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#### KEY HIGHLIGHTS

Hyperic delivers the following business results to Brandeis University:

- High System Availability
- Fast Response Time – from hours or even a day to instantaneous
- Rapid Time to Resolution – cut by at least 50 percent
- Enhanced System Performance & Improved End User Experience
- Maximized Investment in Existing Infrastructure

## Brandeis University Keeps Critical Applications Up and Running Across 350 Platforms with VMware vFabric Hyperic

Located in Waltham, Massachusetts, just outside of Boston, Brandeis University is a private research university, as well as the only nonsectarian Jewish-sponsored college or university in the country. Brandeis combines the faculty and resources of a world-class research institution with the intimacy and personal attention of a small liberal arts college, serving more than 3,000 undergraduate students.

The Systems Engineering Team at Brandeis is responsible for operation of a large network of services used by faculty, staff, students and alumni, including the University’s website, intranet, course management system and email with more than 10,000 users.

### Challenge

“In the past we ran antiquated monitoring systems,” recalls Nick Ragusa, Systems Engineering Manager at Brandeis.

First, the University’s network was monitored by a legacy installation of NetSaint Network Monitor, now called Nagios, but this tool was only able to report if the server was up or down. NetSaint could not supply the deeper real-time performance metrics that Brandeis needed.

In addition, Brandeis used Zabbix, which offered some metrics but still could not handle the University’s needs. Brandeis began to virtualize servers, and dedicated one server for each service, significantly increasing the number of servers and the volume of metrics the Systems Engineering Team needed to monitor.

“We hit a threshold with how many metrics Zabbix could handle and it just stopped working,” Ragusa remembers. “Then we went a few years without any monitoring systems whatsoever. We relied on our constituents to be our monitoring system, and we didn’t gain many fans by following that model.”

### Solution

Now Brandeis University uses VMware vFabric™ Hyperic®, the leading web application performance monitoring and management software ideally suited for organizations moving towards virtual environments, to manage its application and network infrastructure, which includes 150 Windows platforms running on VMware and 200 Linux-based platforms. Hyperic offers the most complete solution for managing and

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#### VMWARE VIRTUAL INFRASTRUCTURE AT WORK

- ESX Server, VirtualCenter and VMotion
- 10 HP DL 560 Servers
- Two CPUs per server
- 9GB RAM per server
- Guest operating systems: Microsoft® Windows® 2000 and 2003
- Applications include: Microsoft SQL Server 2000, Exchange 2003, File and Print, HR system, Interwoven DMS
- Four offices connected by 100Mbps MPLS IPVPN
- Five HP MSA 1000 SANS

monitoring large scale web infrastructures and mission-critical applications. The solution is part of SpringSource's full product line, which includes solutions to build, run and manage Java applications. SpringSource Java infrastructure is lean, modern and ideally suited for virtual and cloud environments.

“Every service that is being monitored by Hyperic is mission-critical to the University,” Ragusa notes. “I sleep better at night knowing there is a centralized system keeping an eye on our applications and system at all times.”

Before choosing Hyperic, however, Ragusa recounts that they evaluated both Hyperic and Zenoss, an agentless monitoring system. Ragusa confirms that they chose Hyperic because the agents improved system performance; Hyperic is easier to use; and Hyperic's auto-discovery capability provides greater insight into the University's systems.

## Benefits

Hyperic delivers the following business results to Brandeis University:

### High System Availability

With Hyperic, Brandeis is seeing better application performance and system stability and uptime, and the number of complaints about system performance has been dramatically reduced.

### Fast Response Time

Hyperic enables the Systems Engineering Team to solve problems before they impact the users. The team receives 24x7 notifications, and roles are set up so the right engineer is alerted immediately. Previously, a staff or faculty member would report an event to the Help Desk – or even the director or CIO – and it would trickle down the chain of command via a series of phone calls, taking hours or even an entire day to reach the responsible team member.

“Hyperic has helped us to be more proactive,” says Ragusa. “It reduces the time it takes to respond to an incident. Response time has gone from hours or even a day to instantaneous. That has been a huge help.”

### Rapid Time to Resolution

Hyperic provides all the application and systems performance data in one easy-to-use console, so the Systems Engineering Team can quickly identify, analyze and diagnose a problem, and take corrective action.

“Time to resolve issues is significantly faster with Hyperic – at least twice as fast,” Ragusa states. “Hyperic grouping functionality and the ability to look at multiple resources in a single view helps us quickly pinpoint the source of a problem.”

### Enhanced System Performance

Hyperic helps Brandeis enhance system performance by delivering extensive insight, enabling the Systems Engineering Team to identify hidden problems that would otherwise be extremely difficult to detect. For example, Hyperic uncovered a problem involving the University's Storage Area Network (SAN), which was at 95% utilization. Every night, the load on all the servers would skyrocket, Ragusa explains. It turns out that SAN performance was degraded because all the smaller disks were full, so the SAN was writing only to larger 1TB disks. Users were not impacted, since the performance was only degraded overnight, so the Systems Engineering Team was unaware of the problem until they deployed Hyperic – which alerted them right away and pinpointed the source of the problem. If the degradation had continued unnoticed, it would have caused more serious performance issues in the future.

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“Hyperic gave us great insight into what was happening,” Ragusa says. “If we did not have Hyperic, we would still to this day not have any idea there was any problem.”

Hyperic also helped the Systems Engineering Team resolve a chronic performance problem with the University’s email. Users complained about email performance at the same time every morning, but the problem source was not the email system. Hyperic detected that the actual cause was Windows updating virus definitions across the SAN daily, which degraded SAN performance and impacted the email system. Without Hyperic, the Systems Engineering Team would not have been able to determine the true cause of the performance issue.

#### **Maximized Investment in Existing Infrastructure**

“Hyperic has shown us that we are not making complete use of the resources we have today, and it has identified where we can make improvements to maximize our investment in our IT,” Ragusa says.

#### **Improved End User Experience**

Hyperic has alerted the Systems Engineering Team to multiple issues that would have caused significant problems for the end users, allowing the team to solve those issues before they became problems, and consequently improving the end user experience.

