



ANDA Telecom ATSR-40 Series Routers

ANDA telecom ATSR-40 series is advanced router for MAN and enterprise core layer. It is a hardware-based high-speed access core router with NP technology developed by ANDA Telecom, which integrates multi modules together, like firewall, routing, and QoS, supports multi ethernet ports including E1, POS, PE, GE, offer high-integration, high-performance, flexibility, and resilience solution at low cost.

Specification Model	ATSR-40-08	ATSR-40-04
Feature		
Hardware Feature		
Product image		
Architecture	Distributed forwarding based on NP	
MCP	Power PC(533MHz)	
Forwarding engine	NP	
Switching capacity	8Gbps	
Forwarding performance	9Mpps	6Mpps
RAM(default/maximum)	256M/512M	
Routing table capacity	256K(256M MCP memory) 512K(512M MCP memory)	
Forwarding table capacity	120K	
RPU quantity	1	
NPU quantity	2	1
RPU port	1 x RS232 console 1 x 10/100Base-TX(OOB management)	
NIM quantity	6	3
Power quantity	One(supports power)	
PSU quantity	1(supports dual power)	
Output voltage	AC: 100~240V Maximum current: 3.2A DC: -40V~-70V Maximum current: 7.5A	
Maximum power consumption	300W	150W
Operating temperature	0 ~ 40° C	
Relative humidity	5 ~ 90%(non-dewing)	
Dimension (W*D*H)	482 mm×370 mm×112 mm	
Software		

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Network interconnection	LAN protocol	ARP, Ethernet, VLAN/VLAN VPN/Voice VLAN/Video VLAN/PVLAN/Super VLAN, 802.3x, 802.1p, 802.1Q, 802.1x, RSTP, MSTP, STP, GVRP, GMRP
	Wan protocol	PPP, MP
	IP service	Fast forwarding(unicast/multicast) TCP, UDP Policy routing(unicast/multicast)
	IP application	Ping, Traceroute DHCP Server/DHCP Relay/DHCP Client DHCP Snooping DHCP Snooping Option82/DHCP Relay Option82 DNS Client/DNS Static/DNS Proxy NTP, Telnet, TFTP Server/FTP Server
	NAT	Realizes NAT function module group based on NP(expandable) Provides 200K concurrent sessions Processes 50K new sessions in each second Refreshes 10K NAT entries in each second Supports NAT policy routing and multi-line backup Supports blacklist function Supports line-detect technique
	IP routing	Supports static routing Supports dynamic routing: RIP, OSPF, BGP, IS-IS Supports multicast routing: IGMP-Snooping, IGMP, PIM-DM, PIM-SM, MBGP, MSDP, SSM
	IPv6	IPv6 basic function: IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL IPv6 transition technique: NAT-PT, IPv6 tunnel, 6PE Static routing Dynamic routing protocol: RIPng, OSPFv3, IS-ISv6, BGP4+ Multicast routing protocol: MLD Snooping, MLD, PIM-SM for IPv6, MBGP for IPv6, MSDP for IPv6, SSM for IPv6
	MPLS	LDP, RSVP MPLS L3 VPN, MPLS L2VPN RSVP-TE, RSVP-FRR
Network security	Port security	802.1x, PAP, CHAP
	Protocol security	Routing protocol authentication: plain text, MD5 encryption
	AAA	Local authentication, Radius authentication

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	Firewall	Supports bandwidth control and concurrent sessions control for single IP address Flexibly solves network bottleneck made by P2P software Supports dynamic packet filtering based on state inspection
ANDA Telecom ATSR-40 Series Routers Realize fast packet filtering based on source IP address, destination IP address, source port, destination port, protocol, time, flow, user authentication and URL Supports application layer proxy(such as HTTP, SMTP, FTP, TELNET and POP3 proxies based on TCP)and transport layer proxy(such as sock proxy based on TCP and UDP) supports monitoring over HTTP, FTP, RTSP, H.323, TCP and UDP application states Avoid scan snooping		
Other security technique	URPF, Local access-group	
Network reliability	Supports PSU N+1/1+1 redundancy backup Supports Graceful-restart for IS-IS/OSPF/BGP Supports RSVP-FRR Supports VRRP Supports load balance based on bandwidth Supports Line-detect technique	
QoS	Traffic classification	Supports flexible classification, IP/IP precedence/DSCP/interface and others
	Scheduling algorithm	FIFO, PQ, WRR, CQ, WFQ, CBQ, etc
	Output queue	8 output queues based on priority
	Traffic monitoring	Supports CAR(Committed Access Rate) Supports input/output rate-limit
	Traffic shaping	Supports LLS, NLS, WFQ
	Congestion control	WRED/RED
	Other QoS techniques	QoS Remap, MPLS QoS, MP QoS
Service, management and maintenance	Network management	Supports SNMPV1/V2c/V3 Supports Local Syslog/Remote Syslog Supports Netflow based on NP Supports WindROSE GUI management system
	Configuration	Compatible with Cisco CLI
	Login	Supports Console, Telnet, SSH Supports Login Management control Supports User Level Management

