

Atlas 360

High performance multi-service modular router



“The Atlas 360 is the perfect combination of high performance and versatility at an unrivaled cost. Well ahead of the competition thanks to its latest generation processor technology and module design endowing total flexibility both as a router and a switch”.

Figure 1: Teldat Atlas 360 Router-Switch

HIGH PERFORMANCE ROUTER/SWITCH FOR CORPORATE USE

Migration to Fiber or VDSL2, high speed encryption, security against attacks or intrusions, IP telephony, PoE Switch or traditional interfaces/protocols, are just a few of the needs in today’s and tomorrow’s corporate world and to which the Teldat Atlas 360 gives answer in a single device.

The Atlas 360 is characterized by its high performance and versatility. With respect to high performance, this is capable of operating with Gigabit lines, supporting hundreds of Mbs of traffic including encrypted traffic and activated services while the versatility offers multiple options both regarding software (firewall capabilities, advanced QoS, management at operator level, etc.,) as well as hardware (4 expansion slots, WiFi dedicated slot, PoE switch dedicated slot and double electrical-optical Gigabit Ethernet).

The Atlas 360 has been designed for large and medium corporations or for a string of small offices and generally for all cases where Gigabit rates are required as well as advanced services. The integrated switch provides special added value, with PoE support for Telephony over IP.

A GLOBAL VIEW

The Atlas 360 router is the latest router to be developed from Teldat’s very successful Atlas 250 router family. It is a modular router like its predecessors, but also incorporates a slot dedicated to PoE switch. The main benefits are an obvious reduction in costs and simplifying management as it solves both the router and switch needs in a single device.

The Atlas 360 features are an order of magnitude over the previous generation of routers as the interfaces on the motherboard are Gigabit Ethernet, with optical-electric formats (SFP).

However it’s the modularity which is the key to the Atlas 360’s success and which enables it to grow with the needs of the company, incorporating WiFi, PoE Switch and 4 expansion slots that are compatible with previous generations benefiting the users with a wide range of communication options and IP telephony.

At a software level, Teldat’s Internetworking Code (CIT) adds a wide range of protocols and features over the router’s hardware platform, necessary to implement high quality managed corporate services. The extensive support for standard and inherited protocols ensures interoperability in a wide range of scenarios.

The following table displays the main characteristics of the Atlas 360 together with the Atlas 160 and 260 routers which make up Teldat’s X60 Atlas family:

Functionalities	Atlas 160	Atlas 260	Atlas 360
10/100/1000 ports on the motherboard	2	2	2 (SFP)

Number of slots for expansion cards	1	2	4
802.11 a/b/g option (doesn't occupy a slot)	Yes	Yes	Yes
Hardware Encryption	Yes	Yes	Yes
Telephony over IP support	Yes	Yes	Yes
Switch option (x16 PoE)	No	No	Yes

KEY CHARACTERISTICS

Modularity

This is the Atlas 360's key component as the motherboard interfaces are endowed with the following possibilities:

- Dedicated slot to incorporate a 16-port switch. With full PoE option for all the ports, i.e. with the capacity of powering any PoE device (all class 1, 2 and 3 devices are permitted) for each and every one of them
- Four PMC slots, compatible with all Atlas cards from previous generations.
- Slot for WiFi 802.11 a, b and g.

Features

The Atlas 360 has taken an enormous step by incorporating the latest technology in processors which endow the router with features of an order of magnitude with respect to previous generations, situating it well ahead of the competition with similar equipment. As a result, the Atlas 360 is capable of switching traffic at Gigabit speeds, and encrypting at rates of over 100Mbps (up to 400Mbps bidirectional IMIX traffic with services enabled).

State of the art security in communications and VPN

Teldat takes the issue of security very seriously; consequently the Atlas 360 routers are equipped with the latest generation of protocols to implement diverse VPN architectures. Hardware acceleration in encrypted information offers wire-speed performance which at no time affects the performance of the corporate applications whilst guaranteeing critical data using RC4, DES, 3DES and AES algorithms.

