ELTEX
Integrated Networking Solutions

– **Virtual solution**
– **Data routing**
– **Multiprotocol label switching (MPLS)**
– **Building a secure network (NAT, Firewall)**
– **Intrusion Detection and Prevention System (IPS/IDS)[1]**
– **Filtering of network data by various criteria (including filtering by applications)**
– **Organization of secure network tunnels between different offices of a company**
– **Remote connection of staff members to an office**
– **Internet channel management and bandwidth allocation within an office using QoS**
– **Organization of redundant connection**
– **Subscriber termination, bandwidth shaping, IPoE BRAS[1]**

vESR is a virtual service router designed for connection of small and middle-sized offices in enterprise networks. The functionality of firewall and router allows ensuring security with various Internet connection options. **vESR** supports advanced routing, WAN organization and network security functions.

Features and capabilities

Remote Access VPN client
– 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[2]
– DMVPN
– DES, 3DES, AES, Blowfish, Camellia encryption algorithms
– IKE MD5, SHA-1, SHA-2 message authentication

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

L2 functions
– Packet switching (bridging)
– LAG/LACP (802.3ad)
– VLAN (802.1Q)
– Logical interfaces
– LLDP, LLDP MED
– MAC-based VLAN
– STP, RSTP

L3 functions (IPv4/IPv6)
– NAT, Static NAT, ALG
– Static routes
– RIPv2, RIPng, OSPFv2/v3, IS-IS, BGP dynamic protocols[2]
– Route filtering (prefix list)

– VRF
– GRE fragmentation (IPoGRE, EoGRE, MPLS over GRE)
– Policy Based Routing (PBR)
– BFD for BGP, OSPF, static routes

IP addressing management (IPv4/IPv6)
– Static IP addresses
– DHCP client
– DHCP Relay Option 82
– Embedded DHCP server, 43, 60, 61, 150 options support
– IP unnumbered
– DNS resolver

MPLS
– LDP
– L2VPN VPWS
– L2VPN VPLS Martini Mode
– L2VPN VPLS Kompella Mode
– L3VPN MP-BGP
– MPLS over GRE

IPoE BRAS[1]
– Subscriber termination
– User authentication by MAC or IP address
– Session accounting via NetFlow protocol
– White/black URL lists
– Quotas for traffic volume, session time, network applications
– HTTP/HTTPS Proxy
– HTTP/HTTPS Redirect

Functionality for firmware version 1.18.2.
[1] Available only with option vESR FREE. Support for other options will be implemented in future versions.
[2] Corresponds to option vESR FREE. The full functionality is activated by a license.

Features and capabilities (continued)

Network security functions
– Intrusion Prevention/Detection System (IPS/IDS)[1]
– Web filtering by URL, by content (cookies, ActiveX, JavaScript)
– Filtering based on L2/L3/L4 fields and applications
– Support for access control lists (ACL) based on L2/L3/L4 fields
– Zone-based firewall
– Protection against DoS/DDoS attacks and notification on them
– Logging of attacks and rule triggering events

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 reliability assurance means
– VRRP v2,v3
– WAN interfaces load balancing, data stream redirection, channel switching during QoS control
– Firewall sessions backup

Management and monitoring
– Support for standard and extended SNMP MIB, RMONv1
– Embedded Zabbix agent
– User authentication using local database via RADIUS, TACACS+, LDAP

– Protection against configuration errors, automatic configuration recovery
– Ability to restore the default factory configuration
– CLI
– Syslog
– System resource usage monitoring
– Ping, traceroute (IPv4/IPv6), packet information in the console output
– 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 console port
– Remote control via Telnet, SSH (IPv4/IPv6)
– Displaying information on services/processes
– Local/remote router configuration storage

Minimum system requirements[2]

Processor	x86-64 architecture, clock frequency of at least 1.8 GHz Support for MMX, SSE, SSE2, SSE3, SSSE3, SSE4.1, SSE4.2 instructions (processor generation Intel Nehalem/AMD Barcelona CPU or higher)
RAM	Not less than 3 GB
Storage	Not less than 375 MB
Hypervisors	VirtualBox 6.0, ESXi 6.7
I/O	Emulation: 　Intel E1000, Intel E1000E, 　VMXNET2, VMXNET3 Paravirtualization: 　VirtIO PCI Pass-through: 　Intel XL710 Ethernet Controller (2x40/1x40/4x10/2x20/2x10/1x10), 　Intel X722 Ethernet Controller (2x10/4x10)

Functionality for firmware version 1.18.2.
[1] Available only with option vESR FREE. Support for other options will be implemented in future versions.
[2] The given requirements allow the installation of vESR and initial start-up with basic configuration.

Ordering information

Option	Description
vESR FREE	vESR FREE software service router option, 1 Mbit/s, 1024 RIB BGP, 1000 RIB OSPF, 1000 RIB RIP, 1000 RIB ISIS, 2 VPN
vESR BASIC	vESR BASIC software service router option, 100 Mbit/s, 512k RIB BGP, 500k RIB OSPF, 500k RIB IS-IS, 10k RIB RIP, 6 VPN, 1 year
vESR BASIC+	vESR BASIC+ software service router option, 500 Mbit/s, 512k RIB BGP, 500k RIB OSPF, 500k RIB IS-IS, 10k RIB RIP, 12 VPN, 1 year
vESR STANDARD	vESR STANDARD software service router option, 1 Gbit/s, 768k RIB BGP, 500k RIB OSPF, 500k RIB IS-IS, 10k RIB RIP, 24 VPN, 1 year
vESR STANDARD+	vESR STANDARD+ software service router option, 5 Gbit/s, 1024k RIB BGP, 500k RIB OSPF, 500k RIB IS-IS, 10k RIB RIP, 64 VPN, 1 year
vESR ADVANCED	vESR ADVANCED software service router option, 10 Gbit/s, 2048k RIB BGP, 500k RIB OSPF, 500k RIB IS-IS, 10k RIB RIP, 64 VPN, 1 year
vESR ADVANCED+	vESR ADVANCED+ software service router option, 25 Gbit/s, 4096k RIB BGP, 500k RIB OSPF, 500k RIB IS-IS, 10k RIB RIP, 64 VPN, 1 year
vESR PREMIUM	vESR PREMIUM software service router option, 50 Gbit/s, 5000k RIB BGP, 500k RIB OSPF, 500k RIB IS-IS, 10k RIB RIP, 256 VPN, 1 year
vESR PREMIUM+	vESR PREMIUM+ software service router option, 100 Gbit/s, 5000k RIB BGP, 500k RIB OSPF, 500k RIB IS-IS, 10k RIB RIP, 256 VPN, 1 year

Functionality for firmware version 1.18.2.

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.