Bitdefender

Mentor fires up datacenter transformation with next-gen security

Bitdefender protects globally distributed software-defined datacenter while improving operational efficiency, infrastructure utilization, and customer experience

THE CHALLENGE

Mentor's IT strategy focuses on adopting technologies that aggressively reduce costs, improve system performance, and increase operational efficiency. In recent years, IT consolidated Mentor's geographically dispersed datacenters to two datacenters, in the U.S. and Ireland, and virtualized thousands of servers and desktops. Initially, IT was using a security solution that required installation of agents on every virtual machine (VM). As Mentor scaled to 10-plus VMs per physical server host, system performance slowed to a crawl during security scans. Not only did this reduce end-customer satisfaction and workforce productivity, but it slowed the work of the software engineers who create products for customers as well.

To address performance shortcomings, IT ruled out adding servers and storage, since extra capacity would sit idle when scans weren't running. Mentor tested several security solutions for its VMware workloads over several months. In a 32 VM-per-host environment, for example, Bitdefender GravityZone recorded an average performance impact of 3-4 percent, while other solutions showed a 17-27 percent degradation. Mentor continues to periodically test Bitdefender against other solutions and GravityZone still tops the charts for performance and security.

"Every check box that I wrote on our whiteboard was taken care of by GravityZone," recalls Mentor Systems Architect Brian Alexander. "Bitdefender was the only vendor with an easy-to-use web-based management portal for systems administrators. It also provided a clean user experience without confusing notifications. The deep integration and usability with VMware and automated features were also huge selling points."

THE SOLUTION

Mentor depends on Bitdefender GravityZone to protect 800 globally distributed VMware ESXi servers hosting 15,000 Microsoft Windows servers and virtual desktops. Mentor's software-defined datacenter runs on VMware vSphere and VMware NSX. Virtual desktops are delivered via VMware Horizon View. Applications running in Mentor's virtualized environment include Microsoft Office, SQL Server, and Visual Studio, among others.

Even as Mentor installed Bitdefender on thousands of VMs and global datacenter consolidation continued, GravityZone deployment was smooth and transparent to users. "Another factor that led us to Bitdefender was being able to roll out GravityZone with ease," says Alexander. "Not only did we no longer need to reboot virtual machines, but more importantly we didn't have to reboot hosts. This allowed us to deploy the solution without disrupting our customers' work environment."

Mentor®
A Siemens Business

Mentor, a Siemens business, is a world leader in electronic hardware and software design solutions, providing products, consulting services, and award-winning support. Mentor has 6,000 employees and operations in 80 locations worldwide.

Industry
Electronic Design Automation

Headquarters
Wilsonville, Oregon, USA

Employees
6,000 (IT staff, 283)

Results
- Improved infrastructure utilization by up to 30 percent, eliminating the need for additional infrastructure

- Enhanced customer experience, eliminating support tickets related to prior security solution's negative impact on VM performance

- Enabled self-service model for engineers with automated protection of new VMs

- Eliminated any security outbreaks over five years

THE RESULTS

GravityZone's simple centralized manageability and security-workflow automation saves Mentor's IT team significant time. "We have four virtualization people managing Bitdefender across 15,000 VMs," Alexander explains. "They're not even the security experts. That's how easy it is to use Bitdefender."

"With tens of thousands of virtual machines across 80 sites, being able to use our existing VMware tagging data for automated security-policy assignment from a single console was crucial."

Before GravityZone, IT received a barrage of customer complaints and support tickets related to performance issues, according to Alexander. "Because GravityZone has lightened the load on our servers so much, performance support tickets have practically disappeared. When they occasionally come in, we no longer trace root cause to security. This makes for a better user and administrator experience."

In addition, the prior solution was unable to support high-frequency VM cloning. Either cloned machines would not appear in the console or their unique identifiers (UID) would not be unique. This meant that thousands of VMs would have redundant UIDs in the security console, complicating management. IT had to add clones to the system or manually reset redundant UIDs to solve this problem. "Mentor's software engineers spin up and destroy 10,000 VMs each day for development and testing," Alexander explains. "Because Bitdefender is cloning-aware and deeply integrated with the vCenter Server, new VMs are automatically added to GravityZone. This automation allows us to deliver self-service VM cloning capacity to the engineers."

Because Bitdefender consumes less CPU, RAM, and disk resources than other workload-security solutions, Mentor avoids purchasing extra storage and server capacity to compensate for the performance shortcomings of its prior solution. For example, IT has increased VM density from 10 to 24 VMs per host on average—or even 100 in high-volume environments—with no issues. Overall, infrastructure utilization has improved by up to 30 percent. "We like GravityZone's CPU licensing option because it rewards us for efficiency," Alexander adds. "As we increase our density, our costs per VM decrease because licensing is fixed at the socket and not at the VM level."

Since deploying Bitdefender five years ago, Mentor has experienced zero security outbreaks in the virtualized environment. In periodic Mentor testing, Bitdefender consistently catches over 99 percent of infections while some other vendors only identify 80-85 percent of them.

Bitdefender customer support also shines, according to Alexander. "Bitdefender's support team has been great. When we have open tickets with Bitdefender and other vendors, Bitdefender is always the one that finds the solution to our problems first. They are quick, complete, thorough, and professional."

Alexander reflects on why GravityZone's strengths in protection and efficiency are so important. "We need to make sure Mentor's engineers can write code, build products, and run automated tests without IT causing any hiccups. It's also critical we fully protect the technology they use to create products that generate revenue for the business. Bitdefender gives us the best of both worlds."

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Brian Alexander, Systems Architect, Mentor

Bitdefender Footprint
- GravityZone Enterprise Security

IT Environment
- Microsoft SQL Server
- Microsoft Visual Studio
- VMware ESXi
- VMware vCenter Server

Operating Systems
- Microsoft Windows