

Essential networking. Applicables and novelties

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International projects coordinator





The leading Russian manufacturer and developer of network and telecommunication equipment



Manufacturing complex in Novosibirsk

Experience

- 32 years experience in developing and manufacturing
- More than 1 500 employees

Partners

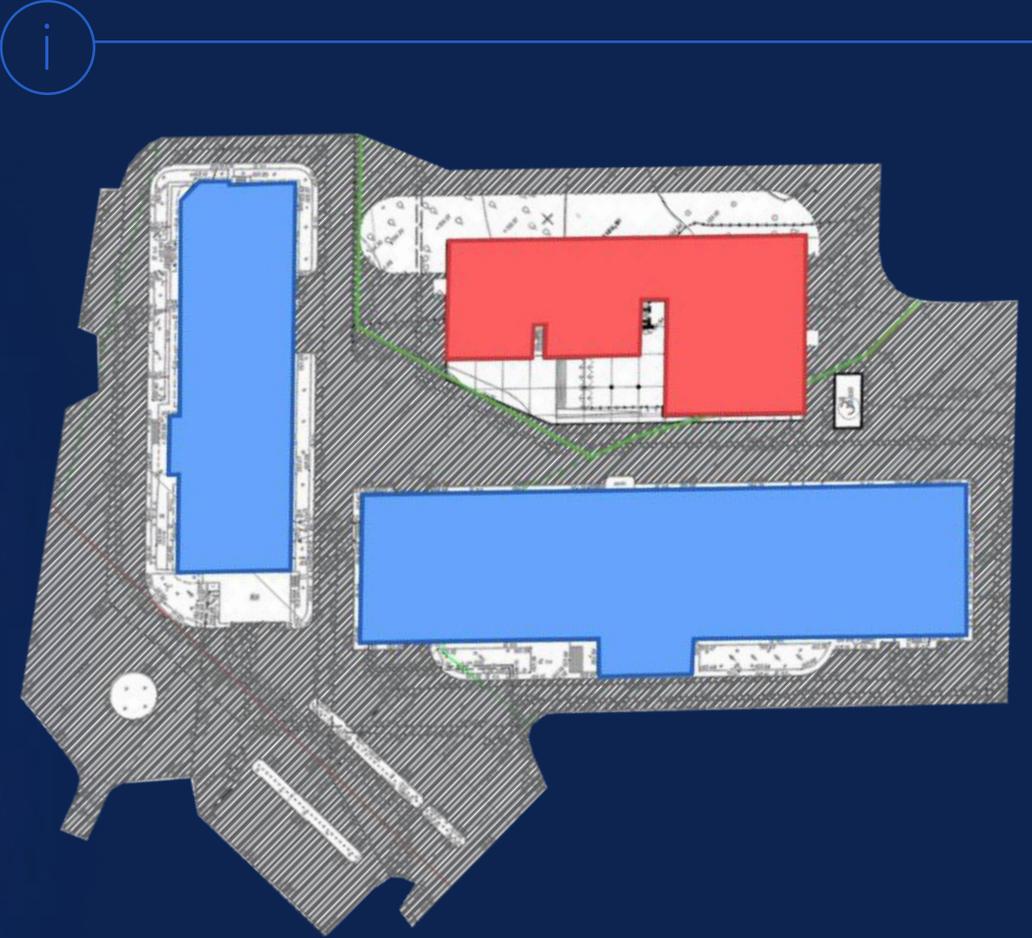
- More than 100 partner companies in Russia, CIS, Asia, Middle East
- More than 20 000 client companies
- 2 manufacturing plants – Novosibirsk and Kazakhstan

Planned expansion of Eltex



Building of the third facility

- Start of construction - 2023
- Completion - 2025
- Floor area: 12 floors
- Total area of the building: 32,363 m²
- Total number of employees - 1,300 people
- Project status: construction started



