

Atlas-60



High Performance Professional Router for small and medium sized offices

“The Atlas-60 gives answer to remote branch connectivity needs that require absolute reliability. This responds integrally to office communications thanks to its scalable hardware that can adapt to these environments and the Teldat software orientated to professional communications”

At Teldat, we know that branch connectivity is often critical for business, and the Atlas-60 router is our unsurpassed contribution to guarantee this for various reasons such as connectivity orientated to branches requiring redundant connections, switch/router integration or the wide range of software.

By integrating the switch in the same device, this eliminates a weak point, resulting in greater reliability which also contributes full management capacity for the switch. This also provides Power over Ethernet (PoE) to ensure greater reliability of the elements with this capacity such as wireless access points and IP telephones.

The integrated WAN Communications capabilities are those most demanded for remote branches: Ethernet, ADSL and 3G thus covering all the requirements for a wide spectrum of branches in a single device.

The Atlas-60 therefore is a compact router that fully satisfies the needs of today’s branch offices and is as effective as a modular router at a more competitive price.

PRODUCT OVERVIEW

Hardware architecture and interfaces

800MHz dual core processor with 512 MB RAM and 64 MB FLASH

2 x Ethernet Gigabit

8 or 16 (depending on the model) x Fast Ethernet (optional PoE for 8 ports)

1 USB 2.0 port for additional connectivity (3G, 4G, Wimax, Zigbee, ...)

ADSL/ADSL2+ interface (depending on the model)

WiFi 802.11 a/b/g/n @ 2,4 GHz and double band 5GHz (optional)

WWAN 3G/4G module (optional)

Encryption hardware integrated

Models		2GE+8FE	ADSL	+8FE	3G	Wifi	USB	PoE
Atlas-60	2xGE + 8xFE (+Wifi +3G)	●			○	○	●	○
Atlas-60A8	2xGE + 8xFE +1xADSL (+Wifi +3G)	●	●		○	○	●	○
Atlas-60A16	2xGE + 16xFE +1xADSL (+Wifi +3G)	●	●	●	○	○	●	○

● Included ○ Optional

KEY CHARACTERISTICS

Eligibility and reliability for branch offices

Whether the connectivity is ADSL or Ethernet, the Atlas-60 gives answer to the connectivity needs of branch offices, permitting ADSL or fraccional-100Mb services to migrate to services with a 100Mb throughput, given that the powerful software and hardware permits the Atlas-60 to exceed switch throughput of 100Mbps for bidirectional sustained throughput under normal operation conditions (IMIX with active services).

With reliability as the main objective, more common redundancy possibilities are admitted: double WAN-Gigabit connection, Ethernet, ADSL (depending on the model) and 3G HSPA+. 3G double connectivity is also permitted to simultaneously backup the mobile network as a 3G professional module residing in the device is supported, with maximum management and control features as the 3G modems connected to the USB interface on the device's front panel is also used. The USB port also ensures future connectivity through new USB connectivity devices (4G, Wimax, etc.)

Routing software for enterprises

The Atlas-60 routers offer both flexibility and adaptability for complex corporate network environments thanks to their standards compliant protocols and advanced features provided by Teldat's Internetworking code:

- The necessary routing protocols adapted to the corporate networks and MPLS generally (RIP-2, BGP-4 and OSPF, Policy Routing, ...)
- Virtual router protocols for High Availability in access networks: TVRP (Teldat protocol compatible with HSRP), VRRP.
- VRF-lite.
- Teldat's Network Service Level Advisor (NSM/NSLA): Supervision mechanisms for the IPSLA link quality (delay, jitter, etc.) that modify routing policies for traffic, data and ToIP call routing.
- IP Telephony as an IP telephony integrated server capable of managing up to 300 telephones with SIP, H323, Alcatel NOE or SCCP (Skinny) protocols.

State of the art security in Communications and VPN

The Atlas 60 incorporates the most advanced VPN and security techniques and those most demanded in professional environments as well as incorporating encryption hardware elements that the CPU downloads from the encryption process thus permitting high speed encryption without compromising switch capacity.

- Fully operative Firewall (Stateful firewall) and IPSec functions (RC4, DES, 3DES, RSA, SHA-1, MD5 algorithms, digital certificates, etc.)
- Fully parameterized IPSec client/server guaranteeing compatibility with any third party IPSec solution.
- L2TP and L2TP/IPSec support.
- Multi-GRE with IPSec to implement Dynamic Multipoint VPN networks.
- GET VPN protocol for highly scalable secure scenarios.
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Quality of Service

The Atlas 60 gives integral solution to the distinct convergence scenarios and services that demand different Qualities of Service for the different types of traffic and users so each application/user receives different throughputs and delays that meet all requirements.

