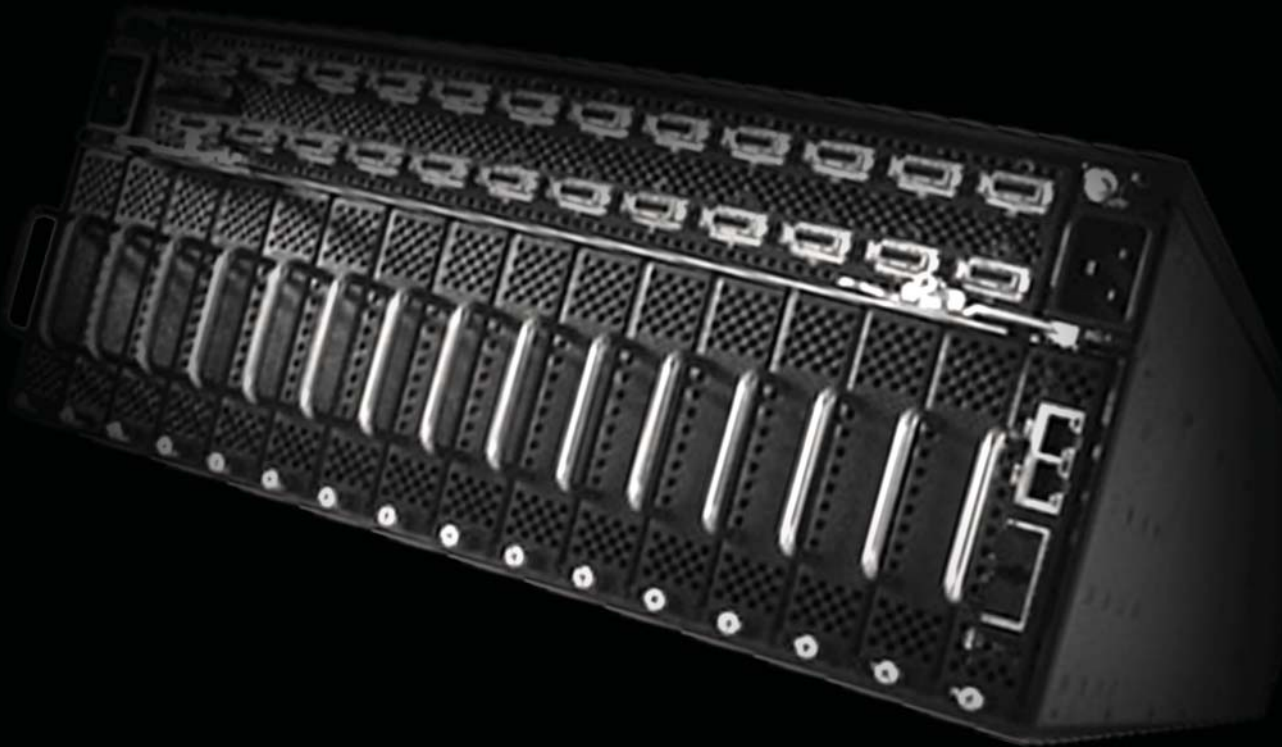


Verari VirtualFabric™

POWERED BY XSIGO



PRODUCT OVERVIEW

Verari VirtualFabric™ powered by Xsigo, is an I/O virtualization solution that eases the strains on server I/O caused by the increasing demands on connectivity and the need for access to divergent LAN and SAN networks.

VirtualFabric for the VMware customer:

Server virtualization increases efficiency, but it also places new demands on server I/O. Increased network and storage traffic can cause bottlenecks that impact performance. Data center managers can minimize bottlenecks by adding more network and storage connections, but sacrifice density and simplicity, and spend more money in the process. VirtualFabric eliminates I/O bottlenecks and reduces the cost and complexity by consolidating the traditional physical resources in to a single high speed link.

VirtualFabric for the Utility Computing customer:

Today's server I/O was designed for static environments where servers run just one application. But to create a truly flexible, on-demand pool of compute resources, server I/O must be quickly configurable, without disruption. VirtualFabric virtual

I/O replaces conventional cards and cables with dynamically configurable resources that let you adapt your infrastructure on the fly. Add network and storage I/O to any server at any time or move I/O from one server to another, in seconds, without rebooting.

As today's data center environment grows more and more complex, the VirtualFabric solution allows you to remove multiple physical Ethernet and Fibre Channel connections and replace them with a single 20Gbps link and then create virtual I/O resources with guaranteed bandwidth on the fly. Deploying VirtualFabric from Verari can improve server management by 100X utilizing 70% fewer cables and cards, and up to 50% less capital cost.

