Omnissa Horizon VDI on Lenovo ThinkSystem and ThinkAgile V4 Systems with Intel Xeon 6 Processors

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Version 1.0

Lenovo ThinkSystem V4 and ThinkAgile V4 Hyperconverged infrastructure solution for Horizon VDI

Omnissa Horizon Virtual Apps and desktops on VMware environment

Includes VDI benchmark results and Bill of Material

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Omnissa Horizon VDI on Lenovo ThinkSystem and ThinkAgile V4 Servers Powered by Intel Xeon 6 Processors

Deliver Scalable and Secure Virtual Desktops

Industries as diverse as healthcare, finance, government, retail, and education have the common requirement to support and secure a mobile workforce. Organizations often have a dispersed workforce using many PCs, laptops, and mobile devices distributed to field offices and remote locations. Virtual Desktop Infrastructure (VDI) is a powerful solution to meet the need for flexibility and global availability of compute resources, while managing data security and compliance on mobile devices.

Lenovo VDI Solutions for Omnissa Horizon® help your organization meet these business requirements by centrally managing the desktop image within the corporate IT environment rather than at the remote worker or office location. With user data, user profiles and application data files on centralized servers, data center security and manageability are extended down to the user resources. Horizon delivers an immersive, feature-rich user experience for end users, allowing them to work anytime, anywhere, on any device. It supports a consistently rich end user experience for office workers, mobile workers and even 3D developers across devices, locations, media and connections.

Lenovo V4 systems with 6th Gen Intel Xeon Processors

Lenovo ThinkSystem V4 servers are bare-metal servers supporting either shared storage or local stored and ThinkAgile VX V4 systems are hyperconverged systems virtualized with VMware vSAN. Omnissa Horizon VDI solution can seamlessly leverage ThinkAgile VX V4 servers and ThinkSystem V4 servers with shared storage such as Lenovo ThinkSystem DE/DM/DG storage.

Lenovo ThinkAgile VX V4 Systems are factory-integrated, pre-validated ready-to-go integrated systems and Fully tested and validated for vSAN compliance.

ThinkSystem SR630 V4

ThinSystem SR650 V4

ThinkAgile VX630 V4

ThinkAgile VX650 V4

Lenovo ThinkAgile VX V4 Systems and ThinkSystem Series V4 servers powered by Intel Xeon 6 processors provide excellent performance, bandwidth, and speed. Specifications include:

SR650 V4	**SR630 V4**
• 2x Intel Xeon 6700 or 6500-series processors with Performance cores (P-cores) up to 86 cores and 172 threads; TDP up to 350W	• 2x Intel Xeon 6700 or 6500-series processor with P-cores, up to 86 cores and 172 threads; TDP up to 350W • 2x Intel Xeon 6700-series processor with E-cores, up to 144 cores (no Hyper-Threading), TDP ratings up to 330W
• DDR5 memory operating up to 6400 MHz • 8 channels per CPU • 32 DIMMs (16 per processor), 2 DIMMs per channel • Supports RDIMMs, 3DS RDIMMs, and MRDIMMs • Supports CXL 2.0 memory in E3.S 2T form factor, up to 12x DIMMs with two processors • Up to 8TB of system memory	• DDR5 memory operating up to 6400 MHz • 8 channels per CPU • 32 DIMMs (16 per processor), 2 DIMMs per channel • E-cores: Supports RDIMMs • P-cores: Support for 3DS RDIMMs, MRDIMMs, and CXL memory • Up to 8TB of system memory
• Up to 32x NVMe drives for high-performance storage • Up to 16x 3.5”, 40x 2.5” drive bays, 32x E3.S • Support E3.S NVMe drives up to 32 • Support for 2.5” and 3.5” drive bay	• Support for up to 12x 2.5" NVMe drives (front+rear) • Support for E3.S drive formats will allow for greater drive capacities • No support for 3.5-inch drive bay

Lenovo XClarity Administrator offers comprehensive hardware management tools that help to increase uptime, reduce costs and improve productivity through advanced server management capabilities.