- Powerful prioritization policies and bandwidth reservation: FIFO, PQ, CBWFQ or LLQ.
- Up to 32 service classes per interface or subinterface with 4 queues per class (up to 200 queues per interface).
- Full traffic classification possibility for anything at Layer 2 or 3, packet size, input port, etc.
- Traffic limiting per class with the possibility of overflow over other classes.
- Traffic tagging and profiling as well as pre-classification in VPNs plus the integration of QoS with MPPP.

- Fragmentation and interleaving to ensure real-time traffic.

Device management at operator level

The Atlas-60 is orientated to mass management, based on standards, which communication operators normally tackle:

- Powerful commands line interface (CLI) locally accessible, through telnet or ssh, with local access control or based on RADIUS.
- Remote teleloading for software and configurations (FTP, TFTP) with flash capacity to maintain multiple configurations and two software images.
- Embedded fault resolution tools (wide statistics level and debug, syslog, sniffer compatible ethereal/wireshark).
- Compatibility with secure network management systems based on SNMP (SNMPv3) and with Teldat's professional management graphic tool (Teldages).

TECHNICAL SPECIFICATIONS

General

Description

2 x 10/100/1000 Ethernet, RJ-45
8/16 (depending on model) x 10/100 Ethernet, RJ-45. Optional PoE in 8 ports (classes 0, 1, 2 and 3)
1 x ADSL/ADSL2+ interface (depending on model)
1 x USB 2.0
1 x Wireless-WAN expansion slot
1 x Wireless-LAN 802.11 a/b/g/n expansion slot
1 x Console, RJ-45

Gigabit Ethernet Interfaces

Electric interface complying with
10/100/1000BASE-T IEEE 802.3
IEEE 802.3 ah (Ethernet OAM)
Operational up to 180 meters with category 5 cable
Automatic crossed detection
MDI/MDIX for all operating modes
Auto-negotiation complying with IEEE 802.3u
IEEE 802.1Q (VLAN)
IEEE 802.1X
2 status LEDs per port

Switch Fast-Ethernet

10/100-BaseT detection
Automatic semiduplex/duplex negotiation
MDI /MDI-X detection ("crossover detection")
Ethernet V2 / IEEE 802.3
LLC (802.2), ARP
IEEE 802.1Q (VLAN) up to 4096 VLANs
Managable Switch:

- EtherLike-MIB (RFC 2665)
- SNMP-REPEATER-MIB (RFC 2108)
- MAU-MIB (RFC 2668)

2 status LEDs and activity per port

Wireless LAN: specific features¹

802.11 a/b/g/n modes
Manual or automatic channel selection
Selectable transmission power
Manual or automatic speed selection
Turbo model (108 Mbps)
802.11i, WPA, WPA2
EAP, EAPOL
Authentication (open, shared, WPA)

Encryption (AES, TKIP, WEP)
ESSID
MAC filtering
Quality of Service (QoS) AIFS, CWmin, CWmax

Wireless WAN (3G) Interface²

Passive interface failure detection (analysis of received traffic)
Active interface failure detection (poll)
Advanced monitoring in the Radio Frequency interface
Dual PDP simultaneous context
Remote firmware updating for the model over airwaves
Automatic handover
Internal and external SIM trays
Connected SIM tray management, with multiple selection criteria:

- Signal level
- Radio Technology (GPRS, UMTS, HSPA, etc.)
- IP Polls (availability, latency, jitter, etc.)
- Manual configuration

3G dual context

USB Interface³

USB 2.0 host interface
3G features:

- Passive interface down detection (analysis of received traffic)
- Active interface down detection (poll)
- Automatic handover

Console

RS-232 a 9600 bps (max. 115200 bps)
8 bits without parity and one stop bit (8N1)

Power

Internal AC: 90v – 240v; 50/60Hz

Environmental Specifications

Temperature: 0°C to 40 °C
Relative Humidity: 5% to 85%
Barometric pressure: 860 mbar to 1060 mbar

Dimensions and weight

Length x Width x Height: 440 x348 x47 mm
Approximate weight: 4.5 Kg
Format: 19" rack and 1U

¹ The Wireless-LAN features are only available if the Wireless-LAN kit is included in the router.

