FUJITSU

NETSMART®

NETWORK MANAGEMENT SOLUTIONS

UNIFY YOUR NETWORK

As new and legacy services coexist to support a widening variety of customers, network support presents more technical challenges. This complex, competitive environment needs a feature-rich software system that simplifies network management.

For managing your Fujitsu network, NETSMART® software is the answer. These powerful software systems deliver a targeted solution to get the best possible performance, keep costs under control and use resources efficiently. NETSMART management solutions simplify management, provisioning and surveillance of the Fujitsu FLASHWAVE® family of SONET/SDH, WDM and packet optical networking solutions, as well as legacy Fujitsu NEs.

Customizable Network Management Options

Network management needs vary depending on the type and size of your network. Fujitsu offers customizable solutions designed to suit your individual business situation:

► Fast turn up for Fujitsu equipment
► Remote software download and disaster recovery capabilities
► Common GUI-based look and feel across network elements
► Dynamic topology view showing NE connectivity and links

NETSMART 1500 Management System

This carrier-class management solution delivers simplified point-and-click control to enable network-wide provisioning from a centralized location.

NETSMART 500 Element Manager

This robust craft interface supports the Fujitsu FLASHWAVE product line and locally or remotely manages NEs.
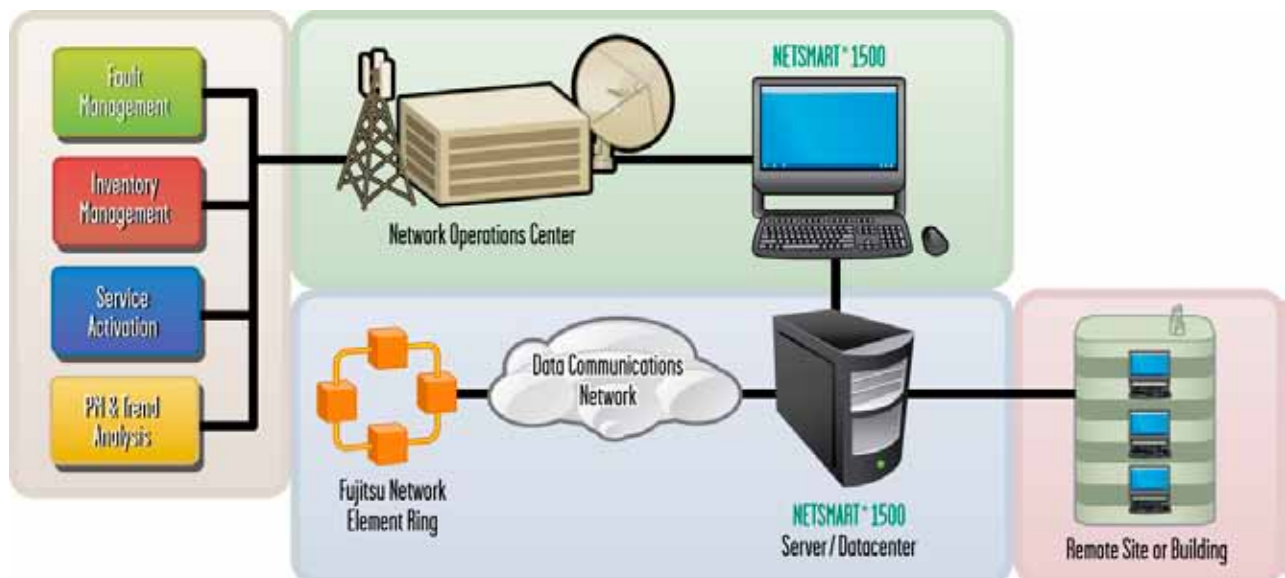
Operations Made Simple

The NETSMART 1500 management system is a powerful software system that supports and manages the Fujitsu FLASHWAVE product family and all current and legacy Fujitsu NEs. Its intuitive Graphical User Interface (GUI) makes provisioning, maintenance and troubleshooting a simple, efficient process. The system accommodates networks of all sizes, scaling to support hundreds of users and thousands of NEs—securing your existing investment and supporting future growth.

The NETSMART 1500 software integrates with your existing and future Operations Support System (OSS) architecture, supporting up to 8,000 NEs and 200 concurrent client sessions per system. The software protects network integrity by restricting user roles, manages upgrades of NE software remotely and performs disaster recovery of NE software and databases.

Key Operational Advantages

▶ *Centralized network management for:*
  ▶ Provisioning
  ▶ Maintenance
  ▶ Alarm monitoring
  ▶ Survivability
  ▶ Troubleshooting
▶ *End-to-end* Layer 1 and 2 service provisioning
▶ *Dynamic* network-wide topology view
▶ *Intelligent* auto-discovery of network elements and their physical links
▶ *Per-link or per-network* capacity and growth monitoring
▶ *Real time* network updates via software download
▶ *Remote* disaster recovery and restore capabilities
▶ *Fast* service turn-up with end-to-end circuit provisioning
▶ *Multiple* interface options for linking to higher level OSS
▶ *Redundant,* geographically diverse server configuration with automatic failover

Real Time Network Monitoring

The NETSMART 1500 software keeps you up-to-date on network conditions through real-time fault management. The software monitors your network, displaying alarms and conditions as they occur, while remote notification warns you of events during off hours.