GPON equipment



OLT



- LTP-8N
- LTP-16N
- Chassis MA4000-PX

ONT



- NTU-1
- NTU-52V
- NTU-52W
- NTU-SFP-200
- NTU-RG-5420G-Wac
- NTU-RG-5421G-Wac

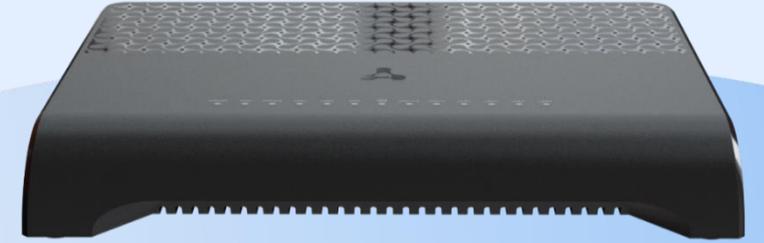
EMS management system



GPON equipment



Subscriber terminals – new models



NTU-RG-5520G-Wax 2Q2024

- 1 × GPON
- 4 × 1G
- Two band Wi-Fi (802.11a/b/g/n/ac/ax)
- 1 × USB 3.0

NTU-RG-5520G-Wax-Z 2Q2024

- 1 × GPON
- 4 × 1G
- Two band Wi-Fi (802.11a/b/g/n/ac/ax)
- 1 × USB 3.0
- Smart home controller

NTU-RG-5521G-Wax 2Q2024

- 1 × GPON
- 4 × 1G
- 1 × FXS
- Two band Wi-Fi (802.11a/b/g/n/ac/ax)
- 1 × USB 3.0

XGS-PON equipment



- XGS-PON solution released in 2023
- 10Gbps uplink/10Gbps downlink

OLT



- LTX-8
- LTX-16

ONT



- NTX-1

EMS management system



XGS-GPON Equipment

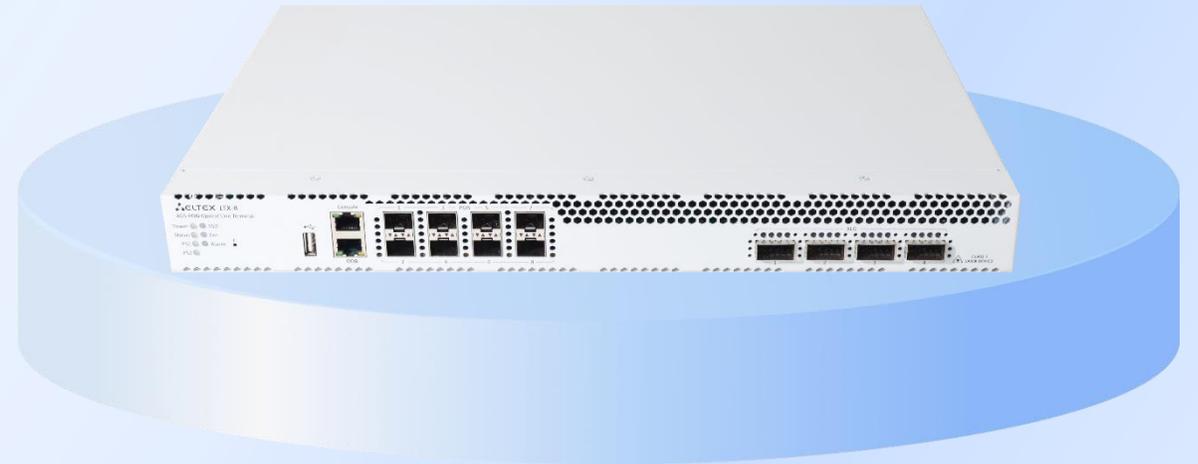


Station terminal

LTX-8C

3Q2024

- Performance - 120 Gbps
- 8 × GPON/XGS-PON (Combo)
 - 2 × 25G SFP28
 - 2 × 100G QSFP28
- Maximum number of ONTs: 1024 GPON + 2048 XGS-PON
- 1U



