

- Data routing
- Flexible service configuration
- Hardware acceleration of data processing
- Multiprotocol Label Switching (MPLS)
- Building a secure network (NAT, Firewall)
- Intrusion Detection and Prevention System (IDS/IPS)
- Service Level Agreement (SLA)
- Filtering of network data by various criteria (including filtering by applications)
- Organization of secure network tunnels between company branches
- Remote connection of employees to an office
- Internet channel management and bandwidth allocation within an office using QoS
- Organization of backup connection (wired or via 3G/LTE modem)
- Subscriber termination and bandwidth limitation BRAS (IPoE)
- Pairing with equipment from leading vendors

**ESR-3100, ESR-3200, ESR-3200L, ESR-3300** service routers are universal hardware platform capable of performing a wide range of tasks related to network security, data encryption, subscriber termination, etc. The product line includes models that can be used in networks of various sizes: from small enterprise networks to carrier networks and data centers.

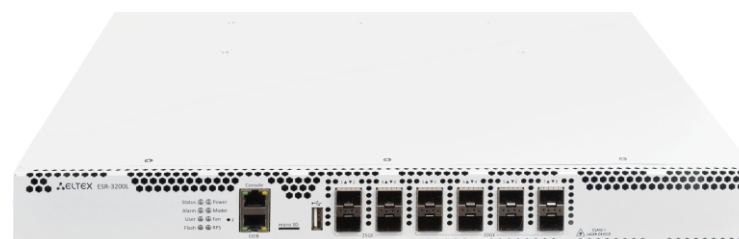
The key elements of the series are hardware-accelerated data processing. Optimal distribution of data processing functions among the device parts maximizes performance.



ESR-3100



ESR-3200



ESR-3200L



ESR-3300

## Technical features

	ESR-3100	ESR-3200	ESR-3200L	ESR-3300
Interfaces				
Ethernet 10/100/1000BASE-T (LAN/WAN)	8	—	—	—
1000BASE-X/10GBASE-R/25GBASE-R (LAN/WAN)	—	12	4	4
10GBASE-R SFP+/1000BASE-X SFP (LAN/WAN)	8	—	8	—
40GBASE-R QSFP+/100GBASE-R QSFP28	—	—	—	4
Console RS-232 (RJ-45)	1	1	1	1
OOB	—	1	1	1
USB 2.0	—	1	1	—
USB 3.0	2	—	—	1
SD card slot	1	—	—	—
microSD card slot	—	1	1	1

For firmware version 1.24.

## Technical features (continued)

	ESR-3100	ESR-3200	ESR-3200L	ESR-3300
Performance				
Firewall/routing (1518B frames)	25.1 Gbps; 2069.7k pps	43.6 Gbps; 3588.3k pps	22 Gbps; 1811.4k pps	74.8 Gbps; 6160.7k pps
Firewall/routing (IMIX) <sup>1</sup>	10.4 Gbps; 1885.7k pps	19.8 Gbps; 3593.2k pps	9.9 Gbps; 1801k pps	33.9 Gbps; 6141.8k pps
L2 switching (1518B frames)	35.9 Gbps; 2958.4k pps	28.7 Gbps; 2363.1k pps	14.5 Gbps; 1196.8k pps	36.9 Gbps; 3039.3k pps
IPsec VPN (1456B frames)	3.2 Gbps; 272.5k pps	1.9 Gbps; 161.8k pps	1.6 Gbps; 141k pps	2.7 Gbps; 229.3k pps
IPsec (IMIX)	1.7 Gbps; 309.4k pps	983.1 Mbps; 183.9k pps	863.9 Mbps; 161.9k pps	1.4 Gbps; 258.5k pps
IPsec tunnel (1456B frames)	282 Mbps; 24.2k pps	325.4 Mbps; 27.9k pps	320.7 Mbps; 27.5k pps	353.9 Mbps; 30.4k pps
IPsec tunnel (IMIX) <sup>2</sup>	148 Mbps; 27.7k pps	171.4 Mbps; 32k pps	169.6 Mbps; 31.7k pps	187.2 Mbps; 35.1k pps
IPS/IDS 10k rules	1.15 Gbps; 237.9k pps	1.4 Gbps; 259.6k pps	729 Mbps; 135.6k pps	2.6 Gbps; 477.8k pps
MPLS L2VPN switching (IMIX)	1.5 Gbps; 267.6k pps	1.4 Gbps; 263.9k pps	1.4 Gbps; 267.6k pps	1.6 Gbps; 286.5k pps
MPLS L3VPN switching (IMIX)	668 Mbps; 122.2k pps	916.3 Mbps; 168.3k pps	915.9 Mbps; 167.1k pps	1 Gbps; 184.5k pps

For firmware version 1.24.

