Iran
Communications
Industries

ESR-1000

ESR Series Service Routers

- Data routing
- Multi-protocol Label Switching (MPLS)
- Construction of secure network perimeter (NAT, Firewall)
- Intrusion prevention and detection (IPS/IDS)
- Service quality monitoring (SLA)
- Filtering of network data by various criteria
- Organization of secure network tunnels between
- different offices of a company
- Remote connection of staff members to office
- Management and distribution of Internet channel
- width within an office by using QoS
- Organization of redundant connection (wires or 3G/LTE modem)
- Subscriber termination and bandwidth limiting—BRAS (IPoE)

The family of ESR routers is a 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.

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Performance

The key elements of ESR service routers are data processing hardware acceleration means that ensure a high level of performance. Hardware and software processing is distributed among the units of the device.

Functional purpose

- Scalable solution for different fields of application
- Flexible service configuration
- Interfacing with the equipment of leading manufacturers
- Hardware acceleration of data processing

Technical Features

	ESR-1000	ESR-1200	ESR-1500	ESR-1511	ESR-3100	ESR-3200	ESR-1700
Interfaces							
Combo10/100/1000BASE-T/1000BASE-XSFP (LAN/WAN)	—	4	4	4	—	—	4
Ethernet 10/100/1000BASE-T	24	12	4	4	8	—	—
1000BASE-X/10GBASE-R/25GBASE-R	—	—	—	—	—	12	—
10GBASE-R SFP+/1000BASE-X SFP	2	8	4	4	8	—	8
40GBASE-X QSFP+ (LAN/WAN)	—	—	—	2	—	—	—
Console RS-232 (RJ-45)	1	1	1	1	1	1	1
OOB	—	—	1	1	—	1	1
USB	2	2	2	2	2	1	2
Socket for HDD installation	—	—	—	—	—	—	2
SD card slot	1	1	1	1	1	1-MicroSD	—
Performance							
Firewall/NAT/routing (1518B frames)	8.68 Gbps;		12.15 Gbps;	18.01 Gbps;	6.78 Gbps;	47.103 Gbps;	39 Gbps;
IPsec VPN (1456B frames)	2.34 Gbps;		2.98 Gbps;	4.66 Gbps;	1.07 Gbps;	3.207 Gbps;	13 Gbps;
IPS/IDS 10k rules	600.51 Mbps;		796	1.29	467	1.57	3.64
Physical specifications							
Dimensions (W x H x D), mm	430 x 44 x 352	430 x 44 x 352	430 x 44 x 425	430 x 44 x 425	430 x 44 x 425	430 x 44 x 330	440 x 88 x 490
Power supply	100–240 V AC, 50–60 Hz; 36 –72 V DC - Up to two hot-swappable power modules (176-264 AC For ESR-1700)						
Max power consumption	75 W	85 W	125 W	128 W	123 W	118 W	250 W

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Features and Capabilities

Plug-in Interfaces
- USB 3G/4G/LTE modem (except ESR-1700)
- E1 TopGate SFP

Remote Access VPN Clients
- PPTP/PPPoE/L2TP/OpenVPN/IPsec XAUTH

Remote Access VPN Server
- L2TP/PPTP/OpenVPN/IPsec XAUTH

Site-to-Site VPN
- IPsec: “policy-based” and “route-based” modes
- DMVPN
- DES, 3DES, AES, Blowfish, Camellia encryption algorithms
- IKE MD5, SHA-1, SHA-2 message authentication

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

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))
- RED, GRED congestion avoidance algorithms
- Priority re-marking mechanisms
- Policy Map
- Bandwidth management (shaping)
- Hierarchical QoS
- Session labeling

Network Security Functions
- Intrusion Prevention/Detection system (IPS/IDS)
- Interaction with Eltex Distribution Manager for obtaining licensable content — rule sets, distributed by Kaspersky SafeStream II
- Web filtering by URL, by content (cookies, ActiveX, JavaScript)
- Zone-based Firewall
- Filtering based on L2/L3/L4 fields and applications
- Support for access control lists (ACL) based on L2/L3/L4 fields
- Protection against DoS/DDoS attacks and notification on them
- Logging of attack and rule triggering events

System Features
- VPN Tunnel: 500
- Static routs: 11k
- Concurrent sessions: 512k
- VLAN support: Up to 4k Acctive VLANs
- BGP routs: 5M
- OSFP routs: 500k
- RIP routs: 10k

L2 Functions
- Packet switching (bridging)
- STP, RSTP, MSTP 802.1D (only for ESR-1000)
- LAG/LACP (802.3ad)
- VLAN support (802.1Q)
- Port Isolation (only for ESR-1000, ESR-1200, ESR-1500, ESR-1700)
- Private VLAN Edge (PVE) (only for ESR-1000, ESR-1200, ESR-1500, ESR-1700)
- Logical interfaces
- LLDP, LLDP MED
- MAC-based VLAN

L3 Functions (IPv4/IPv6)
- NAT, Static NAT, ALG
- Static routes
- Dynamic routing protocols RIPv2, OSPFv2/v3,IS-IS, BGP
- Route filtering (prefix list)
- VRF Lite
- Policy Based Routing (PBR)
- BFD for BGP, OSPF, static routes

BRAS (IPoE)
- Subscriber termination
- White/black URL lists
- Quotas for traffic volume, session time, network applications
- HTTP/HTTPS Proxy
- HTTP/HTTPS Redirect
- Session accounting via Netflow protocol
- Interaction with AAA, PCRF servers
- Bandwidth management by offices, SSIDs and user sessions
- User authentication by MAC or IP address

Network Reliability Assurance Means
- Dual homing (only for ESR-1000)
- VRRP v2,v3
- VRRP or SLA tracking
  - Managing VRRP Profiles
  - Managing PBR Profiles
  - Interface Status Management
  - Activation and deactivation of a static route
  - Managing the AS-PATH attribute and preference in route map
- WAN interfaces load balancing, data stream redirection, channel switching during QoS control
- Firewall sessions backup

MPLS
- LDP, L2VPN VPWS
- L2VPN VPLS Martini Mode
- L2VPN VPLS Kompella Mode
- L3VPN MP-BGP