- Powerful security engine which includes SP (Stateful Packet Inspection) and DPI (Deep Packet Inspection), capable of detecting more than 9000 different types of service denial attacks and intrusion (client can remotely upgrade the attack pattern).
- 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.

WDM-PON Certified Product

WDM-PON is an innovative and revolutionary technology based on passive optical networks where each user transmits information on a different wavelength thus providing the user with a bandwidth well above that supplied by other current optical technologies, with greater security and confidence for the users as they operate in different bands and thereby taking greater advantage of the network infrastructure and its resources.

Wavelength multiplexing (WDM and DWDM) is not a new of concept; however with WDM-PON technology deployed in Atlas 360 is "colour-less" whereby the WDM-PON PCM expansion cards are not defined with a fixed wavelength but can auto-lock unto any defined seed wavelength. The Atlas 360 has been certified by LG-Ericsson, who are first to market with this innovative technology, which supports dedicated subscriber bandwidth of 100Mbps or 1Gbps downstream/upstream symmetrical.

IP Telephony support

The Atlas 360 permits you to activate Telephony over IP services, both for analog and digital telephony, thus allowing convergence of voice networks with data networks. Both for traditional telephone interface conversion or adaptation functions as well as call processing in IP functions ("IP Switchboard"), the Atlas 360 offers a scalable and robust solution for small and medium companies and for corporate headquarters, supporting up to 300 telephones without requiring a licensing schema. The Atlas 360 supports diverse telephony conversion or adaptation cards, all incorporating the most efficient compression algorithms or encoding. This device additionally supports H.323 and SIP as standard signaling protocols, interoperable with the best known equipment manufacturers.

Quality of Service

The Atlas 360 gives integral solution to the distinct convergence scenarios and services that demand features known as Quality of Service. This involves different types of traffic and users which are managed in diverse ways over the same communication network in order to comply with the quality requirements of each of these and offer the expected service level.

- Powerful prioritization policies and bandwidth reservation: FIFO, PQ, CBWFQ or LLQ.
- Up to 50 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, size, input port, etc.
- Traffic limiting per class with the possibility of overflow over other classes.
- Pre-classification in VPNs.
- Fragmentation and interleaving to ensure real-time traffic.
- DSCP tagging.

Intelligence in Advanced Networks

The Atlas 360 router offers full flexibility and adaptability for complex corporate network environments, thanks to the protocols and advanced functionalities that Teldat's Internetworking Code provides, which are always standardized.

- Dynamic routing protocols (RIP-2, OSPF, BGP) and policy-based routing.
- Virtual router protocols for High Availability in access networks: TVRP (Teldat protocol compatible with HSRP), VRRP.
- VRF-lite.
- Multicast Routing.
- Teldat's Network Service Level Advisor (NSM/NSLA): Supervision mechanisms for link quality (delay, jitter, etc.) that modify routing policies for traffic, data and ToIP call routing.

Device management at operator level

Like its predecessors, the Atlas 360 management is guaranteed. From this point, the device offers a high variety of protocols and management mechanisms to fully adapt to the corporate network management tools or for the service provider itself (managed services).

- 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 (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 SPECIFICATIONS¹