With Verari's VirtualFabric, multiple virtual ethernet interfaces (vNICs) and virtual Fibre Channel interfaces (vHBAs) communicate over a single 20Gbps link, (or two links for redundancy), and virtual interfaces are established for host servers running Microsoft® Windows®, Linux and VMware® ESX Server. Maintaining all existing protocols and structures including VLANs and LUN Masking, these virtual I/O resources appear to the server's applications like their traditional I/O card based counterparts.

However, unlike traditional I/O resources, vNICs and vHBAs can be created on the fly via simple software procedures and do not require the server to be opened or rebooted. These virtual resources also retain persistent identities, allowing them to be

FEATURES AT A GLANCE

- Virtual I/O Resources Created on the Fly
- 20Gbps Bandwidth to Each Server
- 780Gbps Total Aggregate Bandwidth per Server
- I/O Module Options:
 - 10x1Gbps Ethernet Module
 - 1x10Gbps Ethernet Module
 - 2x4Gbps Fibre Channel Module
- Dynamically Allocated Bandwidth
- Extensive QoS

General Features

moved between servers without requiring changes to the network or SAN.

VirtualFabric is an open solution designed to interoperate with existing resources, including industry standard servers, operating systems and networking equipment. VirtualFabric elements include:

- **VirtualFabric Director:** Servers connect to the VirtualFabric Director via 20Gbps/s links (24 ports included), which then connects to the LAN and SAN via standard 10 Gigabit Ethernet and 4Gbps Fibre Channel I/O modules.
- **Server connectivity:** A single 20Gbps InfiniBand card in each server provides connectivity to the VirtualFabric Director. This card is transparent to the OS and applications.
- **I/O Modules:** The VirtualFabric Director may be configured with up to 15 I/O modules. Available I/O modules include: 10-port 1Gbps Ethernet, 1-port 10Gbps Ethernet, and 2-port 4Gbps Fibre Channel.
- **VirtualFabric Expansion Switch:** 24 port DDR InfiniBand expansion switch. A high-speed, non-blocking IB switch with exceptionally low latency is available for expanding VirtualFabric installations.

Each virtual Ethernet interface has its own rich set of QoS attributes. Applications can be guaranteed predictable service levels for all ingress and egress traffic. QoS parameters can be changed dynamically, as dictated by business and policy requirements.

Product Highlights:

- Virtual I/O Resources Created on the Fly
- Bandwidth to Each Server: 20Gbps
- Total Aggregate Bandwidth per Server: 780Gbps
- 15 Available I/O Module Slots
- I/O Module Options:
 - 10x1Gbps ethernet module
 - 1x10Gbps ethernet module
 - 2x4Gbps Fibre Channel module
- Dynamically Allocated Bandwidth
- Extensive QoS

Key Benefits:

- Low cost of ownership: 70% fewer cables, cards and switch ports.
- Enhanced application migration/failover: move applications without remapping networks and storage.
- Guaranteed performance to critical applications: end-to-end performance controlled with integrated QoS features.
- Persistent I/O identities: I/O resources maintain their MAC and WWN through migration without reboot.

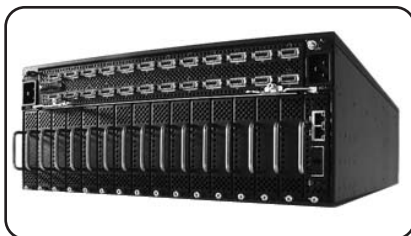
CUSTOM CONFIGURATIONS

Verari Systems supports multiple configurations and can tailor any system to your specific needs. If you have questions, please contact us today at (888) 942-3800 and ask to speak with a Verari Systems Account Manager.

ABOUT VERARI SYSTEMS

Verari Systems, Inc. is the premier developer of energy efficient data center and desktop consolidation platforms utilizing independent blade-based compute and storage solutions that are defining a new era in the green data center. Verari Systems is a market leader in blade storage and energy efficient platforms. Organizations such as Wachovia, Akamai, Microsoft, Qualcomm, CGGVeritas, Harris, Lockheed Martin, Northrop Grumman and Sony Imageworks, as well as top universities and research institutions worldwide, are among the customers who have chosen Verari Systems' line of award-winning high density blade storage and servers, rack-optimized platforms and software solutions.

Front View



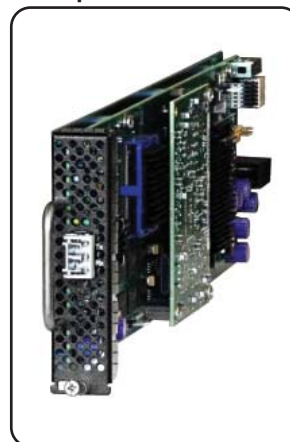
VirtualFabric Expansion Switch



2 Port 4Gbps FC I/O Module



10Gbps Ethernet I/O Model



10 Port 1Gbps Ethernet I/O Model

