

Pano System on Microsoft Hyper-V

Solution Brief

Pano System on the Microsoft Virtualization Platform

By supporting the Microsoft Hyper-V virtualization platform the Pano System provides customers with added choices for hypervisor-independent universal zero client platform for virtual desktops.

This brings the benefits of zero client virtual computing to a broader set of organizations and users, leveraging the comprehensive Microsoft server platforms and support channels.

How does Pano System work on Hyper-V?

Pano System can run on either bare-metal or type 1 Hyper-V Server 2008 R2 hypervisor available as a free download, or on the Hyper-V hypervisor provided as a “role” or component of the Windows Server 2008 R2 operating system.

Microsoft’s VM provisioning and management tool, System Center Virtual Machine Manager (SCVMM), is also required and also requires the Windows Server operating system as a platform. In addition, Pano Controller includes a special component, the Pano Controller Connector for SCVMM, which needs to be installed on the server or VM hosting SCVMM.

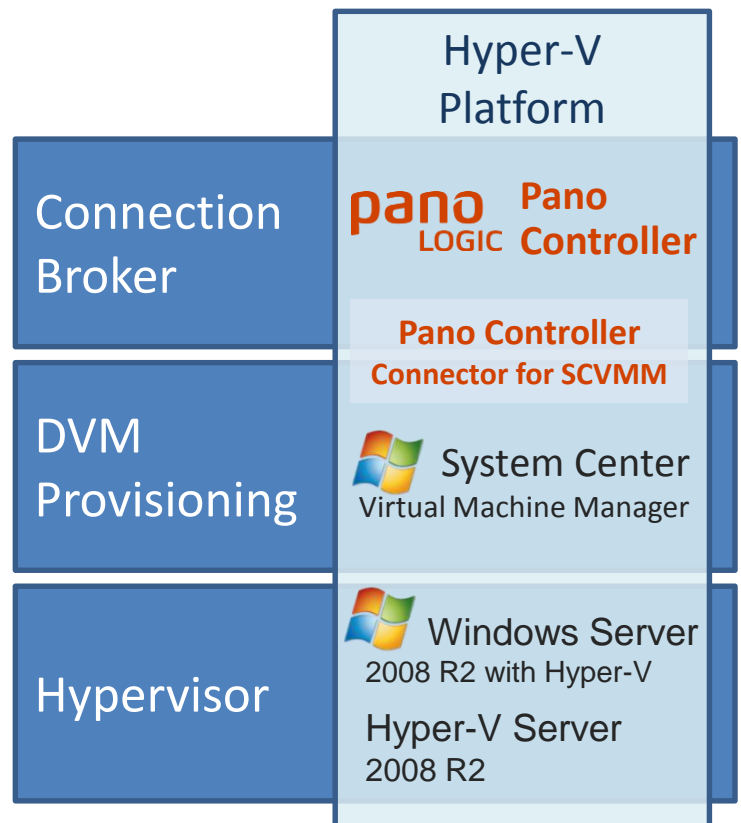
When would you select the Hyper-V platform for Panos?

Pano Logic does not recommend one hypervisor over another, preferring to provide customers with choices based on their preferences and needs:

- You might select one hypervisor platform over another to leverage your previous experience with that platform in application or server virtualization.
- You might prefer one platform's hypervisor architecture or management tools over that of another.
- You might also have existing licenses or volume license agreements with a specific platform vendor that can be used to support Pano deployments with lower license fees.
- In general, customers deploying over 800 seats select either the VMware or Citrix platforms, and customers deploying fewer than 800 seats might select the Microsoft platform.

How Many Panos or DVMs are supported with Hyper-V?

The target scalability for the Pano System on the Hyper-V platform is up to 200 Pano Zero Clients or desktop virtual machines (DVMs) for each Pano Controller virtual machine configured with two vCPUs (virtual CPUs). Using Pano Controller Groups, scalability up to 800 devices or DVMs is supported per Group. And multiple Pano Controller Groups can be managed locally or remotely from the new Pano Maestro front-end.



What Hyper-V/SCVMM Configurations work with the Pano System?

For most Pano System deployments, the only Microsoft products needed are Hyper-V and System Center Virtual Machine Manager (SCVMM), both of which are distributed either as separate licenses, bundled with different Windows Server 2008 versions or as part of the Microsoft VDI Suites. Common configurations for Hyper-V and SCVMM supporting Pano System deployments include:

| DVM Management w/Pano Controller | Hypervisor | Cost/Seat |
|--|--|----------------|
| SCVMM 2008 R2 (\$869) plus Windows Server Standard (\$1029) as supporting operating system | Hyper-V Server 2008 R2 (free download from Microsoft) | \$13/seat |
| SCVMM in the VDI Standard Suite (\$21 per seat per year) | Hyper-V in the VDI Standard Suite (\$21 per seat per year) | \$21/seat/year |
| System Center Virtual Machine Manager 2008 R2 (\$869 per server) | Hyper-V in Windows Server 2008 R2 Standard (\$1,029 per server – memory limited to 32GB) | \$40/seat |
| SCVMM in the VDI Premium Suite (\$53 per seat per year) | Hyper-V in the VDI Premium Suite (\$53 per seat per year) | \$53/seat/year |
| System Center Virtual Machine Manager 2008 R2 (\$869 per server) | Hyper-V in Windows Server 2008 R2 Enterprise (\$3,999 per server) | \$86/seat |
| System Center Virtual Machine Manager 2008 R2 (\$869 per server) | Hyper-V in Windows Server 2008 R2 Advanced (\$2,999 per server CPU) | \$126/seat |

The above costs for Microsoft Hyper-V platform licenses are based on list prices modeled on a 150 seat deployment. They exclude costs for the Pano System, Microsoft VDA licenses, servers and other hardware expenses.

Does Pano Support RemoteFX?

RemoteFX is a protocol extension for the Remote Desktop Protocol (RDP) which helps RDP better display video and other rich multimedia but which also requires server and endpoint processing power. Pano Zero Clients use the Pano Direct Protocol®, specifically designed for virtual desktops, rather than RDP or RemoteFX. It acts as a low-level highly efficient bus extension protocol, delivering a VDI session over a local area network that typical users find equivalent to using a desktop PC – all without requiring processing on the endpoint or any licensing or installing of protocol extensions.

More Information

More information on Microsoft's products can be found on their website at www.microsoft.com. Trial versions of most Microsoft software can also be downloaded from their website. For more information on the Pano System visit www.panologic.com, email sales@panologic.com or call 650-454-8940 / 877-677-PANO.