Cisco UCS Solution Accelerator Pak Configurations for Citrix Desktop Virtualization Workloads

The Cisco Unified Computing System™ (Cisco UCS™) is optimized for desktop virtualization workloads. Cisco UCS Solution Accelerator Pak configurations help you easily and quickly deploy desktop virtualization by providing predefined configurations for every type of deployment scenario.

Desktop and application virtualization are increasingly popular ways for enterprises to reduce capital and operating expenses, improve efficiency, increase control, and expand connectivity. With virtual desktops, users can access their desktop images for laptops, thin clients, smartphones, or other devices from hosted, centralized infrastructure in a data center.

Although many enterprises are increasingly turning to desktop virtualization to address the need for increased business agility, risk mitigation, security, and support for bring-your-own-device (BYOD) initiatives, the appropriate infrastructure is critical to make these initiatives successful.

Cisco UCS provides the most optimized foundation for desktop and application virtualization infrastructure. The industry's first unified data center platform, Cisco UCS delivers a converged, programmable infrastructure that simplifies and accelerates enterprise-class application and service deployment in bare-metal, virtualized and cloud-computing environments. Unified, model-based management, end-to-end provisioning, and migration support come together in this next-generation data center platform to accelerate and simplify application deployment, with greater reliability and security.

Cisco UCS provides these important features:

- Integration of Cisco servers and network and I/O resources into one system
- Improvement of enterprise application availability and performance
- Scalability of service delivery to increase business agility
- Streamlining of data center resources to reduce total cost of ownership (TCO)
- Radical reduction in the number of devices requiring setup, management, power, cooling, and cabling

Cisco UCS is changing the economics and performance of server-hosted client computing, delivering a robust, high-performance computing fabric on which desktop virtualization can be deployed.

These are the primary elements of Citrix desktop virtualization architecture:

- Citrix XenDesktop transforms Microsoft Windows desktops into virtual desktops for on-demand services to users on any device.
- Citrix Provisioning Services is commonly used to provision Citrix XenDesktop and XenApp environments.
- Citrix XenApp is an application delivery solution that enables any Microsoft Windows application to be virtualized, centralized, and managed and instantly delivered as a service to users anywhere and on any device.

The Cisco UCS controller node is the management server that hosts the hypervisor management software (such as VMware vCenter, Microsoft System Center Virtual Machine Manager [SCVMM], and Citrix XenCenter), Citrix Provisioning Services, and Citrix XenDesktop and XenApp brokers (Citrix Dynamic Desktop Controllers). It can also house other management tools to support the environment.

The Cisco UCS desktop workload node hosts Microsoft Windows virtual desktops as virtual machines for Citrix XenDesktop deployments or as Microsoft Windows server virtual machines for Citrix XenApp deployments.

Figures 1 and 2 show the Cisco® desktop virtualization architecture.

Figure 1. Cisco Desktop Virtualization Architecture (Building Blocks)

