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Storage Area Networks
Brocade® Gen 6 and Gen 5 Products

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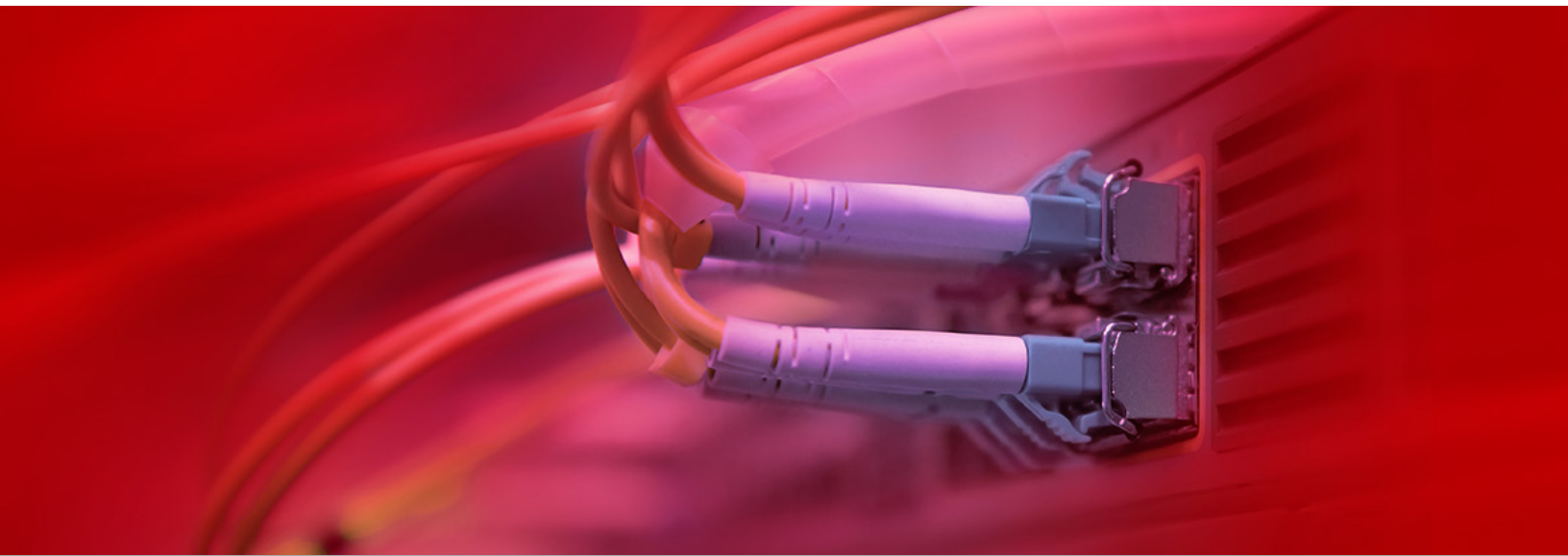
Data Center Backbones

