StorageTek®

MCDATA INTREPID 6000 SERIES DIRECTORS

Key benefits

Scale as needed
Scalable 64- and 140-port configurations accommodate SANs with hundreds or thousands of ports.

Keep data online
Industry-leading availability keeps mission-critical data available.

Use resources wisely
Centralized SAN management reduces the burden on existing IT resources and improves productivity.

Protect your investment
Protocol-independent design handles FICON and Fibre Channel traffic simultaneously for long-term flexible deployment.

Boost profitability
StorageTek SAN solutions help unleash trapped profits by increasing efficiency and growing non-disruptively.

McData Intrepid 6064

McDATA Intrepid 6000 series directors

Consolidating data into a SAN for enterprise-wide access is just part of the challenge for today's connected enterprise. Suppose the data is accessible but retrieval is slow or frequently interrupted. Employees lose valuable momentum and customers may postpone or even cancel orders. Effective SANs must port data to application layers 24 x 7 to seize opportunities so customers stay happy. With McDATA's Intrepid 6000 series directors at the core of your SAN, you get unwavering performance and 99.999 percent availability. These directors protect against costly disruptions with consistent low latency and non-blocking architecture. And unlike a cluster of switches with performance-draining inter-switch links (ISLs), Intrepid 6000 series directors keep your data flowing unimpeded throughout your network.

Intrepid 6140 director – The 140-port Intrepid 6140 director is designed for very large high-performance SAN deployments with hundreds or thousands of ports. It is the only single-stage 140-port director available today with a protocol-independent architecture that supports both Fibre Channel and FICON environments. You get exceptional flexibility and investment protection to meet the connectivity of demands of higher port count networks and mainframe FICON environments.

Intrepid 6064 director – The 64-port Intrepid 6064 director is a cost-effective way to get director-class performance, reliability and functionality in your SAN. Its protocol-independent architecture supports both Fibre Channel and FICON traffic. Its intelligent architecture with incremental four-port scalability allows your SAN to adapt as needed with minimal disruption.

Intelligence to the core
Intrepid 6000 series directors put intelligent design at the core of your SAN with 2-gigabit-per-second non-blocking connectivity, redundant hot-pluggable power and cooling, advanced networking functionality, simple SAN management and more. Online diagnostics, advanced error detection, powerful fault isolation, and port-by-port (not unit-level) data integrity checking all contribute to reliable operation and faster, easier

repairs. Call-home notification via the optional EFC Manager tool and SANavigator software notifies you immediately if there's ever a problem, so you can minimize or avoid costly downtime. And features such as McDATA's exclusive Hot Code Activation Technology (HotCAT), which allows firmware code to be loaded and activated while the Director is online, allow your SAN to operate without disruption.

Freedom to grow, room to scale

Intrepid 6000 series directors can grow incrementally to meet your changing business needs. You have freedom to add just the right amount of SAN connectivity in four-port increments on the fly, with zero business disruption. Does your storage network include other McDATA switches or legacy devices? Bring them along. Like all McDATA products, the Intrepid 6000 series directors are built on the Extendable Open Network (EON), so it's forward and backward compatible with all other McDATA switches across every class of fabric connectivity. You get seamless integration from core to edge, so your investment is protected and your SAN can evolve without roadblocks, without jeopardizing your investment in data.

The ultimate flexibility

Intrepid 6000 series directors bring the addressing, distance and bandwidth advantages of Fibre Channel Connectivity (FICON) to mainframe-connected environments. McDATA simplifies things further with FICON Server Management software that allows single-point network management with OS/390. It's never been easier to bring mainframes into the mainstream and provide an open SAN infrastructure to vastly improve productivity.

Sound investment, ready for the future

Is your SAN ready to evolve as needed to meet the needs of a changing business climate and emerging technologies? Is it ready for the future? The answer may depend on decisions you make today. Intrepid 6000 series directors are a long-term, flexible investment, ready to adapt and purposefully designed with a protocol-independent architecture that allows emerging technologies to be integrated with a basic upgrade. Intrepid 6000 series directors currently support 1-and 2-gigabit-per-second data transfers as well as OS/390 FICON traffic. On the horizon are potential upgrades for 10-gigabit-per-second throughput, FCIP and iSCSI.

