

Baylor College of Medicine



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Operations Administrator,
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RESULTS

VMware vFabric™ Hyperic® delivers the following business results to Baylor College of Medicine:

- Fast Response Time – Reduced From Hours or Days to Minutes
- High Availability & Improved System Performance
- Rapid Time to Resolution – Reduced from Days to Almost Instantly
- Saved Administrative Time – Reduced by at Least 20 percent
- Reduced Staff Resource Costs Maximize & Best Possible End User Experience
- Increased Quality of Scientific Experiments
- Virtualization Performance

Baylor College of Medicine Ensures Integrity of Groundbreaking Scientific Research with VMware vFabric Hyperic

Baylor College of Medicine (BCM), located in Houston’s Texas Medical Center, is the only private medical school in the Greater Southwest. For 2010, US News & World Report ranked BCM in the top 20 medical schools for research in the US.

The Human Neuroimaging Laboratory (HNL), part of the Department of Neuroscience at BCM, specializes in groundbreaking hyperscanning experiments, a means of exploring the brain activity that underlies human social interactions. The HNL uses hyperscanning technology to gather synchronized behavioral and imaging data in simultaneous multi-subject experiments via fMRI machines.

Challenge

Justin King, Operations Administrator, serves as the entire ITS staff for the HNL, supporting up to 75 scientists conducting cutting-edge experiments. One of King’s common tasks is allocating storage to each of the projects. “They are scientists – they don’t pay attention to the space – and shouldn’t have to,” King explains. “If the project runs out of space, work stops. Then I have to jump in a hurry to fix it.”

Before deploying VMware vFabric™ Hyperic®, King used OpenNMS to monitor the system. “In order to do what I wanted OpenNMS to do, it would have taken me six months of custom modifications,” King says. “OpenNMS wasn’t monitoring what I needed it to monitor. It was monitoring from a network level, not an application level – which Hyperic does directly out of the box.”

King could not afford the time to customize the previous monitoring tool, but he did deploy the limited out-of-the-box monitoring capabilities that OpenNMS provided. “With OpenNMS, I did not have all the coverage I needed, because it was too much work to set up,” recalls King. “I did not have the insight at an application level – therefore, I might as well not have been monitoring many of the devices.”

“One challenge was how OpenNMS handled SAN attached disks,” King adds. “I had to set up and manage all the disks manually. It was very cumbersome trying to figure out how to get a handle on the growing number of projects. OpenNMS is a great product, but it wasn’t the right tool for the job I was trying to accomplish.”

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Solution

To provide comprehensive monitoring on the application level, the HNL deployed Hyperic, the leading Web application performance monitoring and management software, to manage its infrastructure. Today, the lab uses Hyperic to monitor 35 application servers including Apache, Tomcat, PostgreSQL, ColdFusion, four ESX servers from VMware supporting 30 virtual machines, and a variety of applications and infrastructure components that are mission-critical to lab operations. “Hyperic has built-in application server support out of the box,” King says. “I have never seen anything that does what Hyperic does.” King also notes that Hyperic was very easy and quick to deploy, noting, “From having nothing to having the entire infrastructure covered by Hyperic took three hours to set up. It was crazy fast.”

Benefits

Hyperic delivers the following business results to Baylor College of Medicine:

Fast Response Time

“I can set alerts through Hyperic via email and text messages,” King explains. “Our response time has been reduced to minutes with Hyperic, instead of hours or days. Now I know about issues the minute they happen. It is nice to be in front of a problem, to know about it before anyone else does. Hyperic has saved me a lot of trouble. Just something as simple as grouping every LUN or disk on a project, and alerting me if anything in the group gets above a certain percentage – that capability of Hyperic is very useful to me.”

High Availability

Hyperic enables King to ensure availability of the lab’s systems because he can identify and respond to issues and prevent outages, rather than reacting to outages.

Rapid Time to Resolution

“Hyperic gives me the ability to delve into issues to identify the cause, without having to spend a lot of time trying to figure it out,” King explains. “If something breaks, Hyperic pinpoints the source of the problem almost instantly, so I don’t have to look through logs or spend days trying to reproduce the situation to get it to break the same way.” “Hyperic provides a snapshot of what was going on at that time,” he continues. “Without Hyperic, it is your best guess of what caused the issue. Hyperic’s ability to collect metrics on a timeline and provide an immediate snapshot of the system at that given time is very valuable.”

Improved System Performance

In addition to real-time problem solving, Hyperic also supports post hoc analysis, enabling King to leverage that knowledge and improve system performance.

Saved Administrative Time

“I am incredibly busy, so it is advantageous to have a console I can look at quickly to proactively solve problems that I wouldn’t know about until after they became problems. With Hyperic, I spend almost none of my time on those types of issues.” In addition, King has saved at least six months worth of customization work required to modify the previous monitoring solution, OpenNMS, to fit BCM’s needs, which he calculates as ROI for Hyperic. “Six months of my salary costs a lot more than buying Hyperic,” King notes. “Hyperic was an easy sell. Before Hyperic, at least 20 percent of my time was spent putting out fires and dealing with issues.”

Reduced Staff Resource Costs

King serves as a one-man IT team, and Hyperic has made him more productive, enabling him to continue his work without incurring increased staffing costs. “Managing the

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infrastructure is a significant responsibility for one person,” King explains. “Hyperic has saved me money because I have not had to hire more people or farm out operations. There is a huge return on the investment for Hyperic.”

Best Possible End User Experience

By ensuring high availability and performance, Hyperic empowers King to provide the best possible experience to the user, while strengthening the confidence the scientists and management at BCM have in the IT department.

Increased Quality of Scientific Experiments

“Hyperic helps improve the quality of our experiments because everything is working when needed,” says King. “In many lab environments, IT staff and computing resources can be an impediment to what the scientists want to accomplish. IT should not be a factor in science – it should facilitate, not drive the work. Researchers should not have to consider issues such as running out of space or whether data is protected. The more they can focus on the science and not have to worry about what is going on in IT, the better the quality of the experiments and analysis.”

Virtualization Performance

“Hyperic’s integration with VMware is fantastic,” King concludes. “Hyperic monitors all my virtual machines so I don’t have to worry about them. That is a huge benefit. Virtualization is important to us,” he adds. “We were running out of space and I needed to turn my four racks into two. I didn’t have any more room in the data center and I had one million dollars worth of equipment coming in. Virtualization enabled me to accommodate our needs. Now, almost the entire infrastructure is completely virtualized.”

About VMware

VMware, the global leader in virtualization and cloud infrastructure, delivers customer-proven solutions that reduce IT complexity while significantly lowering costs and enabling more flexible, agile service delivery.

About VMware vFabric

VMware vFabric is the ideal application platform environment to run and manage custom Java applications – in the datacenter, virtualized environments, or the cloud.

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For information or to purchase VMware products, call 1-877-4-VMWARE (outside of North America dial +1-650-427-5000) or visit www.vmware.com.

