AT-AR745

Modular Enterprise Router with NSM Bay

AT-AR745

Supports Network Service Module (NSM)
2 x 10/100TX ports
2 x Asynchronous ports
2 x PIC card
128MB SDRAM upgradeable to 512MB
16MB Flash on Board
Support up to 192MB Compact Flash

High-Performance Routers

Designed for medium to large businesses that demand high performance, flexibility, and manageability in access-edge routers, AT-AR700 Series routers provide the perfect cost-effective, multi-service router platform. With a high-performance RISC processor, SDRAM upgradeable to 512MB, and support for multiple WAN interfaces, the AT-AR700 Series delivers a robust portfolio of routing, virtual private network (VPN), and firewall services.

High-Speed VPN

Establishing Virtual Private Networks across public data networks enable low-cost, secure connections for branch offices, extranets, mobile users, and telecommuters while eliminating the need for costly dedicated links. When used with the VPN Module, the AT-AR700 Series routers provide hardware-based encryption offering line-speed DES or 3DES VPN performance up to full-duplex T1/E1 speeds and can terminate up to 1,023 VPN tunnels without affecting routing performance. The AT-AR700 Series also meets IETF IPsec and ISAKMP standards.

Stateful Inspection Firewall

Allied Telesis' state-of-the-art Stateful Inspection Firewall is available for AT-AR700 Series routers, protecting private networks by monitoring both packet content and session status. The firewall defends against a wide range of Denial of Service (DoS) attacks including Ping of Death, SYN/FIN flooding, Smurf attacks, port scans, fragment attacks, and IP spoofing. The firewall also triggers e-mail alerts when such attacks are detected.

AT-AR700 Series routers create a comprehensive security audit trail of event triggers, firewall event-logging, and accounting information. Network administrators can use the built-in dual 10/100Mbps Ethernet interfaces to create separate LAN subnets, and the additional 10Mbps Ethernet Port Interface Cards (PICs) may be used to create extra LAN subnets for DMZ applications or to connect to external xDSL routers for broadband applications.

Variety of LAN/WAN Interfaces

The AT-AR700 Series provides investment protection with a future-proof router platform design that supports a wide variety of PICs for flexible configuration, enabling administrators to field-upgrade LAN and WAN PICs as business needs change. Several PICs can coexist in the AT-AR700 Series routers to support contemporary or legacy LAN/WAN interfaces and best-of-breed technology, allowing a smooth transition of technology. Because PIC cards are interchangeable with all Allied Telesis modular routers and Layer 3 switches, your investment is secure.

Extended LAN/WAN Support

Employing a 32-bit PCI style bus for high-speed data applications, the AT-AR745 is equipped with a powerful Network Service Module (NSM) bay designed to support a variety of high-speed LAN/WAN technologies.

NSMs are currently available in three forms:
- 4-PIC chassis
- 4-port Basic Rate ISDN
- 8-port Basic Rate ISDN

Allied Telesis range of Layer 3 switches also support the NSM architecture, providing WAN connections for high-speed LAN switching applications.

Key Features

- Flexible LAN/WAN interfaces
- QoS & Traffic Shaping
- Upgradeable RAM up to 512MB
- High-performance RISC processor
- Multi-protocol routing
- VRRP
- OSPF protocol support
- Up to 1023 VPN Tunnels
- PCI-bus slide-in Network Service Module (NSM)
- Supports up to 6 Port Interface Cards (PICs) with NSM module
- Ultra compact 19", 1RU rack mount design
- DHCP
- DNS
- IEEE 802.1x
- GRE
- Secure VPN capability with IPSec, support industry standard VPN clients (Microsoft XP and Safenet)

Optional Features

- High-speed DES & 3DES VPN
- Stateful Inspection Firewall
- BGP4 protocol support
- IPv6
- Hardware encryption and compression option

AT-AR745 | Modular Enterprise Router with NSM Bay

Traffic Shaping & Software QoS

The AlliedWare® operating system provides advanced Quality of Service (QoS) and traffic shaping features. There are five key QoS features available on the AT-AR745:

- Bandwidth Metering
- RED Curves
- Mixed Scheduling
- Virtual Bandwidth
- Dynamic Application Recognition (DAR)

Software QoS also supports eight queues per interface. DAR is used to snoop for session setup exchanges and dynamically create classifiers that match the voice and video packets in the session. For more information, see the Allied Telesis Advanced QoS White Paper available on our website.