Omnissa Horizon

Omnissa Horizon provides a modern platform for secure delivery of virtual Windows and Linux desktops and apps across the hybrid cloud. Horizon supports one-to-many provisioning and streamlined management of images, apps, profiles and policies for an agile, lightweight, modern approach that speeds, simplifies and reduces costs. You can rapidly deploy full-featured, personalized virtual desktops and apps in seconds, retain user customization and persona from session to session, and leverage an agile provisioning approach to quickly roll out updates at the next login.

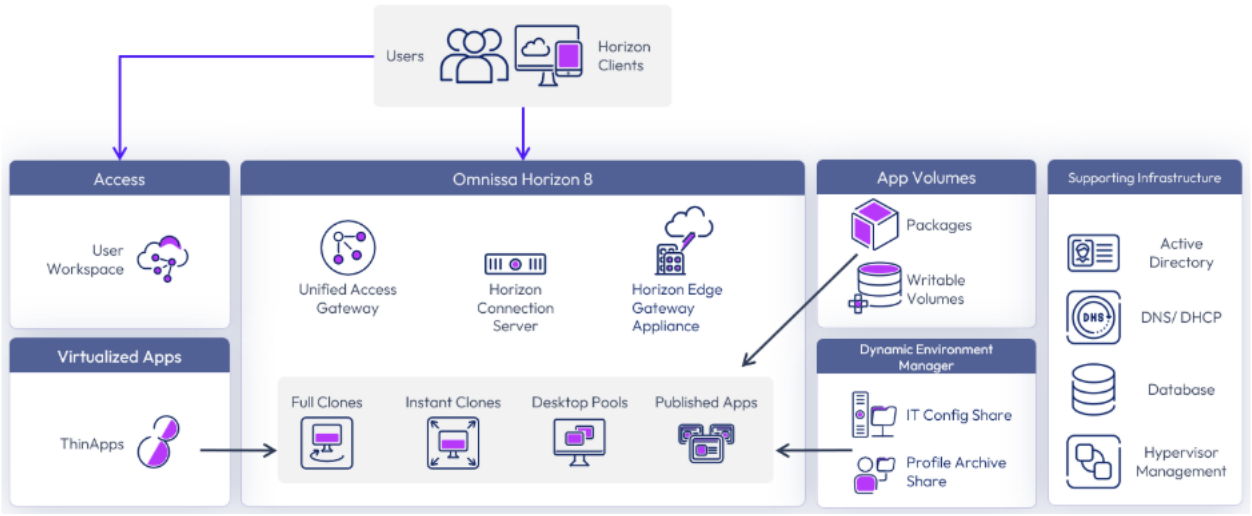

Figure 1 Horizon 8 Logical Components

Benchmark Results

The LoginEnterprise VDI benchmark was performed for the knowledge worker profile on a single node Lenovo ThinkSystem SR630 V4 with 6th Gen Intel Xeon Scalable processors. The benchmark stresses the system to 100% CPU utilization and provides VSIMax based on the login time and application response time criteria.

Login Enterprise Results with Office 365

The testing was performed with below configuration and settings.

- Login Enterprise 5.5.2
- VMware ESXi, 8.0.3, 24674464
- Omnissa Horizon 8.9.0 build - 21593375
- Windows 10, Microsoft Office Professional Plus 2019, MicroSoft Edge
- 2 VCPU + 4 GB Memory + 60 GB disk
- Local NVMe drives - Micron 1.92TB 2.5" NVMe SSD MTFDKCC1T9TGP-1BK1DABYY

The table 2 below shows VSIMax value for knowledge worker profile on ThinkSystem SR630 V4 with Intel Xeon 6730P 32C 2.5 GHz processor and it can support ~200 users per server during normal load scenarios with 75% CPU utilization.