Model	Brocade Gen 6 Directors (X6)	Brocade Gen 5 Directors (DCX8510)
Customer Profile	• 4 & 8 Slot X6 Chassis • Future-Proofed Infrastructure • NetWorking Convergence • High Availability • Consolidation • Expandability	• 4 & 8 Slot DCX8510 Chassis • Future-Proofed Infrastructure • NetWorking Convergence • High Availability • Consolidation • Expandability
Part Numbers	X-X64-0001 (4 slot chassis, w/2PSU, 2FAN, 2CP, 2CORE, Enterprise Bundle) X-X64-0002 (4 slot Chassis, w/0PSU, 0FAN, 2CP, 2CORE, Enterprise Bundle) X-X68-0001 (8 slot Chassis w/3PSU, 3FAN, 2CP, 2CORE, Enterprise Bundle) X-X68-0002 (8 slot Chassis w/0PSU, 0FAN, 2CP, 2CORE, Enterprise Bundle) 4 Slot Agnostic Chassis w/0PSU, 0FAN, 2CP, 2CORE, EB (X-X64-0002) 4 & 8 Slot X6 Chassis Port Blade: FC32-48, 48 Port w/48 32G SWL SFP (X-X6-2148) Port Blade: FC32-48, 48 Port no SFPs (X-X6-0148) Extension Blade: With 16 32G SWL SFPS (X-SX6-0001) Extension Blade: With 16 32G LWL SFPS (X-SX6-0002) FC32-64 Blade: With 8x32G QSFP SWL Optics (X-X6-2164)	X-DCX8518-B-0001 (8 Slot Chassis, w/3PSU, 3FAN, 2CP, 2CORE, Enterprise Bundle) Qualified for NetApp MetroCluster 4 & 8 Slot DCX8510 Chassis Blade, Brocade FC16-32 32Pt w/32 16G SWL SFPs (X-DCX8510-B-2102) Blade, Brocade FC16-32 32Pt no SFP (X-DCX8510-B-0102) Blade, Brocade FC16-48 48Pt w/48 16G SWL SFPs (X-DCX8510-B-2148) Blade, Brocade FC16-48 48Pt no SFP (X-DCX8510-B-0148) Blade, Brocade FC16-64 64Pt w/16 16G QSWL SFPs (X-DCX8510-2164-R6) Blade, Brocade FC8-64 64Pt with SFP (X-DCX-2164-R5)
Ports	8 Slot Chassis: Up to 512 ports 4 Slot Chassis: Up to 256 ports	8 Slot Chassis: Up to 512 ports 4 Slot Chassis: Up to 256 ports
Speed & Protocol	4, 8, 10, 16, 32 Gbps FC ports 1, 10, 25, 40 Gbe ports	4, 8, 10, 16, 32 Gbps FC ports 1, 10, 40 Gbe ports
Expandability	FC32-48 48 Ports 32G FC Blades, SX6 Extension Blade, FC32-64	32, 48, 64 ports FC Blades
FICON/CUP Supported	Yes	Yes
Hardware Features	Hot-swappable redundant power supplies, Hot-swappable redundant fans, Redundant and hot-swappable control processor blades, Redundant and hot-swappable 32Gb core switching blades, Redundant and hot-swappable WWN cards, Flexible airflow direction option (selected at time of order; not field changeable), Brocade Standard rack-mount included, FCoE Support	Hot-swappable redundant power supplies, Hot-swappable redundant blowers, Brocade Standard rack-mount included
Height	8 Slot- 14 RU, 4 Slot- 8 RU	8 Slot- 14 RU, 4 Slot- 8 RU
Standard Bundled Software	Enterprise Bundle (Fabric Vision®, ISL Trunking, Extended Fabrics, and FICON CUP). IO Insight for application- and device-level IO latency and IOPS monitoring.	Extended Fabrics, Fabric Vision (incl FW, APM), ISL Trunking
Software Licenses Upgrades	4 & 8 Slot X6 Chassis Integrated Routing: Up to 128 port (SW-BSW-CHASIR128POD-01) 4 Slot Chassis ICL POD KIT, 8x 4X32G QSFPS W/ BREAKOUT (X-X64ICLKIT-100M-02) 2KM ICL KIT, 8x 2KM 4X32G QSFP (X-X64GEN6ICLKIT-2KM-01) 8 Slot Chassis ICL POD KIT, 16x 4X32G QSFPS W/ BREAKOUT (X-X68ICLKIT-100M-02) 2KM ICL KIT, 8x 2KM 4X32GQSFP (X-X68GEN6ICLKIT-2KM-01)	4 & 8 Slot DCX8510 Chassis ICL (Inter Chassis Link) (X-DCXILCKIT-01-R6) CUP for DCX-4S (SW-DCX4SCUP-01-QS) IR for DCX (SW-BSW-DCX4SIR-01-QS) 4 Slot Chassis Enterprise Bundle (SW-DCX4SEB-01-QS): Brocade Fabric Vision technology (Clear Link® diagnostics, Monitoring and Alerting Policy Suite (MAPS), Flow Vision, bottleneck detection, enhanced BB credit recovery, FEC, and critical diagnostic and monitoring capabilities), Advanced Performance Monitoring
Fabric OS® Supported	Fabric OS v8.0.1 or higher	Fabric OS v7.1 or higher
Management Software Solutions	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)