² The Wireless-WAN features are only available if the Wireless-WAN kit is included in the router.

³ Optional feature.

Protocols and functionalities

IPv4 Protocol

IP, ARP, Proxy ARP
Static IP Routing
RIP I, RIP II, OSPFv2 and BGP-4
"Bidirectional Forwarding Detection" (BFD) protocol
Compatible with HSRP protocol
RFC 2281 VRRP – Virtual Router Protocol
Policy Routing
Multi-VRF
Quality of backup: Routing based on network quality measurements
Multi-path per IP packet (with static and dynamic routing)
Weight balancing per TCP/IP session
Multicast: IGMP, IGMP-proxy and MOSPF
DHCP client, server and relay
NTP Client
DNS Client and proxy. DNS cache.
DNS dynamic upgrading (RFC 2136)
DynDNS Client
NAT/PAT/Port Mapping/NAT Exceptions
PAT fire-walling
Multiple addresses per interface
Loopback Interfaces

IPv6 Protocol

IPv6 Core/Routing
Dual Stack IPv4/IPv6 (DS-Lite)
Address autoconfiguration
Multicast MLD/MLDv2
IPv4->IPv6 transition mechanisms
RFC 4213.
IPv6 over IPv4 / IPv4 over IPv6 tunnels
ACLs and Firewall
IPv6 Management (CLI, telnet, FTP, ping, traceroute, etc.)

PPP Protocol

PPP (RFC 1661), PAP/CHAP, IPCP
Dynamic assignment of IP addresses (own or end)
Multilink PPP
Multi-Class Extension to Multi-Link PPP (RFC 2686)

PPPoE Protocol

PPPoE over Ethernet and over ATM
PPPoE Bridge + routing (PPPoE pass-through)
PPP Multilink over PPPoE
Renegotiation based on PADT

ATM

SAR AAL5
PVCs: 31 y SVCs

Range of VPIs and VCIs: Complete
PVCs dynamic creation and destruction
Traffic Shaping: CBR, UBR, VBR-nrt, VBR-rt
OAM F4/F5

Encapsulation over ATM

IP routing RFC 1483 LLC and VC based
PPPoA RFC 2364 LLC and VC based
PPPoE RFC 2516 LLC and VC based
RFC 2225, Classical IP over ATM
Ethernet Bridged RFC 1483 LLC and VC based
Frame Relay over ATM: FRF.5 and FRF.8

WDM PON Certified in the LG-Ericsson ecosystem (100Mbit/s and 1 Gbit/s)⁴
Bi-directional symmetrical bandwidth
Optic technology with adaptable wavelength to reduce logistics, operation and maintenance
Nominal reach 20 km

Quality of Service (QoS)

Congestion control: FIFO, PQ, CBWFQ, LLQ
Packet marking (DiffServ) depending on the interface, subinterface, protocol, port, MAC and size
Traffic limitation in queues, with overflow in low priority queues
Standard limitation over ATM and Frame Relay
Fragmentation in FR (FRF.12) PPP and MPPP

Security and VPNs

IPSec client & server, compatible with third party IPSec ends
IPSec security services: ESP and AH
IPSec operation modes: Tunnel and transport
Codification: RC4, DES, 3DES and AES
Authentication: SHA-1 and MD5
IKE Protocol
ISAKMP Configuration methods. Oakley Groups 1, 2, 5 and 15
NAT-Traversal
Reverse Route Injection (RRI)
Digital certificates: X.509v3, LDAP and PKIX
SCEP Protocol
Tunnel End-point Discovery (TED) Protocol
IPSec PMTU Discovery
GRE and multi-GRE Protocol. GRE encryption RC4
Next hop resolution protocol (NHRP)
Dynamic Multipoint IPSec VPNs (DMIVPN)
Gateway Encryption Transport VPN (RFC 3547)
Radius Access Control (RFC 2138)
L2TP Client (LAC), L2TP initiation and L2TP server (LNS)

⁴ WDM-PON is compatible and certified for devices in an LG-Ericsson network.

L2TP/IPSec Server, compatible with Microsoft clients

Telnet, SSH and FTP console access protected by user name and password

Permission and user levels

Advanced IP filters

Firewall functions

- Static and dynamic access controls (Stateful Packet Inspection)
- Intrusion detection and denial of service

Data Compression

PPP and IPHC compression

Van Jacobson and STA LZS compression algorithms

IBM-SNA Support⁵

LLC2 conversion

SNA over IP:

- DLSw (RFC 1795) and remote IP Bridge (tunnel)

Bridge

Bridge over PPP (BCP), HDLC, FR and GRE.

