VDI and Application Virtualization Done Right

With Nutanix®, Citrix® and Bitdefender®

NUTANIX™   CITRIX®   Bitdefender®

Virtual Desktop Infrastructure (VDI) has become commonplace across financial services, healthcare, education, and many other industries, with 75% of enterprises already using or planning to deploy VDI (according to a survey by industry analyst Gartner[1]). Organizations turn to VDI to gain the following:

- Greater agility and efficiency of IT operations via rapid deployment, scalability and streamlined centralized manageability

- Lower Total Cost of Ownership (TCO) compared to acquiring and maintaining a comparable estate of physical desktops

- Efficient support for a wide variety of endpoints (including BYO), working styles (e.g., mobility, flex and remote working), end user types, and applications

- Heightened security and streamlined compliance

The success of VDI initiatives hinges on IT's ability to align people, processes and technology to achieve these benefits, while ensuring a positive end-user experience. For organizations that leverage desktop and application virtualization to offer revenue-generating services, customer satisfaction is critical as it can directly affect the top line.

IMPROVE VDI ECONOMICS, USER EXPERIENCE AND SECURITY WITH NUTANIX, CITRIX AND BITDEFENDER

Nutanix, Citrix and Bitdefender help organizations realize the full potential of VDI with an efficient, scalable and secure solution designed to maximize the return on infrastructure investment, while delivering optimal end-user experience and protecting valuable assets and data.

"With Nutanix, Citrix and Bitdefender, we were able to simplify our VDI infrastructure and security stack, shorten time-to-value from months to weeks, and shift focus from maintaining a complex and fragmented datacenter to enabling business-critical applications and supporting customers."

- IT Project Manager
Major Western European Healthcare Organization

The VDI solution from Nutanix, Citrix and Bitdefender includes the following best-in-class, validated components:

Hyperconverged Infrastructure

- Nutanix Enterprise Cloud Platform

Hypervisor

- Citrix XenServer

- Nutanix Acropolis (AHV)

Desktop and Application Virtualization

- Citrix XenDesktop and XenApp

VDI Workload Security

- Bitdefender GravityZone Security for Virtualized Environments

- Bitdefender Hypervisor Introspection

UNCOMPROMISING PERFORMANCE

Nutanix eliminates the restrictions of legacy datacenter infrastructure, effectively providing storage, compute, networking, and virtualization resources in one integrated system. Featuring deduplication, shadow clones, compression, and tunable redundancy, Nutanix Enterprise Cloud Platform delivers consistent performance even during the challenging periods of boot and login storms, patch and update operations and application and OS upgrades. The platform scales linearly without limits, maintaining top performance as customer deployments grow to tens of thousands of users. Citrix XenApp and XenDesktop running on Nutanix produce the same results on day 500 as they did on day one, without the need for constant performance tuning.

SUPERB USER EXPERIENCE

Nutanix Enterprise Cloud Platform, based on web-scale architecture, delivers a predictably positive user experience for every application and desktop. Citrix leads the industry in desktop and application virtualization, offering the only complete solution mobilizing Windows apps and desktops for any use case and delivering the best user experience over any network and on any device.

ACCELERATED TIME-TO-VALUE AND HIGHER OPERATIONAL EFFICIENCY

Nutanix and Citrix provide a turnkey validated VDI infrastructure solution that allows 10x faster deployments, cuts management time by 70% and significantly reduces the number of support calls[2]. Nutanix eliminates the complexity of managing discrete storage, servers and separate virtualization and networking stacks. Citrix XenApp and XenDesktop bring a similar level of control to virtualized application and desktop lifecycle management and make it easy for administrators to rapidly provision additional resources. Bitdefender featherweight security can be incorporated into the virtual desktop's golden image and activates automatically when the machine is created, allowing customers to spin up thousands of secured virtual desktops every day.

UNLIMITED LINEAR SCALABILITY

With Nutanix, Citrix and Bitdefender, pay-as-you-grow economics become a reality. Customers can start with a small pilot project and grow to thousands of users without disruption, performance-related risks or big upfront costs. The modular design of the solution components enables an efficient scale-out to avoid over-provisioning and minimize upfront investment.

BULLETPROOF SECURITY

The hardened nature and security capabilities of Nutanix AHV (e.g., micro-segmentation and software-based encryption) and Citrix XenServer (e.g., Direct Inspect APIs) complement the granular policy control engine of XenApp and XenDesktop for heightened protection. Combined with Citrix NetScaler for secure remote access, the solution creates an inherently secure infrastructure.

From the workload-security standpoint, the following Bitdefender products provide multiple integrated layers of next-generation defenses to protect virtual desktops from even the most advanced threats, while promoting the benefits of the Nutanix and Citrix infrastructure:

### Bitdefender GravityZone Security for Virtualized Environments (SVE)

A certified Nutanix AHV Ready and Citrix Ready solution, GravityZone SVE is an award-winning server- and VDI-workload security platform. Built on a layered next-generation security architecture, GravityZone SVE delivers best-in-class efficacy against advanced threats, known and unknown. GravityZone SVE's efficient design and patented security algorithms minimize the impact on infrastructure resources and performance, enabling up to 35% higher virtualization density and 17% faster application response than the competition, as proven in LoginVSI tests[3].

