HP VDI at VMworld 2006

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Introduction

In November of 2006, HP sponsored the Internet Café at VMworld 2006 in Los Angeles, California. One of the big questions for the show was, "Can a single HP ProLiant ML370 G5 running VMware ESX Server 3.0 and HP Virtual Desktop Infrastructure support 7,000 attendees at VMworld?". The answer is yes. The results of the configuration are detailed in this guide.

Event Configuration

HP was the sponsor of the email stations at VMworld 2006 and answered the call by providing a single HP ProLiant ML370 G5 with two Intel 5130 Xeon processors and 16GB of memory. The server was attached to a single HP StorageWorks MSA50 and was accessible to 38 HP TC5720 Thin Clients that were interconnected through an HP ProCurve 2848 ethernet switch. Each of the thin clients had a default connection to a Microsoft Windows XP Professional virtual machine running on the ProLiant server. Each virtual machine was configured to print to one of three HP Color LaserJet 4600N printers. Show attendees were able to check email, browse the web, obtain, read and print show documents, check and print their show schedules and retrieve directions to destinations throughout Los Angeles from any station within the Los Angeles Convention Center.

Along with user VMs, the required infrastructure for the show was virtualized and hosted on the same server. A Microsoft Windows 2003 Enterprise Edition virtual machine configured for Active Directory and a routing and firewall virtual machine provided policy, network access and security for the user virtual machines. As an additional form of security, each virtual machine was configured as non-persistent and could be returned to its original state through a 30 second reboot. Under heavy load from continuous printing, the system met the needs of show users.

Table 1. HP Virtual Desktop Infrastructure components for VMworld 2006

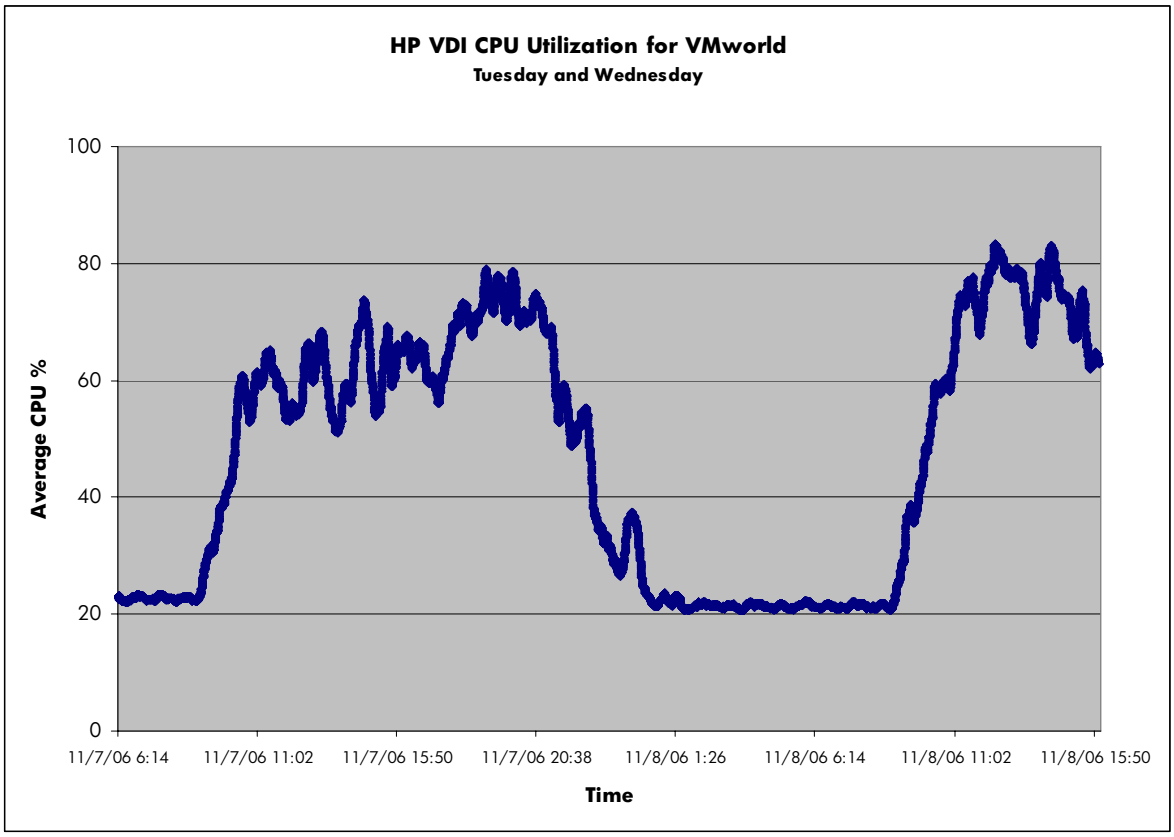
Component	QTY	Description
	1	HP ProLiant ML370 G5 with two Intel 5130 Xeon processors and 1 6GB of PC2-5300 RAM. VMware ESX Server 3.0 was installed locally with VMs stored on a single HP StorageWorks MSA50.
	1	HP StorageWorks MSA50 with ten 72GB 10,000RPM SFF SAS drives in a RAID ADG configuration. Virtual machines were stored on this device.
	1	HP ProCurve 2848 managed Ethernet switch provided the

		network backbone for the solution.
	38	HP TC5720 thin clients served as the access devices for the show. Each thin client had Microsoft Windows XP embedded installed and was configured with a default connection to a single virtual desktop.
	3	HP Color LaserJet 4600N printers were located at each of three email stations. Even with heavy print traffic these printers held up to demand.
	42	38 user desktops were accessible via thin client with two kept in reserve. The domain controller and router/firewall for the show were also virtualized on the same system.

Key findings

Show registration opened on Monday morning with access to the virtual machines beginning at 7 am. The server stayed active throughout show hours until final shutdown Thursday. In that time, the server averaged under 80% cpu utilization for the majority of the show with spikes to 83% during heavy printing times. The system had network and disk bandwidth to spare and there was at least 4GB of memory free throughout the show. Figure 1 highlights CPU utilization from the show opening on Tuesday through Wednesday afternoon.

Figure 1. System CPU performance on VMworld opening day, November 7th and November 8th, 2006.



In addition to hosting the email stations, HP provided plenty of activities around HP Virtual Desktop Infrastructure. HP presented a breakout session on the planning and performance of HP VDI, presented customer success stories, demoed the technology at the Solutions Exchange and released a whitepaper to help customers plan for the implementation of this solution (http://www.hp.com/go/vdi).

For more information

www.hp.com/go/vdi

Call to action

www.hp.com/go/vdi

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