<sup>1</sup>Traffic format (number per second : size of each frame) - 8:74; 5:512; 7:1518.

<sup>2</sup>Traffic format (number per second : size of each frame) - 8:74; 5:512; 7:1456.

## Technical features (continued)

	ESR-3100	ESR-3200	ESR-3200L	ESR-3300
Number of CPU by role				
Control CPU	0			
Balancing CPU	15–17	–	–	–
Service CPU	2–14, 18–23	1–23	1–11	1–35
Switching				
Interfaces	bridge – 500 sub – 2048 QinQ – 2048			
LLDP	interfaces port policies – 8 network policies – 64			
Label switching				
MPLS	LDP neighbors – 1024 pseudowires – 1024 pseudowire classes – 64 Ethernet over MPLS – 256			
System features				
Static routes	11k			
Maximum number of competitive sessions	8.5M			
VLAN	up to 4094 active VLANs in accordance with 802.1Q			
FIB size	1.7M			
VRF	32			
PBR	instances – 50 rules for all instances – 512			

For firmware version 1.24.

Technical features (continued)

	ESR-3100	ESR-3200	ESR-3200L	ESR-3300
Object-groups				
Object-group network		instances – 500 ip prefixes in group – 1024 ip ranges in group – 1024		
Object-group address:port		instances – 500 address:port in group – 64		
Object-group service		instances – 500 ports ranges in group – 64		
Object-group application		instances – 50 apps in group – 128		
Object-group content filter		instances – 64 categories per vendor – 500		
Object-group URL		instances – 31 plain URL in group – 32 regex URL in group – 32		
Object-group MAC		instances – 500 macs in group – 64		

Technical features (continued)

	ESR-3100	ESR-3200	ESR-3200L	ESR-3300
Routing				
BGP			instances – 64 networks in instance – 128 neighbors – 1k RIB – 5M	
OSFPv3			instance, neighbors in interface – 64 summaries in instance – 128 areas – 256 networks in area – 64 virtual links – 1024 RIB – 500k	
IS-IS			instances, circuits – 64 RIB – 500k	
RIP(ng)			neighbors – 16 summaries – 8 networks – 128 RIB – 10k	
Quality of Service (QoS)				
QoS limitations			class-maps – 1024 policy-maps – 1024 classes in policy-map – 3072	
Tunneling				
VPN tunnels			IPIP – 500 GRE – 500 Ethernet over GRE – 500 GRE SUB – 500 SoftGRE – 4000 L2TPv3 – 500 LT – 128 IPsec VTI – 500	
IPsec VPN tunnels			256	

## Technical features (continued)

	ESR-3100	ESR-3200	ESR-3200L	ESR-3300
Remote access				
Remote Access		L2TP tunnels (client) – 10 PPTP tunnels (client) – 10 OpenVPN tunnels (client) – 10 OpenVPN remote addresses per tunnel – 8		
WireGuard tunnel, RA		instance – 16 peers per instance 16 local addresses – 1 addresses per peer (address-range & obj-group) – 10k		
Services				
Source NAT		ruleset – 100 rules in ruleset – 100 pool – 100		
Destination NAT		ruleset – 100 rules in ruleset – 100 pool – 100		
DHCP Server		pools – 100 pool size – 10k static address in pool – 128		
Security				
ACL		instances – 1533 rules – 1533		
Firewall		zone – 128 zone-pair – 512 rules – 10k		
IPS		user update servers – 32 ips-categories – 20 rules – 500		
IKE (v1/v2), IPsec (esp/ah)				
Authentication	md5, sha1, sha2-256, sha2-384, sha2-512			
Encryption	des, blowfish128, aes128, camellia128, aes128ctr (IKEv2 only), blowfish192, aes192, camellia192, 3des, aes192ctr (IKEv2 only), blowfish256, aes256, camellia256, aes256ctr (IKEv2 only)			
Diffie Hellman	Regular Groups: 1,2,5,14-18. Modulo Prime Groups with Prime Order Subgroup: 22-24. NIST Elliptic Curve Groups: 19-21, 25-26. Brainpool Elliptic Curve Groups: 27-30. Elliptic Curve 25519: 31			