Minimum Downtime

The AT-AR700 Series routers offer a number of redundancy features that minimize network downtime.

Virtual Router Redundancy Protocol (VRRP)

VRRP provides automatic router backup in mission-critical environments. This feature enables multiple AT-AR700 Series routers to share a virtual IP address that serves as the default LAN gateway. Should the master fail, the other routers assume the virtual IP address. LAN devices can continue to be configured with a single default gateway address, and because VRRP is a standard Internet protocol, full interoperability with other VRRP-supported products is assured.

ISDN, Frame Relay & Dial Back-up

AT-AR700 Series routers provide Basic Rate ISDN, Frame Relay, and dial back-up, enabling redundancy on your WAN connection by assigning a high priority and a low priority to each line. 1:1 protection means that both line connections are used 100 percent of the time during no fault condition and at 50 percent when faults occur.

Triggered Events & Scripts

An ordered sequence of scripts and router commands are executed when certain events occur, providing a powerful mechanism for automating the execution of router commands in response to specific events. Each trigger may reference multiple scripts and any script can be used by any trigger. Using this feature, AT-AR700 Series routers can send e-mail alerts to network managers when trouble occurs, or it can shut down interfaces to protect against suspected attacks.

Terminal Server

As with Allied Telesis' AT-AR400 Series routers, AT-AR700 Series routers can provide terminal server functionality to manage devices like PBXs and print servers through asynchronous ports. This enables system administrators to monitor and manage—remotely and securely—up to 26 servers or other devices.

IPv6

IPv6, the next-generation protocol designed by the IETF, resolves issues of the current version of Internet Protocol, IP version 4 (IPv4). Most of today's internet uses IPv4, which is now nearly twenty years old. IPv6 fixes a number of problems in IPv4, such as the limited number of available IPv4 addresses. It also adds many improvements to IPv4 in areas such as routing and network auto-configuration. IPv6 is expected to gradually replace IPv4, with the two coexisting for a number of years during a transition period. Like almost all routers and switches in the Allied Telesis portfolio, the AT-AR700 series routers support both IPv6 and IPv4 and on the same ports, allowing a soft migration to IPv6 without any business risk or additional investment.

World Class Operating System & Management Software

AlliedWare®

A common Operating System (OS) ensures the AT-AR700 Series routers interoperate seamlessly with other Allied Telesis fixed-function, modular routers and Layer 3 switch families, allowing operational investment protection for training, management, and monitoring. Standards-based implementations assure full interoperability with all other major network equipment vendors. AT-AR700 Series routers are shipped ready-to-run with AlliedWare®, a comprehensive software suite that includes all the features, management capabilities, and performance that today's networks demand.

AlliedView®

A Java-based device management solution, AlliedView® provides user-friendly, window-based environments to manage the AT-AR700 Series routers, as well as the complete lineup of Allied Telesis managed devices. Whether managing large networks distributed across multiple sites or even small networks with only a handful of nodes, AlliedView® provides the tools needed to effectively monitor and manage Allied Telesis' intelligent networking products.

Technical Specifications

General

- High-performance RISC processor
- 128-512MB upgradeable SDRAM
- 16MB Flash
- Up to 192MB Modular Flash. Compact Flash hardware and software capability for future expansion
- 2 x 10/100 Fast Ethernet ports, auto-sensing
- 1 x 32-bit PCI-style bus NSM bay
- 2 x Asynchronous ports
- 2 x PICs
- Up to 1023 VPN Tunnels

Power Characteristics

Integral universal power supply:
Input Voltage: 100-240vAC, 50-60Hz, 1A
Max Power Consumption: 25W, 2A

