

# TOP TEN REASONS TO IMPLEMENT XSIGO VIRTUAL I/O

## The benefits of deploying Xsigo virtualized I/O in the data center

### 1. FASTER PERFORMANCE

With Xsigo, servers are connected to a fabric that delivers up to 40 Gbps bandwidth per server connection. Ethernet throughput up to 40 Gbps server-to-server, 4X faster than 10G Ethernet, is available with the Xsigo Server Fabric option. Examples of where this can help include:

- **30X faster backup applications:** Compared with conventional Ethernet connections, the Xsigo fabric provides a 4X to 40X faster link between application servers and the backup server. This high-speed fabric ensures optimal streaming performance, which keeps the backup device running at peak efficiency to get the job done on time.
- **19X faster virtual machine migration:** VM migration is a highly I/O-intensive process. The high-bandwidth of Xsigo virtual I/O allows migrations to complete up to 19X more quickly.
- **12X faster database performance:** Database queries get done faster thanks to the Xsigo fabric's low-latency and 40 Gbps throughput. Get the

performance of the highest-end database machines at 1/10 of the cost.

### 2. 70% FEWER CABLES, CARDS, SWITCH PORTS

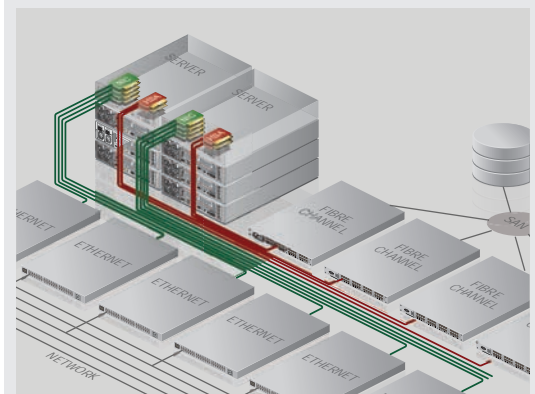
Xsigo consolidates server I/O. In the data center, complexity can be hard to avoid with the multitude of networks and devices, but Xsigo reduces the number of parts involved. Cabling can be scaled back to just one I/O cable per server, and physical I/O cards in each server are replaced by virtual cards. The end result is 70% fewer cards and cables, and significantly fewer switch ports.

### 3. 50% LESS CAPITAL COST

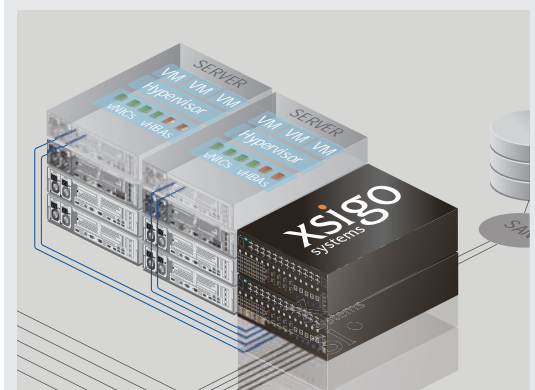
Fewer parts means lower overall cost. In a 120-server installation, the capital cost savings amount to hundreds of thousands of dollars, or about half of the overall I/O infrastructure cost. If you include the cost of installing and maintaining the infrastructure, Xsigo savings go even higher.

## HOW IT WORKS

Without Xsigo



With Xsigo



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### 4. 100X GREATER AGILITY

Data center agility and increased server utilization help you save cost and more quickly deliver services in alignment with business objectives. Xsigo boosts agility by letting you adapt your infrastructure on the fly, in real time, without server reboots or resource remapping. By eliminating the management constraints of physical connectivity, Xsigo makes servers I/O personality independent. One server can quickly adopt the identity of another (WWN, MAC and IP addresses), so it's simpler and faster to move applications among servers, add servers, and change configurations.

- **Application migration / failover:** Move applications without remapping networks and storage. Connectivity is re-deployed in a simple drag and drop operation.
- **New deployments:** You can pre-configure storage and network resources, so when new servers are added they can be deployed quickly.
- **Disaster Recovery:** Create needed connectivity at a failover site in seconds. By replicating connectivity from the primary site, DR is simplified.

### 5. CENTRALIZED AND REMOTE CONTROL OF I/O RESOURCES

Xsigo lets you manage I/O from anywhere. Because there is no need to move cables or to enter the data center, I/O can be managed from across the campus or across the globe. This can save steps or even trips.

### 6. ALWAYS HAVE THE RIGHT I/O

Get the I/O you need in minutes. If you are adding another network, or switching Fibre Channel storage to iSCSI, Xsigo lets you deploy the needed I/O in seconds. That could

save hours per server when compared with conventional re-configuration.

### 7. THE SERVER CONNECTION OF YOUR CHOICE

Only Xsigo lets you choose the server connection that best meets your needs:

- **Standard Ethernet:** For the simplest, lowest cost deployment, only Xsigo lets you deploy virtual I/O over standard 1G and 10G Ethernet ports.
- **InfiniBand:** For the greatest performance, choose InfiniBand. Choose 20Gbps or 40Gbps server links to achieve up to 4X the performance of legacy networking.

### 8. ENHANCE VIRTUAL MACHINE DEPLOYMENTS

Virtualization delivers huge management benefits but can create performance bottlenecks and security exposures. Xsigo can help.

- **Performance issues with VMs:** In a recent article, Enterprise Management Associates noted that multiple workloads sharing a single NIC "result in problems with bandwidth availability and throughput." Xsigo helps by delivering up to 80Gbps of bandwidth to each server—bandwidth that can be dynamically shared among all requirements.
- **Security issues with VMs:** To facilitate virtual machine migration it is necessary to deviate from the traditional controls on I/O mappings which can compromise security. Xsigo helps with individual vNICs and vHBAs that can be assigned to specific virtual machines. Connectivity can be seamlessly moved between machines when the application is migrated.

### 9. GUARANTEE PERFORMANCE TO CRITICAL APPLICATIONS

Get end-to-end performance control with Xsigo's integrated QoS features. Both storage and network bandwidth can be controlled via fine grained traffic policing, ensuring that critical applications deliver the required performance.

### 10. FUTURE-PROOF YOUR INFRASTRUCTURE

Change is inevitable in data center infrastructure. Whether it's a new network, a different interconnect standard, or a new connectivity requirement, Xsigo makes it easy to adapt. With Xsigo's modular hardware architecture you can quickly add new server connectivity.

Furthermore, Xsigo's commitment to open standards means that Xsigo is interoperable with the server, switch, and storage of your choice, both now and down the road.

VP560 I/O DIRECTOR



The Xsigo I/O Director consolidates server I/O by replacing a server's multiple Ethernet and Fibre Channel interfaces with a single link.

It is the industry's only virtual I/O solution that lets you connect servers via **standard Ethernet ports** for adapter-free deployment, and connect via InfiniBand for bandwidth up to 80 Gbps per server.