

# Trend Micro™ Deep Security Fuels Virtualization Initiative

Agentless security speeds virtualization of data centers and enables dramatic spending reductions on physical servers.

*“Going forward, the combination of Trend Micro™ Enterprise Security for Endpoints and Deep Security gives us the features we need to protect both traditional and virtualized servers.”*

—William Dalton, Director, Corporate IT, Trend Micro

## EXECUTIVE SUMMARY

**Customer Name:** Trend Micro Incorporated  
**Industry:** Infrastructure Security  
**Location:** Tokyo, Japan  
**Web site:** [www.trendmicro.com](http://www.trendmicro.com)  
**Number of Employees:** 4,846

## CHALLENGE:

- Provide secure, improved user experiences in the journey towards virtualization and the cloud
- Simplify management in the data center
- Maximize consolidation ratios
- Deliver the best possible performance to the applications and services
- Avoid contentions between security and end-user applications that would ultimately degrade productivity

## SOLUTION:

- Switch from traditional server security to a solution optimized for enterprise virtualization: Trend Micro Deep Security
- Provide a secure virtual environment for the foundation of a cloud security service

## BUSINESS RESULTS:

- Easy deployment due to a security architecture that is tightly integrated with VMware environments
- Peace of mind that virtualized environments are secure from threats
- Confidence to extend virtualization initiative to virtualized desktops and cloud computing
- Lowered cost of operations, with consolidated, virtualized environments and highly automated security
- Immediate protection since new virtual machines are detected and protected upon invocation

## Challenge

As a global company, Trend Micro's virtualization initiative was originally targeted at improving manageability and data center cost efficiencies. At the same time the technology team was challenged to leverage virtualization to provide users with a secure, improved experience when accessing vital enterprise applications and cloud services. The company's cloud services related to the Trend Micro™ Smart Protection Network™ infrastructure were also highly dependent on securing a virtualized infrastructure.

“Our initial goal was to achieve 78% virtualization in our European data centers by 2012, and follow with similar efforts in all of our other data centers,” said Max Cheng, chief information officer (CIO) at Trend Micro. “However, when we first began introducing virtualization back in 2007, we experienced first-hand the limitations of the traditional agent-based security solutions that we were previously deploying on our servers. I challenged the team in our European data center to find a way to secure our virtual servers without impacting consolidation ratios, performance, and manageability.

“Introducing an agentless scanning approach was a key requirement for success with our virtualization and cloud initiatives,” said William Dalton, director of corporate IT at Trend Micro, and the project lead tasked with the virtualization pilot tests in the company's data center in Ireland. “A traditional antivirus software solution such as our own Trend Micro Enterprise Security for Endpoints is optimized for traditional endpoints. Within a virtualized cloud environment, multiple instances of the scanning programs can impact CPU utilization as well as create contention for storage and other shared resources such as IO.”

## Solution

Trend Micro's own in-house IT initiatives started several years ago, and helped bring Trend Micro Deep Security to market at a time when other enterprises were facing the same security challenges in virtualized environments.

“To find the best possible solution for our global operations, we looked into many different approaches and solutions for security in virtualized cloud environments,” said Cheng. “Our in-house journey to virtualization—and ultimately to the cloud—has contributed to the fine-tuning of the solutions that are now part of the Trend Micro portfolio for enterprise customers.”

Today, Trend Micro data centers around the world have introduced VMware ESX servers and applications to consolidate and virtualize computer resources. A total of more than 2,300 virtual servers are in use across the Trend Micro data centers and major offices. To secure the virtual machines, the technology team relies on agentless antivirus protection and deep packet inspection offered by Trend Micro Deep Security.

“Our own pilot deployment of the first Trend Micro Deep Security release with support for agentless protection confirms the benefits of a solution that has been architected for virtualized environments,” said Dalton. “It has given us the protection we need, and keeps security simple even on a large scale. A relatively small team supports all of our data center security solutions, including Deep Security. Going forward, the combination of Enterprise Security for Endpoints and Deep Security gives us the features we need to protect both traditional and virtualized servers.”

Trend Micro solutions, including agentless virus protection, leverage the threat intelligence of the Trend Micro Smart Protection Network infrastructure. This next-generation innovation combines sophisticated cloud-based reputation technology, feedback loops, and the expertise of TrendLabs<sup>SM</sup> researchers to deliver real-time protection from emerging threats. Trend Micro uses security for the cloud with Deep Security on the cloud servers to safeguard the Smart Protection Network cloud security services that we provide to our customers.

