

- 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)¹
- 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)¹
- Pairing with equipment from leading vendors

ESR-3100, ESR-3150, ESR-3200, ESR-3200L, ESR-3250, ESR-3300, ESR-3350 service routers are universal hardware platforms 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 and software data processing means.



ESR-3100



ESR-3150



ESR-3200



ESR-3200L



ESR-3250



ESR-3300



ESR-3350

¹Activated by licence.

Technical features

	ESR-3100	ESR-3150	ESR-3200	ESR-3200L	ESR-3250	ESR-3300	ESR-3350
Interfaces							
Combo 10/100/1000BASE-T/1000BASE-X (SFP)	—	8	—	—	8	—	8
Ethernet 10/100/1000BASE-T (RJ-45)	8	—	—	—	—	—	—
1000BASE-X (SFP)/10GBASE-R (SFP+)/25GBASE-R (SFP28)	—	—	12	4	4	4	4
10GBASE-R (SFP+)/1000BASE-X (SFP)	8	4	—	8	—	—	—
40GBASE-R (QSFP+)/100GBASE-R (QSFP28)	—	—	—	—	—	4	—
Console port RS-232 (RJ-45)	1	1	1	1	1	1	1
OOB	—	—	1	1	—	1	—
USB 2.0	—	—	1	1	—	—	—
USB 3.0	2	2	—	—	2	1	2
SD card slot	1	—	—	—	—	—	—
microSD card slot	—	1	1	1	1	1	1

For firmware version 1.37.

Technical features (continued)

	ESR-3100	ESR-3150	ESR-3200	ESR-3200L	ESR-3250	ESR-3300	ESR-3350
Performance							
Firewall/routing (1518B frames)	24.0 Gbps; 1.97M pps	21.69 Gbps; 1.78M pps	47.6 Gbps; 3.92M pps	24.3 Gbps; 2.00M pps	53.3 Gbps; 4.39M pps	70.27 Gbps; 5.78M pps	106 Gbps; [*] 8.77M pps
Firewall/routing (IMIX)	10.0 Gbps; 1.82M pps	10.5 Gbps; 1.91M pps	21.6 Gbps; 3.93M pps	11.3 Gbps; 2.05M pps	24.2 Gbps; 4.40M pps	2.5 Gbps; 5.89M pps	78.7 Gbps; 14.2M pps
AppFirewall (EMIX)	5.20 Gbps	—	7.88 Gbps	5.38 Gbps	8.76 Gbps	12.1 Gbps; 2.35M pps	14.6 Gbps
L2 switching (1518B frames)	19.4 Gbps; 1.60M pps	—	33.6 Gbps; 2.77M pps	33.6 Gbps; 2.76M pps	95.6 Gbps; 7.87M pps	36.9 Gbps; 3.04M pps	106 Gbps; 8.77M pps
IPsec VPN (1456B frames)**	3.24 Gbps; 278k pps	3.35 Gbps; 288k pps	6.99 Gbps; 600k pps	3.59 Gbps; 308k pps	8.28 Gbps; 711k pps	10.0 Gbps; 859k pps	23.6 Gbps; 2.03M pps
IPsec (IMIX)**	1.75 Gbps; 328k pps	2.16 Gbps; 405k pps	3.65 Gbps; 685k pps	1.88 Gbps; 353k pps	5.38 Gbps; 1.01M pps	5.124 Gbps; 957k pps	14.6 Gbps; 2.73M pps
IPsec tunnel (1456B frames)**	286 Mbps; 24.6k pps	484 Mbps; 41.5k pps	346 Mbps; 29.7k pps	349 Mbps; 29.9k pps	1.27 Gbps; 109k pps	340 Mbps; 29k pps	1.32 Gbps; 113k pps
IPsec tunnel (IMIX)**	152 Mbps; 28.7k pps	330 Mbps; 62k pps	183 Mbps; 34.1k pps	186 Mbps; 34.7k pps	834 Mbps; 156k pps	179 Mbps; 33.5k pps	851 Mbps; 159k pps
IPS/IDS 10k rules (IMIX)	1.11 Gbps; 201k pps	—	2.15 Gbps; 389k pps	1.00 Gbps; 182k pps	3.91 Gbps; 709k pps	3.04 Mbps; 551k pps	12.2 Gbps; 2.22M pps
MPLS L2VPN switching (IMIX)	1.72 Gbps; 316k pps	—	17.1 Gbps; 3.14M pps	11.1 Gbps; 2.04M pps	22.4 Gbps; 4.11M pps	23.5 Gbps; 4.31M pps	47.2 Gbps; 8.66M pps
MPLS L3VPN switching (IMIX)	676 Mbps; 123k pps	—	16.8 Gbps; 3.09M pps	8.42 Gbps; 1.54M pps	20.6 Gbps; 3.78M pps	22.35 Gbps; 4.09M pps	61.3 Gbps; 11.2M pps
Maximum number of simultaneous connections to the RA L2TP server	160	—	170	170	700	170	750

For firmware version 1.37.

