

# PowerNet Legacy Destroyer I/O Virtualization And Cyber Security



#### Legacy I/O Virtualization & Cyber Security Benefits

- Density Removes Legacy I/O cards from Servers
  - Increases Server connection capability; consolidates computing
- Cables and Cost: Reduces expensive legacy cable runs
  - PowerNet Legacy Destroyer connects to Servers over Ethernet
  - Signals sent through consolidated copper or fiber cables to Servers
- Cyber Security Implements FIPS Compliant Encryption & Tamper Proofing
  - Ethernet equipment signals are encrypted at the source
  - Prevents Hacking and "Man in the Middle" attacks
- Virtual Machine Support Eliminates PCI/PCIe devices and bridge issues
  - Example VMware requires Direct I/O support and configuration
- Failover Improvement Allows for alternate VMs or Servers to take over if a VM or Server crashes without reconfiguration



### **PowerNet Legacy Destroyer**

PowerNet Legacy Destroyer allows for direct connection of legacy I/O to an Ethernet or Fiber based network

Allows for multiple types of interfaces to be connected in a "plug-and-play" fashion

Real time requirements for legacy I/O are handled by the converter



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## **Legacy I/O Virtualization**

Removes Legacy I/O cards from Servers – NTDS, RS-232/422/485, and more Input to Server via Ethernet (Copper or Fiber)



Legacy Architecture

Legacy I/O Virtualized Architecture



### **Server Virtualization Support**

PowerNet Legacy Destroyer virtualizes the signal at the source. Server slots can be used for other functions.



Legacy I/O in the Server allows only one Legacy device to work with one VM at a time through technology such as VMware Direct I/O. Virtualization eliminates this.

Support for Direct I/O is limited and won't work properly with many devices. Virtualization eliminates this.



### **Server Virtualization Support**

Server without Legacy I/O cards can now use Network Interface Card(s) for Virtualization

VM	VM	VM	VM	VM
Арр	Арр	Арр	Арр	Арр
OS	OS	OS	OS	OS
Virtualization Software				
$\diamond$				
Processor	Memory		ork Interface (Ethernet)	Storage

Processors, Memory, Network Interface Cards (Ethernet), and Storage are all fully supported for Virtualization

Multiple VMs can now access legacy I/O through the Network Interface Card (Ethernet) for additional flexibility and improved failover



## Legacy I/O Redirection

Feature that allows existing software written for Legacy I/O to be transparently redirected to Ethernet through the existing IXI legacy I/O driver

Existing software can be used without changes or recompilation, only requires an added configuration file and redirection service (daemon) to run that doesn't depend on existing software applications



Legacy driver and redirected configurations can coexist peacefully on different Virtual Machines on one Server



## Use Case Legacy I/O Bridge

Where Legacy I/O cabling doesn't exist, Legacy I/O can be transparently bridged through an Ethernet network



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## Use Case Tap Existing Legacy I/O Cable

Current Legacy I/O cabling can be tapped to allow for sending Legacy I/O to additional locations or to scan for cyber securing monitoring and assurance





# Adding Legacy I/O

Additional Legacy I/O can be added to the PowerNet converter via internally available PCIe slots







#### **Questions?**

For more information contact:

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