



Flexible and Manageable I/O Expansion and Virtualization



ExpressConnect

Easiest, Fastest and Low Cost Way to Connect

The NextIO N2800-ICA I/O Consolidation Appliance utilizes PCI Express switching technology for I/O expansion, partitioning and virtualization. Powered by NextIO virtualization technology, the N2800-ICA enables flexibility to connect to higher cost fabrics at a fraction of the cost.

I/O Consolidation Appliance N2800-ICA

Highlights

- *High Performance; Offers non-blocking crossbar switching capabilities with 640 Gbps of aggregate bandwidth.*
- *Port flexibility; Any PCIe slot can be configured as server ports or I/O device.*
- *I/O Resource Pool; Ability to assign any I/O to any server.*
- *I/O Virtualization; Ability to share I/O resources using NextIO shared technology.*
- *Scalability; Simply add server connections or endpoints as needed.*
- *Management; Ease of deployment leveraging NextIO nControl Management software.*

Flexible PCI Express I/O Appliance for Expansion Applications

NextIO's N2800-ICA PCI Express expansion product brings advanced enterprise-class solutions to the datacenter and dense computing environments.

The 3U N2800-ICA appliance provides additional I/O connectivity from servers allowing for expansion, partitioning and virtualization of the I/O resources.

N2800-ICA Features

The N2800-ICA is an access point for servers and I/O and has 14 available PCI Express slots. Each slot is flexible and allows for multiple configurations.

- 2 – x4 root complex ports
- 1 – x8 root complex port
- 1 – x8 endpoint I/O device

At the heart of the appliance is NextIO's shared PCI Express Switch ASIC. Each server is connected to one switch port using a standard driver-less based x4 or x8 PCIe cable subsystem. Each I/O device add-in card occupies a PCIe slot and can be connected to the switch up to x8 link width as *PCIe Base* or *Shared I/O* connection.

The N2800-ICA can accommodate an internal RAID solution with up to 16 hard disk bays for SAS/SATA storage.

NextIO Technology

NextIO developed a **Virtualized PCI Express Switch** (PCIe) to bring low-cost switching and Shared I/O solutions to the datacenter.

The N2800-ICA is unique to the industry by allowing multi-server connectivity and flexible routing. It provides disaggregation of the compute servers and I/O devices and creates a pool of I/O resources that can be assigned to any server.

NextIO also enables **Shared I/O** technology, which allows all servers to share the I/O controllers available in the Chassis, allowing each server to utilize the maximum available bandwidth.

NextIO's **nControl** Management Software provides a unified interface for IT specialists for managing I/O technologies.

The **nControl** management software provides an interface for the N2800-ICA to be configured, monitored and upgraded in-band and out-of-band.



Figure: I/O Partition and Virtualization Application with IU Servers Connected to the N2800-ICA

NextIO N2800-ICA Specifications

Systems Architecture

Connect Express Baseboard

NextIO Switch ASIC

- 28 – x4 PCI Express switch ports
- 1 – x8 PCI Express inter-switch link between ASICs

Management Processor

- Intel X-scale processor
- 64 MB DDR SDRAM
- 16 MB Flash

PCIe Slots

- 14 – x8 PCIe connectivity (Hot-Swap supported)

Accessibility

- 10/100 Mbps Ethernet
- Serial Port

Enclosure

Front Panel Indicators

- Power, LAN, Fault and Alarm

Front Panel Controls

- Power On/Off

Storage

- Up to 16 – Hot-pluggable 3.5" SAS/SATA HDDs

Cooling Fans

- Three system fans

Rear Panel Access

- 14 – Full height PCI Express slots
- Ethernet RJ-45
- Serial port DB-9

PCI Express Standards

PCI Express Ports

- PCI Express Base 1.0a
- NextIO WLPEX 1.0

Interoperability

- PCI-SIG 1.0a Compliant

N2800-ICA Management

Management Methods

- Telnet
- SSH
- SNMP Traps
- WEB GUI

Management Access Methods

- Ethernet 10/100 Mbps
- Serial Console

Mechanicals

Enclosure Type

3U Form Factor EIA 310-D compliant

Dimensions

- Width: 482.6 mm (19")
- Height: 132.1 mm (5.2")
- Depth: 650 mm (25.59")

Weight

- 17 kg (37.4 lbs)

Electrical

Power Supply

- ATX form factor

Power Consumption

- 45W maximum (Baseboard only)

Environmental

Operating

- Temperature: +10°C to 35°C
- Humidity: 8% to 80% non-condensing
- Altitude: 0 to +7,000 feet
- Vibration: 0.27G RMS at 5Hz – 500Hz
- Shock: 30G for 3 ms

Non-Operating

- Temperature: 1°C to 60°C
- Humidity: 5% to 100% non-condensing
- Altitude: 0 to +39,370 feet

Regulatory

Safety

- UL60950-1
- CSA C22.2 No 60950-1
- Low Voltage Directive 2006/95/EC EN 60950-1

EMC/EMI

- FCC Title 47 CFR Part 15 Subpart B Class A
- IC ICES-003 Class A Limit
- CISPR 22 Class A
- EMC Directive 2004/108/EC
 - EN 55022:2006
 - EN 55024:1998 A1:2001 A2:2002
 - EN 61000-3-2:2000 A2:2005
 - EN 61000-3-3:1995 A2:2005

Other

- WEEE Initiative
- RoHS

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