Order Information Model	Description
Integrated Chassis Component	
ATSR-40-08-Chassis	ATSR-40-08 integrated chassis components(horizontal slot, 6 x NIM slot, 1 x MCU slot, 2 x NPU slot, 2 x PSU slot, chassis, fans)
ATSR-40-04-Chassis	ATSR-40-04 integrated chassis components(horizontal slot, 3 x NIM slot, 1 x MCU slot, 1 x NPU slot, 2 x PSU slot, chassis, fans)
Control/Forwarding Engine	

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MCU-PCG1-NX10	ATSR-40 master control unit engine(64MB Flash+1GB DDR2)
NPU-NPG1-NX10	ATSR-40 network process unit engine
NPU-NPG1-1GS-NX10	ATSR-40 network process unit engine, default 1-port 1000Base-FX SFP
Power Supply Module	
PSU-AC400	AC power supply unit(220VAC, 400W)
Network Interface Module	
NIM-FE-4T-NX10	Flexible card-insertion, 4-port 100Base-TX(RJ45)
NIM-FE-8T-NX10	Flexible card-insertion, 8-port 100Base-TX(RJ45)
NIM-FE-8S-NX10	Flexible card-insertion, 8-port 100Base-FX(SFP)
NIM-GE-1C-NX10	Flexible card-insertion, 1-port 1000Base-TX/FX combo(RJ45/SFP)
NIM-GE-2S-NX10	Flexible card-insertion, 2-port 1000Base-FX(SFP)
NIM-GE-2T-NX10	Flexible card-insertion, 2-port 1000Base-TX(RJ45)
NIM-GE-4S-NX10	Flexible card-insertion, 4-port 1000Base-FX(SFP)
NIM-GE-4T-NX10	Flexible card-insertion, 4-port 1000Base-TX(RJ45)
NIM-GE-8S-NX10	Flexible card-insertion, 8-port 1000Base-FX(SFP)
NIM-GE-8T-NX10	Flexible card-insertion, 8-port 1000Base-TX(RJ45)
NIM-E1-4D50-NX10	Flexible card-insertion, 4-port E1-DB50-75ohm, BNC
NIM-E1-8D50-NX10	Flexible card-insertion, 8-port E1-DB50-75ohm, BNC
NIM-E1-16D50-NX10	Flexible card-insertion, 16-port E1-DB50-75ohm, BNC
NIM-OC3-2S-NX10	Flexible card-insertion, 2-port POS OC3(SFP)
NIM-OC3-4S-NX10	Flexible card-insertion, 4-port POS OC3(SFP)
NIM-cOC3-1S-NX10	Flexible card-insertion, 1-port Channelized POS OC3(SFP)
NIM-cOC3-2S-NX10	Flexible card-insertion, 2-port Channelized POS OC3(SFP)
NIM-OC12-1S-NX10	Flexible card-insertion, 1-port POS OC12(SFP)
NIM-STM1-1S-NX10	Flexible card-insertion, 1-port ATM OC3(SFP)
NIM-STM1-2S-NX10	Flexible card-insertion, 2-port ATM OC3(SFP)
E1 Cable	
CB-4E1-DB50-75ohm-1m	75Ω cable[DB50(pin)-8*BNC(hole), 4-path, 1 meter]
CB-8E1-DB50-75ohm-1m	75Ω cable[DB50(pin)-16*BNC(hole), 8-path, 1 meter]
Software	
nROSE-ATSR-40-STD	ATSR-40 standard software
nROSE-ATSR-40-BSC	ATSR-40 basic software