Enterprise Switches

Model	Brocade Gen 6 (32GB) G630 Switch	Brocade Gen 5 (16GB) 6520 Switch
Customer Profile	• High-Density Enterprise • Large Enterprise SAN • High Availability • Consolidation • Scalability • Virtualization, Cloud	• High-Density Enterprise • Large Enterprise SAN • High Availability • Consolidation • Scalability • Virtualization, Cloud
Part Numbers	X-G630-48-32G-R Brocade G630, 48-port activated, 48 x 32G optics, Port side exhaust air flow X-G630-48-32G-F Brocade G630, 48-port activated, 48 x 32G optics, Port side intake air flow X-G630-96-32G-R Brocade G630, 96-port activated, 96 x 32G optics, Enterprise Bundle, Port side exhaust air flow	X-6520-48-16G-R-M-R6 (48-ports activated, 48 x 16G SWL SFP included, AC, Port side exhaust air flow X-6520-96-16G-R-M-R6 (96-ports activated, 96x 16G SWL SFP included, AC, Port Side exhaust air flow X-6520-96-16G-R-ENT-M-R6 (96-ports activated, 96x 16G SWL SFP included, AC, Enterprise bundle, Port Side exhaust air flow
Ports	48, 72, 96, 128	48, 72, 96
Speed & Protocol	4, 8, 16, 32 Gpbs FC ports	2, 4, 8, 10, 16 Gbps FC ports
Expandability	POD license, 24-port, 24 x 32G SWL SFP+ (X-MENT24PTPOD-32G) POD license, 32-port, 8 x 32G SWL QSFP (X-MENT32QFLEX-32G) POD license, 24-port, No optics (SW-BSW-MENT24PTPOD-01-QS) QSFP POD license, 32-port, No optics (SW-BSW-MENT32QFLEX-01-QS)	Ports on demand: X-ENTPOD-01-16G-R6 (24 x 16 Gbps SW optics)
FICON/CUP Supported	No	No
Hardware Features	2 hot-swappable, redundant integrated power supply/fan FRUs Optional rack mount kits: fixed, or mid-mount Optional front to back or back to front air flow	2 hot-swappable, redundant integrated power supply/fan FRUs Optional rack mount kits: fixed, or mid-mount Optional front to back or back to front air flow
Height	2U	2U
Standard Bundled Software	Web Tools, Advanced Zoning, Full Fabric, Enhanced Group Management, Forward Error Correction	Brocade Fabric OS - Bottleneck Detection, Brocade Advanced Zoning, Dynamic Fabric Provisioning, Dynamic Path Selection, Enhanced BB credit recovery, Frame Redirection, FSPF Enterprise Bundle for certain models - Fabric Vision
Software Licenses Upgrades	Integrated Routing, G630 (SW-BSW-MENT128IRPOD-01-QS) Enterprise Bundle includes Trunking, Fabric Vision, Extended Fabric (SW-BSW-MENTEB5-01-QS)	Enterprise Bundle (SW-BSW-MENTEB4-01-QS): Brocade Fabric Vision technology (Clear Link diagnostics, Monitoring and Alerting Policy Suite (MAPS), Flow Vision, bottleneck detection, enhanced BB credit recovery, FEC, and critical diagnostic and monitoring capabilities), and Advanced Performance Monitoring, Extended Fabric, Fabric Watch, and Trunking. IR for 6520 (216-00073) ISL Trunking for 6520 (SW-BSW-MENTTRK-01-QS)
Fabric OS Supported	Fabric OS 8.2.0 or higher	Fabric OS v7.1 or higher
Management Software Solutions	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)