## Results

With the deployment of Deep Security, Trend Micro has been able to accelerate its own virtualization initiatives. At the company’s European data center, 80% of all servers have been virtualized. Company wide, physical server purchases have been dramatically reduced, with fourth quarter spending on servers being 95% less than first quarter for 2010. All major services are using virtualization in some form or another, and virtualization is helping IT teams move services non-disruptively between data centers.

Besides the increased business agility, Deep Security also provides advanced protection. Deep Security has allowed Trend Micro to introduce deep packet inspection at the host level. In addition to this shift from protection at the infrastructure layer to a solution embedded at the hypervisor level, the agentless scanning minimizes the performance impact and avoids contention that would occur if the company had to deploy multiple copies of agents on each physical host.

Since Deep Security is based on these “virtualization-aware” approaches, customers can deploy many more virtual machines without lowering standards for security. “Deep Security mitigates contentions within a virtual environment,” said Dalton. “This means that our infrastructure is more scalable—as the numbers of virtual servers grow, we are very confident that we can maintain our high-density server configurations without any major impact on services and applications.

Secure virtualized data centers have increased management efficiencies. “Our observations have shown us that we save a lot of operational resources by introducing virtualization,” said Cheng. “Deep Security has allowed us to gain these benefits with the peace of mind that we are still protecting our critical assets from threats—that is a major benefit. The fact that we achieved this without any major issues being escalated up to my level is confirmation that deployments can be carried out very smoothly.”

“Deep Security makes management much easier. It takes the complexity out of scheduling jobs and starting up new virtual machines. Security can be automatically extended to any new virtual machine, and we don’t have to depend on a member of our staff to extend protection. It allows us to introduce self-service provisioning for our internal customers, without having to allocate an engineer to manage their set up.”

“With Deep Security deployed in our data centers, we are able to constantly validate the benefits of our partnership with VMware,” said Cheng. “The result is a simple, lightweight security solution that does not require a security agent to be deployed with every virtual machine instance. The solution makes sense for us, and it makes sense for our customers who have the same needs we do when it comes to robust security and cost-effective data center platforms.”

## DEPLOYMENT ENVIRONMENT

- : Eleven data centers around the world
- : 2,307 virtual machines (1,500 physical servers, total)
- : 200 VDI desktops (pilot test phase)
- : VMware ESX Server
- : VMware HA
- : VMware View
- : Trend Micro Deep Security
- : Trend Micro Enterprise Security for Endpoints

## Customer Profile

- : Trend Micro Incorporated, a global cloud security leader, creates a world safe for exchanging digital information with its Internet content security and threat management solutions for businesses and consumers. A pioneer in server security with over 20 years experience, Trend Micro delivers top-ranked client, server, and cloud-based security that fits customers’ and partners’ needs, stops new threats faster, and protects data in physical, virtualized, and cloud environments. The company’s industry-leading cloud-computing security technology, products, and services stop threats where they emerge, on the Internet, and are supported by 1,000+ threat intelligence experts around the globe.

## Next Steps

Trend Micro is currently developing a corporate standard for virtual desktop infrastructure (VDI). In this case, the technology team has chosen the Trend Micro™ OfficeScan™ VDI Plug-in. Like Deep Security, the plug-in has been designed for a virtualized environment and avoids the scanning contentions that can arise with products that are not “virtualization-aware.”

“The antimalware strength of the OfficeScan plug-in meets our needs for protecting virtual desktops, and it also employs a distributed, contention-avoiding approach that will scale as we grow VDI,” said Dalton. “Having both Deep Security and the OfficeScan VDI plug-in allows us to take full advantage of evolving virtualization approaches and platforms.”

Deep Security has also strengthened the company’s private cloud deployments, which were first introduced back in 2009. As the vital infrastructure behind the Trend Micro Smart Protection Network, the cloud takes advantage of the Deep Security self-service capability that allows protection to be provisioned on demand.

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—Max Cheng, CIO, Trend Micro

## Trend Micro Security

- **Trend Micro Deep Security**  
<http://us.trendmicro.com/us/solutions/enterprise/security-solutions/virtualization/deep-security/index.html>
- **Trend Micro Enterprise Security for Endpoints**  
<http://us.trendmicro.com/us/products/enterprise/security-for-endpoints/index.html>

## Trend Micro Enabling Technology

- **Trend Micro Smart Protection Network**  
<http://us.trendmicro.com/us/trendwatch/core-technologies/smart-protection-network/>

