

Success Story

CIENA's CN 2000 provides high performance, low cost SRDF® extension for Business Continuance

BUSINESS CHALLENGE

Florida Power & Light (FPL) is one of the largest and fastest growing electric utilities in the United States. FPL delivers power safely and reliably from 33 generating units through more than 500 substations, and over more than 69,000 miles of transmission and distribution lines.

FPL's Energy Marketing & Trading and Energy Power Marketing Groups operate energy trading and asset optimization 24/7. These operations demand the highest availability systems possible, including a high performance storage extension solution.

FPL's storage partner is EMC and its Symmetrix® Network Storage Systems contain several large databases, which are critical to FPL's business operations. FPL therefore required an EMC qualified solution that could support Symmetrix Remote Data Facility (SRDF) Data Mirroring Software between its two data centers. FPL determined that a SONET OC-3 service was the lowest cost bandwidth available that could meet SRDF's stringent throughput and latency requirements. The company then started its search for a partner that could provide a solution to meet its storage extension requirements.



THE SOLUTION

CIENA's CN 2000™ Storage Extension Solution extends up to 16 Fibre Channel (FC), Gigabit Ethernet (GbE), ESCON®, and FICON™ applications across any SONET/SDH, WDM, or Dark Fiber network through DS3, OC-3/12/48, or STM-1/4/16 interfaces. The CN 2000's dedicated hardware data compression on each client port, direct mapping of storage protocols into SONET/SDH, and low latency operation ensure maximum performance of advanced storage applications. FPL concluded the CN 2000 was the optimal solution for its storage extension requirements. FPL's decision was based on the low cost of the

CN 2000, its ability to optimize bandwidth, provide high application performance and visibility into the network, and scale as storage demands increase.

Today, FPL's storage extension network consists of EMC Symmetrix Network Storage Systems directly connected to the CN 2000s. The CN 2000s are directly connected to an OC-3 service without requiring intermediate IP routers or ATM switches. This reduces the cost, complexity, and latency of the entire network solution. CIENA's ON-Center™ CN 2000 Manager™ gives FPL full control and visibility of its storage traffic, as it traverses the

CIENA Case Study

Wide Area Network (WAN), and allows them to monitor the WAN to ensure rapid problem isolation and resolution.

The CN 2000s were easily deployed in FPL's network. And because they do not use FCIP or ATM to encapsulate traffic, there was no need to provision or test IP addresses, virtual local area network tags, virtual private networks, or ATM traffic parameters, or perform IP traffic engineering to ensure adequate performance. With the CN 2000, the SONET OC-3 service delivers perfect quality of service with the lowest possible latency.

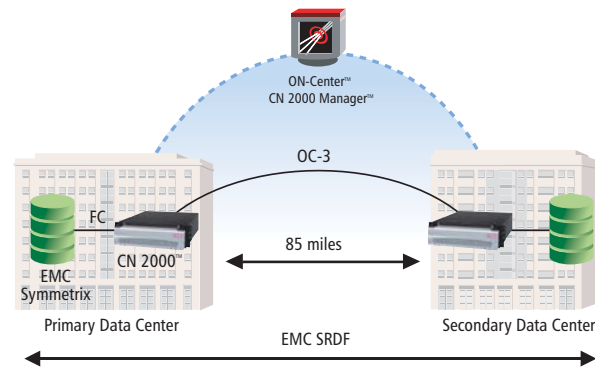
"CIENA has provided us with a robust solution that can meet our needs today and into the future. We are really impressed in the ease of deployment, the small footprint and the powerful management system that allows us to monitor the network closely."

Karl Rautenstrauch
Server and Storage Administrator
FPLE/EMT/PMI
Florida Power & Light

As FPL's connectivity requirements change, the CN 2000 will be able to scale with them. The WAN interface can be upgraded from OC-3 to OC-12, or even OC-48, and the number of client ports on the CN 2000 can be increased up to 16 with the protocol of each port independently configurable.

This new network design provides many advantages to FPL:

- **Lowest Cost:** The CN 2000 is up to 80% less expensive than alternative solutions, like channel extenders and FCIP, addressing their budget requirements.



- **High Performance:** The low latency and bandwidth efficiency of the CN 2000 enables optimum SRDF performance.
- **Scalability:** FPL's solution can grow seamlessly with its storage demands because the CN 2000 can scale up to 16 ports, and from an OC-3 to OC-12, or OC-48.
- **Flexibility:** The protocol supported on each port is software configurable, allowing FPL to share their WAN circuit between multiple applications, like disk mirroring, tape backup, and LAN extension.
- **Increased Visibility:** The CN 2000 Manager provides FPL high visibility of the throughput, latency, occupancy, and health of its applications. The CN 2000 Manager continually monitors the data center and WAN, automatically notifying FPL of any network degradations or failures.
- **EMC Qualification:** The CN 2000 is fully qualified by EMC for distance extension of SRDF software, MirrorView, and Block I/O.

ABOUT FLORIDA POWER & LIGHT

FPL is among the largest and fastest growing electric utilities in the United States. As of December 2002, FPL had 9,612 employees serving nearly 8 million people, or about half the state of Florida. Power is delivered safely and reliably from 33 generating units, through more than 500 substations and over more than 69,000 miles of transmission and distribution lines. More information on FPL's services can be found at www.fpl.com.



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