



Delivering

Effective Element Management

for **RELIABLE** Networks

FLASHWAVE™

FUJITSU

THE POSSIBILITIES ARE INFINITE

complex and expensive

Time-Consuming

hardware access

SECURITY CONCERNS

SLOW DOWNLOAD

complex re-provisioning

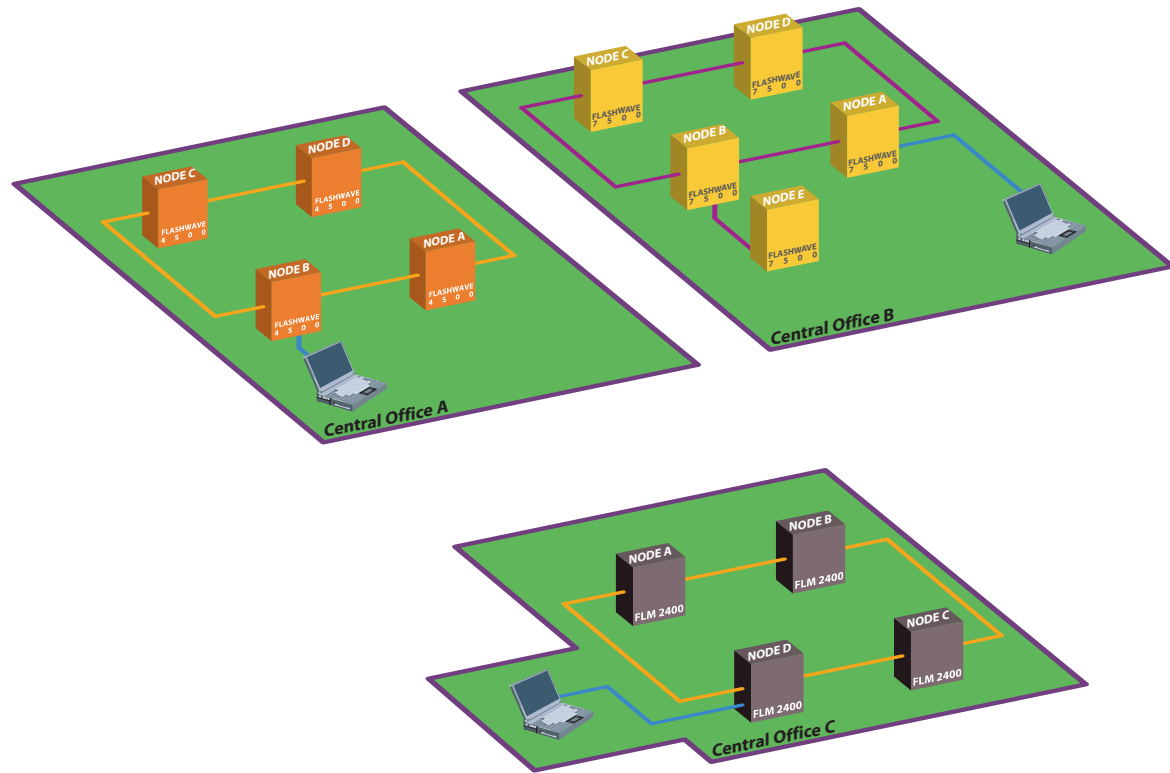
Reducing Costs
While Improving
NETWORK PERFORMANCE
is the **PROBLEM...**

inefficient operations

SENSITIVE TO BREACHES

MULTIPLE LOCATIONS

EX



“In some cases, the time and expense is so large that maintenance is delayed or skipped completely, which negatively affects the performance of your network.”

REAL COST of MANAGING Large, COMPLEX Networks

Successful network management is a vital part of ensuring you receive a profitable return on your equipment investment. You work hard to run a reliable network while also managing the rising costs of daily maintenance. Unfortunately, typical operations, such as service provisioning, can be costly, error-prone and even unresponsive to your customers' expectations. Other day-to-day tasks and maintenance are either performed individually and irregularly on each Network Element (NE) or neglected completely.

Although ongoing maintenance and upgrades are a necessary function of reliably managing your network, each process can eat away at time and money. Engineering new circuits can require searches of paper or electronic database records. Circuit implementation often involves coordinated efforts from craft personnel at multiple offices. Disconnecting a circuit necessitates meticulous record keeping to prevent stranded network capacity.

Additionally, while you know the importance of maintaining NEs with the latest software releases, you also know that the complexity and expense can sometimes erode the benefits. And when your network element hardware needs to be updated, you may spend more time searching for affected nodes and units than actually replacing them.