Application

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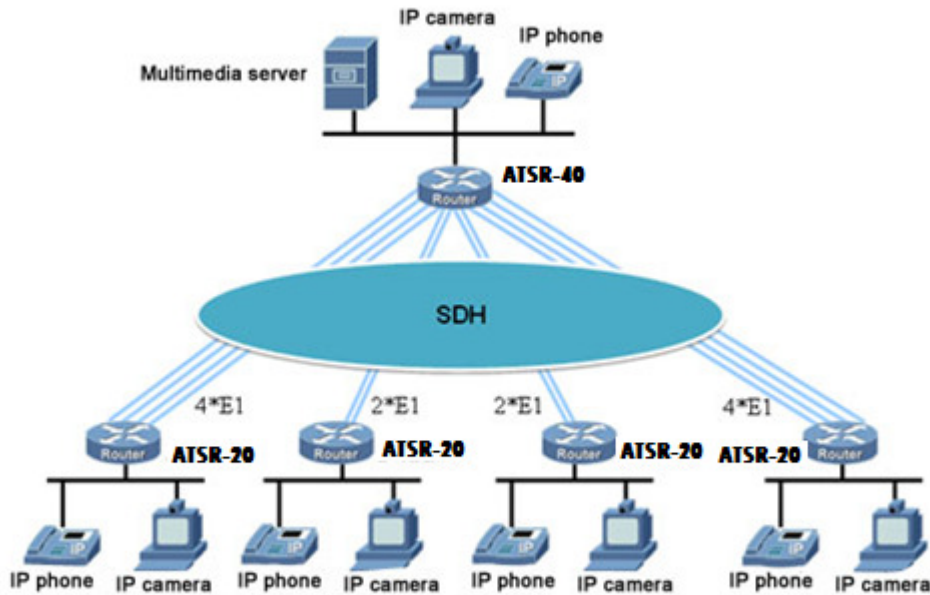
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Multi-Media and Video Communication Solution Based on E1

Multi-media and IP video are the most important components of information superhighway. It is a technology emerged in recent year and is the product of the inter-development of multi-media, communication, computer and network. ANDA Telecom provides E1-based multi-media and video communication solution based on to meet the VoIP and video meeting requirements of enterprise. In this solution, headquarters uses ATSR-40 series router to connect each branch through the multi-link PPP to construct a high reliability and high quality network transmission platform for multi-media and IP video data. ANDA Telecom ATSR-40 series router adopts high performance network processor platform, provides abundant port type, supports L2/L3 wire speed forwarding, supports perfect QoS function, supports PIM-SM, PIM-DM, MSDP, PIM-SSM and other multicast protocols, and supports the unique E1 line card self-recovery function to solve the problem of E1 line interruption effectively. All nodes support MPLS L2/L3 VPN and RSVP-TE.

Solution of Medium and Small Campuses Network Export

Campus network is a typical network. Internal data and external data interact in the export. As the constant development and data increasing, customer brings forward high requirement of network export. ATSR-40 series router adopts high performance NP to realize distributed forwarding of packet on the high speed port. Although under the environment of thousands of ACL and complicated PBR, each line card still can provide wire speed forwarding of IP and MPLS. ATSR-40 series router supports 200K concurrent sessions; processes 50K new sessions in each second; refreshes 100K NAT entries in each second, so ATSR-40 series router fully meets the requirement of export device of large/medium campus network. Customer can select firewall module flexibly according to practical condition to realize 2 million concurrent sessions, which

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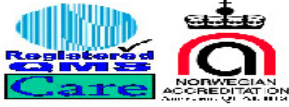
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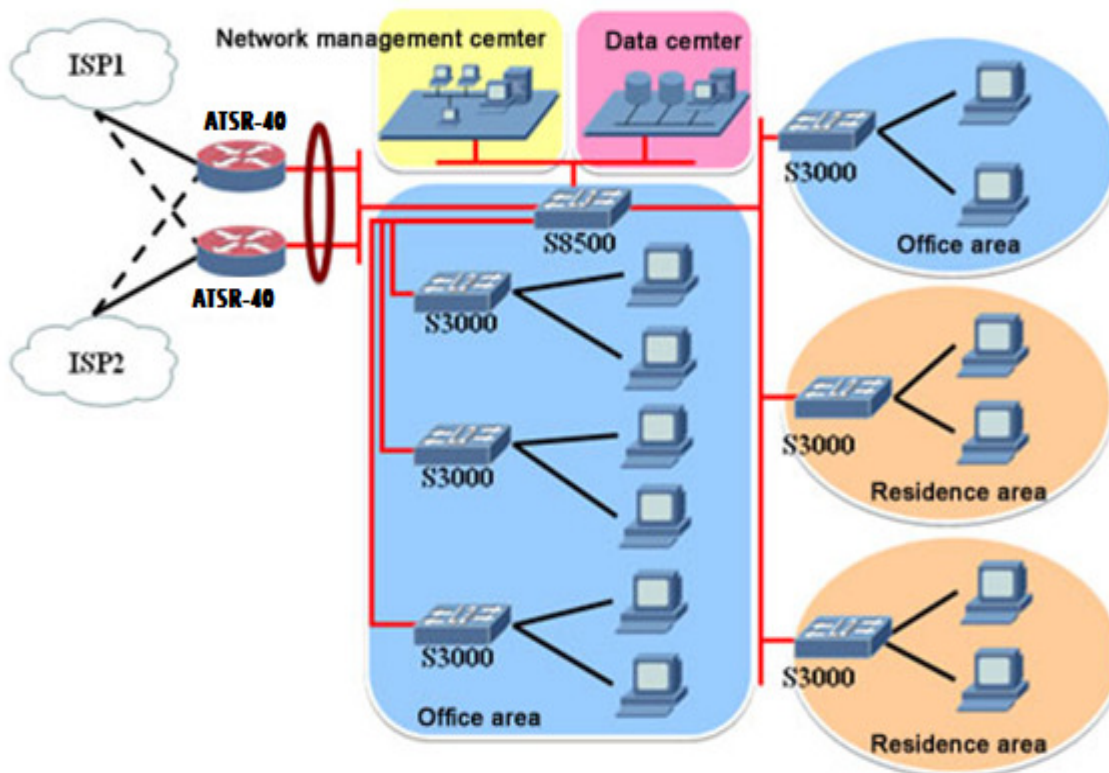
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fully meets 1000 user online at the same time without network bottleneck. This solution realizes the redundancy backup and load balance through 2 ATSR-40 series routers, and configures ATSR-40 series firewall to realize high performance NAT translation and network attack defending, combining with ANDA Telecom unique line-detect technique to realize export smooth switching.