Enhanced with integrated Patch Management, GravityZone SVE boosts infrastructure resilience, providing automatic discovery and characterization of vulnerabilities and the widest range of patches for operating systems, third-party applications and golden images. GravityZone with Patch Management improves the efficiency of security and vulnerability management operations with its unified console enabling centralized visibility, simplified manageability and automation.

Bitdefender Hypervisor Introspection (HVI)

Created in partnership with Citrix and named by IDC[4] *"a qualitative improvement in the security of virtual environments"*, Bitdefender HVI uniquely fortifies XenApp and XenDesktop infrastructures against zero-day, kernel-level exploits and other advanced targeted attack techniques through live memory introspection at the hypervisor level. Physically isolated from in-guest threats and impossible to compromise, HVI is truly agentless, with zero footprint within the virtual machine, hence no negative impact on performance. HVI is a revolutionary security solution for XenServer 7.1 or later-based VDI deployments on Nutanix and is complimentary to GravityZone SVE, Citrix NetScaler and other Citrix Ready security layers.

The following high-level diagram summarizes the Bitdefender security architecture for the joint solution:
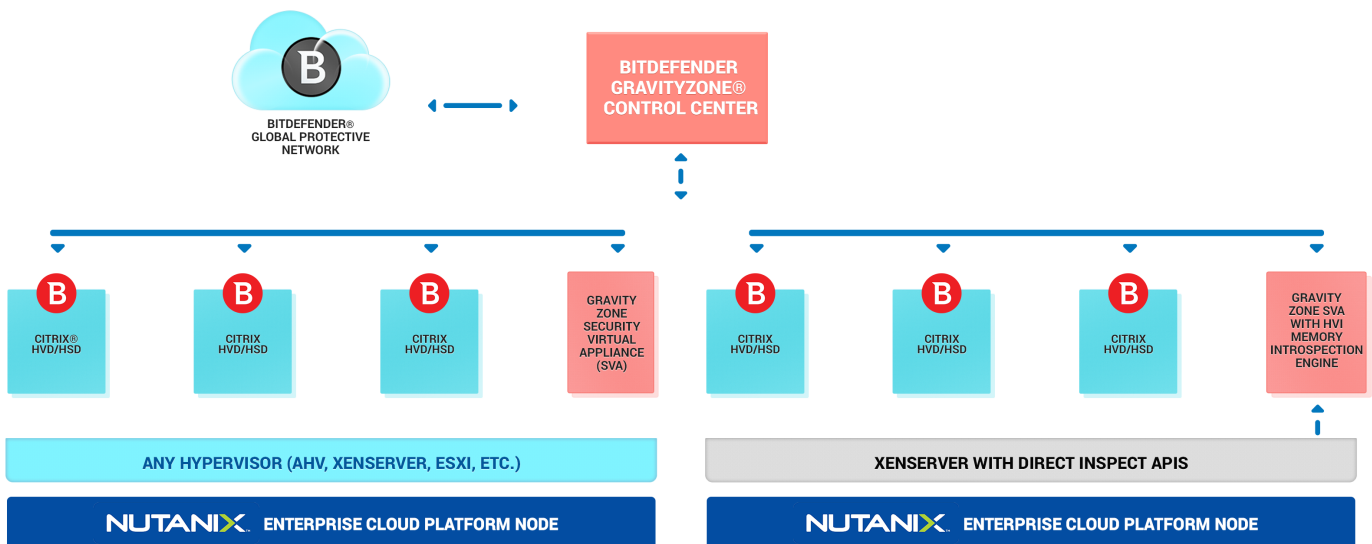
B The GravityZone featherweight agent installs in every Hosted Virtual Desktop (HSD) / Hosted Shared Desktop (HSD), carrying out resource-efficient non-signature-based security tasks (such as application control, anti-exploit and continuous process monitoring) and collaborating with the hypervisor-agnostic Security Virtual Appliance (SVA) to perform tunable machine learning and sandboxing to detect elusive threats. The SVA performs the resource-intensive antimalware scanning and signature-database updates, enabling reliable security in the smallest footprint.

In XenServer deployments, Bitdefender Hypervisor Introspection leverages XenServer Direct Inspect APIs to gain real-time visibility into the VM's raw memory. The Memory Introspection Engine within the SVA correlates changes in the memory space with attack techniques to detect and block advanced persistent threats and prevent breaches.

GO WITH THE WINNERS

Nutanix, Citrix and Bitdefender help organizations of all sizes efficiently and securely virtualize desktops and applications, supporting any type of user anywhere on any device. Learn how you can benefit from Citrix, Nutanix and Bitdefender solutions by contacting your local representatives or authorized resellers.

For more information visit: www.bitdefender.com/nutanix.

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[1] Market Trends: VDI Demand Is Growing, but Not Everyone Will Be Successful. Gartner; 2017

[2] Source: Nutanix

[3] The Impact of Virtualization Security on Your VDI Environment. Bitdefender; 2017

[4] Hypervisor Introspection: A Transformative Approach to Advanced Attack Detection. IDC; May 2017

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