Physical Characteristics

Width: 44cm (17.3")
Depth: 33cm (13")
Height: 4.4cm (1.73")
Weight: 4kg (8.8lb), unpacked, no PICs/NSMs
19" rack-mountable 1U high

Environmental Characteristics

Operating Temp: 0°C to 40°C (32°F to 104°F)
Storage Temp: -25°C to 70°C (-13°F to 158°F)
Relative Humidity: 5 to 95% non-condensing
Rear mounted cooling fan

Approvals

Emissions EN55022, Class A, FCC Class A, VCCI Class A, AS/NZS Cispr 22 Class A
Immunity EN55024
Safety
Listing UL, cUL,and TUV
Standards UL60950, CAN/CSA-C22.2NO.60950-00, EN60950, AS/NZS3260

Feature Summary

Dial-up Networking
Call Line ID
Dial-on-Demand
CLI Callback
MPP/BACP/BAC/AODI
DoV
Leased Line
SYNC up to 2Mbps
E1/T1/G.703 unchannelized
E1/T1/G.703 channelized

Networking Protocols

IP
IPv6
IPX/SPX (including Spoofing)
DECNET

AT-AR745 | Modular Enterprise Router with NSM Bay

Routing Protocols
Static routes
RIP
OSPF
BGP4

WAN Protocols
Frame Relay
X.25
PPP
PPPoE client and server
Remote Access Dial-in Support
Asynchronous serial ports with routing support
LAN Bridging
Spanning Tree Protocol
Compression
STAC Compression
Predictor Compression
IP address management
IP Multi-homing
Dynamic IP assignment on PPP
DHCP client, server and Relay
DNS Relay
DOS attack Detection

Authentication
PAP/CHAP authentication
RADIUS/TACACS authentication

Tunneling & Security
NAT Network Address Translation
Packet filtering
L2TP access concentrator
L2TP network server
Stateful Inspection Firewall
HTTP Proxy
SMTP Proxy
DES Encryption hardware (optional)
Triple DES Encryption hardware (optional)
IPsec
IKE
PKI
SSH Secure Shell for remote management
QoS
Traffic Shaping
Packet Priority
RSVP

Configuration & Management
Console port
Command Line Interface (CLI)
Telnet
Web browser
SNMP
Trigger events
Scripts
Local and remote logging
Configuration loading by TFTP, HTTP, Zmodem
IP Multicasting
IGMP
PIM-SM (on IP and IPv6)
PIM-DM (on IP and IPv6)
DVMRP (on IP and IPv6)
Minimum Downtime
VRRP
ISDN and Frame Relay back-up

Optional Extras
Port Interface Cards
- AT-AR020 Single software configurable E1/T1 interface that supports channelized/ unchannelized Primary Rate ISDN/Frame Relay
- AT-AR021S (V3)[1] Single Basic Rate ISDN (S/T) interface
- AT-AR023 Single Synchronous port up to 2Mbps to an external CSU/DSU (AT-V.35-DTE-00 or AT-X.21-DTE-00 cable required)
- AT-AR024 Four Asynchronous RS232 interfaces to 115Kbps
- AT-AR027 Two VoIP FXS ports

Network Service Module (NSM)
- AT-AR040 4 PIC NSM
- AT-AR041 8-port Basic Rate (S/T) ISDN NSM
- AT-AR042 4-port Basic Rate (S/T) ISDN NSM

PCI Accelerator Card (PAC)
- AT-AR061 ECPAC, Compression/ Encryption PAC:

Encryption Type	IPsec Tunnels with AT-AR061 installed
ESP (Static Encryption Key)	1023
ESP (Dynamic Key Exchange)	511
ESP+AH (Dynamic Key Exchange with Authentication Header)	255

[1] *AR021S (V3) requires AlliedWare® Operating System version 2.9.1-13 or later*

Memory Upgrade
AT-CF128A
Compact Flash card 128MB
AT-SD256A
SDRAM memory card 256MB

Feature Options
AT-AR700-ADVL3UPGRD Advanced L3 upgrade
- IPv6
- BGP4
- Server Load Balancing