IMIX traffic format (number per second : size of each frame) - 8:74; 5:512; 7:1518.

^{*}Limiting port bandwidth.

^{**}Measured when MD5 authentication algorithm and AES128 encryption algorithm are used.

Technical features (continued)

	ESR-3100	ESR-3150	ESR-3200	ESR-3200L	ESR-3250	ESR-3300	ESR-3350
Number of CPUs by role							
Control CPU ¹	0						
Service CPU ²	2–23	1–7	1–23	1–11	1–7	1–35	1–23
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							
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 1.37.

¹ The processor core that runs the operating system and processes control plane traffic.

² The cores that process data-plane.

Technical features (continued)

	ESR-3100	ESR-3150	ESR-3200	ESR-3200L	ESR-3250	ESR-3300	ESR-3350
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

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Technical features (continued)

	ESR-3100	ESR-3150	ESR-3200	ESR-3200L	ESR-3250	ESR-3300	ESR-3350
Routing							
Static routes							11k
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							500

For firmware version 1.37.

Technical features (continued)

	ESR-3100	ESR-3150	ESR-3200	ESR-3200L	ESR-3250	ESR-3300	ESR-3350
Remote access							
Remote Access							
WireGuard tunnel, RA							
Services							
Source NAT							
Destination NAT							
DHCP Server							
Security							
ACL							
Firewall							
IPS							

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Technical features (continued)

	ESR-3100	ESR-3150	ESR-3200	ESR-3200L	ESR-3250	ESR-3300	ESR-3350
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						

Physical parameters

	ESR-3100	ESR-3150	ESR-3200	ESR-3200L	ESR-3250	ESR-3300	ESR-3350
Physical specifications and environmental parameters							
RAM	16 GB DDR4	32 GB DDR5	24 GB DDR4	16 GB DDR4	32 GB DDR5	32 GB DDR4	32 GB DDR5
Flash	4 GB eMMC	256 GB NVMe	8 GB eMMC	8 GB eMMC	256 GB NVMe	8 GB eMMC	256 GB NVMe
Maximum power consumption	111 W	70 W	117 W	105 W	74 W	184 W	110 W
Power supply	100–240 V AC, 50–60 Hz; 36–72 V DC up to two hot-swappable power supplies				200–240 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 × 43.6 × 329 mm	430 × 44 × 330 mm	430 × 44 × 330 mm	430 × 43.6 × 329 mm	440 × 44 × 425 mm	430 × 43.6 × 424 mm
Weight	4.34 kg	4.291 kg	5 kg	5 kg	4.232 kg	7 kg	5.638 kg
Lifetime	no less than 15 years						

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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
- Flexible management of route information by attributes. Support for Conditional Advertisement, Route Aggregation and Local-AS mechanisms
- Support for peer-group, dynamic neighbor, as-range, Route-reflector and Confederation
- 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
- Ingress and egress 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 kering 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 logging¹
- Signature analysis via IPS in transit and mirrored traffic analysis modes¹
- Interaction with Eltex Distribution Manager to obtain licensed content – rule sets provided by Kaspersky SafeStream II²

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 OOB³
- 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 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)

Services

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

¹For firmware version 1.37.

²Activated by license.

³Rule sets are provided by subscription. The minimum subscription period is 1 year.

⁴For ESR-3200/3200L/3300.