Mid-Range Switches

Model	Brocade Gen 6 (32GB) G620 Switch	Brocade Gen 5 (16GB) 6510 Switch
Customer Profile	• Hyper-scale virtualization • Larger cloud infrastructures • Growing flash-based storage environments	• High-Performance Enterprise • Midsize to large data centers • High Availability • Virtualization, Cloud • Mainframe Environments • Top of Rack, End of Row, Edge
Part Numbers	X-G620-24-32G-F-M (24-ports activated, 24 x 32G SFPs, Non-port side exhaust air flow) X-G620-24-32G-R-M (24-ports activated, 24 x 32G SFPs, Port side exhaust air flow) X-G620-48-32G-R-M (48-ports activated, 48 x 32G SFPs, Port side exhaust air flow w/ Enterprise Bundle) X-G620-24-R-M (24-ports activated, 0 SFP, Port Side exhaust air flow) Qualified for NetApp MetroCluster	X-6510-24-16G-R6 (24-ports activated, 24x16Gb SWL SFPs included, AC, Port side exhaust air flow) X-6510-48-16G-R6 (48-ports activated, 16Gb SWL SFPs, Port side exhaust air flow w/ Enterprise Bundle)
Ports	24, 32, 48, 64	24, 36, 48
Speed & Protocol	4, 8, 10, 16, 32 Gbps FC ports	2, 4, 8, 10, 16 Gbps FC ports
Expandability	Ports on Demand X-G6MIDR12PTPOD (12 x 32G SWL SFP+) X-G6MIDR16QFLEX-32G-1 (4X32G SWL QSFPS)	Ports on demand: X-MDIR12POD-16G-R6 (16G SWL Optics)
FICON/CUP Supported	Yes	Yes
Hardware Features	2 hot-swappable, redundant integrated power supply/fan FRUs Optional rack mount kits: fixed, or mid-mount	2 hot-swappable, redundant integrated power supply/fan FRUs Optional rack mount kits: fixed, or mid-mount
Height	1U	1U
Standard Bundled Software	48-port model includes Enterprise Bundle (Extended Fabrics, Fabric Vision, ISL Trunking, and FICON CUP). Integrated Routing optional. Enterprise Bundle is optional on 24-port model.	Brocade Fabric OS - Bottleneck Detection, Brocade Advanced Zoning, Dynamic Fabric Provisioning, Dynamic Path Selection, Enhanced BB credit recovery, Frame Redirection, FSPF
Software Licenses Upgrades	Enterprise Bundle enables Trunking, Fabric Vision, and Extended Fabrics (SW-BSW-MIDREB5-01-QS) Mainframe Enterprise Bundle Trunking, Fabric Vision, Extended Fabrics and FICON CUP capabilities (SW-BSW-MIDRMEB-01-QS) Integrated Routing (216-00072) Software, POD License, 12 port on-demand (SW-BSW-MIDR12PTPOD-01-QS)	Enterprise Bundle (SW-MIDREB-01): Brocade Fabric Vision technology (Clear Link diagnostics, Flow Vision, Monitoring and Alerting Policy Suite (MAPS), bottleneck detection, enhanced BB credit recovery, FEC, and critical diagnostic and monitoring capabilities), and Advanced Performance Monitoring, Extended Fabric, Fabric Watch, and Trunking. Integrated Routing (SW-MIDRIR-01) FICON with CUP Activation (SW-MIDRCUP-01) ISL Trunking (216-00052)
Fabric OS Supported	Fabric OS v8.0.0 or higher	Fabric OS v7.1 or higher
Management Software Solutions	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)

Entry Switches

Model	Brocade Gen 6 (32GB) G610 Switch	Brocade Gen 5 (16GB) 6505 Switch
Customer Profile	• Entry-Level • SMB SAN • High Availability • Cost-Sensitive • Virtualization, Cloud	• Entry-Level • SMB SAN • High Availability • Cost-Sensitive • Virtualization, Cloud
Part Numbers	X-G610-8-0-M (8-ports activated, 0 SFPs included, AC, Port side exhaust air flow) X-G610-8-16G-0-M (8-ports activated, 8x 16Gb SWL SFPs, AC, Port side exhaust air flow) X-G610-24-16G-1-M (24-ports activated, 24 x16Gb SWL SFPs, Port side exhaust air flow w/ Enterprise Bundle) Qualified for NetApp MetroCluster	X-6505-12-16G-R6 (12P, 12x 16Gb SFPS included, AC, SINGLE PSU, FW) X-6505-24-16G-1R-R6 (24P, 24 x 16Gb SFPS included w/Enterprise Bundle, BR, AC, SINGLE PSU)
Ports	8, 16, 24	12, 24
Speed & Protocol	4, 8, 10, 16, 32 Gbps FC ports	2, 4, 8, 10, 16 Gbps FC ports
Expandability	Ports on demand: X-SMED8PTPOD-16G (16 SWL Optics)	Ports on demand: X-SMED12POD-01-R6 (No Optics) X-SMED12POD-16G-R6 (16G SWL Optics)
FICON/CUP Supported	No	No
Hardware Features	Single fixed power supply Fixed redundant fans Singular switch FRU Optional rack mount kits: fixed, slide, or mid-mount	1 hot-swappable integrated power supply/fan with optional redundant power supply/fan Optional rack mount kits: fixed or mid-mount
Height	1U	1U
Standard Bundled Software	Brocade Fabric OS, including Brocade advanced zoning, dynamic fabric provisioning, dynamic path selection, FSPF, NPIV	Brocade FOS 7.0 (includes Web Tools and Advanced Zoning) Enhanced Group Management Access Gateway (all ports must be activated)
Software Licenses Upgrades	Enterprise Bundle (SW-BSW-SMEDEB4-01C): Brocade Fabric Vision technology (Clear Link diagnostics, Monitoring and Alerting Policy Suite (MAPS), Flow Vision, bottleneck detection, enhanced BB credit recovery, FEC, and critical diagnostic and monitoring capabilities), Extended Fabric and Trunking.	Enterprise Bundle (SW-BSW-SMEDEB-01-C): Brocade Fabric Vision technology (Clear Link diagnostics, Monitoring and Alerting Policy Suite (MAPS), Flow Vision, bottleneck detection, enhanced BB credit recovery, FEC, and critical diagnostic and monitoring capabilities), and Advanced Performance Monitoring, Extended Fabric, Fabric Watch and Trunking. ISL Trunking (SW-BSW2E-TRUNK-C, WS-BSW2E-TRUNKQS)
Fabric OS Supported	Fabric OS v8.1.0a or higher	Fabric OS v7.1 or higher
Management Software Solutions	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)

