

Virtual Fibre Channel for Virtual Machines

Traditional datacenters have invested a great deal of resources in the provision of storage infrastructure. In Windows Server 2012, Microsoft makes it easy for you to ensure your virtualized workloads can connect into your existing storage infrastructure.

Virtual Fibre Channel for Hyper-V, a new feature of Windows Server 2012, provides Fibre Channel ports within the guest operating system, which provides a direct connection to Fibre Channel from within your virtual machines. This feature allows you to virtualize your workloads that require Fibre Channel storage—and also allows you to cluster guest operating systems in virtual machines using Fibre Channel.

Some key features for using virtual Fibre Channel include:

- It allows you to leverage N_Port ID Virtualization (NPIV).
- Provides unmitigated access to your storage area network (SAN).
- Provides hardware-based I/O path to the Windows software virtual hard disk stack.
- Provides support for your live migration operations.
- It allows you to have a single Hyper-V host connected to different SANs with multiple Fibre Channel ports.
- You can have up to four virtual Fibre Channel adapters on a virtual machine.
- You can use Multipath I/O (MPIO) to ensure high availability connections to your storage.

2. Virtual Fibre Channel Adapters

In the past, your virtual machines that were located on a server running Hyper-V® never had the capacity to directly access the storage hardware. In Windows Server 2012, virtual Fibre Channel adapters provide port virtualization by exposing host bus adapter (HBA) ports in the guest operating system. This provides your virtual machine with direct and unfiltered access to a storage area network (SAN) by using a standard World Wide Name (WWN) that is associated with your virtual machine.

Windows Server 2012 supports up to four virtual Fibre Channel adapters that can be assigned to each of your virtual machines.