



Nokia D500 From ATM to IP — Seamlessly

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The Nokia D500 Multiservice Access Platform provides the industry's most powerful balance of performance, density, scalability, flexibility, remoteability, and reliability. The high-density, high-capacity D500 supports a wide range of services from medium bandwidth such as Fast Internet access to emerging higher bandwidth multimedia/entertainment such as video on demand, digital broadcast TV, and interactive TV. The D500 is designed to provide operators with the ability to evolve their networks from ATM to IP in a seamless manner, as IP becomes the prevalent protocol in the core, edge, and access networks.

- **Multiservice platform**
- **Powerful and scalable**
- **Versatile**
- **Future proof**
- **Modular remote solutions**
- **Reliable**
- **Ease of implementation**

D500 System Features

Multiservice Platform – Connecting the Home and the Business

The flexible D500 architecture readily accommodates mixed DSL interfaces into any slot. The D500 offers ADSL, SHDSL, and VDSL as well as other standard Broadband interfaces such as Gigabit Ethernet and ATM UNI interfaces to support a wide range of services from Fast Internet access to higher bandwidth applications such as interactive gaming at home and video conferencing at work.

Powerful and Scalable for Various Network Requirements

The D500 offers up to 80 Gbps backplane capacity per D500 chassis with up to 720 lines in the 19-inch ETSI compliant mechanics and up to 912 lines in the 23-inch ANSI mechanics. The D500 is highly scalable from hundreds of lines to thousands of lines in single or multiple sites through node subtending thus offering scalable solutions to complement scalable service offerings.

Network Convergence through a Seamless Transition from ATM to IP

The D500 supports the convergence of services and traffic from multiple networks to an "all" IP network with scalable interfaces ranging from OC-3/STM-1 and OC-12/STM-4 to 100bTX and Gigabit Ethernet. This scalable capacity supports the need to provide a range of service requirements from high-speed Internet access to streaming video and voice. The Nokia D500 easily deploys into an "all" ATM network, an "all" IP network, or a hybrid of ATM and IP where operators carry different service types over different networks. The D500 also supports the transition and convergence of IPv4 and IPv6 networks.

Future-Proof Technology Through IP Evolution

Through IP Multicasting, the D500 provides services such as pay-per-view, broadcast TV, and streaming audio, thereby helping to reduce the transmission network costs for multiple video streams per user in the metro and access networks.



Quante
Netzwerke GmbH





Modular Remote Solutions Allow Wider Distribution of Access for Richer Media

The D500 is available in different mechanical forms to support operator deployments in areas such as central offices, building basements, street side cabinets, and controlled environmental vaults. The system is designed to support network architectures that are either common today or emerging as operators rehabilitate or upgrade existing access networks. The variety of network architectures supported on the D500

provides the operator the opportunity to match capital expenditure with growth in subscribers allowing a "Build as You Grow" approach. The D500 supports fiber-to-the-exchange/CO (FTTEx), fiber-to-the-building (FTTb), fiber-to-the-node (FTTn) and fiber-to-the-curb (FTTc) access network architectures. The D500 supports the operator's access network architecture evolution from CO-based to distributed deployments as necessary to allow the delivery of future multimedia/entertainment services over access technologies such as VDSL.

Reliability Enables Operators to be Confident in the Service Their Networks Provide

With the D500, you can aim for maximum system uptime and the security of 1+1 protection switching providing both link and equipment redundancy on the trunk interfaces. Processing functions are also redundant and therefore protected helping to reach maximum uptime in the operator's network.

Ease of Implementation

The D500 integrates seamlessly into the operators' access network through the use of standards-based optical and electrical trunk, tributary, and line interfaces able to interoperate with a wide range of standard-compatible Customer Premises Equipment (CPE). The system also integrates with the operators' existing OSS systems through the NetAct for Broadband Element Manager Northbound CORBA interface. The D500 can help greatly reduce the time and expense of deploying DSL in a network, thus maximizing revenues through early turn-up of service and reducing operational expenses in integrating the system into existing operator OSS systems and operational processes.

NetAct for Broadband

NetAct for Broadband 3.0 offers users a next-generation platform for the management of the D500. NetAct for Broadband aggregates Fault, Topology, Inventory, and Configuration Management functions. The system stores Nokia network elements attribute data in one common Oracle database offering industry-standard access to real-time and historical data. NetAct for Broadband adds a standards-based CORBA northbound interface module allowing efficient integration with legacy and third-party NMS/OSS solutions. This interface is based on standards from the DSL Forum, TeleManagement Forum and ITU-T.

Web Based Craft Interface

The web based Craft Terminal provides the means to perform local configuration of the D500 node by maintenance personnel. The web based Craft Terminal requires that maintenance personnel have nothing more than a browser on their portable maintenance terminal. Craft access to the node can also be provided by a Command Line Interface (CLI) allowing a text-based interface to the node for maintenance personnel to provide access to current alarm lists and configuration of node parameters for provisioning and troubleshooting.



TECHNICAL DATA

D500

Dimensions	ANSI	ETSI		
	Height – 24 in (60.96 cm)	Height – 60 cm (23.62 in)		
	Width – 21.5 in (54.61 cm)	Width – 44 cm (17.32 in)		
	Depth – 10.25 in (26.04 cm)	Depth – 26.04cm (10.25 in)		
Operating Requirements	Temperature: -40°C (-40°F) to +65°C (149°F)			
	Relative Humidity: 0 to 95% (non-condensing)			
Environmental Compliance	GR-63-CORE			
	ETS 300 019-1-1: Class 1.2			
	ETS 300 019-1-2: Class 2.3			
	ETS 300 019-1-3: Class 3.1E			
Electromagnetic Compliance	EN 55022 (CSPR 22)			
	GR-1089-Core			
	ETS 300 386			
	FCC Part 15			
Certification	NEBS Level 3			
	UL 60950 Safety Certification			
Power Requirements	-40.5 to -72.0 VDC (protected feeds)			
Physical Connectors	RJ45 (100bTX trunk, DCN & Sync)			
	LC (fiber)			
Physical Interfaces	OC-3/STM-1 155.52 Mbps Single Mode Long Haul (G.957 L1.1)			
	OC-3/STM-1 155.52 Mbps Single Mode Short Haul (G.957 S1.1)			
	OC-3/STM-1 155.52 Mbps Multimode (ATM Forum af-uni-0010.002)			
	OC-12/STM-4 622 Mbps Single Mode Short Haul (G.957 S1.4)			
	100base-TX, Fast Ethernet (IEEE 802.3)			
	1000base-LX and 1000base-SX, Gigabit Ethernet (IEEE 802.3)			
Interface Standards	ITU-T G.992.1 Annex A & B	ITU-T G.992.2	ITU-T G.991.2	ITU-T G.993.1 (VDSL)
	ITU-T G.994.1	ITU-T G.997.1	T1.413 Issue 2, 1998	ETSI TS 101 388 v1.1.1
	ITU-T G.957 (optical)	ITU-T G.813/GR-1244 (Sync IN/OUT)		ATMF UNI3.1
	ITU-T I.610/I.432 (ATM OAM)	IEEE 802.3	RS-232C (CLI)	