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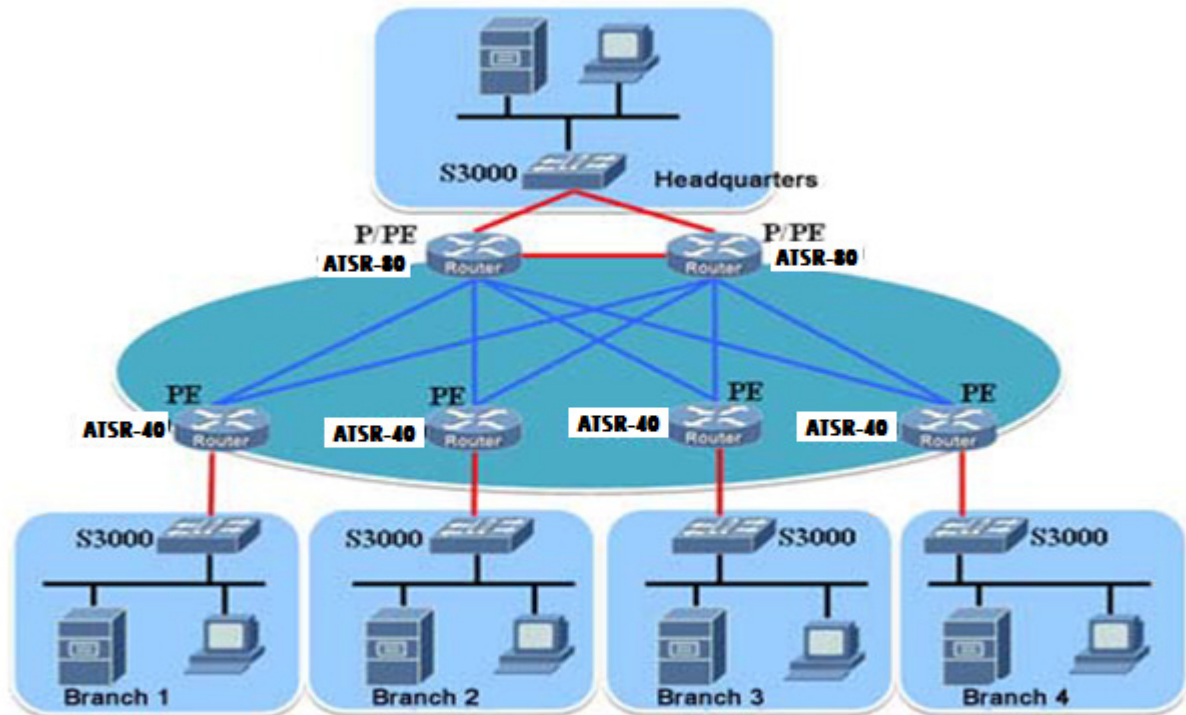
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MPLS VPN



MPLS VPN technique is widely used between headquarters and branches of large enterprise. MPLS VPN technique not only ensures quality and security, but also reduces the cost, especially provides voice, data and even video for enterprise customer. In this solution, as the MPLS backbone PE device, ATSR-40 series routers connects uplink P/PE device through POS, and provides downlink, all branches, gigabit bandwidth VPN. ATSR-40 series router adopts high performance NP to realize distributed forwarding of packet on high speed port. Although under the environment of thousands of ACL and complicated PBR, each line card still can provide wire speed forwarding of IP and MPLS. ATSR-40 supports abundant port types and high performance process capacity, so that fully meet the requirement of multi-customer access at the same time.

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