iMAP 9400

integrated Multiservice Access Platform

The iMAP 9400 is an IP/Ethernet-based access platform featuring advanced xDSL copper and fiber technologies to support voice, video and data services. The iMAP 9400 can deliver any service from any of its seven subscriber slots. With simultaneous support for ADSL2+, VDSL2, SHDSL, POTS, T1/E1, Ethernet and FTTx, the iMAP 9400 is ideal for mid-size network deployments. Fully managed with optional transport redundancy, the iMAP 9400 utilizes cost-effective Gigabit Ethernet network interfaces. Using the same subscriber and common control modules as the other iMAP modular systems, the iMAP 9400 can be networked with other members of the iMAP family to easily scale to any network size.

Any Service, Any Access, One Platform

iMAP access solutions support 10Mbps, 100Mbps and Gigabit Ethernet point-to-point services, GEPON point-to-multipoint service as well as copper based xDSL data, Voice-over-IP (VoIP) POTS telephony, and legacy T1/E1 private circuits.

High Bandwidth

The iMAP 9400 has been optimized for the deployment of high bandwidth Fiber-To-The-Node (FTTN) applications. The iMAP 9400 simultaneously supports the deployment of high bandwidth xDSL that exploits the existing copper local loop. Once FTTN is deployed the inherent high bandwidth capability of the iMAP 9400 enables service providers to selectively migrate the same installed node subscribers from copper based xDSL broadband to high bandwidth Fiber-To-The-Home (FTTH). This migration strategy requires only a small incremental capital expenditure when a subscriber needs a higher bandwidth service that requires the deployment of FTTH.

Video Optimization

By leveraging bandwidth-efficient IP multicast and IGMP, and with advanced features including IP filtering, DHCP relay and Layer 4 IP flow metering, all iMAP solutions are optimized for video services delivery where QoS capability and security is critical.

Modular Scalability

iMAP access solutions ensure network scalability in an operationally-efficient manner. Low to medium density applications can take advantage of the iMAP 9400 systems without sacrificing features or subscriber-interface options. High-density applications can use the iMAP 9400/9700 platforms. Other advantages include utilizing common control and network transport modules across both iMAP 9400 and 9700 systems.

Network Resiliency

iMAP access solutions are built around a fault-tolerant switch core designed to operate with 99.999% network availability. Combined with Allied Telesis' Ethernet Protection Switched Rings (EPSR) transport technology, iMAP is designed to be a fundamental building block of any carrier-grade IP access or transport network.

Service Differentiation

QoS schemes for iMAP access solutions are designed to ensure that application performance and availability are not impacted with network growth. Features such as IPDiffServ and IEEE 802.1p/Q enable tiered data services for both residential and business/enterprise users.

Manageability

iMAP access solutions are designed to be managed and provisioned remotely using Allied Telesis' Allied*View*™ Network Management System (NMS), a comprehensive network management platform designed to increase network uptime and throughput while reducing operating expense. NMS provides a XML/SOAP Web services based Northbound Interface (NBI) for easy interfacing to other Operational Support Systems (OSS) and Business Support Systems (BSS) to further reduce operational expenditure.

Network Transport

iMAP provides from one Gigabit through 10 Gigabits of transport and uplink capability. EPSR rings with super loop capability, star and string architectures are supported.

iMAP 9400 Chassis Configuration

Modular 3RU system

- 1 control module slot
- 2 network transport slots
- 7 line card slots

iMAP 9400 Service and Access Options

- Optionally 4 x 10Gbps slots
- Up to 140 active Ethernet FTTx
- Up to 70 10/100TX Ethernet ports
- Up to 56GbE circuits
- Up to 168 POTS
- Up to 168 ADSL2+
- Up to 72 POTS with 72 ADSL2+ combo
- Up to 56 T1/E1 circuit emulation service
- Up to 168 G.SHDSL
- Up to 448 GEPON (32:1 split)
- Up to 168 VDSL2

iMAP 9400 Key Features

- Carrier-class IP/Ethernet access
- Video-optimized for IP Triple Play services
- Support for up to 4 -10Gbps slots
- Environmentally-hardened
- Resilient network transport
- Line card hot swapping
- Common family iMAP line cards
- Simultaneous fiber and copper access
- Life-line VoIP POTS telephony
- Full front access
- ETSI and ANSI compliant

