

Physician Organization Secures VMware Virtualized Environment with Trend Micro™ Deep Security

Beth Israel Deaconess Physician Organization (BIDPO) provides medical management services in support of its 1,500 members throughout eastern Massachusetts. The organization's primary goal is to promote and improve the quality of care for all patients, which requires a secure, flexible infrastructure.

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— **Bill Gillis, Director of Ambulatory Clinical Application Services**
Beth Israel Deaconess Medical Center

GAINING THE EFFICIENCIES OF VIRTUALIZATION

BIDPO's members include clinics and practices owned by Beth Israel Deaconess, as well as non-owned physician groups (private organizations) that refer patients to the Beth Israel Deaconess Medical Center (BIDMC). By becoming a member of BIDPO, physician practices receive increased reimbursement rates with the medical insurance companies. But to obtain these increased rates, practices must have the ability to accurately measure the quality of patient care and electronically report performance metrics back to the insurance providers. To meet these requirements, BIDMC and BIDPO initiated a joint IT project to provide a secure, robust, and cost-effective electronic health records (EHR) infrastructure for its 200-300 independent physicians at 173 locations in eastern Massachusetts. Utilization of this system allows BIDPO members to meet all the “Meaningful Use” criteria specified for reimbursement by the American Recovery and Reinvestment Act (ARRA) of 2009.

Main requirements included minimizing costs and introducing a scalable solution. “We didn't want to implement a client/server environment and then have to support 300 individual servers,” stated Bill Gillis, director of ambulatory clinical application services and technical director for the BIDMC/BIDPO joint project. “We knew we needed to build something that was modular, so we could grow into it gradually. We wanted the flexibility to buy components and migrate applications as more physician practices came online. And for that kind of easy scalability, we knew we would have to use virtualization.”

BIDMC/BIDPO selected VMware™ Infrastructure 3 Enterprise servers as the foundation for the new EHR environment, including VMware™ ESX™ Server 3, VMotion, Distributed Resource Scheduler (DRS), High Availability (HA), and Virtual Center.

“This project would not have been possible without virtualization,” stated Gillis. “We ran into an issue very early in the deployment when there was a specification change. Had we been in a typical clustered environment, it would have cost us about \$300,000 to adjust for that change. Because we chose to implement VMware, it only cost us \$20,000 for the additional VM licenses; we didn't have to buy any additional hardware.”

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KEY BENEFITS

- **Increased security.** Multilayered security protocol reduces the risk of security breaches.
- **Increased flexibility and reduced costs.** Datacenter changes are easier to introduce; less costly to implement (15 times less in one instance).
- **Streamlined administration.** Virtualized environment eliminates the need to support 300 distributed servers.
- **Easy scalability.** The computing environment can easily and cost-effectively grow in a modular way, without compromising security, as new providers are added to the service.

INCREASING SECURITY

BIDMC/BIDPO made the decision to further mitigate risk by including solutions from Third Brigade, whose business was recently acquired by Trend Micro. By joining the Trend Micro portfolio, Deep Security enjoys the backing of a global network of more than 1000 security experts. Deep Security is now part of Trend Micro™ Enterprise Security, a tightly integrated offering of content security products, services, and solutions that is powered by the Trend Micro™ Smart Protection Network™ infrastructure. Trend Micro Enterprise Security delivers immediate protection from emerging threats while greatly reducing the cost and complexity of security management.

“We created a best practices defense-in-depth security architecture, knowing that we were going to be putting patient data on the Internet,” explained Gillis. “We created a multilayer security protocol, including various perimeter devices, from firewalls to network-based intrusion detection systems. Our most important security layer is the Trend Micro Deep Security software, which efficiently blocks the things we need to block, without blocking the things we don’t need to block.”

Deep Security shields complex software such as EHR applications from vulnerabilities until patches can be developed and deployed. The server and application security solution also applies comprehensive protection mechanisms, enabling organizations like BIDMC to remain confident that their sensitive data and applications are safe. As organizations modernize their datacenters, taking advantage of things like VMotion and other powerful capabilities that come with virtualization, they need solutions such as Deep Security to detect and prevent attacks on virtual machines. Customers gain peace of mind knowing that the each virtual machine—no matter where it is within the datacenter, intranet, or public cloud—is protected and has a consistent set of auditable security policies applied to it.