SYSTEM SUMMARY

System	Boot time	Cold boot time: approximately 22 sec. Warm re-boot time: approximately 10 sec.
	Dual IOS image on flash	Supported
Hardware	CPU	Freescale MPC8548E (1000MHz)
	BUS	330 MHz (660 MHz data clock)
	Memory	256 Mbytes (DDR2) (upgradeable up to 2GB)
	Flash	64 Mbytes
	Clock	Real time clock chip
	Power Supply	Internal AC: 100v – 240v; 50/60 Hz
	Interfaces (according to model and license)	2 x COMBO 1 x WLAN 1 x Console 4 x Slots for PMC daughter cards 1 x Slot for Switch cards
	Front Panel LEDs	Power Status 2 status LEDs for PMC slot 2 status LEDs for WLAN Gigabit Ethernet Interfaces: 2 status LEDs per port: link, speed and activity
	Cooling	2 controlled fans
	19 Rack mount	Supported
Environmental Specifications	Temperature: 5°C to 45 °C Relative Humidity: 8% to 85%	
Dimensions and weight	Length x Width x Height: 444 x 395 x 44 mm Approximate weight: 4 Kg Format: 19" rack and 1U	
Ethernet Interfaces	Physical ports	2 x Routed ports (WAN or LAN)
	Connector type	COMBO: 10/100/1000BASE-T RJ45 copper or SFP (only one port active)
	Connections supported	802.3i (10BaseT) 802.3u (100BaseT) 802.3ab (1000BaseT) SFP 1Gbps
	Cable supported	Cat5 Cat5e Cat6 Cat6e
	Maximum cable distance	10Mbps speed: 180 meters on copper 100Mbps speed: 100 meters on copper 1000Mbps speed: 100 meters on copper (only motherboard)
	Duplex Mode support	On all lan ports(half/full/auto).
	Auto-negotiation	Supported according IEEE 802.3u
	Crossover	Yes
	IEEE 802.1Q (VLAN)	4096 VLANs soportadas
	PoE	802.3 af (classes 0,1,2,3,4) optional on all switch ports
WLAN Interfaz	Hardware type	Internal module (1 module supported).
	Connector	Two detachable external antennas (SMA male connector)
	MIMO	2x2
	Wifi Modes	802.11 a/b/g/n modes

¹ Functionalities shown with an asterisk are currently being developed.

	Dual Band	Supported
	Radio Modules	1
	Channel Selection	Manual or automatic channel selection
	Speed Selection	Manual or automatic
	Power Selection	Configurable power transmission
	Power Save	Legacy power-save mode as well as U-APSD
	Turbo Mode (108 Mbps)	Not supported
	Operational Modes	Access Point or Client
	WPS	Supported
	Encryption Options	None. WEP-40: WEP encryption with 40 bit keys. WEP-104: WEP encryption with 104 bit keys. WEP-128: WEP encryption with 128 bit keys., TKIP AES-CCMP
	Quality of Service	AIFS, Cwmin, Cwmax
	Frame capture	Not supported
<u>Fiber Transceiver (Daughter Card)</u>	Physical ports	2 SFP port
	Cards supported	Up to 4 cards
	SFP-100 support	No
	SFP-1000 support	Yes
<u>ADSL2+/VDSL2 (Annex-A daughter Card and Annex-B daughter Card)</u>	Physical ports	1 port
	Cards supported	Up to 4 cards
	Connector type	2-wire female RJ11 connector
	Supported Technologies	ADSL/ADSL2/ADSL2+
	Supported Standards ADSL	ansi-t1.413 annex A. g.dmt (ITU G.992.1) annex A. g.dmt.bis (ITU G.992.3-ADSL2) annex A, L, M. g.dmt.bis-plus (ITU G.992.5-ADSL2+) annex A, M. g.lite ITU G.992.2
Bandwidth	ADSL2+ downstream: up to 27Mbps (ADSL+ Annex A) ADSL2+ upstream: up to 3 Mbps (ADSL+ Annex M,J)	
<u>G.SHDSL (Daughter Card)</u>	Physical ports	1 RJ11 port with 2-pair support (4 wires)
	2 wire / 4 wire	Yes, with auto synchronization
	Cards supported	Up to 4 cards
	ITU-T standarts	G.SHDSL (G.991.2), G.Handshake (G.994.1)
	16-TCPAM and 32TCPAM	Yes
	Supported annexes	Annex A (US) & Annex B (EU) = up to 2.304Mbps 2 copper pairs
	Dying Gasp	Yes (section 7.1.2.5.3 of G.991.2)
	Transport Mode	ATM AAL5 , SAR sublevel 31 PVCs
	OAM	Yes
	Inverse MUX	Yes, MPPP over different cards
<u>Serial (Daughter Card)</u>	Physical ports	1 or 3 ports
	Cards supported	Up to 4 cards
	Connector type	1 port card: DB25 female 3 port card: SCASI-II 68 pin
	Signaling Standards	X.21, V.35, EIA-232C
	DCE/DTE Operation	Supported

