalable infrastructure with high availability. Gone are the days when complaints of applications timing out reached the help desk, lowering productivity and interrupting business processes.

"The performance of our applications has been phenomenal," says Clark. "The speed of interactions has exceeded our expectations."

By eliminating business interruptions, Rotech has eliminated maintenance head-aches and made IT staff available to develop needed components, which will allow Rotech to reposition a number of employees from manual processes and improve automation. This infrastructure improvement will affect changes that will decrease Rotech's IT cost and increase revenue.
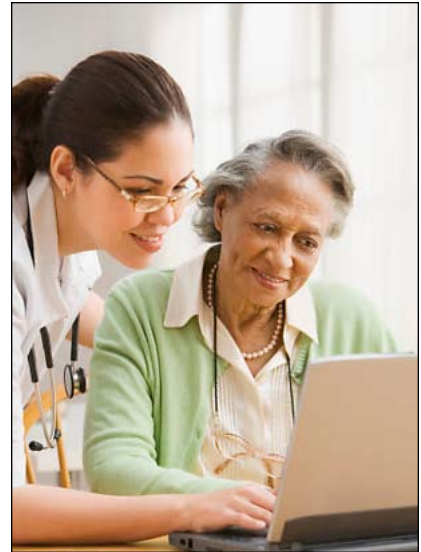
Patients are living longer with better medical care, and the home is a cost-effective setting for many treatments.

"IBM has been exceptional in pointing us in the right direction, finding the right internal resource or product expert to bring them to the table so that we can start discussing products and issues."

– Marlin Clark

Building new efficiencies with SOA

The goal at Rotech is now to join together the application environment in a service oriented architecture (SOA) using IBM WebSphere MQ and IBM WebSphere Process Server. The seamless coupling of business processes will help Rotech eliminate a communication barrier that has created the need for manual re-entry of billing charges due to legacy applications that do not speak to each other.

"Entering charges into the billing system has been a laborious process that will be streamlined with SOA," says Clark. "Another benefit we realize with SOA is reusing code to accelerate the process of putting new applications online. The efficiency of our IT team has improved enormously compared to where we started out initially with siloed systems."

Consolidating onto DB2

With IBM's help, Rotech has taken an innovative course to streamlining its IT infrastructure. Along the way, IBM has provided expertise and guidance in helping the home health care company perform at a higher level using cutting-edge technology.

"IBM has been exceptional in pointing us in the right direction, finding the right internal resource or product expert to bring them to the table so that we can start discussing products and issues," says Clark. "We've had outstanding support from IBM."

For more information

Please contact your IBM sales representative or IBM Business Partner.

Visit us at: **ibm.com**/websphere

For more information on Rotech, visit: *www.rotech.com*