AT-AR700sSecPk Security-pack upgrade
- Firewall
- SMTP Proxy
- HTTP Proxy

AT-AR-3DES 3DES license
- 3DES*

* AT-AR061 ECPAC hardware encryption required

Standards and Protocols

Software Release 2.9.1

BGP-4

RFC 1771 Border Gateway Protocol 4
RFC 1966 BGP Route Reflection
RFC 1997 BGP Communities Attribute
RFC 1998 Multi-home Routing
RFC 2385 Protection of BGP Sessions via the TCP MD5 Signature Option
RFC 2439 BGP Route Flap Damping
RFC 2858 Multiprotocol Extensions for BGP-4
RFC 2918 Route Refresh Capability for BGP-4
RFC 3065 Autonomous System Confederations for BGP
RFC 3392 Capabilities Advertisement with BGP-4

Encryption

RFC 2104 HMAC
RFC 2451 The ESP CBC-Mode Cipher Algorithms
FIPS 180 SHA-1
FIPS 186 RSA
FIPS 46-3 DES
FIPS 46-3 3DES

Ethernet

RFC 894 Ethernet II Encapsulation
IEEE 802.1D MAC Bridges
IEEE 802.1G Remote MAC Bridging
IEEE 802.2 Logical Link Control
IEEE 802.3ac VLAN TAG
IEEE 802.3u 100BASE-T
IEEE 802.3x Full Duplex Operation

Frame Relay

RFC 1490, 2427 Multiprotocol Interconnect over Frame Relay
ANSI T1S1 Frame Relay

General Routing

RFC 768 UDP
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 2822 Internet Message Format
RFC 826 ARP
RFC 903 Reverse ARP
RFC 925 Multi-LAN ARP
RFC 950 Subnetting, ICMP
RFC 1027 Proxy ARP
RFC 1035 DNS
RFC 1055 SLIP
RFC 1122 Internet Host Requirements
RFC 1142 OSI IS-IS Intra-domain Routing Protocol
RFC 1144 Van Jacobson's Compression
RFC 1256 ICMP Router Discovery Messages
RFC 1288 Finger
RFC 1332 The PPP Internet Protocol Control Protocol (IPCP)
RFC 1334 PPP Authentication Protocols
RFC 1377 The PPP OSI Network Layer Control Protocol (OSINLCP)
RFC 1378 The PPP AppleTalk Control Protocol (ATCP)
RFC 1518 CIDR
RFC 1519 CIDR
RFC 1542 BootP
RFC 1552 The PPP Internetworking Packet Exchange Control Protocol (IPXCP)
RFC 1570 PPP LCP Extensions
RFC 1582 RIP on Demand Circuits
RFC 1598 PPP in X.25
RFC 1618 PPP over ISDN
RFC 1661 The Point-to-Point Protocol (PPP)
RFC 1701 GRE
RFC 1702 GRE over IPv4
RFC 1762 The PPP DECnet Phase IV Control Protocol (DNCP)
RFC 1812 Router Requirements
RFC 1877 PPP Internet Protocol Control Protocol Extensions for Name Server Addresses
RFC 1918 IP Addressing
RFC 1962 The PPP Compression Control Protocol (CCP)
RFC 1968 The PPP Encryption Control Protocol (ECP)
RFC 1974 PPP Stac LZS Compression Protocol
RFC 1978 PPP Predictor Compression Protocol
RFC 1989 PPP Link Quality Monitoring
RFC 1990 The PPP Multilink Protocol (MP)
RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
RFC 2125 The PPP Bandwidth Allocation Protocol (BAP) / The PPP Bandwidth Allocation Control Protocol (BACP)
RFC 2131 DHCP
RFC 2132 DHCP Options and BOOTP Vendor Extensions.
RFC 2390 Inverse Address Resolution Protocol
RFC 2516 A Method for Transmitting PPP Over Ethernet (PPPoE)
RFC 2661 L2TP
RFC 2822 Internet Message Format
RFC 2878 PPP Bridging Control Protocol (BCP)
RFC 3046 DHCP Relay Agent Information Option
RFC 3232 Assigned Numbers
RFC 3993 Subscriber-ID Sub-option for DHCP Relay Agent Option
"IPX Router Specification", v1.2, Novell, Inc., Part Number 107-000029-001
AppleTalk
ISO 10589, ISO 10589 Technical Corrigendums 1, 2, 3, ISO Intermediate System-to-Intermediate System
ISO 8473, relevant parts of ISO 8348(X.213), ISO 8343/Add2, ISO 8648, ISO 8648, ISO TR 9577 Open System Interconnection
ISO 9542 End System to Intermediate System Protocol
http://www.iana.org/assignments/bootp-dhcp-parameters BootP and DHCP parameters