	Modes	Synchronous/Asynchronous
	Bandwidth	Up to 2Mbps with V.35
	Supported Protocols	PPP, MLPPP, FRL, HDLC, SDLC, X.25, ASDP, SCADA
	Ignore Signals	Configurable
<u>E1/T1 - Data (Daughter Card)</u>	Physical ports	1 or 4 ports
	Cards supported	Up to 4 cards
	Connector type	RJ45 4 wire female connector
	Framing	E1 or T1 (data only, voice not supported)
	Modes	Clear-Channel (only on E1 interface) Fractional Channelized
	E1 Supported Standards	ITU-T G.703, G.704
	E1 Framing	crc4, no-crc4, unframed-2048
	E1 Line Codes	Ami, hdb3
	T1 Supported Standards	ANSI T1. 403
	T1 Framing	SF, ESF, SLC-96
	T1 Line Codes	AMI, B8Z5
	Bandwidth	Up to 2Mbps per E1 interface Up to 1,544 Mbps per T1 interface
	Data Supported Protocols	PPP, MLPPP, FRL, HDLC.
	Signaling Standards	NET5 (Euro ISDN), NI (National ISDN 2), 4ESS, 5ESS S100, QSIG
ISDN PRI Features	T1 CAS Not Supported E1 R2 CAS - ITU-T Q.400-Q.490 recommendations NT or TE	
<u>E1 - Voice (Daughter Card)</u>	Physical ports	1 port
	Cards supported	Up to 4 cards
	Connector type	RJ45 4 wire female connector and (2) coaxials
	DSPs	Included. Up to 30 simultaneous calls with any codec
	Codecs	G.711, G.729A and G.723.1
	Voice features	Echo cancellation, VAD (Voice Activity Detection), DTMF detection, CNG (Confort Noise Generation)
	Framing	E1 voice
	E1 Supported Standards	ITU-T G.703, G.704
	E1 Framing	crc4, no-crc4, unframed-2048
	E1 Line Codes	Ami, hdb3
	Signaling Standards	NET5 (Euro ISDN), NI (National ISDN 2), 4ESS, 5ESS S100, QSIG
ISDN PRI Features	E1 R2 CAS - ITU-T Q.400-Q.490 recommendations NT or TE	
<u>ISDN-BRI - Data (Daughter Card)</u>	Physical ports	2 ports
	Cards supported	Up to 4 cards
	Connector type	RJ45 4 wire female connector
	Signaling Standards	CTR3/Euro-ISDN/Euro-numeris compliant
	Operational Modes	NT (Network mode) S0 or T0
	D-channel mode	Point-to-point and multipoint (TE mode)
	Channel bonding	Yes, up to 128Kbps
	Data Supported Protocols	PPP, MLPPP, FRL
<u>FXS/FXO</u>	Physical ports	4 ports

<u>(Daughter Card)</u>	Cards supported	Up to 4 cards
	Connector type	RJ11 2 wire female connector
	DSPs	Included. Up to 4 simultaneous calls with any codec
	Codecs	G.711, G.729A and G.723.1
	Voice features	Echo cancellation, VAD (Voice Activity Detection), DTMF detection, CNG (Confort Noise Generation)
	Operational Modes	FXS or FXO (soft configurable)
	FXS features	Loop start caller-id support (DTMF and FSK)/Bellcore, ETSI, DTMF-based (Nor-Europe) T.38 support for faxes DTMF and loop disconnect dialing REN of 4 CLASS features Configurable ring frequency & cadence
	FXO features	Address signaling support -- In-band DTMF, Signaling format -- Loop start and Ground start Call disconnect on progress tone of less than 600 Hz
<u>ISDN-BRI - Voice/Data (Daughter Card)</u>	Physical ports	2 ports + 1 bypass port
	Cards supported	Up to 4 cards
	Connector type	RJ45 4 wire female connector
	DSPs	Included. Up to 4 simultaneous calls with any codec
	Codecs	G.711, G.729A and G.723.1
	Voice features	VAD (Voice Activity Detection), CNG (Confort Noise Generation)
	Data Supported Protocols	PPP, MLPPP, FRL
	Signaling Standards	CTR3/Euro-ISDN/Euro-numeris compliant
	Operational Modes	NT (Network mode) or TE (User mode) S0 or T0
	D-channel mode	Point-to-point and multipoint (TE mode)
<u>E&M (Daughter Card)</u>	Physical ports	2 ports
	Cards supported	Up to 4 cards
	Connector type	RJ45 4 wire female connector
	DSPs	Included. Up to 4 simultaneous calls with any codec
	Codecs	G.711, G.729A and G.723.1
	Voice features	Echo cancellation, VAD (Voice Activity Detection), DTMF detection, CNG (Confort Noise Generation)
	Operational Modes	E&M types I, II, III & 4
<u>Console</u>	Interface	RJ45
	Type	RS232
	Speed	Default: 9600 bps Maximum: 115200 bps