Extension Switches

Model	Brocade Gen 6 7810 switch	Brocade Gen 5 7840 Switch
Customer Profile	• Organizations requiring remote data replication for BC/DR • Organization requiring backup	• Organizations requiring remote data replication for BC/DR • Organization requiring backup from remote sites to centralized tape/VTL
Part Numbers	X-7810-04X6 (7810,4x6P,16GB SWL SFP) X-7810-12X6 (7810,12x6P,16GB SWL SFP) X-7810-UG (UPGRADE, 8 PORT-ON-DEMAND w/8X16G SWL SFPS)	X-7840-24-16G-B-R-M (42 port activatied, 24x16 SWL, 0 1/10/40 SFP w/Enterprise Bundle) Qualified for NetApp MetroCluster
Ports	12 x 32/16/8 Gigabit FC SFP+ 6 x GE/ 10GE SFP+ 2 x GE copper RJ-45	24 x 16 Gbps 16 x 1/10 Gbe 2 x 40 Gbe
Speed & Protocol	8/ 16/32 Gpbs 1/10 GE	2, 4, 8, 16 Gpbs FC ports 1/10 and 40 Gpbs Ethernet
Expandability	Increasing WAN traffic rate limit to 2.5 Gpbs Enable 10GE on Ethernet ports Enable 8 additional FC ports	Increasing WAN traffic rate limit to 10 Gbps Increase WAN traffic rate limit above 10 Gbps to system limit
FICON/CUP Supported	No	Yes
Hardware Features	2 hot-swappable, redundant integrated power supply/fan FRUs SAN and storage bandwidth up to 384 Gbps Advanced hardware compression and encryption Optional rack mount kits: 4-post or 2-post	2 Hot-Swappable Power Supplies 3 Hot-Swappable Redundant Fans Rack-Mount Kit Optional SAN and storage bandwidth FCIP bandwidth up to 40 Gbps Advanced hardware compression Optional rack mount kits: fixed, or mid-mount
Height	1U	2U
Standard Bundled Software	Advanced Compression Ipsec ARL	Enterprise Bundle (EXF, TRK and FV) and Advanced Extension (AEX). Also includes Adaptive Rate Limiting, FCIP Trunking, FCIP Quality of Service (QoS), Compression, FCIP Fast Write, Open Systems Tape Pipelining, Storage-Optimized TCP, IPSEC encryption
Software Licenses Upgrades	Upgrade License (X-7810-UG): Enables 10GE on Ethernet ports, 8 FC ports, Increase WAN Capability to 2.5Gbps, Extended Fabric, Trunking, Fabric Vision, Integrated Routing	WAN Rate Upgrade 1 (SW-BSW-LEXTSUG1-01) WAN Rate Upgrade 2 (SW-BSW-LEXTSUG2-01) FICON CUP (216-00074) Integrated Routing (216-00072)
Fabric OS Supported	Fabric OS v8.2.1 or higher	Fabric OS v7.4.0 or higher
Management Software Solutions	Brocade SANnav Management Portal Brocade SANnav Global View	BNA SAN Pro Plus (SW-BSW-NTWADV-SAN-PLU) BNA SAN Enterprise (SW-BSW-NTWADV-SAN-ENT)