General Routing and Firewall

RFC 3022 Traditional NAT
draft-ietf-ipsec-nat-t-ike-08.txt Negotiation of NAT-Traversal in the IKE
draft-ietf-ipsec-udp-encaps-08.txt UDP Encapsulation of IPsec Packets

IP Multicasting

RFC 1075 DVMRP
RFC 1112 Host Extensions
RFC 2236 IGMPv2
RFC 2362 PIM-SM
RFC 2715 Interoperability Rules for Multicast Routing Protocols
RFC 3973 PIM-DM
draft-ietf-idmr-dvmrp-v3-9 DVMRP
draft-ietf-magma-snoop-02 IGMP and MLD snooping switches

IPsec

RFC 1828 IP Authentication using Keyed MD5
RFC 1829 IPsec algorithm
RFC 2395 IPsec Compression - LZS
RFC 2401 Security Architecture for IP
RFC 2402 AH - IP Authentication Header
RFC 2403 IPsec Authentication - MD5
RFC 2404 IPsec Authentication - SHA-1
RFC 2405 IPsec Encryption - DES
RFC 2406 ESP - IPsec encryption
RFC 2407 IPsec DOI
RFC 2408 ISAKMP
RFC 2409 IKE
RFC 2410 IPsec encryption - NULL
RFC 2411 IP Security Document Roadmap
RFC 2412 OAKLEY
RFC 3173 IPComp - IPsec compression

IPv6

RFC 1981 Path MTU Discovery for IPv6
RFC 2080 RIPng for IPv6
RFC 2365 Administratively Scoped IP Multicast
RFC 2375 IPv6 Multicast Address Assignments
RFC 2460 IPv6
RFC 2461 Neighbour Discovery for IPv6
RFC 2462 IPv6 Stateless Address Autoconfiguration
RFC 2463 ICMPv6
RFC 2464 Transmission of IPv6 Packets over Ethernet Networks
RFC 2465 Allocation Guidelines for Ipv6 Multicast Addresses Management Information Base for IP Version 6: Textual Conventions and General Group
RFC 2466 Management Information Base for IP Version 6: ICMPv6 Group
RFC 2472 IPv6 over PPP
RFC 2526 Reserved IPv6 Subnet Anycast Addresses
RFC 2529 Transmission of IPv6 over IPv4 Domains without Explicit Tunnels
RFC 2710 Multicast Listener Discovery (MLD) for IPv6
RFC 2711 IPv6 Router Alert Option
RFC 2851 Textual Conventions for Internet Network Addresses
RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers
RFC 3056 Connection of IPv6 Domains via IPv4 Clouds
RFC 3307 Allocation Guidelines for IPv6 Multicast Addresses
RFC 3315 DHCPv6
RFC 3484 Default Address Selection for IPv6
RFC 3513 IPv6 Addressing Architecture
RFC 3587 IPv6 Global Unicast Address Format
RFC 3596 DNS Extensions to support IPv6
RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6

ISDN

ANSI T1.231-1997 Digital Hierarchy - Layer 1 In-Service Digital Transmission Performance Monitoring Standardization
ANSI T1.403-1995 Telecommunications - Network-to-Customer Installation - DS1 Metallic Interface
ANSI T1.408-1990 ISDN Primary Rate - Customer Installation Metallic Interfaces, Layer 1 Specification
AT&T TR 54016-1989 Requirements for Interfacing Digital Terminal Equipment to Services Employing the Extended Superframe Format