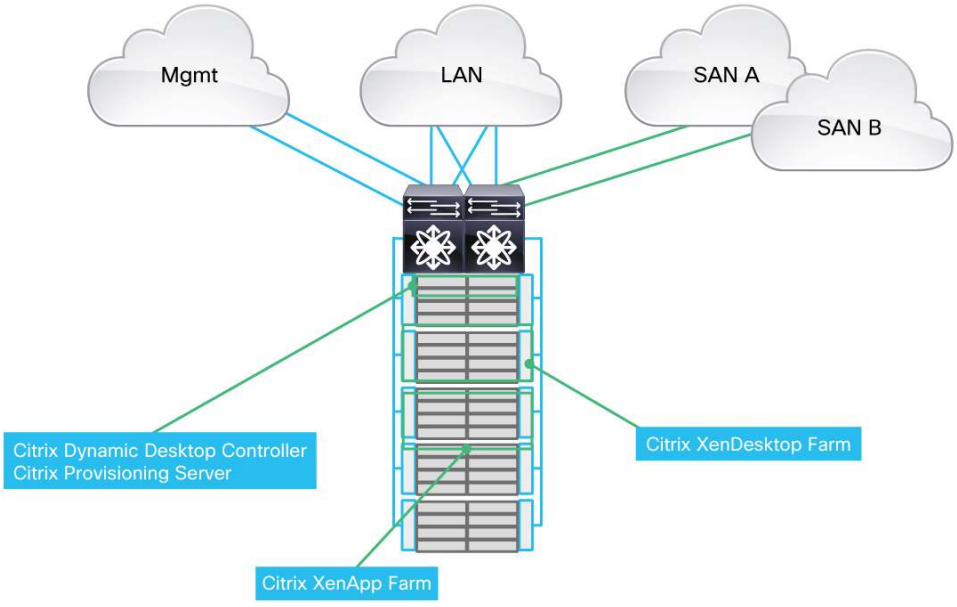
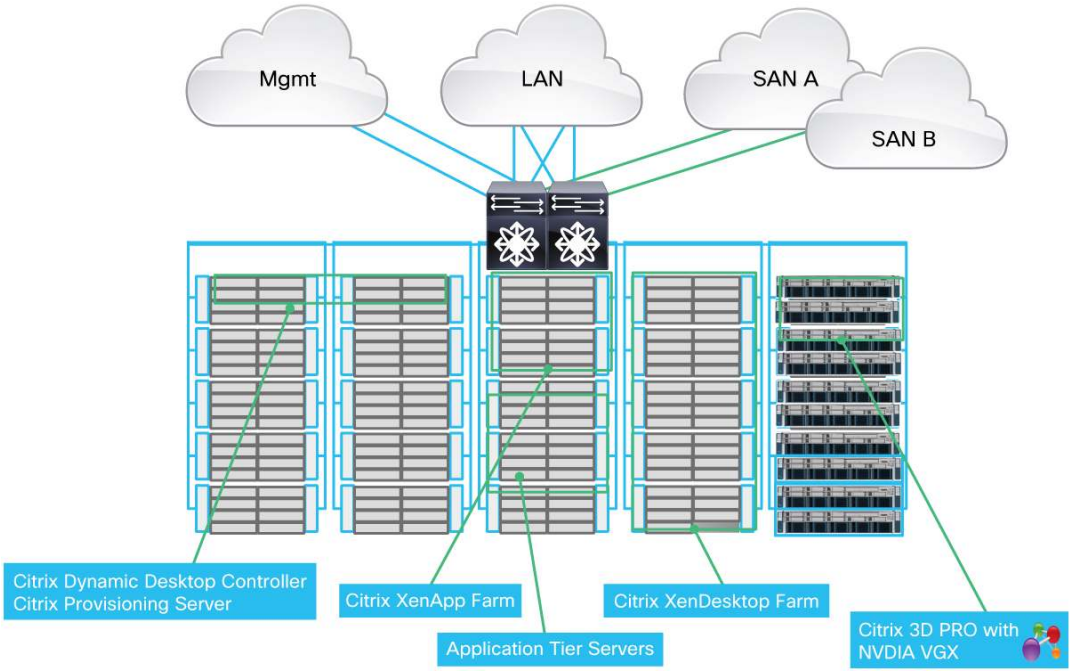


Figure 2. Cisco Desktop Virtualization Architecture (Scale-Out)



The configurations listed in Table 1 provide some guidance on the target workloads based on asumptions about density, workload, and resiliency charateristics[1].

Table 1. Cisco UCS Solution Accelerator Pak Configurations for Citrix XenDesktop and XenApp Workloads

Configuration	Configuration Description	Target Workload Description
Starter System Bundle (starting with 400 users) **UCS-SL-VDI-B200-01**	2 Cisco UCS 6296UP 96-Port Fabric Interconnects 1 Cisco UCS chassis with 2 Cisco 2208 IOM Modules 2 Cisco UCS B200 controller blade server • CPU: 2 x 2.20-GHz Intel Xeon processors E5-2660 v2 • Memory: 8 x 16 GB (128 GB total) • Cisco UCS Virtual Interface Card VIC 1240 4 Cisco B200 desktop workload blade servers • CPU: 2 x 2.80-GHz Intel Xeon processors E5-2680 v2 • Memory: 16 x 16 GB (256 GB total) • Cisco UCS VIC 1240	Networking Infrastructure to support up to 20,000 virtual desktops Management blade servers to support up to 2000 virtual desktops Citrix XenDesktop virtual desktop workload blades to support 400 users, or Citrix XenApp hosted shared desktop workload blades to support 450 users **Assumptions:** Need to upgrade HDD for OS boot drives or use external storage Need external storage to host virtual desktop infrastructure (VDI) and user data storage
Expansion Bundle 1 (100+ users) **UCS-SP7-SR-B200-P**	1 Cisco UCS B200 hosting blade servers • CPU: 2 x 2.80-GHz Intel Xeon processors E5-2680 v2 • Memory: 16 x 16 GB (256 GB total) • Cisco UCS VIC 1240	XenDesktop or XenApp virtual desktop workload blade to support 100+ users **Assumptions:** Need to upgrade HDD for OS boot drives or use external storage Need external storage to host VDI and user data storage

