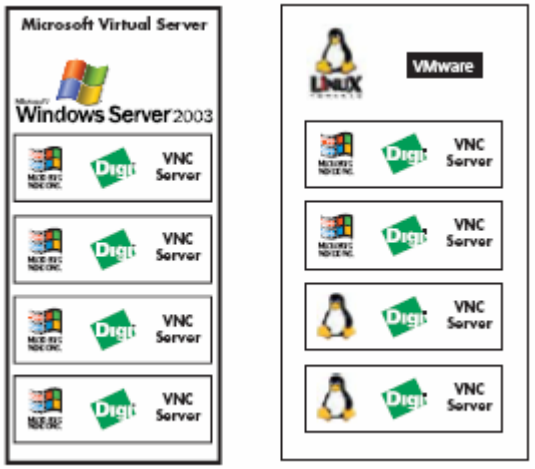
Application Note

Using ConnectPort™ Display with Microsoft® Virtual Server or VMware™ Server

ConnectPort Display is a remote networking zero-client solution that makes it possible to connect, monitor and control remote display, USB and serial devices over IP, without a locally attached host PC or thin client.

The ConnectPort Display VNC client software communicates with a variety of free open source VNC server applications, including RealVNC, UltraVNC, and others. This enables remote displays to communicate with the host without changing existing application software, which can result in straightforward migration to a less expensive zero-client solution without expensive software conversions.



ConnectPort Display also may be used to consolidate multiple client PCs onto a single or smaller number of PC servers by coupling its use with virtualization software packages such as Microsoft Virtual Server or VMware Server. These packages allow multiple virtual machines to run on a single physical PC. The ConnectPort Display and the peripheral devices connected to it then interact with a dedicated software application on each virtual machine instead of requiring a dedicated physical PC for each set of peripherals.

Using virtualization software with ConnectPort Display can result in significant cost savings in the hardware required to support clusters of peripheral devices. Some software savings may also be realized. Following is a breakdown of comparative license costs for a deployment of multiple ConnectPort Display units using Microsoft Virtual Server or VMware Server virtualization software on the server.

Microsoft Virtual Server

1. Enterprise Edition (unlimited virtual machine processors) - $0
2. If purchased with Windows Server™ 2003 ($999), up to 4 virtual machines may be supported without additional Windows® licenses. For additional virtual machines above 4, standard Windows licenses are required. A Windows XP license is $199 list and $60-$150 street price.

Example #1

Using list prices: 1 PC running Windows Server 2003 and Microsoft Virtual Server with 4 virtual machines running Windows XP:

Item		License
Windows Server 2003		$ 999
Microsoft Virtual Server		0
Windows XP		0*
	TOTAL	$ 999

**Four Windows XP licenses are included in the Windows Server 2003*

Example #2
Using list prices: 1 PC running Windows Server 2003 and Microsoft Virtual Server with 6 virtual machines running Windows XP:

Item	License
Windows Server 2003	$ 999
Microsoft Virtual Server (Enterprise)	0
Windows XP x 2	398*
TOTAL	$1,397

**Four Windows XP licenses are included in the Windows Server 2003*

VMware Server

1. VMware Server (2-4 virtual machines per processor core up to 16 total) - $0
2. VMware Workstation (~2-6 virtual machines) - $189
3. In addition, each virtual machine running Windows must have a Windows license. A Windows XP license is $199 list and $60-150 street price.

Example #1
Using list prices: 1 PC running VMware Server on top of Linux with 4 virtual machines running Windows XP:

Item	License
Linux	$ 0*
VMware Server	0
Windows XP x 4	796**
TOTAL	$796

**Could substitute Windows Server 2003 @$999*
***$1,795 if Windows Server 2003 substituted for Linux*

Example #2
Using list prices: 1 PC running VMware Server on top of Linux with 6 virtual machines running Windows XP:

Item	License
Linux	$ 0*
VMware Server	0
Windows XP x 6	1,194
TOTAL	$1,194**

**Could substitute Windows Server 2003 @$999*
***$2,193 if Windows Server 2003 substituted for Linux*

Conclusion

Consolidating multiple client PCs onto a single or smaller number of PC servers and substituting ConnectPort Display zero-clients to service the peripherals at each client location can save significant hardware and maintenance costs for these clients. Using virtualization software such as Microsoft Virtual Server or VMware Server enables this consolidation through the creation of virtual machines. Careful analysis of the licensing costs for operating systems on these virtual machines will result in the least expensive final solution.

For more information about ConnectPort Display, please visit http://www.digi.com/products/zeroclients/index.jsp.