Austel TS 013.1:1990 General Requirements for Customer Equipment Connected to ISDN Basic Rate Access - Vol. 1: Customer Equipment Access Interface Specifications
Bellcore SR-3887 1997 National ISDN Primary Rate Interface
ETS 300 012:1992 Integrated Services Digital Network (ISDN); Basic user-network interface; Layer 1 specification and test principles
ETS 300 102-1:1990 Integrated Services Digital Network (ISDN);User-network interface layer 3;Specifications for basic call control
ETS 300 102-2:1990 Integrated Services Digital Network (ISDN); User-network interface layer 3; Specifications for basic call control; Specification Description Language (SDL) diagrams
ETS 300 125:1991 Integrated Services Digital Network (ISDN); User-network interface data link layer specification; Application of CCITT Recommendations Q.920/I.440 and Q.921/I.441
ETS 300 153:1992 Integrated Services Digital Network (ISDN);Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access (Candidate NET 3 Part 1)
ETS 300 156:1992 Integrated Services Digital Network (ISDN); Attachment requirements for terminal equipment to connect to an ISDN using ISDN primary rate access (Candidate NET 5)
ETS 300 011:1992 Integrated Services Digital Network (ISDN); Primary rate user-network interface; Layer 1 specification and test principles
G.706 (1988) Frame Alignment and CRC Procedures Relating to Basic Frame Structures Defined in G.704
G.794 (1988) Characteristics of 24-channel transmultiplexing equipments
German Monopol (BAPT 221) Type Approval Specification for Radio Equipment for Tagging and Identification
I.120 (1988) Integrated services digital networks (ISDNs)
I.121 (1988) Broadband aspects of ISDN
I.411 (1988) ISDN user-network interface reference configurations
I.430 (1988) Basic user-network interface - Layer 1 specification
I.431 (1988) Primary rate user-network interface - Physical layer specification
ITU-T G.703 Physical/electrical characteristics of hierarchical digital interfaces
ITU-T G.704 Synchronous frame structures used at 1544, 6312, 2048, 8488 and 44736 kbit/s hierarchical levels
ITU-T G.706 Frame Alignment and CRC Procedures Relating to Basic Frame Structures Defined in G.704
ITU-T Q.922 ISDN data link layer specification for frame mode bearer services
ITU-T G.703 (1972) Physical/electrical characteristics of hierarchical digital interfaces
Japan NTT I.430-a Leased Line Basic Rate User-Network Interface Layer 1-Specification
New Zealand Telecom TNA 134 Telecom ISDN User-Network Interface: Layer 3: PART B Basic Call Control Procedures
Q.920 (1988) Digital subscriber Signalling System No.1 (DSS1) - ISDN user-network interface data link layer - General aspects
Q.921 (1988) ISDN user-network interface - Data link layer specification
Q.930 (1988) Digital subscriber Signalling System No. 1 (DSS 1) - ISDN user-network interface layer 3 - General aspects
Q.931 (1988) Digital subscriber Signalling System No. 1 (DSS 1) - ISDN user-network interface layer 3 specification for basic call control
Rockwell Bt8370 Fully Intergrated T1/E1 Framer and Line Interface data sheet
Technical Reference of Frame Relay Interface, Ver. 1, November 1993, Nippon Telegraph and Telephone Corporation. Ver. 1, November 1993, Nippon Telegraph and Telephone Corporation.
ACA TS 013.2:1990 General Requirements for Customer Equipment Connected to ISDN Basic Rate Access, Vol 2: Conformance Testing Specifications
ACA TS 014.1:1990 General Requirements for Customer Equipment Connected to ISDN Primary Rate Access, Vol 1: Customer Access Interface Specifications
ACA TS 014.2:1990 General Requirements for Customer Equipment Connected to ISDN Primary Rate Access, Vol 2: Conformance Testing Specifications