For firmware version 1.24.

## Physical parameters

	ESR-3100	ESR-3200	ESR-3200L	ESR-3300
Physical specifications and environmental parameters				
RAM	16 GB DDR4	24 GB DDR4	16 GB DDR4	32 GB DDR4
Flash	4 GB eMMC	8 GB eMMC	8 GB eMMC	8 GB eMMC
Maximum power consumption	123 W	118 W	105.3 W	177 W
Power supply	100–240 V AC, 50–60 Hz; 36–72 V DC up to two hot-swappable power supplies			
Operating temperature	from -10 to +45 °C			
Storage temperature	from -40 to +70 °C			
Operating humidity	no more than 80 %			
Storage humidity	from 10 to 95 %			
Dimensions (W × H × D)	430 × 44 × 330 mm	430 × 44 × 330 mm	430 × 44 × 330 mm	430 × 44 × 425 mm
Weight	4.34 kg	5 kg	5 kg	6 kg
Lifetime	no less than 15 years			



## Features and capabilities

### Switching

- Up to 4094 VLAN (802.1Q)
- Voice-VLAN
- Q-in-Q (802.1ad)
- MAC-based VLAN
- Bridge domain
- LAG/LACP (802.3ad)
- Port-security, protected port
- Jumbo frames

### MPLS

- LDP
- L2VPN VPWS
- L2VPN VPLS Martini Mode, Kompella Mode
- L3VPN MP-BGP (Option A, B, C)
- L2VPN/L3VPN over GRE, DMVPN
- Transparent transmission of service protocols

### Routing

#### **BGP:**

- IPv4, IPv6, VPNv4, L2VPN, IPv4 label-unicast, Flow-spec
- Support for Conditional Advertisement, Route Aggregation and Local-AS mechanisms
- Support for peer-group, dynamic neighbor, as-range and Route-reflector
- Fall over based on BFD protocol and Fast Error Peer Detection
- Graceful restart
- Authentication
- Flexible redistribution from/to BGP process of other protocol routes
- Running up to 64 processes simultaneously
- ECMP
- Support for policy-based routing

#### **OSPF (v3):**

- Normal, Stub, Totally stub, NSSA, Totally NSS
- Broadcast, NBMA, Point-to-point, Point-to-multipoint, Point-to-multipoint non-broadcast
- Summarizing and filtering of route information
- Authentication
- ECMP
- Passive interface
- Flexible redistribution from/to OSPF process of other protocol routes
- Running up to 64 processes simultaneously
- Support for BFD protocol
- Auto cost calculation
- Support for policy-based routing

#### **IS-IS:**

- Broadcast, Point-to-point
- Setting the L1-/L2-levels neighboring
- Metric style: narrow, wide, transition
- Authentication
- Routing information filtering
- Flexible redistribution from/to the IS-IS process of other protocol routes
- Running up to 64 processes simultaneously
- Support for policy-based routing

#### **RIP(ng):**

- Broadcast, Multicast, Unicast modes (RIP only)
- Summarizing and filtering of route information
- Route metrics management
- Authentication
- Passive interface
- Flexible redistribution from/to the RIP process of other protocol routes
- Support for policy-based routing

#### **Static:**

- Support for BFD protocol
- Recursive search
- Route metrics management
- Selecting the option to notify the sender when traffic is blocked

### Quality of Service (QoS)

- Up to 8 priority or weighted queues per port
- L2 and L3 traffic prioritization (802.1p (CoS), DSCP, IP Precedence (ToS))
- Hierarchical QoS
- Management of RED, GRED, SFQ, CBQ, WFQ, WRR queues
- Inlet and outlet labeling
- Policing, shaping