XGS-GPON Equipment



Subscriber terminal

NTX-RG-5521-Wax-Z

2Q2024

- 1 × XGS-PON
1 × 10G
4 × 1G
- 1 × FXS
- 1 × USB 2.0
1 × USB 3.0
- Two band Wi-Fi
(802.11a/b/g/n/ac/ax)
- Wi-Fi EasyMesh
- Smart home controller



XGS-GPON Equipment



Chassis solution



In development

MA5020

Performance
Up to 160 Gbit/s

Interface modules
(2 pcs)

MA5K-LC16G: 16 × GPON
MA5K-LC16XG: 16 × XGS-PON

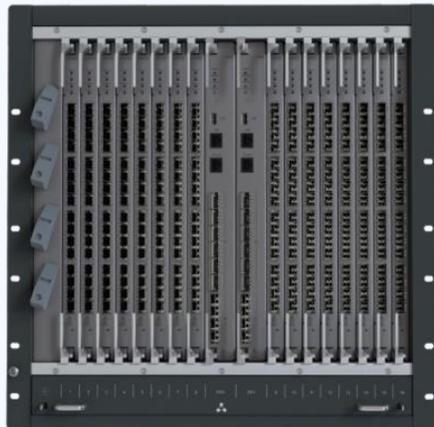
Number of ONTs
4K/8K

Management and switching modules (2 pcs)

FC16:
2 × 100G QSFP28 +
2 × 25G SFP28

FC16L:
2 × 25G SFP28

2U



In development

MA5160

Performance
Up to 1.3 Tbit/s

Interface modules
(16 pcs)

MA5K-LC16G: 16 × GPON
MA5K-LC16XG: 16 × XGS-PON

Number of ONTs
32K/64K

Management and switching modules (2 pcs)

FC64:
6 × 100G QSFP28 +
4 × 25G SFP28

11U

Switches - common models



24xx Series

- L2+
- 1G-10G
- PoE/PoE+



23xx Series

- L2+L3
- 1G-10G
- PoE/PoE+
- Stacking



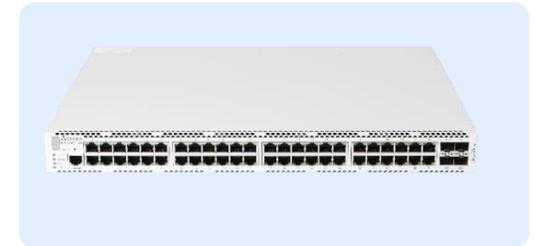
33xx Series

- L3
- 1G-10G
- 2 PSUs AC/DC
- Stacking



34xx Series

- L3
- 1G-10G
- 2 PSUs AC/DC
- Cost effective



53xxA Series

- L3
- 10G
- 2 PSUs AC/DC
- Stacking
- EVPN/VXLAN



54xx/55xx series

- L3
- 10G/25G/40G/100G
- 2 PSUs AC/DC
- Stacking
- EVPN/VXLAN



MES switches evolution



Availability scale

| MES23xx | MES2300xx | Terms |
|---------|-----------|-------|
|---------|-----------|-------|

| | | |
|-----------|--------------|-----------|
| MES2308R | MES2300-08 | 3Q2024 |
| MES2308P | MES2300-08P | 3Q2024 |
| MES2324 | MES2300-24 | Available |
| MES2324B | MES2300B-24 | Available |
| MES2324P | MES2300-24P | Available |
| MES2324F | MES2300-24F | Available |
| MES2324FB | MES2300B-24F | 2Q2024 |
| MES2328I | MES2300DI-28 | 3Q2024 |
| MES2348B | MES2300B-48 | Available |
| MES2348P | MES2300-48P | Available |

| MES33xx MES35xx | MES3300xx MES3500xx | Terms |
|--------------------|------------------------|-------|
|--------------------|------------------------|-------|

| | | |
|----------|--------------|-----------|
| MES3308F | MES3300-08F | 2Q2024 |
| MES3316F | MES3300-16F | 2Q2024 |
| MES3324 | MES3300-24 | Available |
| MES3324F | MES3300-24F | Available |
| MES3348 | MES3300-48 | Available |
| MES3348F | MES3300-48F | 3Q2024 |
| MES3508P | MES3500I-08P | 3Q2024 |
| MES3510P | MES3500I-10P | 3Q2024 |