MCDATA INTREPID 6000 SERIES DIRECTORS

Helping hand for your applications

As storage networking infrastructures grow, application performance often needs a boost. Enter McDATA's OPENtrunking Accelerator. It boosts the performance of your SAN infrastructure with a simple firmware upgrade to Intrepid 6000 series directors. OPENtrunking Accelerator optimizes total throughput between two switches by redirecting traffic from overloaded to under-used links. Once activated, it continuously monitors link loads and balances traffic across all ISLs. It does this automatically, with no operator intervention. OPENtrunking does not require configuration or sophisticated network engineering. It supports all industry standards and optimizes outbound traffic to other Fibre Channel switches. And unlike other accelerators, OPENtrunk Accelerator balances loads across all ISLs regardless of speed, distance or number. You get a significant performance jump with no limitations.

A long-distance affair

Intrepid 6000 series directors support long-distance connections of up to 120 kilometers per port, making them a key part of disaster recovery operations, remote backup architectures or geographically distributed campuses. You get the necessary memory and optical signal strength for 1-gigabit-per-second performance up to 120 kilometers, and 2-gigabit-per-second performance up to 60 kilometers. (Note that distances beyond 20 kilometers require optical repeaters for signal integrity).

Management made simple

McDATA'S SANavigator software is a powerful storage network management platform that simplifies SAN management and automates day-to-day tasks. Combined with EFC Manager, it forms the backbone of a well-designed SAN infrastructure that improves business continuity, resource deployment and IT productivity. You make the most of your existing storage resources.

We've got your back

McDATA provides intelligent building blocks for the largest SAN infrastructures. And StorageTek backs you up with storage systems, software, solutions, professional services and training to meet literally any storage requirement, today or tomorrow. It's the ideal combination of products, services and expertise from companies that know SANs from the ground up. To learn more, visit StorageTek at www.storagetek.com.

McData Intrepid 6140

McDATA Intrepid 6000 series directors specifications

Performance	6064 director	6140 director
Port speed	2 Gb/sec, full duplex	2 Gb/sec, full duplex
Buffer credits	60/port	60/port
Aggregate throughput	256 Gb/sec	560 Gb/sec
Latency	<2 microseconds average	<2 microseconds average
Distance support	75 miles (120 km) @ 1 Gb/sec, 37 miles (60 km) @ 2 Gb/sec	75 miles (120 km) @ 1 Gb/sec), 37 miles (60 km) @ 2 Gb/sec

Capacity		
Ports per chassis	64 ports	140 ports

Availability		
High-availability features	HotCAT online, non-disruptive firmware upgrades and activation 99.999% Hot-plug, redundant power supplies and cooling Hot-plug small form factor (SFP) transceivers, port modules Online diagnostics Fault isolation tools for network-wide activity	HotCAT online, non-disruptive firmware upgrades and activation 99.999% Hot-plug, redundant power supplies and cooling Hot-plug small form factor (SFP) transceivers, port modules Online diagnostics Fault isolation tools for network-wide activity
Serviceability	Hot-plug power and cooling modules Hot-plug optics HotCAT firmware upgrade Call home, e-mail (with McDATA software) Maintenance port (DSUB) Thermal Protection Unit, port, and FRU beaconing System error LED FRU failed LED	Hot-plug power and cooling modules Hot-plug optics HotCAT firmware upgrade Call home, e-mail (with McDATA software) Maintenance port (DSUB) Thermal Protection Unit, port and FRU beaconing