The software also supports the capability to login and monitor alarms on other vendors' TL1-based equipment. Faults are tracked and logged in fault reports and forwarded through supported Northbound Interface (NBI) uplinks. The TL1 editor allows commands and batch files to be sent to generic NEs.

Dedicated Custom Access

Network partitioning subdivides a system into smaller sections with the ability to grant access to designated user groups. This capability provides custom views for individual user groups or end customers, enabling targeted access to specific parts of the network. This feature can also eliminate the cost of having a separate server administrator at each site.

Manage Network Inventory

Managing equipment inventory is quick and easy with a dynamic equipment-wide inventory reporting tool. The inventory reporting capabilities eliminate the need for manual and spreadsheet-based management by providing the most up-to-date information on your Fujitsu equipment. You get the information you need when you need it, so you can identify the hardware release and installed equipment information. You can create, customize, and filter inventory reports according to specific criteria you define.

With Product Change Notice (PCN) management, you can quickly identify every piece of equipment affected by a PCN and keep your Fujitsu network operating effectively. Alerts are posted when a PCN affects your network.

Control Operational and Capital Costs

The NETSMART 1500 system also reduces costs by performing remote NE software upgrades to multiple NEs in parallel, without service interruption. This ability eliminates the need to dispatch technicians to perform upgrades locally at individual NEs.

Capacity management features of the NETSMART 1500 software enable you to track and optimize bandwidth utilization. Use these features to maximize network resources by tracking port utilization and locating unused cards and ports.

Cut Time to Service

Automated connection management minimizes design and circuit activation time within even the most complex networks. This feature finds routes automatically, or you can actively design circuits with powerful include/exclude routing and time slot assignment options. You can also provision services such as Gigabit Ethernet and 10/100Base-T Ethernet, using High- and Low-Order Virtual Concatenation (VCAT) as easily as you might provision a T1 or T3.

Managing complex Connection-Oriented Ethernet (COE) services is dramatically simplified with the end-to-end flow provisioning features of the NETSMART 1500 management system. The software manages tunnel and VLAN services (single and dual-tagged) delivered on the FLASHWAVE 9500, FLASHWAVE CDS and FLASHWAVE 4100 platforms, avoiding the need for custom in-house software development. The data service management interface provides the tools to provision Ethernet tunnels, protection domains and service OAM (SOAM) Y.1731 monitoring.

VERSATILE INTEGRATION

Customized Systems Increase Efficiency

The NETSMART 1500 management system has the versatility needed to integrate precisely with your OSS via a variety of standards-based NBI modules:

▶ SNMP

▶ CORBA

▶ XML

▶ PM FTP

▶ TL1 Uplink

NBI modules can be used out of the box, built from scratch, or customized to meet individual needs. By optimizing data exchange between your management software and your OSS, you realize important business and operational benefits:

▶ *Improve overall efficiency* and responsiveness

▶ *Activate new services faster* with end-to-end provisioning

▶ *Reduce fault resolution time* by sharing alarm data with helpdesk systems

▶ *Use resources* more thoroughly with synchronized inventory data

▶ *Analyze traffic* data to predict trouble spots

NETSMART 1500

- Automated Inventory System Updates
- Centralized Alarm Reporting
- Automated Service Provisioning
- Service-Level Agreement Support
- Performance Monitoring

SPECIFICATIONS

Server Specifications for NETSMART 1500 Management System

Fujitsu offers several tested server platforms for small, medium and large networks. Contact your sales representative for specific hardware offerings.

Server Requirements for Oracle Solaris Servers

Requirements	Maximum Number of NEs						
	25	100	500	1000	2000	5000	8000
NETSMART 1500 Required Data Disk Size (Gb)	9	10	32	55	100	248	420
Recommended Server Memory (GB)	16	16	16	16	16	24	32
CPU Units Required	2	2	2	2	4	4	8
CPU Cores Required[b]	4	4	4	6	8	NA	NA
Backup Size (GB)		2	6	10	19	33	85

a This requirement is expected to increase to 8 GB in future software versions.
b Applies to multicore servers only.