As if managing all these tasks weren't enough, your customers are ultimately concerned about your ability to respond quickly when problems or outages occur. When disaster strikes and a network element is disabled, you can spend hours or days finding accurate records and reprovisioning the element to ensure your customers' satisfaction. And while you are monitoring alarms, you also want to respond proactively before problems arise.

Moreover, one top priority is managing access to each NE to ensure your revenue-generating network is safe and secure. Unauthorized user accounts present dangerous and potentially devastating backdoor access points. As your network grows, you will spend more time creating, deleting, auditing and reconciling numerous accounts for each element—a task that can sometimes be nearly impossible.

From time to time, circuits may also experience erratic performance or intermittent failures. Retrieving and correlating performance data can be extremely challenging if using conventional methods and test equipment, especially across several rings or connections. Simple problems, such as a lack of a single time base, can slow the process dramatically.

In the end, you are faced with difficult choices in minimizing time and/or money to maintain your network. Each choice may risk the health of your network or erode your profits.

“Your customers are ultimately concerned about your ability to respond quickly when problems or outages occur.”



The BENEFITS of SIMPLIFIED Network Management

With the NETSMART® 1500 Element Management System (EMS), you can leverage our 20 years of network management experience to reduce provisioning and maintenance costs, while simultaneously improving network performance and reliability. Move from a discrete and distributed network maintenance model to a centralized network maintenance model—allowing you to perform maintenance and provisioning from one or a few locations instead of dozens or hundreds of locations.

Using the NETSMART 1500 EMS, your records will be accurate and synchronized with NEs, simplifying your circuit engineering process. Circuit provisioning can be performed with automated tools via a Graphical User Interface (GUI), enabling a technician in a Network Operations Center (NOC) to set up an entire circuit in just a few minutes. Circuits are managed as entities allowing operators to review circuit reports and troubleshoot alarms on an entire connection.

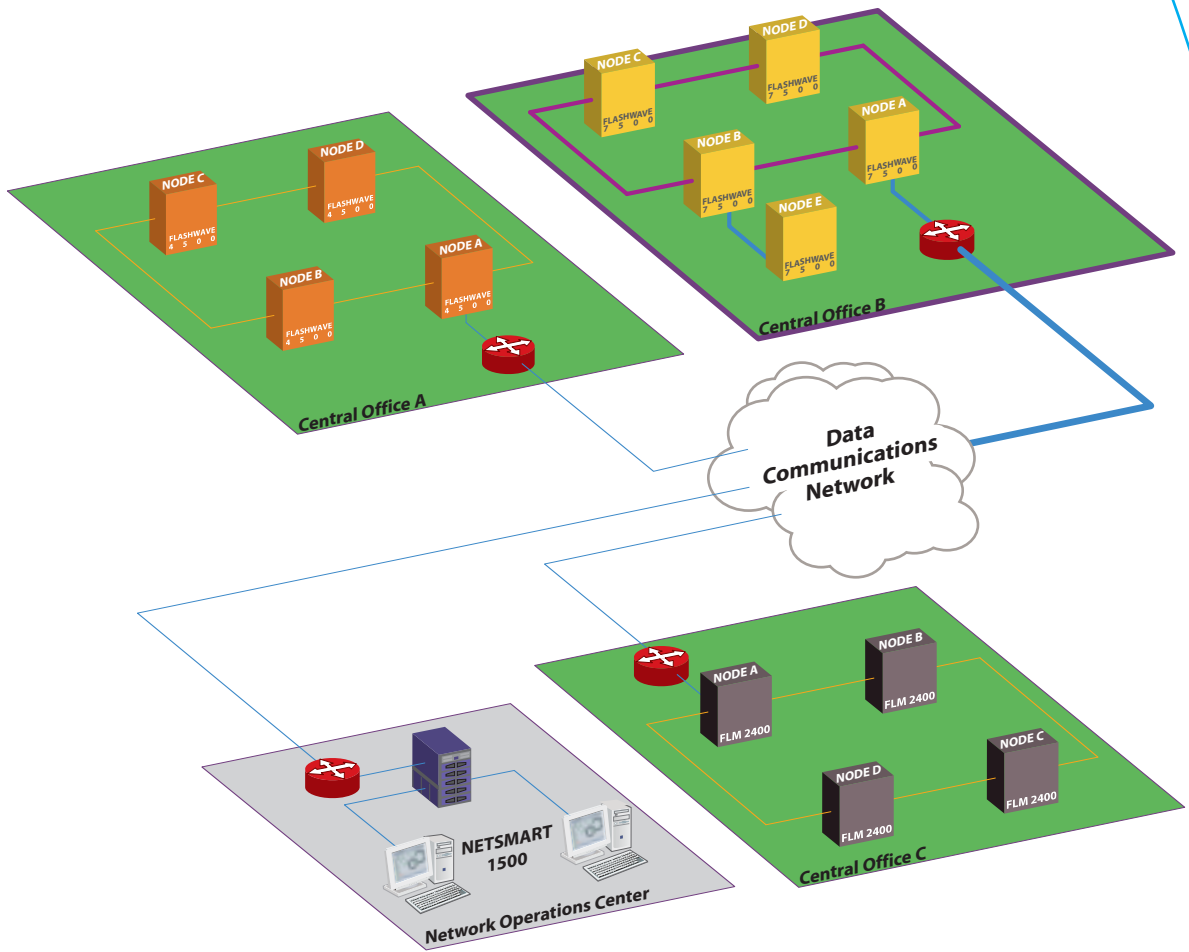
Downloads of new NE software occur rapidly from a centralized server using a parallel loading algorithm created for the NETSMART 1500 EMS called Remote Intelligent Parallel Loading (RIPL). Where before, a technician spent hours downloading software for a single NE, the same operation can now be performed on hundreds or thousands of elements simultaneously, without further user intervention. And when product changes need to be made, you can quickly and easily find affected hardware using sophisticated search tools in the NETSMART 1500 EMS.