Compatibility		
Fibre Channel protocols	FC-PH Rev 4.3, FC-PH-2, FC-PH-3, FC-GS-2, FC-FLA, FC-FG, FC-SW-2	FC-PH Rev 4.3, FC-PH-2, FC-PH-3, FC-GS-2, FC-FLA, FC-FG, FC-SW-2
SNMP	Fibre Alliance MIB; Fibre channel fabric element MIB; TCP-IP MIB II	Fibre Alliance MIB; Fibre channel fabric element MIB; TCP-IP MIB II
TCP-IP MIB groups	System, Interface, Address Translation, IP, ICMP, TCP, UDP, SNMP	System, Interface, Address Translation, IP, ICMP, TCP, UDP, SNMP
Fibre Channel classes of service	Class 2, 3, F	Class 2, 3, F
Media types	Hot plug, industry standard LC Small Form Factor (SFP)	Hot plug, industry standard LC Small Form Factor (SFP)
Supported optical media types/distances	Short-wave: 1,640 ft (500 m)/ 1 Gb/sec Short-wave: 1,148 ft (300 m)/ 2 Gb/sec Long-wave: 6.2 miles (10 km) With repeaters: 60 miles (100 km)	Short-wave: 1,640 ft (500 m)/ 1 Gb/sec Short-wave: 1,148 ft (300 m)/ 2 Gb/sec Long-wave: 6.2 miles (10 km) With repeaters: 60 miles (100 km)
Access	In-band Ethernet (10/100 Mbps)	In-band Ethernet (10/100 Mbps)

Management	6064 director	6140 director
Management options	SANavigator software, Enterprise Fabric Connectivity Manager (EFCM), SA OS/390 through FICON Management Server (CUP), SNMP, Open Systems Management Server	SANavigator Software, Enterprise Fabric Connectivity Manager (EFCM), SA OS/390 through FICON Management Server (CUP), SNMP, Open Systems Management Server (OSMS)
Fabric services	Simple name server; in order delivery (Class 2,3); management server (optional); broadcast name server zoning	Simple name server; in order delivery (Class 2,3); management server (optional); broadcast name server zoning
Diagnostics	Power on self test (POST); Online port, CTP, SBAR, Internal & external loopback, Online system health	Power on self test (POST); Online port, CTP, SBAR, Internal & external loopback, Online system health

Mechanical		
Height	15.8 in (39.7 cm)	20.88 in (53.03 cm)
Depth	21.5 in (54.6 cm)	24.16 in (61.37 cm)
Width	17.2 in (44.5 cm)	17.50 in (44.45 cm)
Unit height	9u*	12u*
Weight	115 lb (52.3 kg)	172 lb (78 kg)
Cabling	9/125 micron single-mode, 6.2 miles (10 km, 50/125 micron multimode, 1,640 ft (500 m), 62.5/125 micron multimode, 1,148 ft (300 m)	9/125 micron single-mode, 6.2 miles (10 km), 50/125 micron multimode, 1,640 ft (500 m), 62.5/125 micron multimode, 1,148 ft (300 m)
Installation options	Rack mountable, 19 in EIA rack	Rack mountable, 19 in EIA rack

Environmental		
Temperature		
Operating	+40° to +104° F (+4° to +40° C)	+40° to +104° F (+4° to +40° C)
Non-operating	+40° to +125° F (+4° to +52° C)	+40° to +125° F (+4° to +52° C)
Relative humidity	8%–80%	8%–80%
Altitude		
Operating	10,000 ft (3,048 m)	10,000 ft (3,048 m)
Non-operating	40,000 ft (12,192 m)	40,000 ft (12,192 m)

Power		
Operating voltage	100–230 VAC	180–264 VAC
Amps	2–4	4.66
Heat output	1,672 BTU/hr	2,873 BTU/hr

Regulatory compliance		
Certification	UL, CSA, CE Mark, VCI Class A, FCC part 15	UL, CSA, CE Mark, VCI Class A, FCC part 15

*Rack space is measured in height and expressed as a u. One u is 1.75 in (4.45 cm) in height.

StorageTek®

ABOUT STORAGETEK®

Storage Technology Corporation (NYSE: STK), a $2 billion worldwide company with headquarters in Louisville, CO, has been delivering a broad range of storage management solutions designed for IT professionals for over 30 years. StorageTek offers solutions that are easy to manage, integrate well with existing infrastructures and allow universal access to data across servers, media types and storage networks. StorageTek's practical and safe storage solutions for tape automation, disk storage systems and storage integration, coupled with a global services network, provide IT professionals with confidence and know-how to manage their entire storage management ecosystem today and in the future.

StorageTek products are available through a worldwide network. For more information, visit www.storagetek.com, or call 1.800.275.4785 or 01.303.673.2800.

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