

# NexentaStor and NexentaConnect on Cisco UCS Servers

## Simple, fast, and flexible. The Software-defined Data Center for **XenDesktop**



Cisco Unified Computing System™ (UCS) unifies computing, networking, and management into a single integrated architecture. UCS provides a great platform for desktop virtualization solutions like Citrix XenDesktop.

Nexenta provides two products that support XenDesktop depending on desired configuration.

NexentaStor™ is a full featured NAS/SAN software platform that can be installed on standard commercial hardware like UCS. It unifies storage for block (FC, iSCSI) and file (NFS, CIFS, SMB) access protocols across active/active controllers delivering a complete suite of data services: unlimited snapshots, clones, thin provisioning, inline deduplication, compression, and replication across all-HDD, all-SSD, and hybrid configurations.

NexentaConnect™ for XenDesktop combines a powerful automation engine with an enterprise grade virtual storage appliance (VSA). It provides SAN acceleration by leveraging ZFS and offering a range of features that benefit VDI. These features include inline compression and inline data deduplication, write journaling/logging to low-latency flash devices (SSDs), advanced level-1 (RAM), and level-2 (SSD) caching.

This next generation VDI platform allows administrators to see real time storage and desktop performance, as well as simplifying the deployment process. The need to deploy storage, then desktops,

### Highlights of NexentaConnect

- Flexible, scalable storage architecture utilizing internal
- Communicates with Citrix XenDesktop to deploy a customized storage platform with virtual desktops
- Integrated performance and benchmarking tools to assess steady state and boot storms
- Desktop acceleration via a VSA
- Lowers the overall costs of deploying and managing a virtual desktop deployment

followed by reconfiguring each, multiple times until the ideal system configuration is found, is gone. The guessing game is eliminated when the storage is customer provisioned automatically.

NexentaStor and NexentaConnect provide a great end user experience; however, a Cisco Invicta™ application accelerator could be added to accelerate I/O performance even further.

## Key Features of the Design

### Disaster Recovery

NexentaConnect for XenDesktop could be deployed in front of the Invicta Appliance to handle the base images. NexentaStor would be deployed at the DR site to enable very quick recovery point objectives (RPOs) as low as a few seconds due to its unique replication technology.

### Analytics and Automation

NexentaConnect includes built-in performance benchmarks and calibration capabilities (accessed via easy-to-use GUI wizards) that allow XenDesktop administrators to test the resulting pool of virtual desktops and establish the actual performance level of users. Automation includes deployment auto-provisioning, recalibration, reconfiguration, built-in benchmarks, and more.

### Integration with Invicta

Running the base images through a NexentaConnect VSA sitting in front of Invicta improves the life of the SSDs by offloading most of the writes back to the VSA. NexentaStor could provide the best platform for the user profiles and user data because it unifies file and block in a single storage array.

## Reference Architectures for XenDesktop

	Small	Large
Servers	2 x Cisco UCS C240 M3 Rack Servers	2 x Cisco UCS C240 M3 Rack Servers
CPUs	2 x 4-core 3.3GHz Intel® Xeon® E5-2643	2 x 4-core 3.3GHz Intel® Xeon® E5-2643
DRAM	96GB (12 x 8GB) DIMMs	256GB (16 x 16GB) DIMMs
Boot Drives	1 x UCSC-RAID-11 C240 RAID Card 2 x 1TB 7.2k-RPM SAS 2.5" HDD	1 x UCSC RAID-11 C240 RAID Card 2 x 1TB 7.2k-RPM SAS 2.5" HDD
NIC	Built-In Quad-Port 1Gb Ethernet	Built-In Quad-Port 1Gb Ethernet
PCIe Cards	2 x Intel X520 10Gb DA/SFP+ NIC 2 x QLogic QLE2562 8Gb FC HBA (or Emulex)	2 x Intel X520 10Gb DA/SFP+ NIC 2 x QLogic QLE2562 8Gb FC HBA (or Emulex)
JBODs / Back-End	1 x Invicta C3124SA Appliance @ 3TB with FC Connectivity (optional)	1 x Invicta C3124SA Appliance @ 3TB with FC Connectivity (optional)
HDDs/SSDs	48 x 2.5" SSDs	96 x 2.5" SSDs
Read Cache		1 x 200GB SSD (L2ARC)
Write Cache		1 x 200GB SSD (ZIL)
Software	NexentaStor HA Cluster Plugin PS Installation	NexentaStor HA Cluster Plugin PS Installation

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