LAYER 2 PROTOCOL SUMMARY

Ethernet

802.1Q (VLAN)	Yes
802.1P	Yes
Q-in-Q	Yes
Port Mirroring	In Gigabit Ethernet Switch ports

ATM over xDSL

AAL5 type	VC-multiplexing, LLC-multiplexing
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ATM Class of Service	UBR, UBR+, VBR-nrt, VBR-rt, CBR with traffic shaping
PVCs	Up to 31
OAM cells	Yes
Encapsulation	Routed IP, PPPoE, PPPoA (AAL5-mux), Ethernet Bridged over ATM, Classical IP over ATM, MLPPP Encap for support of xDSL multi-access
RFC	RFC 1483 (routed IP and bridged ethernet) RFC 2364 (PPPoA) RFC 2516 (PPPoE) RFC 2225 (Classical IP over ATM) Frame Relay over ATM (FRF.5 and FRF.8)

WLAN

Authentication Options	None, Open, Shared Key, WEP, WPA-PSK, WPA2-PSK (WPA Personal), WPA-802.1x, WPA2-802.1x (WPA Enterprise).
Security Options	WEP, WPA, WPA2
MAC Filtering	Supported
Multi SSID(ESSID)	Yes .Max. 4 SSIDs.
WMM QoS	Supported
Country Codes	Supported

WWAN

Automatic handover	Yes
Interfaz failure detection	Active and passive
Dual Context	Yes
SMS management	Yes
SIM selection criteria	Signal level, Radio technology (UMTS, LTE, ...), IP probes (availability, latency, jitter), Time Schedule, Manual configuration
GPS support	Yes
Module upgrade	Yes

Bridge

Interfaces	Ethernet, Frame Relay, PPP, ATM, HDLC, IP tunnel
Methods	Source Transparent Bridging (STB), Source Route Bridging (SRB), Adaptive Source Route Transparent Bridging (ASRT), Integrated Routing and Bridging (IRB)
STP protocols	Spanning Tree Protocol (STP) IEEE 802.1d Rapid Spanning Tree Protocol (RSTP) IEEE 802.1w Per VLAN Spanning Tree Protocol (PVST+)

SDLC

Functionalities	Primary and negotiable mode, Point to point/Multipoint, Half/Full duplex mode, MTU from 576 to 18.000 bytes
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HDLC

Protocols over HDLC	IP, ARP
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PPP

Base Interface	Synchronous serial line, Asynchronous serial line (AT commands), ISDN, ATM (PPPoA/PPPoE), G.703, L2TP, Frame Relay (PPPoFR) PVC, Internal port (GPRS, UMTS)
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Functionalities	PAP (Password Authentication Protocol) protocol. CHAP (Challenge Handshake Authentication Protocol) protocol. PPP Multilink Protocol complying. IPCP (Internet Protocol control Protocol). BCP (Bridging Control Protocol). CCP(Compression Control Protocol). MultiLink PPP
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PPPoE

Base Interface	ATM, Ethernet (subinterfaces included)
Functionalities	PPPoE Bridge + routing (PPPoE pass-through) PPP Multilink over PPPoE PADT based renegotiation

