

Optimize your cloud

Understand the power of hypervisor-level security

The modern data center and cloud infrastructure is evolving. Users are now a lot more mobile and are utilizing new types of devices to access the cloud.

As the workload becomes even more cloud and application centric, there will need to be direct optimizations happening within the server and data center environment.

Virtualization has always sat at the heart of many modern technologies and is certainly one of the major vehicles for cloud computing. In fact, both Gartner and Forrester estimated that from 2012 through the end of 2014 – more than 75% of all servers within an organization will be virtual machines. In utilizing virtual platforms, we have been able to increase user density, better performance, and greatly improve infrastructure resiliency.

We are all aware of the big benefits virtualization can bring. However, when deploying a virtual infrastructure, we have to make sure to do everything possible to optimize the experience.

On top of these virtual systems sit:

- Applications
- Virtual desktops
- File shares
- User resources
- Databases

All of these systems (and even VDI) have to be secured against malicious users or inbound attacks.

When we look at the modern hypervisor – we see major efficiencies built in around networking, storage and compute.

However – what happens when we need to deploy AV? Or, what if we need proactive, real-time, monitoring of an entire virtual infrastructure? What if we require application-layer protection for critical business workloads? Although there may be answers to these questions, the real challenge is to deploy these security measures without impacting the performance of your virtual infrastructure.

This is where hypervisor-level security can really help. Imagine being able to create a complete security solution that does not impact the performance of your virtual machines. In fact, this proactive infrastructure can be designed to catch malicious attacks before they even hit a VM. There are numerous benefits in deploying a hypervisor-level security solution.

Technologies like **5nine Cloud Security for Hyper-V** offer some of these big optimizations including:

Proactive monitoring

Imagine being able to catch advanced threats against your virtual environment before they even reach the VM. This type of monitoring, alerting and even proactive issue resolution can save on time and quite a bit of headache. A lot of time can be saved when issues are resolved before they can actually cause any major problems. This means having proactive access to application-level security, intra-VM protection, and even stateful, deep packet inspection.

Agentless security

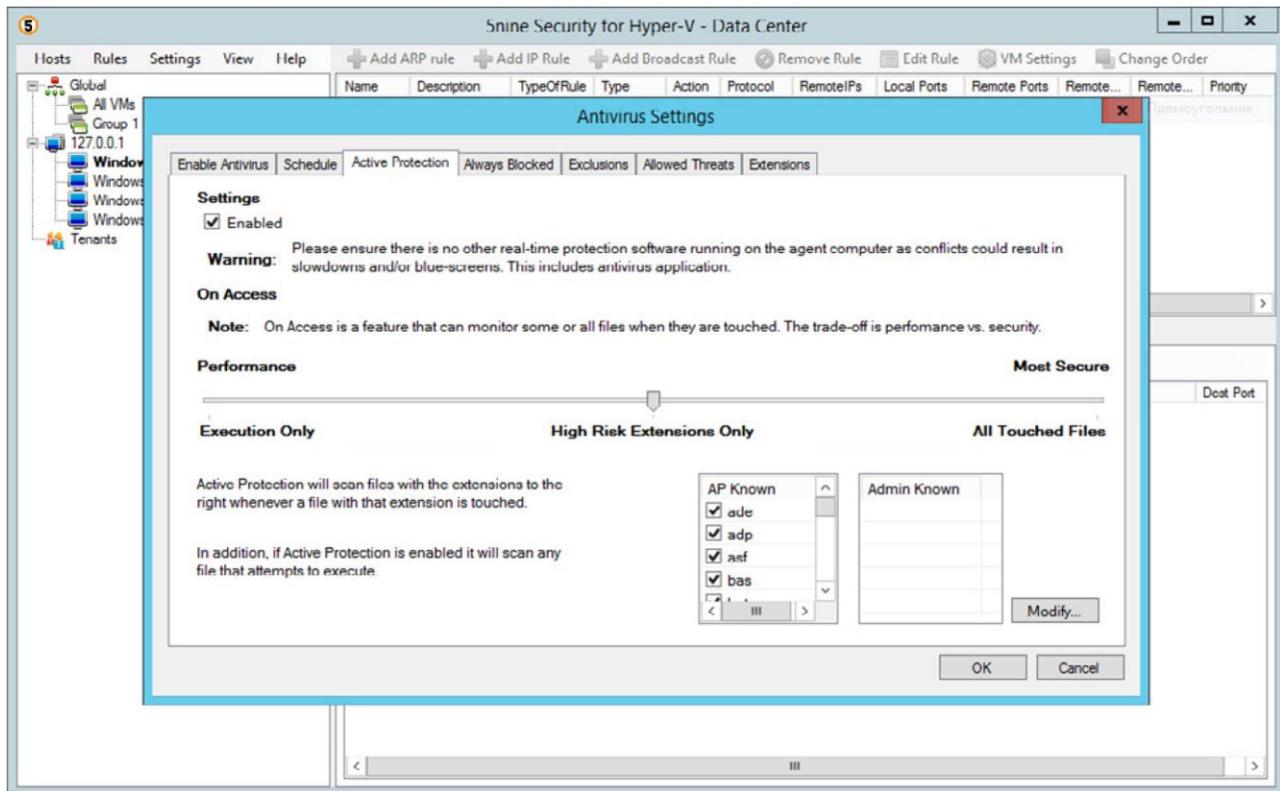
To streamline VMs, why not remove an agent that is usually pretty heavy? Agentless scanning allows for easier control of a complete virtual infrastructure. Remember, we are not just talking about AV here. Agentless virtual firewalls that are capable of plugging directly into a hypervisor's extensible switch are creating powerful gateways into a virtual infrastructure. Furthermore, anti-virus security is completely agentless for full scans – possible via a direct interface with VHD and VHDX files. It gets even more granular – by using the changed blocks tracking (CBT) driver, you are able to do incremental scans as well. When active VM AV is needed, a tiny agent is available to perform real-time protection.

Optimizing resources

In the world of VDI and virtual server security – update and scan storms can be nightmares. So, eliminate both challenges by removing the process from the VM. Resources are not cheap – so optimizing your VMs means more user density, less resource bottlenecks, and an improved overall environment. VMs take a minimal resource hit when all update and scan processes are done at the hypervisor layer.

Centralized management

Not only do you no longer manage agents at the endpoint VM – you now control your entire virtual infrastructure security from a single management point. That is the beauty of hypervisor-layer security. You have access to all of your VMs, their security DNA, and you continuously maintain a proactively secured environment. Remember, central management is not just about visibility. It is about having direct access to anti-virus/anti-malware, hypervisor-layer firewalls, and even proactive intrusion detection services (IDS). It is clear that virtualization will continue to be a big part of any growing organization. More businesses understand the demands of the user and the workloads that they require to be productive.



This is why it is critical to deploy next-generation virtualization optimizations within your data center. Hypervisor-level security allows the administrator to focus on the overall virtual platform instead of individual VMs. IT continues to grow as the critical component of any business. Leaders will look to this type of technology to help them optimize their infrastructure and allow for even greater environment control.

About the Author



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Bill is a veteran technologist with experience in data center design, management, and deployment. His architecture work includes virtualization and cloud deployments as well as enterprise network design and implementation.

Bill enjoys writing, blogging, and educating colleagues about technology. He has published over 800 articles, numerous podcasts and webcasts and has participated in many other forms of interactive media. He has also published whitepapers on cloud computing, mobility, data center design, and managing IT environments. Bill is a featured writer, contributor and author and his work has been published on Data Center Knowledge, InformationWeek, BusinessWeek, TechTarget, 7DNet, and many others.



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