

MAN/WAN Solutions for BC/DR

Overview of Ciena's EMC Select Offering

CN 4200 CWDM/DWDM SOLUTION Ciena's CN 4200™ FlexSelect™ Advanced Services Platform is a Coarse/Dense Wavelength Division Multiplexing (CWDM/DWDM) product that has been qualified by EMC for extended distance connectivity, supporting Symmetrix and CLARiiON Storage Systems using Symmetrix Remote Data Facility (SRDF) Software over Fibre Channel (FC), and ESCON®, MirrorView Remote Mirroring Software over FC connections, and both SAN Copy Software and Block I/O over FC. The CN 4200 is a multiservice provisioning, aggregation, and optical transport solution that can converge virtually any service from 10 Mb/s Ethernet to 10G Ethernet, ESCON, 1G/2G/4G/10G FC, FICON™, SONET/SDH, and video with guaranteed performance at extended distances.

The CN 4200 is a next generation WDM platform with the following improvements over legacy solutions:

Up to 60% Total Cost of Ownership savings:

- » Efficient aggregation of multiple services and protocols onto a single WDM wavelength
- » Low sparing cost: Tunable lasers across all of the wavelengths
- » Flexibility of ports to be either a service port or a network port
- » Aggregate multiple EMC services (SRDF over FC, ESCON, GbE, MirrorView, SANCopy) and non-EMC services (LAN, VoIP, FICON) over a single wavelength network

Infrastructure Flexibility and Investment Protection:

- » FlexiPort technology—enables any port to be remotely provisioned to support various protocols
- » In-service scalability from CWDM to DWDM

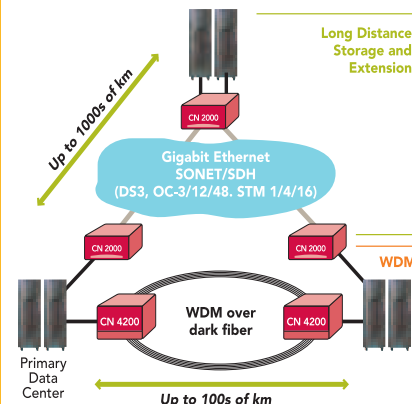
Detailed Performance Monitoring and Fault Isolation:

- » Unmatched historical and real-time performance monitoring of the service and network
- » Auto discovery of networking equipment, point-and-click provisioning

CN 2000 STORAGE EXTENSION SOLUTION Ciena's CN 2000 networking aggregation and virtualization device supports ESCON, FICON, FC, and GbE facing the data center and T3/DS3, OC-3/12/48 and STM-1/4/16 facing the network. The CN 2000 (formerly Akara's OUSP) is a next generation storage-networking platform with the following improvements over traditional extender technologies:

Lower recurring WAN bandwidth costs by up to 70%:

- » Hardware data compression per port of any protocol (i.e. typically 30% higher compression)
- » Efficient mapping into the MAN/WAN (i.e. vs overhead in Storage over ATM/IP)
- » Aggregate any EMC solutions (SRDF over FC, ESCON, GbE, Mirrorview, SANCopy) and non-EMC solutions (LAN, VoIP, FICON) over a single WAN network



CIENA/EMC CUSTOMERS

AOL, ING, Wal-Mart, MGM Grand,
DaimlerChrysler, Bear Stearns,
Merck, RBC Financial,
Oppenheimer Funds, Nike,
MOEN, ABN-Amro, Bombardier

WHAT EMC CUSTOMERS ARE SAYING

"Best Partner I have worked with so far in this account"

Rick Marcum
Wal-Mart Global Account Manager

"They do what they say they will do—how refreshing"

John Van Brakel
Carnival Cruise Lines Account Manager

"Your solutions had such a strong impact at CheckFree that you made believers out of all of us"

Peter Rudnick
CheckFree Atlanta District Manager

CN 2000 improvements over traditional extender technologies, continued

Low Cost Capital:

- » ESCON, FICON, Fibre Channel, and GbE transport over DS3, OC-3/12/48, STM-1/4/16
- » Software tunable client ports (i.e. any port can be any protocol)
- » No additional software charges (i.e. vs. competitors new SW and HW for each protocol)

Higher Performance:

- » Low Latency (5usec per box vs. 200+ usec for competitive products reducing test times)
- » Reduced complexity (Interacts with only lower layers of the protocol)
- » Unmatched historical and real-time performance monitoring of service and WAN network

WHY EMC CUSTOMERS CARE

- » Ciena is EMC qualified for Synchronous and Asynchronous SRDF, MirrorView, Connectrix, Open Replicator, SAN Copy and CLARiiON Disk
- » CN 4200 offers the latest in optical networking technology resulting in lower costs and better performance
- » CN 2000 provides for up to 70% lower MAN/WAN costs
- » Return on Investment (<18 months)

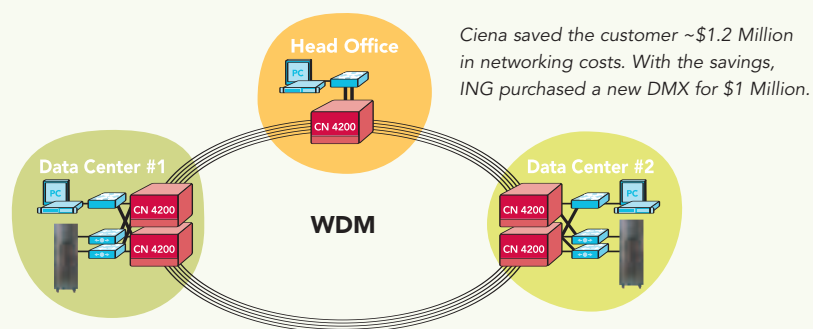
WHY EMC SALES CARE

- » Ciena is in the EMC Select resale program: 100% credit towards quota
- » Ciena does NOT sell any competing solutions to EMC and Ciena always sells through partners
- » Reducing WAN costs makes SRDF and MirrorView solutions more affordable
- » Large revenue opportunities (>\$1M)
- » Large Gross Margin deals (>25% GPM)

SAMPLE BUSINESS CASE (ING)

Challenge: New project to connect data centers and head office for Disk Mirroring and LAN traffic. Leased service from a Carrier = \$1,800,000 for 3 years

Solution: EMC offered an alternative using Ciena WDM and dark fiber. Cost of CN 4200 and Services and Dark Fiber = \$600,000 for 3 years



QUALIFYING QUESTIONS

1. What is the WAN network service?
 - a. WDM (Do you have access to dark fiber?)
 - b. SONET/SDH (DS3, OC-3, OC-12, OC-48, STM-1, STM-4, STM-16)
 - c. Gigabit Ethernet
2. Do you want to reduce you WAN costs with enhanced data compression across all your services?
3. What applications will be connected across the network?
 - a. Disk Mirroring (SRDF-ESCON, FC, GbE), MirrorView (FC)
 - b. SAN Copy, CLARiiON Disk Library (FC, GbE)
 - c. Other apps (SAN ISLs, LAN, VoIP, Tape)
4. What are some of the specifics for the deployment? (i.e. throughput, number of locations, distance, latency)?
5. Have you had problems with performance and isolating failures for deployed Storage over IP solutions?
6. Have you deployed multiple isolated WAN networks to ensure that one application (i.e. Tape) never overruns another application (i.e. Production SRDF) on the same network?
7. If you could get twice the throughput on the same WAN service, what other BC/DR solutions could you deploy?
8. Are you currently paying too much for maintenance on your legacy channel/storage extension equipment?

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