ALCATEL 7420

Edge Services Router | Release 1.0

The Alcatel 7420 Edge Services Router (ESR) is a next generation, carrier grade router optimized for differentiated business class IP services. It offers a unique, distributed architecture, intelligent forwarding at wire-speed, scalability, high-density aggregation and linear performance growth. It gives Internet service providers (ISPs) a keen competitive edge and a new ability to maximize subscriber satisfaction, today and tomorrow.

Designed for installation in a central office or service provider point of presence, the 7420 ESR offers wire-speed parallel packet forwarding while applying even the most complex IP policies. It forwards 18 million packets per second with latencies less than 50 ms and it can mark, classify, police, label and forward 48 BIPS (forwarding rates scalable with higher speed cards). It supports a throughput of 40 Gb/s which is scalable to 80 Gb/s.

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Performance and Scalability

- 18 Mpps aggregate forwarding rate
- 40 Gb/s capacity scalable to 80 Gb/s
- 4,500 T1s scalable to 9,000 T1s
- Linear performance growth
- Software upgradeable fast path forwarding

Interfaces

- 6-port clear channel DS3
- 6-port channelized DS3
- 4-port POS OC-3c (SR/IR/LR Interface options)
- 4-port ATM OC-3c (SR/IR/LR Interface options)
- 1-port POS OC-12c (SR/IR/LR Interface options)
- 1-port ATM OC-12c (SR/IR/LR Interface options)
- Console: TIA/EIA-232, RJ-45

Services/Protocols Supported

Routing protocols

- Intra-domain routing: OSPFv2
- Inter-domain routing: BGP-4

WAN protocols

- Frame relay: LMI, UNI, PVC, traffic shaping
- IP over frame relay: RFC 2427 (obsoletes RFC 1490)
- ATM: ILMI, UNI v3.1/4.0, PVC, OAM F4/F5
- IP over ATM: RFCs 1483 and 2225 (classical IP over ATM)
- PPP: standards-based PPP over SONET/SDH

MPLS Support

- Encapsulation:
  - VPI/VCI
- LDP
- MPLS-based VPNs

Redundancy

- Hot swap: all field replaceable units
- Power: 1+1
- Cooling (fan): N+1
- Switch fabric: 1+1
- System service module: 1+1
- 1+1 interface redundancy

Traffic/Congestion Management

- Traffic classification: based on interface, protocol, SA/DA, source and destination TCP/UDP port number, ToS/DSCP
- Policing: Traffic may be categorized as CIR, Bc and Be
- Per hop behavior: DiffServ EF and AF classes
- Queuing: eight outbound per logical channel
- Scheduling: priority, CBQ and WFQ
- Ability to configure queuing discipline and percentage of the link rate with respect to other queues
- Congestion avoidance: RED, WRED

Quality of Service Features

- IP QoS: DiffServ per hop behaviors
- ATM QoS: CBR, rt-VBR, nrt-VBR, UBR, UPC policing
- Frame relay traffic control: CIR, EIR, DE, FECN/BECN
- Policy-based routing as per service definitions
- Metering statistics provide traffic details per interface

SNMP Support

- MIB II as per RFC 1213
- Interface table MIB as per RFC 1573
- SONET MIB as per RFC 1595
- DS3/E3 MIB as per RFC 1407
- ATM interfaces MIB as per RFC 1695
- ILMI MIB as per ATM Forum UNI v.3.1

Network and Service Management

- Local or remote management capability
- Configuration model: CLI script interface
- SNMP agent: public MIBs, Alcatel private MIB
- Alcatel 5620 Network Manager (NM) support via Alcatel 5520 SNMP Element Manager (SNMP EM)
- Centralized alarm management with audible and visual alarm notification
- Centralized software management administration
- Automatic discovery of equipment additions, deletions and changes
- Sophisticated link and path management
- Extensive performance data for SLAs and billing capabilities
- Open interfaces at the network and service levels for maximum business automation

Chassis Specifications

- Empty chassis weight: 23 kg (50 lb.) approximately
- Weight fully populated: 83 kg (180 lb.) approximately
- Width: 44.3 cm (17.43 in.)
- Depth: 48.26 cm (19 in.)
- Height: 58.42 cm (23 in.)
- Space requirement: 60.96 cm (2 ft.) in front, 60.96 cm (2 ft.) in back

Regulatory Compliance

- Safety: UL 1950 Third Edition, cUL 950, IEC 950 Amendments 1, 2, 3 and 4, AS/NZ 3260 ACA TS001-1997, EN 60950, CE Mark
- Emission: EN 50082-1, FCC Part 15A/15B, EN 55022/CISPR22, AS3548, VCCI
- NEBS GR-63-CORE, GR-1089-CORE

Operating Environment

- Normal operating temperature range: 2 C to 50 C (23 F to 122 F)
- Normal operating altitude: less than 91.44 m (30,000 ft.)
- Humidity: 5% to 98%
- Cooling: Nine internal fans arranged in three hot-swappable trays.

Power

- 40 A/1,500 W
- -40 V to -75 V DC

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