2410xx, 2420xx series access switches



Recent developments



MES2410-08DP

Available

- 80 Gbps
- 8 × 2.5G PoE/PoE+
2 × 10G SFP+
- 1 PSU

MES2410-08DU

3Q2024

- 80 Gbps
- 8 × 2.5G PoE/PoE+/PoE+
2 × 10G SFP+
- 1 PSU

MES2420B-24D

2Q2024

- 200 Gbps
- 24 × 2.5G
4 × 10G SFP+
- 1 PSU + Cell battery

MES2420-24DP

4Q2024

- 200 Gbps
- 24 × 2.5G PoE/PoE+
4 × 10G SFP+
- 1 PSU

MES2410-48DP

4Q2024

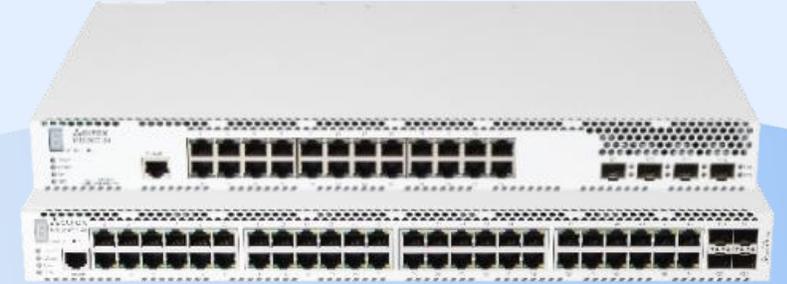
- 440 Gbps
- 48 × 2.5G PoE/PoE+
4 × 25G SFP28
- 2 PSUs

34xx series aggregation switches



MES 34xx series switches can be used in service provider networks as aggregation or transport switches. They ensure high performance due to the universal interfaces operating at speeds of 1 Gbps or 10 Gbps, perform the support for static and dynamic routing, hot-swappable redundant power modules.

- Basic L3 functions
- Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)
- Hot-swappable redundant power modules



MES3400-24

Available for order

- 128 Gbps
- 24 × 1G
4 × 10G SFP+
- 2 PSUs

MES3400-24F

Available for order

- 128 Gbps
- 24 × 1G SFP
4 × 10G SFP+
- 2 PSUs

MES3400-48

Available for order

- 176 Gbps
- 48 × 1G
4 × 10G SFP+
- 2 PSUs

MES3400-48F

2Q2024

- 176 Gbps
- 48 × 1G SFP
4 × 10G SFP+
- 2 PSUs

Special switches for industrial needs



- Advanced L2 features
- Multicast support (IGMP Snooping, MVR)
- Advanced security features (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)



MES3400I-24

2Q2024

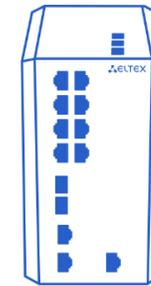
- 128 Gbps
- 24 × 1G
4 × 10G SFP+
- 2 PSUs



MES3400I-24F

3Q2024

- 128 Gbps
- 24 × 1G SFP
4 × 10G SFP+
- 2 PSUs



MES3700I-8P8F

4Q2024

- 72 Gbps
- 8 × 1G PoE/PoE+
8 × 1G SFP
2 × 10G SFP+
- 1 PSU (2 DC inputs)
- PRP/HSR support

Data center/core switch MES5410-48



Support for EVPN/VXLAN technology implemented in the devices enables networking with a simple, high-performance and scalable architecture for Leaf-Spine (Cloze network) data centers

