

Xsigo Virtual I/O – QUICK FACTS

INTERNAL USE ONLY

What is Xsigo Virtual I/O?

The Xsigo I/O Director connects any server to any network or storage device, without the limitations of cards, cables, and switch ports. Reduces capital expense by 50%, ensures application performance, and enables 100X faster moves, adds and changes.



Customer Business Issues

- **Inflexibility:** Data center complexity limiting agility. Slow response to changing business needs. Takes too long to deploy or re-purpose assets.
- **High Cost:** Virtualisation or other I/O intensive applications driving up server and infrastructure cost.
- **Performance issues:** Unpredictable application performance caused by I/O bottlenecks, especially in virtual server deployments.
- **Blade limitations:** Cannot deploy needed I/O resources due to blade connectivity limits.

Typical Prospect Customer Profile

- Enterprise IT environment with 10 or more servers in a single location.
- Requires enhanced data center agility (ability to quickly re-purpose servers, or add/migrate resources).
- Deploying server virtualisation, needs scalable connectivity.
- Planning a server transition (upgrade, refresh, expansion, etc).

Benefits & Engagement Justification

- **Agile:** Enables the dynamic data center by allowing connectivity to be added or modified in real-time, without re-cabling or visits to the data center.
- **Cost effective:** 50% of the cost of traditional I/O.
- **High-performance:** 20Gb bandwidth to each server. QoS controls ensure bandwidth to critical applications.
- **Open:** Appears to server, storage, and network exactly like conventional I/O cards. Works with all X86 systems (including blades), and all popular storage and networking devices. Supports Microsoft, VMware, Linux, Xen.
- **Universal:** Supports standard 1G and 10G Ethernet networks, plus Fibre Channel, iSCSI, and NAS storage.
- **Low power:** Saves up to 100 watts per server (including server cards, switches, and cooling).
- **Easy to use:** Single screen provides I/O management across all servers. Management console available as a plug-in within VMware.

Deliverables

The Xsigo I/O Director is a hardware/software solution that directly connects up to 24 servers. Available expansion switches expand connectivity to 120 servers.

I/O modules plug into the I/O Director and provide connectivity to 1G, 10G, and Fibre Channel networks.

Service and support offerings include installation, professional services, 24x7x365 technical assistance, and on-site support services.

Competitors

- HP Virtual Connect: Proprietary. HP Blades ONLY.
- Converged Network Adapters + Cisco Nexus: You need both to create a complete solution. A single Nexus 5020 with FCoE is \$100K list. CNAs are >\$2K. vSphere Enterprise Plus and Nexus 1000 together cost \$5K **more** than vSphere Enterprise alone for **each** Quad socket server.
- NextIO, VirtenSys are emerging solutions based on standards still being developed. PCI Express-based, they offer a small fraction of Xsigo bandwidth.

Xsigo Differentiators

- **Open:** Works with X86 servers and blades from all popular vendors.
- **Cost effective:** Half the cost of traditional I/O, 1/3 the cost of Cisco + CNAs
- **Single point of management:** One screen for all I/O.
- **Fast:** 20Gbps to each server; faster than 10G Ethernet.

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Key Qualifying Questions

- Is your customer deploying new servers or upgrading existing servers (with 10GE, for example)?
- Deploying server virtualization? Virtualized servers typically need 7 or more connections per server.
- Going to vSphere? vSphere needs MORE network connections (new fault tolerance network), and can accommodate 3X more I/O bandwidth. More likely to have I/O bottleneck.
- Seeking ways to reduce costs or simplify a complex infrastructure?
- Better support a dynamic environment, such as applications being added / changed or new customers or users to support?
- Using FC SAN storage or anticipating a transition to a different type of external storage?
- Using server blades and looking for more flexible connectivity solutions?
- Are there I/O related performance issues?

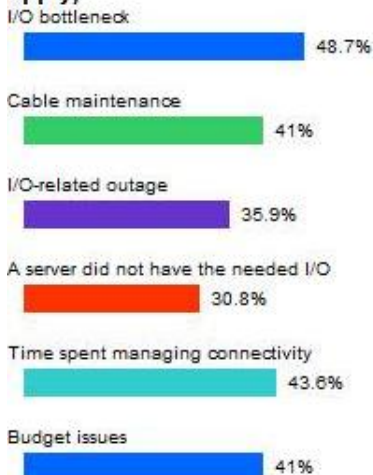
Pricing/Model Considerations

- Xsigo virtual I/O is modular and fully configurable to any size environment from a few servers to hundreds of servers.
- New I/O modules or expansion components can be added at any time.
- Investment protection: preserves existing asset value.
- Can add new server connectivity down the road without de-racking servers or adding cables.

Common I/O Issues

In a poll conducted 7/23/2009, end users reported these I/O issues. Xsigo can help resolve all of them. What has your customer seen??

What kinds of I/O problem(s) arose in your data center during the last 12 months? (select all that apply)

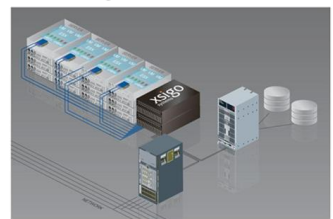


Before and After

Without Xsigo



With Xsigo



- Complex, many connections per server
- Infrastructure silos
- Lots of cabling
- High risk
- 70% fewer cards, cables, switch ports
- 50% less capex
- Any server to any network or storage
- Wire once
- Single point management
- All resources software controlled
- Re-use the equipment you have