The NETSMART 1500 EMS can also perform scheduled backups of your NE databases, providing a safety net where none may exist today. This backup information can be stored in the NETSMART 1500 server or stored securely off-site until needed. If a disaster does strike, a replacement NE can be reprovisioned reliably and accurately in minutes.

By using the NE User Security Manager, the NETSMART 1500 EMS can help you economically create standardized user accounts for each NE. The same process can discover unauthorized or expired accounts and allow you to update or delete these accounts.

Since the NETSMART 1500 software is in constant contact with all your elements, circuit and element performance data can be downloaded and stored for analysis—days, weeks or years after an event.

Fujitsu helps carriers solve their network reliability challenges with solutions that offer enhanced performance and reduced operational expenses. The NETSMART 1500 EMS can simplify and automate the day-to-day tasks required to speed services delivery to your customers.



NETSMART 1500 EMS software offers enhanced network reliability and reduced operations costs by automating day-to-day tasks, reducing operator errors, speeding delivery of revenue-generating services and simplifying network maintenance.



**Automating and Centralizing
NETWORK PROVISIONING
and Maintenance
is the SOLUTION**

Rely on an Industry Leader

With more than 300,000 NEs deployed in North America, Fujitsu sets the standard for performance, reliability and carrier-grade quality. Fujitsu equipment provides true carrier-class quality so even in the event of a fiber cut, your networks remain operational thanks to the built-in protection, redundancy and switching.

The widely deployed **FLASHWAVE® 4000** Multiservice Provisioning Platforms (MSPPs) target the converging telecommunications marketplace with transport of traditional Time Division Multiplexing (TDM) private line, Ethernet, Frame Relay, ATM, broadband video or any combination of these services over SONET. Full compatibility with the vast embedded SONET infrastructure deployed across North America ensures that new services can be introduced quickly with minimal impact on existing operating procedures and Operational Support Systems (OSSs).

The next-generation **FLASHWAVE 7000** Wavelength Division Multiplexing (WDM) platforms provide highly scalable transport of all Layer 2 or Layer 3 services across access, metro, regional, long haul and ultra long haul, high capacity networks. The systems support a wide variety of popular services, including disaster recovery, business continuity and transparent wavelength access, within large-scale carrier infrastructures and dedicated, private networks.

The **NETSMART 1500 EMS** software simplifies the management, provisioning and surveillance of Fujitsu optical transport products, including the FLASHWAVE 4000 MSPPs, the FLASHWAVE 7000 WDM platforms and the FLM family of SONET NEs. The software provides full control over Fujitsu NEs through simplified point-and-click provisioning from a centralized location. The NETSMART 1500 integrated EMS includes a comprehensive suite of network and element management tools for Ethernet, WDM, Wide Area Network (WAN), Storage Area Network (SAN), SONET, SDH and ATM services. When innovative and complex services are introduced, NETSMART 1500 EMS software continues to grow with the network—securing your existing investment.

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