Data Sheet
FLASHWAVE® 9500 DCS

Network Modernization for Outdated SONET DCS Platforms

FLASHWAVE® 9500 DCS System at a Glance

- High density DCS/M13 replacement with 40G VT switch fabric
- Up to 384 Transmux/M13 units per card
- 1+1 Protection time
- Up to 47% floor space reduction compared to outdated DCS equipment
- NETSMART 1500 v10 point and click management

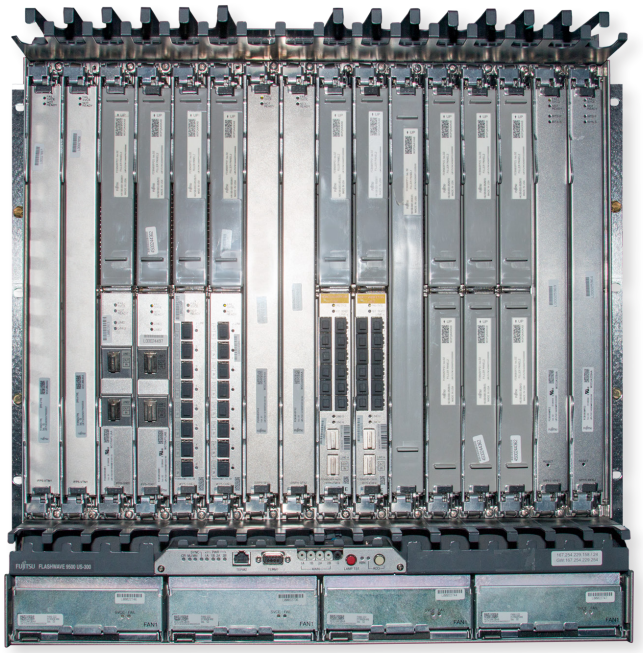
While DS1 and DS3 service delivery has been eclipsed by Carrier Ethernet services, service providers still utilize many revenue-bearing SONET based services. This creates an operations challenge for the service provider in that many of the original digital cross-connect system (DCS) platforms have become outdated and no longer have service support, while the DS1 and DS3 services that go through these platforms are still revenue-bearing. The FLASHWAVE 9500 DCS from Fujitsu solves this challenge elegantly and efficiently.

Modular and Flexible

The FLASHWAVE 9500 DCS offers a high density DCS/M13 replacement with 40G of VT1.5 switch fabric. This modular architecture initially provides 48 Transmux/M13 ports per card, scalable to 384 Transmux/M13 ports with individually licensed features (ILFs) allowing pay-as-you-grow architecture to cost-effectively address small, medium and large site capacities.

The platform works as a solution with the FLASHWAVE 4100 ES to offer a high density of DS1 and DS3 connections in a footprint that is up to 47% smaller than outdated and discontinued DCS platforms.

Fully redundant, the platform offers 1+1 protection resulting in a 99.999% service availability. All plug-in cards, fans and chassis power distribution are designed for resilient operation with no single point of failure.



Two Chassis Options

Two chassis options are available: the HDS for 23-inch racks and the SDS for 19-inch racks, where each model can be expanded with an additional chassis for a total of two sharing the same node ID. This offers a highly modular and scalable system for DCS operation.

GUI Management

Provisioning, alarming and performance monitoring is easily implemented using the NETSMART 1500 GUI based point–and-click management system.

Technical Specifications

System Capacity

- 960 Gbps non-blocking SONET grooming
- 40 Gbps non-blocking VT1.5 grooming

Universal interface slots

- SDS shelf: 16
- HDS shelf: 24

Interfaces

10G (XFP)	10G (neg chirp) full band tunable
Gigabit Ethernet (SFP)	1000Base-T, 1000Base-SX, 1000Base-LX, 1000Base-ZX, CWDM
Fast Ethernet (SFP)	10Base-T, 100BaseTX, 100Base-FX, 100Base-LX
OC-192 (XFP)	SR-1, IR-2 , LR-2, CWDM, DWDM
OC-48 (SFP)	SR-1, IR-1, LR-1, LR-2, CWDM, DWDM
OC-12 (SFP)	SR-1, IR-1, LR-1, LR-2
OC-3 (SFP)	SR-1, IR-1, LR-1, LR-2
OTU2 (XFP)	SR-1, IR-2, LR-2, CWDM, DWDM

Fabric Support

Sub-wavelength (electronic) universal switch fabric:
- SDS shelf 640 Gbps SONET
- HDS shelf 960 Gbps SONET

SDS/HDS 40 Gbps non-blocking VT grooming with full TSI

Number of Service Interfaces

Interface	Ports/Card	SDS Ports/Shelf	HDS Ports/Shelf
OC-(CXF4) 192/OTU2	2	24	40
OC-192 (S9B1)	2	24	40
OC-3/OC-12/OC-48 (CMD1)	8	96	160
Fast Ethernet; Gigabit Ethernet (CMD1)	8	96	160
OC-3/OC-12/OC-48 (CXF4)	12	144	240
Fast Ethernet; Gigabit Ethernet (CXF4)	12	144	240

FLASHWAVE 9500 Packet ONP Family Shelf Options

	HDS	SDS Rear Access	SDS Front Access
Common system software	√	√	√
Common MPU hardware	√	√	√
Common interface modules	√	√	√
19" rack mountable	√	√	√
23" rack mountable	√	√	√
Number of interface slots	20	12	12

Synchronization

- DS1 Building Integrated Timing Supply (BITS) primary and secondary clock input/output
- Line timing
- Synchronization Status Messaging (SSM)
- Internal Stratum 3 timing source

Network/Client Protection Architectures

- SONET protection architectures (1+1, UPSR)

Equipment Protection

- Universal switch fabric 1:1
- VT1.5 switch fabric/Transmux 1:1
- Management complex 1:1
- Interface card 1:1

Operations

- TL-1
- SNMP
- NETSMART 500 v6.3 Element Manager
- NETSMART 1500 v10 Management System
- TCP/IP to OSI operations gateway
- Software download and remote memory backup/restore (in-service upgrade not supported in R11.1)
- IPv4 and IPv6

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