Extension Switches

Port Speed	NetApp Part #	Description	Compatible With									
			X6	DCX8510	G630	G620	G610	6520	6510	6505	7810	7840
32Gb Fibre Channel												
	X-000212	32Gb SFP+ SWL, (1-pack)	✓		✓	✓	✓				✓	
	X-000213	32Gb SFP+ SWL, (8-pack)	✓		✓	✓	✓				✓	
	X-000238	32Gb SFP+ LWL, (1-pack)	✓		✓	✓	✓				✓	
	X-000239	32Gb SFP+ LWL, (8-pack)	✓		✓	✓	✓				✓	
	X-000275	4x32Gb QSFP SWL Breakout	✓		✓	✓						
	X-000285	4x32Gb QSFP SWL 2km	✓		✓	✓						
16Gb Fibre Channel												
	X-R000192-R6	16Gb SFP+ SWL, (1-pack)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	X-R000193-R6	16Gb SFP+ SWL, (8-pack)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	X-R000198-R6	16Gb SFP+ LWL 10km, (1-pack)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	X-000199	16Gb SFP+ LWL 10km, (8-pack)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	X-00258-R6	16Gb SFP+ ELWL 25km, (1-pack)	✓	✓	✓	✓	✓				✓	✓
	X90-QSFP-4X16GB-R6	4x16Gb QSFP SWL	✓	✓	✓	✓						
	X-000255	4x16Gb QSFP SWL 2km	✓	✓								
8Gb Fibre Channel												
	X-R000163-R6	8Gb SFP+ SWL, (1-pack)		✓				✓	✓	✓		
	X-R000164-R6	8Gb SFP+ SWL, (8-pack)		✓				✓	✓	✓		
	X-1869-R6	8Gb SFP+ LWL 10km, (1-pack)		✓				✓	✓	✓		
	X-000174-R6	8Gb SFP+ ELWL 25km, (1-pack)		✓				✓	✓	✓		
Ethernet Optics												
	X-40G-QSFP-SR4-R6	40GBase-SR4 QSFP+ with 4x10GBASE-SR breakout capable	✓									✓
	X-000180-R6	10Gb SR 10G, (1-pack)	✓	✓	✓	✓		✓	✓	✓	✓	✓
	X-00182-R6	10Gb LR 10G, (1-pack)	✓	✓	✓	✓		✓	✓	✓	✓	✓
	X-10G-SFPP-USR	10GE USR (1-pack)	✓								✓	✓
1GbE												
	X-E1MG-LX-OM	1GE (1-pack)	✓								✓	✓
	X-E1MG-SX-OM	1GE SWL (1-pack)	✓								✓	✓
	X-B-R000190	1GE RJ45 CAT5 (1-pack)	✓								✓	✓

For more information

For more information, visit broadcom.com/brocade/netapp or contact the NetApp OEM Team at Brocade. General Sales/Pre-Sales Technical Support: NetApp-Sales.pdl@Broadcom.com

CORPORATE

Mark Meyer
Global Account Director
mark.meyer@broadcom.com
+1-303-588-8505

Jim Zucchero
Global Sales Executive Lead
jim.zucchero@broadcom.com
+1-408-529-5570

Naem Saafein
Director, Technical Development
naem.saafein@broadcom.com
+1-408-433-8159

Ismail Muhammed
Bus Dev Solutions Manager
ismail.muhammed@broadcom.com
+1-516-425-9963

Helen Lin
Systems Engineer
helen.lin@broadcom.com
+1-408-433-8145

Cristen King
Global Partner Account Manager
cristen.king@broadcom.com
+1-408-433-8143

Kyle Roblyer
Global Partner Marketing
kyle.roblyer@broadcom.com
+1-303-807-1667

AMERICAS

Jim Zucchero
Global Sales Executive Lead
jim.zucchero@broadcom.com
+1-408-529-5570

Ken Bagley
Global Sales Executive
ken.bagley@broadcom.com
+1-678-849-5948

EMEA SALES

Max Heinicke
Sales, EMEA
max.heinicke@broadcom.com
+49 151 150 49 123

Caro Pietzner
EMEA Marketing
caro.pietzner@broadcom.com
+49 15115049140

APJ SALES

Anuroop Gupta
Sales, India
anuroop.gupta@broadcom.com
+91 22 33040600

Elisa Dong
Sales, China
elisa.dong@broadcom.com
+86 10 85881905

Chee Lam Eng
Sales, SouthEast Asia
chee-lam.eng@broadcom.com
+65 6317 2427

Toru Ishii
Sales, Japan
toru.ishii@broadcom.com
+81 36 2039089

Haruo Kato
Systems Engineer, Japan
haruo.kato@broadcom.com
+81 36 2039038

Kelvin Khaw
Sales, SE Asia
kelvin.khaw@broadcom.com
+6012 3817597

NETAPP CONTACT

Srikara Subramanyan
Brocade SAN Product Manager
srikara.subramanyan@netapp.com
+1-408-822-1348

Steve Botkin
Global Principal Architect
AN / Flash
sbotkin@NetApp.com
+1-636-224-4423

Teresa Begaud
Director, EMEA Alliances
teresa.begaud@netapp.com
+33 6 32 07 52 52

For more product information: **broadcom.com/brocade**