Management

RFC 1155 MIB
RFC 1157 SNMP
RFC 1212 Concise MIB definitions
RFC 1213 MIB-II
RFC 1493 Bridge MIB
RFC 1643 Ethernet MIB
RFC 1657 Definitions of Managed Objects for BGP-4 using SMIv2
RFC 2011 SNMPv2 MIB for IP using SMIv2
RFC 2012 SNMPv2 MIB for TCP using SMIv2
RFC 2096 IP Forwarding Table MIB
RFC 2576 Coexistence between V1, V2, and V3 of the Internet-standard Network Management Framework
RFC 2578 Structure of Management Information Version 2 (SMIv2)
RFC 2579 Textual Conventions for SMIv2
RFC 2580 Conformance Statements for SMIv2
RFC 2665 Definitions of Managed Objects for the Ethernet-like Interface Types
RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual LAN Extensions (VLAN)
RFC 2790 Host MIB
RFC 2856 Textual Conventions for Additional High Capacity Data Types
RFC 2863 The Interfaces Group MIB
RFC 3164 Syslog Protocol
RFC 3289 Management Information Base for the Differentiated Services Architecture
RFC 3410 Introduction and Applicability Statements for Internet-Standard Management Framework
RFC 3411 An Architecture for Describing SNMP Management Frameworks
RFC 3412 Message Processing and Dispatching for the SNMP
RFC 3413 SNMP Applications
RFC 3414 User-based Security Model (USM) for SNMPv3
RFC 3415 View-based Access Control Model (VACM) for the SNMP
RFC 3416 Version 2 of the Protocol Operations for SNMP
RFC 3417 Transport Mappings for the SNMP
RFC 3418 MIB for SNMP
RFC 3636 Definitions of Managed Objects for IEEE 802.3 MAUs
RFC 3768 VRRP
CDP
draft-ietf-bridge-8021x-00.txt Port Access Control MIB
IEEE 802.1AB LLDP

OSPF

RFC 1245 OSPF protocol analysis
RFC 1246 Experience with the OSPF protocol
RFC 1586 OSPF over Frame Relay
RFC 1793 Extending OSPF to Support Demand Circuits
RFC 2328 OSPFv2
RFC 3101 The OFPF Not-so-stubby Area (NSSA) Option

QoS

RFC 2205 Reservation Protocol
RFC 2211 Controlled-Load
RFC 2474 DCSP in the IPv4 and IPv6 Headers
RFC 2475 An Architecture for Differentiated Services
RFC 2597 Assured Forwarding PHB Group
RFC 2697 A Single Rate Three Color Marker
RFC 2698 A Two Rate Three Color Marker
RFC 3246 An Expedited Forwarding PHB (Per-Hop Behavior)
IEEE 802.1p Priority Tagging

RIP

RFC 1058 RIPv1
RFC 2082 RIP-2 MD5 Authentication
RFC 2453 RIPv2

Security

RFC 959 FTP
RFC 1413 IDP
RFC 1492 TACACS
RFC 1779 X.500 String Representation of Distinguished Names
RFC 1858 Fragmentation
RFC 2284 SMTP
RFC 2510 PKI X.509 Certificate Management Protocols
RFC 2511 X.509 Certificate Request Message Format
RFC 2559 PKI X.509 LDAPv2
RFC 2585 PKI X.509 Operational Protocols
RFC 2587 PKI X.509 LDAPv2 Schema
RFC 2865 RADIUS
RFC 2866 RADIUS Accounting
RFC 3280 X.509 Certificate and CRL profile
draft-grant-tacacs-02.txt TACACS+
Draft-IETF-PKIX-CMP-Transport-Protocols-01 Transport Protocols for CMP
draft-ylonen-ssh-protocol-00.txt SSH Remote Login Protocol
IEEE 802.1x Port Based Network Access Control
PKCS #10 Certificate Request Syntax Standard
Diffie-Hellman

Services

RFC 854 Telnet Protocol Specification
RFC 855 Telnet Option Specifications
RFC 856 Telnet Binary Transmission
RFC 857 Telnet Echo Option
RFC 858 Telnet Suppress Go Ahead Option
RFC 932 Subnetwork addressing scheme
RFC 951 BootP
RFC 1091 Telnet terminal-type option
RFC 1179 Line printer daemon protocol
RFC 1305 NTPv3
RFC 1350 TFTP

