Iran
Communications
Industries

ESR-100

ESR Series Service Routers

Typical Tasks Performed by Service Routers:

- Data routing
- Construction of secure network perimeter (Firewall)
- Network attacks prevention and monitoring (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
- User termination and bandwidth limiting – BRAS (IPoE)

Performance

The key elements of ESR series 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

- Solution for small and middle-sized offices
- Flexible service configuration
- Interfacing with the equipment of leading manufacturers
- FXS ports for phone connection
- FXO port for connection redundancy
- Firewall and router functionality

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ESR-10/12V/12VF/14VF/20/21/100/200 Technical Features

	ESR-10	ESR-12V	ESR-12VF	ESR-14VF	ESR-20	ESR-21	ESR-100	ESR-200
Interfaces								
Combo 10/100/1000BASE-T/ 1000BASE-X SFP	—	—	—	—	2	—	4	4
Ethernet 10/100/1000BASE-T	4	8	8	8	2	8	—	4
Ethernet 10/100/1000BASE-XSFP	2	—	1	1	—	4	—	—
Serial (RS-232)	—	—	—	—	—	3	—	—
FXS	—	3	3	4	—	—	—	—
FXO	—	1	1	—	—	—	—	—
USB	2				2			
Performance								
Firewall/NAT/routing	0.32 Gbps; 26k pps				1.84 Gbps	2.1 Gbps	1.3 Gbps	1.89 Gbps
IPsec VPN (1456B frames)	153 Mbps; 13k pps				0.52 Gbps 44k pps	0.53 Gbps 46k pps	0.29 Gbps 25k pps	0.46 Gbps
IPS/IDS 10k rules	59.51 Mbps; 12.7k pps				150.63 Mbps		46 Mbps	80.33 Mbps

	ESR-10	ESR-12V	ESR-12VF	ESR-14VF	ESR-20	ESR-21	ESR-100	ESR-200
Physical specifications and ambient parameters								
Maximum power consumption	9 W	22 W			25 W	32 W	20 W	25 W
Power supply	(220 VAC (via 12V, 1.5A) For ESR-10) 100-264 VAC, 60/50 Hz							
Dimensions (WxDxH, mm)	185x32x118	267x43.6x160.5			267x44x212	430x44x225	310x44x240	

System features		
VPN tunnels	10	250
Static routes	1k	11k
Concurrent sessions	4k	256k
VLAN support	up to 4k active VLANs in accordance with 802.1Q	
BGP routes	800k	1.5M
OSPF routes	30k	300k
RIP routes	10k	

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Features and Capabilities

Plug-in Interfaces
- USB 3G/4G/LTE modem (except ESR-1700)
- E1 TopGate SFP
- DialUp modem (only for ESR-21)

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

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

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

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

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)
- Private VLAN Edge (PVE) (only for ESR-1000)
- Logical interfaces
- LLDP, LLDP MED
- VLAN-based MAC

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

Network Security Functions
- Intrusion Detection/Prevention system (IPS/IDS)
- Web filtering by URL, by content (cookies, ActiveX, JavaScript)
- Zone-based Firewall
- Firewall filtering based on L2/L3/L4 fields and applications
- Support for access control lists on the base of L2/L3/L4 fields
- Protection from DoS/DDoS attacks and notification on them
- Logging of attack and rule triggering events

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

IP addressing management (IPv4/IPv6)
- Static IP addresses
- DHCP client and DHCP Relay Option 82
- Built-in DHCP server, support for options: 43, 60, 61, 150
- DNS resolver
- IP unnumbered

Quality of Service (QoS)
- Up to 8 priority queues per port
- L2 and L3 traffic prioritization (802.1p, DSCP, IP Precedence)
- RED, GRED congestion avoidance algorithms
- Precedence re-marking mechanisms
- Applying policies (policy-map)
- Bandwidth management (shaping)
- Hierarchical QoS
- Session tagging

Network Reliability Assurance Means
- Dual homing (only for ESR-1000)
- VRRP v2,v3
- Route tracking based on VRRP state
- WAN interfaces load balancing, data stream redirection, channel switching during QoS control
- Firewall sessions backup