STP "Spanning Tree Protocol" (IEEE 802.1d)

RSTP "Rapid Convergence Spanning Tree Protocol"(IEEE 802.1w)

Multiple bridge domains

Simultaneously bridging and routing

IEEE 802.1p CoS ("Class of Service")

PVST ("Per VLAN Spanning Tree Protocol")*

Source Routing, MAC filtering and NetBIOS

Telephony over IP (ToIP)⁶

Signaling:

- SIP: RFC 3261, RFC 3262, RFC 3264, RFC 3265
- SIP transport over UDP, TCP and TLS
- X509 over TLS authentication
- SIP SDP: RFC2327
- SIP SDES: RFC4568
- H.323, H.245, H.225
- RAS
- UA-NOE (Alcatel) (server function)
- SCCP (skinny) (server function)
- SIP and H323 modified AASTRA (server function)

Simultaneous telephone survival for

SIP/H323/SCCP/UA-NOE/SIP (AASTRA)/

H323(ASTRA) terminals

Encoders

- G711 (A law and mu law)
- G729 (a & b)

- G723.1 (5.3Kb & 6.4Kb)

- T.38

Emergency switchboard functionality

PBX Features

- Supervised and blind transfers
- Simultaneous ringing in multiple terminals
- Hunt groups
- Call groups
- Overflow
- Forward if busy, no answer or unconditional
- Music on hold in streaming mode from the file
- Configurable levels for microphone, loud speaker, echo and tones

RTP, RTCP, SRTP

Data fragmentation FRF.12

Header compression CRTP

Silence suppression (VAD)

Numeric expansion and compression

Various voice packets per data frame

Codec classes per destination

Direct dialing

X.25 Switch

Programmable routing

X.25 call parameter modifying

X.25 over TCP/IP: XOT (RFC 1613)

Management

Command line interface on console, telnet & ssh

Access/execution user levels (local authentication or RADIUS)

SNMPv3: MIB-2, Teldat private MIB

Events logging system

Network/link quality guarantee agent (similar functionality to SAA)

Netflow V5 and V9

Syslog Client

NTP Protocol

DynDNS Client

Software upgrading for FTP & TFTP, BIOS & configuration

Integrated protocol analyzer, compatible with Ethereal/Wireshark

Default configuration switch

Partial support for CDP (Cisco Discovery Protocol)

Radius Accounting (RFC 2139)

TACACS+

Integrated in Teldages (Teldat's professional management platform) and interoperable with third party management platforms such as Openview, Tivoli Netcool, InfoVista, etc.

⁵ SNA support requires SNA software licenses.

⁶ The Telephony over IP functionalities (ToIP) require ToIP software licenses

Expansion Modules

Ethernet switch slot

- 8 TO 16 PORTS FAST ETHERNET EXPANSION CARD

xDSL Slot

- TARJETA VDSL2 Anexo-A (compatible ADSL/ADSL2+)
- TARJETA VDSL2 Anexo-B/J (compatible ADSL/ADSL2+)
- ADSL2+ CARD (ADSL compatible)
- TARJETA G.SHDSL (ATM/EFM, 4 pares)

PMC Slot

- ADSL2+ CARD (ADSL compatible)
- 2 x GE SFP CARD
- 1 x E1/T1/PRIMARY CARD
- 4 x E1/T1/PRIMARY CARD
- 1 x SERIAL CARD
- 3 x SERIAL CARD
- 2 x BRI ISDN CARD
- 2/1 x ANALOG MODEM CARD
- VoIP 4/2 x FXS/FXO CARD
- VoIP 2 x E&M CARD
- VoIP 2 x BRI-ISDN CARD
- DATA + VOIP 1 X E1/T1-30C CARD
- WDM-PON CARD

Wifi Slot

- 802.11 a/b/g/n card

WWAN Slot

- 2/3G/3.5G/3.7G modules
- 2/3G/3.5G/3.7G/LTE modules

Storage Slot

- SATA 160 GB hard disk
- SATA 250 GB hard disk
- SATA 1 TB hard disk
- 4 GB solid state drive
- 16 GB solid state drive
- 64 GB solid state drive SSD

PRODUCT IMAGES



Figure 1: Atlas-60 router front panel



Figure 2: Atlas-60 rear panel

TELDAT DOCUMENTATION

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Code updates will be available as new functionalities are developed.

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