RFC 1510 Network Authentication
RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
RFC 1945 HTTP/1.0
RFC 1985 SMTP Service Extension
RFC 2049 MIME
RFC 2068 HTTP/1.1
RFC 2156 MIXER
RFC 2217 Telnet Com Port Control Option
RFC 2821 SMTP

SSL

RFC 2246 The TLS Protocol Version 1.0
draft-freier-ssl-version3-02.txt SSLv3

VoIP

RFC 2543 SIP
G.711 A/µ law Pulse code modulation (PCM) of voice frequencies
G.723.1 Dual rate speech coder for multimedia communications transmitting at 5.3 and 6.3 kbit/s
G.729 A/B (Optional) Coding of speech at 8 kbit/s using conjugate-structure algebraic-code-excited linear-prediction (CS-ACELP)
H.323 v2 Packet-based multimedia communications systems

X.25

RFC 1356 Multiprotocol Interconnect on X.25 and ISDN in the Packet Mode
ITU-T Recommendations X.25 (1988), X.121 (1988)

About Allied Telesis

Allied Telesis is part of the Allied Telesis Group. Founded in 1987, the company is a global provider of secure Ethernet/IP access solutions and an industry leader in the deployment of IP Triple Play networks over copper and fiber access infrastructure. Our POTS-to-10G iMAP integrated Multiservice Access Platform and iMG intelligent Multiservice Gateways, in conjunction with advanced switching, routing and WDM-based transport solutions, enable public and private network operators and service providers of all sizes to deploy scalable, carrier-grade networks for the cost-effective delivery of packet-based voice, video and data services. Visit us online at www.alliedtelesis.com.

Service and Support

Allied Telesis provides value-added support services for its customers under its Net.Cover programs. For more information on Net.Cover support programs available in your area, contact your Allied Telesis sales representative or visit our website: www.alliedtelesis.com

Ordering Information

AT-AR745-XX
Modular Enterprise Router with NSM bay
Order number: 990-002070-xx (Not RoHS Compliant)

Where xx =
10 for U.S. power cord
20 for no power cord
30 for U.K. power cord
40 for Australia power cord
50 for Europe power cord

Port Interface Card Options

AT-AR020
Single configurable E1/T1 interface that supports channelized/unchannelized Primary Rate ISDN/Frame Relay
Order Number: 990-001304-00

AT-AR021S (V3)[1]
Single Basic Rate ISDN (S/T) interface
Order Number: 990-002153-00

AT-AR023
Single Synchronous port up to 2Mbps to an external CSU/DSU (AT-V.35-DTE-00 or AT-X.21-DTE-00 cable required)
Order number: 990-001104-00

AT-AR024
Four Asynchronous RS232 interfaces to 115Kbps
Order number: 990-001105-00

AT-AR027
Two VoIP FXS ports
Order number: 990-001356-00

Network Service Module (NSM)

AT-AR040
Network Service Module, 4 slot
Order number: 990-001299-00

AT-AR041
Network Service Module, 8 slot BRI ISN (S)
Order number: 990-001300-00

AT-AR042
Network Service Module, 4 slot BRI ISN (S)
Order number: 990-001303-00

Encryption/Compression

AT-AR061
ECPAC, PCI-based DES-3DES Encryption/Compression card
Order number: 990-11933-00 (Not RoHS Compliant)

Memory Upgrade Options

AT-CF128A
Compact Flash card 128MB
Order number: 990-12216-00

AT-SD256A
SDRAM memory card 256MB
Order number: 990-12214-00

Software Upgrade Options

AT-AR700-ADVL3UPGRD
Advanced L3 upgrade
- IPv6
- BGP4
- Server Load Balancing

Order number: 980-10022-00

AT-AR700sSecPk-00
Security-pack upgrade
- Firewall
- SMTP Proxy
- HTTP Proxy

Order number: 980-10028-00

AT-AR-3DES*
3DES license
- 3DES

Order number: 980-10000-00

* AT-AR061 ECPAC hardware encryption required

[1] *AR021S (V3) requires AlliedWare® Operating System version 2.9.1-13 or later*

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