## Features and capabilities (continued)

### IPsec

- Policy-based and route-based modes
- Tunnel and transport modes
- Pre-shared key, public key, xauth (ikev1 only), eap (ikev2)
- Support for mobike (ikev2 only)
- Support for ike ikering authentication key sets

### Remote Access

- Remote access to the corporate network via PPTP, L2TP over IPsec, OpenVPN, WireGuard
- Support for PPPoE-/PPTP-/L2TP client
- User authentication
- Connection encryption

### Security

- ACL based on L2-/L3-/ L4 fields
- Zone-based Firewall in stateful and stateless modes. Rule triggering logging, counters
- Filtering by applications
- Protection against DoS/DDoS/Spoof attacks and their logging
- Intrusion detection and prevention system (IDS/IPS) and its logging<sup>1</sup>
- Signature analysis via IPS in transit and mirrored traffic analysis modes<sup>1</sup>
- Interaction with Eltex Distribution Manager to obtain licensed content - rule sets provided by Kaspersky SafeStream II<sup>2</sup>

### Management and monitoring

- Support for standard and extended SNMP MIB, RMONv1
- Zabbix agent/proxy

- User authentication using local database via RADIUS, TACACS+, LDAP
- Protection against configuration errors, automatic configuration recovery
- CLI
- Syslog
- System resource usage monitoring
- Ping, monitor, traceroute (IPv4/IPv6), output packet information in console
- Firmware upgrade, configuration upload and download via TFTP, SCP, FTP, SFTP, HTTP(S)
- Support for NTP
- Netflow v5/v9/v10 (exporting of URL statistics for HTTP, host for HTTPS)
- Local control via RS-232 (RJ-45) console port and OOB<sup>3</sup>
- Remote management, Telnet, SSH (IPv4/IPv6)
- LLDP, LLDP MED
- Local and remote saving of router configurations

### SLA

- SLA-responder для Cisco-SLA-agent
- Eltex SLA:
  - Delay (one-way/double-way)
  - Jitter (forward/backward)
  - Packet loss (forward/backward/duplex)
  - Duplicate packet detection
  - Packet delivery sequence violation detection (forward/backward/duplex)

### Backup and clustering

- VRRP v2, v3
- Tracking based on VRRP- or SLA test
- VRRP v2, v3

- Tracking based on VRRP or SLA test
- VRRP parameter management
- PBR parameter management
- Administrative interface status management
- Static route activation and deactivation
- Managing AS-PATH and preference attribute in route-map
- DHCP failover for IP addresses base backup issued by the DHCP server
- Firewall failover for Firewall and NAT session backup
- MultiWAN
- Dual-Homing

### Fault-tolerant cluster:

- Easy administration and integration: synchronization of configurations, time, versions, licenses; Zero Touch Provisioning (ZTP)
- Backup of all connections in the cluster
- Router backup ("1+1" backup is supported in the current version)

For firmware version 1.24.

<sup>1</sup> Activated by a license.

<sup>2</sup> Rule sets are provided by subscription. The minimum subscription period is 1 year.

<sup>3</sup> For ESR-3200/3200L/3300.