Features and capabilities (continued)

BRAS¹

- 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

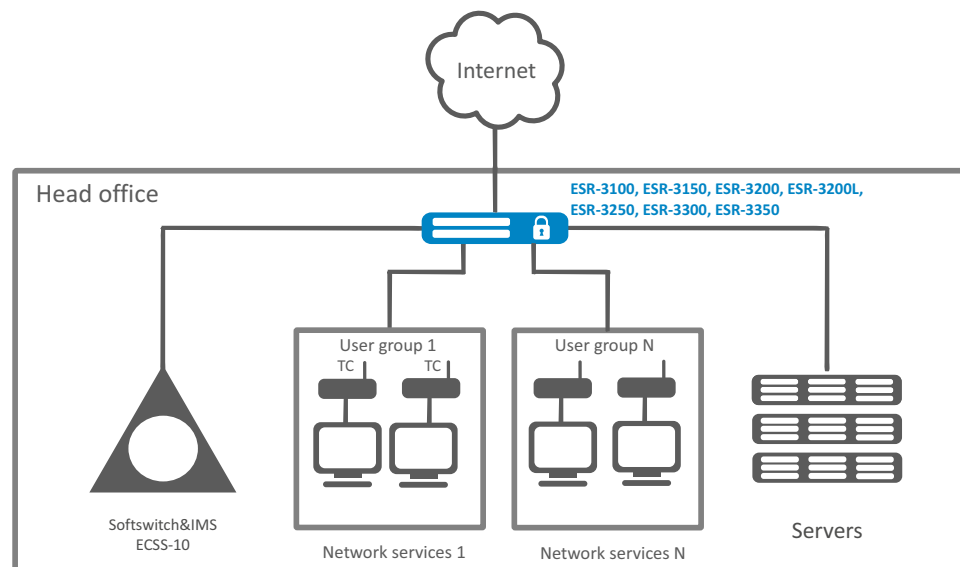
DMVPN

- NHRP protocol
- DMVPN phase 1,2,3
- Per-Tunnel QoS
- IPsec

Tunneling

- IPoGRE, EoGRE
- IPIP
- L2TPv3
- LT (inter VRF routing)

Use case



For firmware version 1.37.

¹ Activated by license.

Ordering information

Name	Description
ESR-3100	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.
ESR-3150	ESR-3150 service router, 8 × Combo 10/100/1000BASE-T/1000BASE-X (SFP), 4 × Ethernet 1000BASE-X/10GBASE-R, 1 × Console port RS-232 (RJ-45), 2 × USB 3.0, 1 × microSD card slot, 32 GB DDR5 RAM, 256 GB NVMe, 2 slots for power modules 100–240 V AC or 36–72 V DC.
ESR-3200	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.
ESR-3200L	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.
ESR-3250	ESR-3250 service router, 8 × Combo 10/100/1000BASE-T/1000BASE-X (SFP), 4 × Ethernet 1000BASE-X/10GBASE-R/25GBASE-R, 1 × Console RS-232 (RJ-45), 2 × USB 3.0, 1 × microSD card slot, 32 GB DDR5 RAM, 256 GB NVMe, 2 slots for power modules 100–240 V AC or 36–72 V DC.
ESR-3300	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.
ESR-3350	ESR-3350 service router, 8 × Combo 10/100/1000BASE-T/1000BASE-X (SFP), 4 × 1000BASE-X/10GBASE-R/25GBASE-R, 1 × Console RS-232 (RJ-45), 2 × USB 3.0, 1 × microSD card slot, 32 GB DDR5 RAM, 256 GB NVMe, 2 slots for power modules 200–240 V AC or 36–72 V DC.

Related software

ESR-3100	ECCM-ESR-3100 option of Eltex ECCM management system for management and monitoring of Eltex network element: ESR-3100
ESR-3150	ECCM-ESR-3150 option of Eltex ECCM management system for management and monitoring of Eltex network element: ESR-3150
ESR-3200	ECCM-ESR-3200 option of Eltex ECCM management system for management and monitoring of Eltex network element: ESR-3200
ESR-3200L	ECCM-ESR-3200L option of Eltex ECCM management system for management and monitoring of Eltex network element: ESR-3200L
ESR-3250	ECCM-ESR-3250 option of Eltex ECCM management system for management and monitoring of Eltex network element: ESR-3250
ESR-3300	ECCM-ESR-3300 option of Eltex ECCM management system for management and monitoring of Eltex network element: ESR-3300
ESR-3350	ECCM-ESR-3350 option of Eltex ECCM management system for management and monitoring of Eltex network element: ESR-3350

Power modules¹

Power modules		
Device	AC power module	DC power module
ESR-3100	PM160-220/12	PM160-48/12
ESR-3150	PM160-220/12	PM160-48/12
ESR-3200	PM160-220/12	PM160-48/12
ESR-3200L	PM160-220/12	PM160-48/12
ESR-3250	PM160-220/12	PM160-48/12
ESR-3300	PM600-220/12	PM600-48/12
ESR-3350	PM350-220/12	PM350-48/12

¹On request.

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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.