[1] The sizing characterization in this document is provided for guidance purposes only. The characterization is based on a Microsoft Windows 7, 32-bit, 2-GB system with a knowledge worker user and the server running with 60 to 70 percent utilization. Cisco recommends that you assess and profile customer requirements to correctly size the workload and identify the appropriate configurations.

Configuration	Configuration Description	Target Workload Description
Expansion Bundle 2 (with FIO) **(100 users)** **UCS-SL-VDI-B200-F**	1 Cisco UCS B200 hosting blade servers • CPU: 2 x 2.80-GHz Intel Xeon processors E5-2680 v2 • Memory: 16 x 16 GB (256 GB total) • Cisco UCS VIC 1240 • Cisco UCS Fusion-io 785 GB module	Citrix XenDesktop or XenApp virtual desktop workload blade to support 100 users On-board server storage for nonpersistent Citrix XenDesktop or XenApp virtual desktop workload to support 100 users (includes VDI storage) **Assumptions:** Need to upgrade HDD for OS boot drives or use external storage External storage to host user data storage only
Expansion Bundle 3 (with LSI) **UCS-SL-VDI-B200-L**	1 Cisco UCS B200 hosting blade servers • CPU: 2 x 2.80-GHz Intel Xeon processors E5-2680 v2 • Memory: 16 x 16 GB (256 GB total) • Cisco UCS VIC 1240 • Cisco UCS LSI 400GB SLC WarpDrive Adapter	Citrix XenDesktop or XenApp virtual desktop workload blade to support 100 users On-board server storage for nonpersistent Citrix XenDesktop virtual desktop workload to support 100 users (includes VDI storage) with lighter load **Assumptions:** Need to upgrade HDD for OS boot drives or use external storage External storage to host user data storage only
Graphics Intensive Applications Bundle 1 **UCS-SL-VDI-C240-K1**	1 Cisco UCS C240 hosting rack server • CPU: 2 x 2.80 GHz Intel Xeon processors E5-2680 v2 • Memory: 16 x 16 GB (256 GB) • Cisco UCS VIC 1225 • NVIDIA GPU K1 • 2 x 300GB SAS	Citrix XenDesktop or XenApp virtual desktop workload to support up to 100 single display (sizing based on application)
Graphics Intensive Applications Bundle 2 **UCS-SL-VDI-C240-K2**	1 Cisco UCS C240 hosting rack server • CPU: 2 x 2.80 GHz Intel Xeon processors E5-2680 v2 • Memory: 16 x 16 GB (256 GB) • Cisco UCS VIC 1225 • NVIDIA GPU K2 • 2 x 300GB SAS	Citrix XenDesktop or XenApp virtual desktop workload to support up to 64 single display (sizing based on application) Targeted for more intense application

For More Information

- Cisco Desktop Virtualization: http://www.cisco.com/go/vdi
- Cisco Desktop Virtualization Reference Architectures: http://www.cisco.com/go/vdidesigns
- Cisco Quick Catalog for Solution Accelerator Paks: http://www.cisco.com/go/quickcatalog
- Cisco Unified Computing System: Programmable Infrastructure: http://www.cisco.com/en/US/netsol/ns1166/index.html
- Unified Model-Based Management: http://www.cisco.com/en/US/netsol/ns1169/index.html
- Cisco Servers for the Cisco Unified Computing System: http://www.cisco.com/go/ucs

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Printed in USA C22-726855-01 12/13