Frame Relay

LMI protocols	LMI Rev 1, NSI Annex D, Q.933 Annex A
Others	FRF.9 Compression, FRF.12 Fragmentation, LFI - Link Frame interleaving

X.25

IP integration	X.25 over TCP/IP: XOT IP over X.25
Channels	SVC and PVCs. Up to 300 channels

Supervisory Control And Data Acquisition (SCADA)

Serial Interface	RS-232 / RS-485
Protocols	MODBUS-RTU MODBUS-ASCII IEC 60870-5-101 UNBALANCED IEC 60870-5-101 BALANCED
SCADA TCP/IP Modes	MODBUS CLIENT MODBUS SERVER IEC-101 PROPIETARY CLIENT IEC-101 PROPIETARY SERVER

IPv4 PROTOCOL

IPv4 summary

Basic features	IPv4 stack and dual stack IPv4/IPv6 ARP and Local Proxy ARP Path MTU discovery NAT (static, dynamic, NATP, ALG, PAT firewalling) Equal Cost Multi-Path Routing (ECMP)
Routing protocols	Static routing Policy Based Routing (PBR) RIP OSPF BGP
Others	VRF support IP SLA TVRP (HSRP compatible) / VRRP

RIP

Supported versions	RIP-I, RIP-II
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OSPF

Supported versions	OSPF-2
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BGP

Supported versions	BGP-4
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VRF

Maximum VRFs	255
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IP SLA (SAA)

Supported features	NSM (Network Service Monitor) feature for measures or operations NSLA (Network Service Level Advisor) feature for advisors.
Controlled protocols	IP routes, SIP Server, UA-NOE Server, route/maps, ToIP
IPSLA probes	Response time through Echo IP/ICMP Web page download time. Jitter measurement between two routers. Connection status through a BFD session

Multicast

Features	IGMP (v1,v2, v3), PIM-SM, MSDP, MLD
IGMP versions	IGMPv1, v2, v3
MLD version	Multicast Listener Discovery Version 2 (MLDv2)

IPv6 PROTOCOL

IPv6 summary

Basic Features	Dual Stack IPv4/IPv6 DHCP Server and Client Neighbor Discovery Default Address Selection Unique Local IPv6 Unicast Addresses (ULA) ICMPv6 SLAAC
Routing protocols	Static Routing RIPng OSPFv3 MP-BGP (IPv6 e IPv4 unicast)
Multicast	RFC 2710. Multicast Listener Discovery (MLD) for IPv6 RFC 3810. RFC 4604. Multicast Listener Discovery 2 (MLDv2) MLDv2 Listener (ND and ICMPv6 support) MLD Querier
Transition mechanism	IPv6 over IPv4 (Manual, automatic 6to4, 6rd) IPv4/IPv6 over IPv6 GRE IPv4/IPv6 all combinations
Types	Manually configured IPv6 over IPv4 tunnels Automatic 6to4 Tunnels Automatic 6rd Tunnels (Rapid Deployment)

IPv6 Tunnels

Types	IPv4 over IPv6 IPv6 over IPv6
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NETWORK SERVICES

Summary of Nework Services

Supported Services	<p>DHCP Server, Relay, Client. NTP Client. DNS Server, Client, DNS Client Lookup. DynDNS (RFC 2136). FTP Server/Client, SFTP Server/Client. SSH Server and Client. Telnet Server/Client. TFTP Server. AAA: Local, Radius and TACACS+ LDAP Client Syslog Client Proxy ARP. SCP Client. ICMP Ping and Traceroute. CDP (partial support)</p>
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AAA (Authentication, Authorization and Accounting)

Services supported	Console, Telnet, SSH, FTP, PPP
Server support	RADIUS, TACACS+

LDAP for IPv4

Version	LDAP version 2
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VPN (VIRTUAL PRIVATE NETWORKS)

VPN Summary

Protocols	L2TP, IPsec, GRE, DMVPN (NHRP), GETVPN
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IPSec