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Specifications:

Physical Characteristics

Dimensions:	44cm x 30cm x 13cm
(W x D x H)	17.4" x 11.9" x 5.25"
Weight:	15 lbs
Rack unit:	3RU
Access:	Full frontal access

Power Characteristics

Dual -48vDC, -36vDC to -57.7vDC
AC power kits available

Environmental Specifications

Operating temp:	-40°C to 65°C
Storage temp:	-40°C to 85°C
Relative humidity:	5% to 95%, non-condensing

Regulatory Approvals

FCC Part 15 Class A/ANSI C63.4
EN 300 386 V1.3.1:2001-09/EN 55022:1998, Class A
VCCI Class A; ITE/ CISPR 22:1997 Class A
EN 300 386 V1.3.1:2001-09/EN 55022:1998, Class A
EN 300 386 V1.3.1:2001-09/EN 61000-4-3:1998
EN 300 386 V1.3.1:2001-09/EN 6100-4-6:1996
EN 300 386 V1.3.1:2001-09/EN 61000-4-4:1995
EN 300 386 V1.3.1:2001-09/EN 61000-4-5:1995
EN 300 386 V1.3.1:2001-09/EN 61000-4-2:1999
UL/cUL 60950: IEC60950
NEBS Level 3, GR-1089 Issue 3, GR63 Issue 2
USDA RUS

Standards and Compliance

IEEE 802.1d,w	Rapid Spanning-Tree
IEEE 802.1Q	MEV (double tagging)
IEEE 802.1p	Traffic class expediting
IEEE 802.3ad	Link aggregation
IEEE 802.3ah	Ethernet First Mile (EFM)
IETF RFC 1112	IP multicasting/IGMP snooping v1
IETF RFC 2236	IP multicasting/IGMP snooping v2
IETF RFC 3619	EAPS w/Allied Telesis extensions for EPSR
IETF RFC 2131	DHCP
IETF RFC 1350	TFTP

Allied Telesis' iMAP family of integrated Multiservice Access Platforms

iMAP 9400 Ordering Information

iMAP Chassis

Model	Description	Part #
iMAP 9400	7 slot chassis with DC power without filler plates	AT-TN-251G

iMAP Common Control

Model	Description	Part #
CFC24	24GbE switch controller card	AT-TN-401
GE3	3 x GbE WAN interface card	AT-TN-301
CFC56	56GbE switch controller card	AT-TN-407
XE1	10GbE WAN interface card	AT-TN-308

iMAP Line Cards

Model	Description	Part #
ADSL24A	24 port ADSL line card (annex A)	AT-TN-121
ADSL24B	24 port ADSL line card (annex B)	AT-TN-124
CES8	8 port CES8 T1 line card	AT-TN-119
FE10	10 port 10/100TX line card	AT-TN-102
FTTX (MM)	10 port 100Mbps multi-mode fiber line card	AT-TN-104
FTTX (SM, dual fiber)	10 port 100Mbps single-mode fiber line card	AT-TN-107
FTTX (SM, single fiber)	10 port 100Mbps single-mode, single fiber line card	AT-TN-109
FTTX (SM, single fiber)	20 port 100Mbps single-mode, single fiber line card	AT-TN-139
GE8	8 port GbE line card	AT-TN-117
GEPON2	2 port GEPON line card	AT-TN-118
NTE8	8 port N x T1 MLPPP line card	AT-TN-125
PAC24	24 port POTS ADSL combo line card (annex A)	AT-TN-123
POTS24	24 port POTS line card	AT-TN-113
SHDSL24	24 port SHDSL line card	AT-TN-127
VDSL24A	24 port VDSL2 line card (annex A)	AT-TN-130
VDSL24B	24 port VDSL2 line card (annex B)	AT-TN-128
ADSL48A	48 port ADSL2+ line card (annex A)	AT-TN-131
ADSL48B	48 port ADSL2+ line card (annex B)	AT-TN-132
Filler	Full size service slot filler plate	AT-TN-M000

iMAP Power Options

Model	Description	Part #
AC starter	iMAP 9400 AC starter kit	AT-TN-R111-xx*
AC adder	iMAP 9400 AC adder kit	AT-TN-R112-xx

*Where xx =	10 for U.S. power cord 20 for no power cord 30 for U.K. power cord 40 for Australian power cord 50 for European power cord

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