Client Workstation Specifications for NETSMART 1500 Management System

Client Type	Sun Solaris	Microsoft Windows	
		Windows Vista	Windows XP Professional
Status	Current	New	Current
CPU	1 GHz Sparc or faster	2 GHz or more	1 GHz or more
RAM[a]	1 GB or more	2 GB or more	1 GB or more
Data Storage[b]	40 GB (200 MB free)	400 MB free	400 MB free
Video	XVR-100 or XVR-500 or PGX24	Video RAM (recommended): 256 MB, 32-bit.	Video RAM: Min: 32 MB, 24-bit Rec: 32 MB, 32-bit. Only Microsoft-Certified Drivers
Monitor	21" Color	21" Color 1280 x 1024	21" Color 1280 x 1024 (minimum)
Operating System	Solaris 10	Windows Vista Business SP1	Windows XP Professional SP2
Browser	Mozilla Firefox 3.0 or later; Adobe Flash Player 10 or later	Mozilla Firefox 3.0 or later; Adobe Flash Player 10 or later; Microsoft Internet Explorer 6.0 or later	Mozilla Firefox 3.0 or later; Adobe Flash Player 10 or later; Microsoft Internet Explorer 6.0 or later

a - Memory requirements are based on NETSMART 1500 single-client requirements. Multiple clients and/or multiple application use will increase the requirements.

b - Storage requirements are for one service pack or one release. This space requirement increases when multiple service packs are installed.

Software Licensing Options
Some features of the NETSMART 1500 system are licensed separately. To discuss the right network management and software maintenance options for your network, including support packages and custom integration, contact your Fujitsu sales representative.
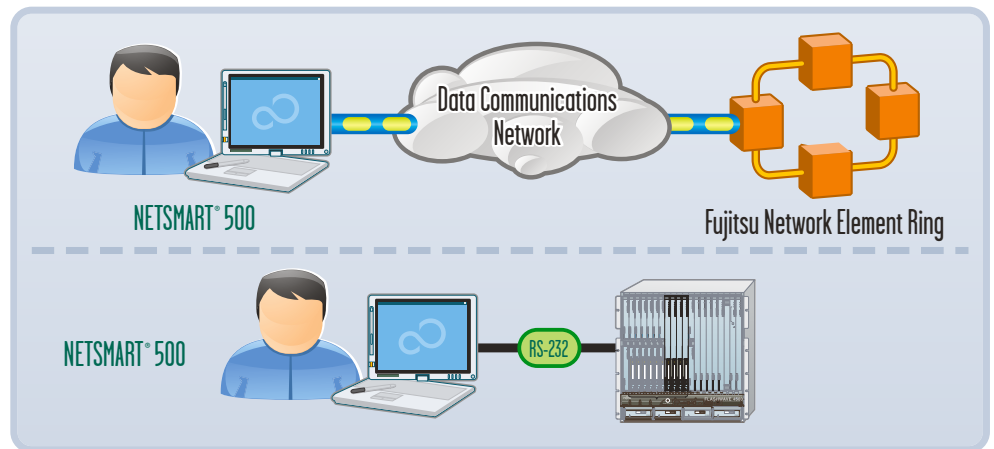
The NETSMART 500 element manager locally or remotely manages all FLASHWAVE NEs. Its GUI makes provisioning, maintenance and troubleshooting a simple and efficient process. The NETSMART 500 system enables you to quickly turn up Ethernet, WDM, SDH and SONET services.

The NETSMART 500 software supports graphical shelf views, equipment and facility provisioning, alarm surveillance, software download, remote memory backup/restore capabilities and cross-connect provisioning.

No TL-1 Knowledge Needed

With the NETSMART 500 element manager, support personnel can provision, maintain and upgrade Fujitsu networks without the need for TL1 knowledge. It is supported on a Windows PC, connecting to NEs through a data communications network (DCN), or directly to individual NEs via an RJ45 or RS-232 serial cable.

NETSMART® 500 — Data Communications Network — Fujitsu Network Element Ring
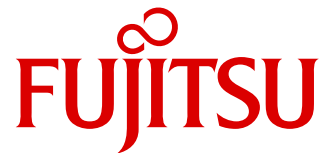
NETSMART® 500 — RS-232

Ease-of-Use Boosts Productivity

The NETSMART 500 element manager is easy to learn and use. The software uses common operation dialogs, making provisioning tasks easy and consistent among different products and types of services. Services, alarm states, work and protection cards are illustrated with colors and icons. This consistency translates to lower operational costs and a minimal learning curve when introducing new technologies or NEs. By using this software at a centralized location, you can remotely troubleshoot issues and greatly reduce truck rolls.

NETSMART 500 Specifications

▶ Microsoft Windows NT, 2000, XP Professional or Vista Business
▶ 1.2 GHz Pentium
▶ 512 MB RAM
▶ 400 MB available hard drive space
▶ Web browser:
  ▶ Microsoft Internet Explorer, version 6 (or later)
  ▶ Mozilla Firefox version 1.0 (or later)
▶ Super VGA monitor: 1024 x 768 (recommended)
▶ CD-ROM drive
▶ LAN card
▶ Serial craft interface port (optional)

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10.0/03.10
500: R3.12   1500: R7.0