## Features and capabilities (continued)

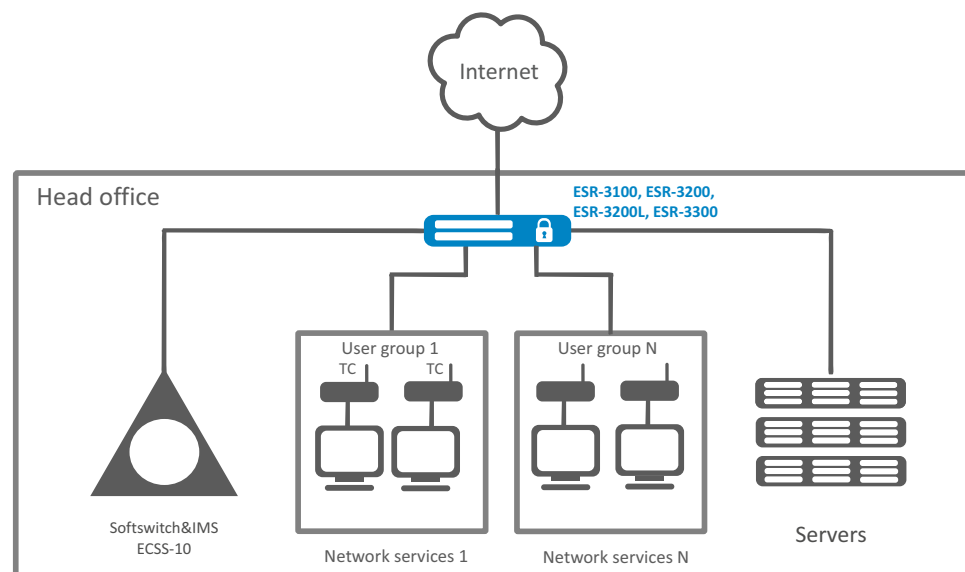
### Services

- DHCP client, service
- DHCP Relay Option 82
- DNS resolver
- NTP
- TFTP server
- E1/multilink, modems

### BRAS<sup>1</sup>

- User termination
- URL whitelists/blacklists
- Quoting by traffic volume, by session time, by network applications
- HTTP/HTTPS Proxy
- HTTP/HTTPS Redirect
- Session accounting via Netflow
- Interaction with AAA, PCRF servers
- Bandwidth management by office, SSID and user sessions
- User authentication by MAC or IP address

## Use case



For firmware version 1.24.

<sup>1</sup> Activated by a license.

## Ordering information

Name	Description
<b>ESR-3100</b>	ESR-3100 service router, 8 × 10/100/1000BASE-T, 8 × 10GBASE-R SFP+, 1 × Console RS-232 (RJ-45), 2 × USB 3.0, 1 × SD card slot, 16 GB DDR4 RAM, 4 GB eMMC, 2 slots for power modules 100–240 V AC or 36–72 V DC.
<b>ESR-3200</b>	ESR-3200 service router, 12 × Ethernet 1000BASE-X/10GBASE-R/25GBASE-R, 1 × Console RS-232 (RJ-45), 1 × OOB, 1 × USB 2.0, 1 × microSD card slot, 24 GB DDR4 RAM, 8 GB eMMC, 2 slots for power modules 100–240 V AC or 36–72 V DC.
<b>ESR-3200L</b>	ESR-3200L service router, 4 × Ethernet 1000BASE-X/10GBASE-R/25GBASE-R, 8 × 10GBASE-R SFP+/1000BASE-X SFP, 1 × Console RS-232 (RJ-45), 1 × OOB, 1 × USB 2.0, 1 × microSD card slot, 16 GB DDR4 RAM, 8 GB eMMC, 2 slots for power modules 100–240 V AC or 36–72 V DC.
<b>ESR-3300</b>	ESR-3300 service router, 4 × Ethernet 1000BASE-X/10GBASE-R/25GBASE-R, 4 × 40GBASE-R (QSFP+)/100GBASE-R (QSFP28), 1 × Console RS-232 (RJ-45), 1 × OOB, 1 × USB 3.0, 1 microSD card slot, 32 GB DDR4 RAM, 8 GB eMMC, 2 slots for power modules 100–240 V AC or 36–72 V DC.

## Power modules<sup>1</sup>

Device	AC power module	DC power module
<b>ESR-3100</b>	PM160-220/12	PM160-48/12
<b>ESR-3200</b>	PM160-220/12	PM160-48/12
<b>ESR-3200L</b>	PM160-220/12	PM160-48/12
<b>ESR-3300</b>	PM600-220/12	PM600-48/12

<sup>1</sup> Ordered separately.

## Contact us



+7 (383) 274 10 01  
+7 (383) 274 48 48



eltex@eltex-co.ru



www.eltex-co.com

## About Eltex

**Eltex** Enterprise is a leading Russian developer and manufacturer of communication equipment with 30 years of history. Complete solutions and their seamless integrability into the Customer's infrastructure are the priority growth areas of the company.