“We chose Deep Security from day one because this project manages medical records and other personal health information,” said Gillis. “We needed this project to be as secure as possible, so we did whatever we could do to get this locked down. We had to make sure we had no ‘Globe-able Events’, meaning that we’re not going to have a security breach that will appear on the front page of the Boston Globe. We needed a partner that could help us mitigate any risk. Deep Security was crucial for us and the Deep Security team has risen to the occasion, showing amazing partnership.”

PROTECTING INDEPENDENT PRACTICES

The IT team and help desk at BIDPO provide comprehensive support services to the member practices. “We have a unique situation, compared to most IT organizations,” said Gillis. “We don’t own the network and systems for the physician practices, but we must be able to centrally monitor and manage them. For endpoint security, we wanted to be able to configure a centralized update server and push updates to remote offices over the Internet—even though we don’t own the licenses for the remote security solutions. Trend Micro was the only security vendor that was interested in helping us meet this need from both technical and licensing stand points.”

CORPORATE PROFILE

Beth Israel Deaconess Physician Organization, LLC
Boston, Massachusetts

Beth Israel Deaconess Physician Organization, LLC (BIDPO) is a value-based physician network. Through coordinated, integrated medical management programs and managed care contracts, BIDPO promotes the highest quality of patient care, patient safety, and cost-effective care among its participating providers. BIDPO is affiliated with the Beth Israel Deaconess Medical Center (BIDMC) in Boston, which serves as the hospital site for tertiary and quaternary care for all of our providers, and as the primary hospital for our providers in closer geographic proximity to BIDMC.

- **Industry/Vertical** Healthcare
- **Employees** 350 primary care physicians, 1150 specialists; support staff
- **Infrastructure** 1500-2000 PCs; 25-30 servers (200 virtual machines); 173 sites
- www.bidpo.org

Today, BIDPO members license Trend Micro™ Enterprise Security for Endpoints for endpoint security. IT uses Trend Micro™ Control Manager™ to centrally manage all of the remote systems for the EHR solution across approximately 20 live sites. By end of 2010, more than 100 additional sites will be live. The licensing arrangement allows each office to purchase its own security software, and receive updates from the central OfficeScan servers at the BIDPO data center. “Our Trend Micro solution does what we wanted it to,” said Gillis. “OfficeScan and Control Manager allow us to centrally manage EHR security, create summary reports for the entire initiative, and provide world-class support to the participating members. The interesting thing we have also found is that Trend Micro solutions are discovering infected machines that went undetected with the previous endpoint security solution. We’ve eliminated a significant amount of viruses and spyware.”

The Trend Micro endpoint security solutions are also helping IT comply with HIPAA, HITECH, Massachusetts Data Encryption Law 201 CMR 17.00, ARRA, and other regulations that apply to their business. OfficeScan and Control Manager help the organization compile logs in real time as part of an auditable trail, and generate reports to demonstrate compliance with policies and regulations.

CHOOSING THE RIGHT PARTNERS

BIPDO’s working relationships with the providers of VMware, OfficeScan, and Deep Security solutions led to a successful deployment. The organization also contracted integration services from Concordant, a leading provider of healthcare IT services. “We have been able to leverage the great relationships and powerful solutions from three different providers to effectively deploy EHR in a SaaS model to our physician practices,” explained Gillis. “We knew that VMware was going to be a necessary platform for the deployment because of the flexibility, scalability, and cost savings that come from virtualization. And for security, Trend Micro was the only vendor who could give us what we needed for our unique business model. With OfficeScan, we can monitor and manage physician practices over the Internet and this has been a big gain for us.”

TREND MICRO SOLUTIONS

- **Trend Micro Enterprise Security for Endpoints**
<http://us.trendmicro.com/us/products/enterprise/officescan-client-server-edition/index.html>
- **Trend Micro Control Manager**
<http://us.trendmicro.com/us/products/enterprise/control-manager/>
- **Trend Micro Deep Security**
<http://us.trendmicro.com/us/solutions/enterprise/security-solutions/virtualization/deep-security/index.html>
- **Trend Micro Enterprise Security**
<http://www.trendmicro/go/enterprise>
- **Trend Micro Smart Protection Network**
<http://www.smartprotectionnetwork.com>



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