



TOP TEN REASONS TO IMPLEMENT XSIGO VIRTUAL I/O

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

1. 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.

2. 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.

3. 100% 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 recreating connectivity from the primary site, DR is simplified.

HOW IT WORKS

Without Xsigo



With Xsigo



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4. 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.

5. 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.

6. USE THE EQUIPMENT YOU HAVE

Xsigo is committed to open standards, so you can always use the servers and storage that you have today. And future purchases can be from any standards-based vendor. Most alternative solutions employ proprietary gear, which means you cannot re-use what you have. Worse, you're locked into a single vendor's gear for years to come. Xsigo keeps your options open.

7. 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, Andi Mann of Enterprise Management Associates noted that multiple workloads sharing a single NIC "result in problems with bandwidth availability and throughput." Xsigo helps by delivering 20Gb 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.

8. 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.

9. FAST SERVER TO SERVER COMMUNICATIONS

Xsigo's high-speed fabric provides benefits that scale beyond I/O. In the Xsigo architecture, servers are connected to a low-latency, non-blocking fabric that delivers 20Gb of bandwidth to each device. In addition to delivering high-speed I/O, this bandwidth can also be used for communication among servers. Advantages include high-throughput, low-latency, and no impact to the LAN. Examples of where this can help include:

- **Oracle clusters:** RAC clusters gain performance benefits that can double or triple cluster scalability when compared with a GbE interconnect. Grow to 10 nodes or more with Xsigo's high-speed interconnect.
- **Backup applications:** Speed up your backup jobs by using the fast Xsigo fabric as the link between application servers and the backup server. The high 20Gb data rate of Xsigo's non-blocking fabric

ensures optimal streaming performance, which keeps the tape running at peak efficiency and gets the backup job done on time.

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—such as 10Gb Ethernet or 8Gb FC. And Xsigo's virtual architecture makes it easy to deploy new connectivity to servers. 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. ■



- The Xsigo VP780 I/O Director consolidates server I/O by replacing a server's multiple Ethernet and Fibre Channel interfaces with a single high-speed low-latency 20 Gb/s link.