Security services	ESP, AH
Modes	Transport and Tunnel Mode
IKE	Main and Aggressive mode
Authentication	<p>Preshared Key Signatures RSA public key Certificates (CSR, SCEP, Revocation Lists from LDAP Servers, X.509v3, PKIX) MD5 SHA-1</p>
Encryption	<p>DES (56-bit) 3DES (168-bit) AES encryption (128, 192, 256 bit)</p>

QoS (QUALITY OF SERVICE)

QoS General

Available interfaces	<p>Frame Relay and FRL Subinterfaces X.25 Lines PPP and MLPPP Lines HDLC Lines ATM Subinterfaces Ethernet Interfaces and Subinterfaces Wireless LAN Interfaces TNIP Interfaces BVI Interfaces</p>
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Scope	Traffic classification Traffic marking (Diffserv) Distributing bandwidth Prioritization Traffic shaping
Number of classes	32
Priority queues	16 priority queues per interface (4 intraclass x 4 interclass)
Policies	Strict Priority Low Latency Queue (LLQ) Weighted fair queuing(WFQ) CBWFQ, (Class based weighted fair queuing)

TRAFFIC CLASSIFICATION

Access List (ACL)

Services using ACL	Filters Security/Firewall purposes Routing protocols QoS data flows VPN data encryption
ACL limit	Up to 7000 ACL

Prefix List

Services using Prefix List	RIP OSPF BGP
Prefix List limit	Up to 199 prefix list

SECURITY AND FIREWALL

Security and Firewall

Level 2 security	MAC Filtering 802.1X Authentication (802.11i for Wifi connections)
Stateful inspection (stateful firewall)	Filtering Denial of Service Web Content Filtering Filtered content in user data Filtering P2P sessions RTP traffic filtering Filtering ICMP-echo to the WAN interface Rate-Limit for specific trades (Ping-flood attack) Filtering denied addresses (RFC1918)

MANAGEMENT

Management

Management options	CONF or AUX serial port SNMP v1, v2c and v3. Telnet SSH1/2
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SNMP

Version supported	SNMP v1, v2c, v3
RMON	Supported (group Alarm and group Event)

Netflow

Version supported	Netflow version 5 and version 9
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Sniffer

Capture from	Selected interface or all interfaces
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File format	Wireshark compatible
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TELEPHONY OVER IP

General

Protocols	SIP (UDP and TCP), SIPoTLS, H.323, UA-NOE, MGCP, SRTP, Media Encoding, SCCP (Skinny)
Survival terminals support	SIP, UA-NOE, SCCP (Skinny), H.323
Telephony survival features	<ul style="list-style-type: none"> Basic call incoming & outgoing call Block dialing for outgoing call DDI Calling line / name identification presentation (CLIP/CNIP) Calling Line Identification Restriction (CLIR) Connected (COLP) party number identification Connected line /name identification restriction (COLR) Call forwarding unconditional (CFU) Call forwarding on Busy (CFB) Call Hold (CH) Enquiry call Broker call Conference call Transfer

SNA

General

Encapsulation over LAN/IP	<ul style="list-style-type: none"> LLC2 DLSw (SNA over IP)
Encapsulation over serial port	<ul style="list-style-type: none"> SDLC QLLC BAN (SNA over FR) X25 (QLLC)

DATA ACCELERATION

Data Compression

Support	IP, X.25 and PPP
Standards	Van Jacobson STA LZS

HIGH AVAILABILITY

General

H.A. Protocols	<ul style="list-style-type: none"> Fault Recovery: BFD ECMP(Equal Cost Multipath) for RIP, OSPF and BGP VRRP and Interface Tracking TVRP (HSRP compatible) WRR(Wan Reroute) (Internal feature for interface backup)
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BFD

Version	Version 0, version 1
Key Authentication	MD5, SHA1



Teldat Router Atlas-360: Front panel



Teldat Router Atlas-360: Rear panel

TEL DAT DOCUMENTATION

This datasheet shall be used only for information purposes. Teldat reserves the right to modify any specification without prior notice.

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