Table 2: VSIMax for knowledge worker with Microsoft Office 365

Login Interval	Hardware	VSIMax @ 100% CPU	VSIMax @ 75% CPU
5 user per minute	ThinkSystem SR630 V4 2x Intel Xeon 6730P 32C 2.5 GHz	294	202

Figure 2 shows the response time is well below 2 seconds for many Office 365 applications and the application latency increases after CPU reaching above 90% utilization. Figure 3 shows login response time is consistent throughout the test.

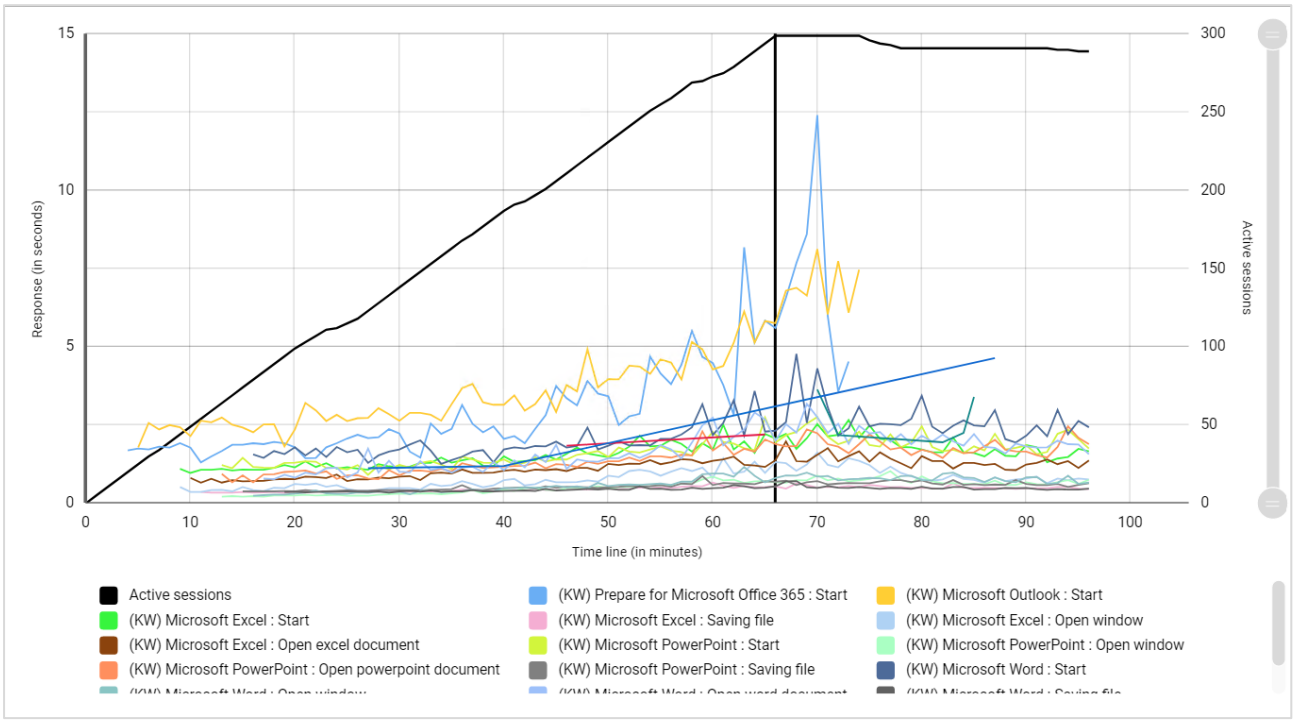

Figure 2: Office 365 applications response time – Intel Xeon 6 Processors

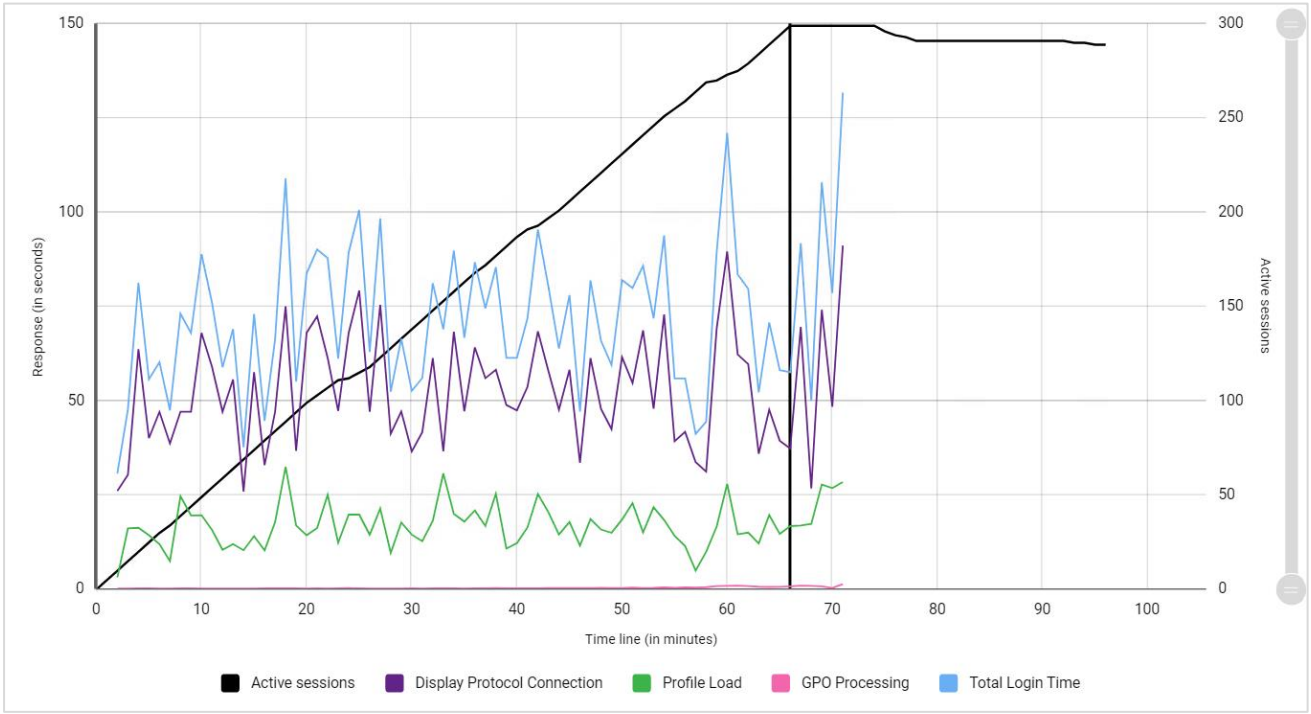

Figure 3: Login response time – Intel Xeon 6 Processors

End-to-End VDI Solution

From devices to desktops, Lenovo helps businesses access the data needed to make informed decisions. Lenovo offers a wide range of PCs, tablets, thin clients and smartphones for end user access. The portability, versatility and lightweight features of Lenovo thin clients allow for deployment across the organization, especially where space is at a premium.

References:

Lenovo ThinkSystem SR650 V4 Server

https://lenovopress.lenovo.com/lp2127-thinksystem-sr650-v4-server

https://lenovopress.lenovo.com/lp1971-thinksystem-sr630-v4-server

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Lenovo ThinkAgile VX630 V4 Hyperconverged System

https://lenovopress.lenovo.com/lp2134-lenovo-thinkagile-vx630-v4-hyperconverged-system

Lenovo ThinkAgile VX650 V4 Hyperconverged System

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Horizon 8 Architecture

https://techzone.omnissa.com/resource/horizon-8-architecture

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