Virtualizing the Data Center

N_Port ID Virtualization (NPIV)

Why Virtualization?

Virtualization is the next generation of the IT infrastructure. Eliminating the costs of physical hardware and software through server consolidation, virtualization facilitates scalability and addresses concerns such as costs, management, security and power consumption. Virtualization allows you to get the most out of the hardware you have today.

The Challenge

Today's economy has fueled the need to further optimize the virtual infrastructure by increasing virtual machine density as a cost effective solution. This increased density puts additional pressure on an already strained storage infrastructure.

The framework that supports a virtualized server environment can quickly become a barrier to expansion. As data demands grow, server virtualization places new performance and scaling demands on storage that many IT professionals have not had to deal with in the past. Also, CIOs are being challenged to rethink their data center strategies, adding energy efficiency to a list of critical operating parameters that already includes serviceability, reliability and performance. Also, as physical servers are divided into many virtual servers, they share the common Fibre Channel connections that are presented. Connectivity management becomes a concern due to this limitation.

The Solution

N_Port ID Virtualization (NPIV) is a capability that is unique to Fibre Channel SANs. NPIV is an extension to the existing Fibre Channel standard, which restores the best practice of SAN zoning to the virtual environment by allowing the creation of a unique, virtual World Wide Name per virtual machine.

Each virtual server, to be managed as a unique entity on the storage area network, requires a separate address on the fabric. NPIV provides a single Fibre Channel Protocol port the capability to register several World Wide Port Names over a single link.

Different applications can be used in conjunction with NPIV. In a virtual machine environment where many host operating systems or applications are running on a physical host, each virtual machine can now be managed independently from zoning, aliasing, and security perspectives.

The Benefits

- ✓ **Lower total cost of ownership**
- ✓ **Increased security and flexibility**
- ✓ **Easier SAN & server management**
- ✓ **Simplified virtualization management**
- ✓ **Higher Availability**
- ✓ **Less points of failure; fewer physical components**
- ✓ **Reduced maintenance**
- ✓ **Reduced troubleshooting & downtime**

Why ATTO?

ATTO Celerity Fibre Channel Host Bus Adapters feature ATTO's time-proven Fibre Channel stack. Whether you are utilizing your equipment for small block or large data transfers, ATTO is your industry leader in storage connectivity.

ATTO's commitment to customer satisfaction ensures delivery of the highest performing products, acclaimed support, and the industry's lowest power consumption products.

Physical HBA

Virtual HBA Ports