MES5410-48

- Throughput- 3.6 Tbps
- 48 × 1G SFP / 10G SFP+ / 25G SFP28
6 × 40G QSFP+ / 100G QSFP28
1 × Console
1 × OOB
1 × USB 2.0
- Stacking up to 8 devices*
- Up to 2 PSUs (AC/DC)



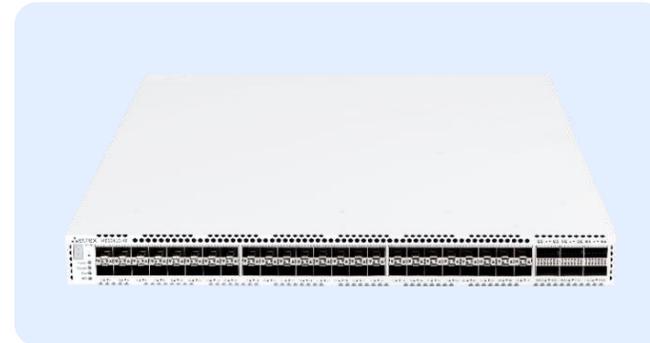
Data center switches of 5300/5310 series



MES5300-24

4Q2024

- Interfaces:
 - 24 × 10G SFP+
 - 4 × 100G QSFP28
- Redundant power supplies



MES5300-48 2Q2024

MES5310-48 4Q2024

- Interfaces:
 - 48 × 10G SFP+
 - 6 × 100G QSFP28
- Redundant power supplies

Routers. ESR an ME series



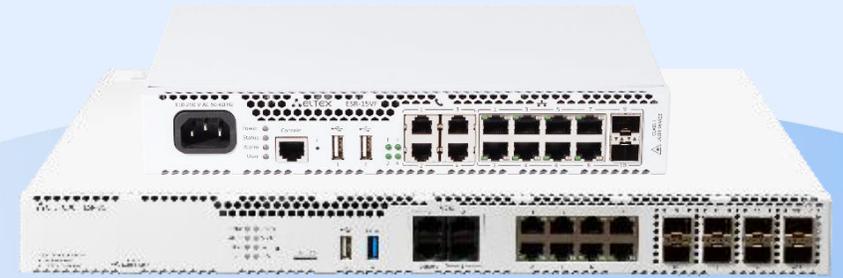
ESR service routers

- For small, mid-sized, large corporate networks
- Firewall, NAT
- VPN
- Routing, MPLS
- Security (IPS/IDS, Anti-spam)
- From 1 to 46 Gbps

ME core routers

- High performance routers, can be used as a corporate or an operator's core or border
- Up to 19,2 Tbps performance
- Carrier grade routing and MPLS
- L2VPN/L3VPN
- Multicast routing
- HQoS

ESR service routers new models



ESR-15VF 2Q2024

- ≈ 1 Gbit/s
- 8 × 1G
2 × 1G SFP
4 × FXS
- 1 PSU

ESR-31 2Q2024

- ≈ 8 Gbit/s
- 8 × 1G
6 × 1G SFP
2 × 10G SFP+
- 2 PSUs

ESR-2100 3Q2024

- ≈ 20 Gbit/s
- 8 × 1G SFP
8 × 10G SFP+
- 2 PSUs

ESR-3200L 3Q2024

- ≈ 20-25 Gbit/s
- 8 × 10G SFP+
4 × 25G SFP28
- 2 PSUs

ESR-3300 2Q2024

- ≈ 70-80 Gbit/s
- 4 × 25G SFP28
4 × 100G QSFP28
- 2 PSUs

Backbone IP/MPLS routers



Pilot testing



ME6008

- Performance up to 19.2 Tbps
- Up to 2 ME6K-RCC1 Routing and Control Modules
- Up to 4 ME6K-FC96-8 Switch Factory Modules
- Up to 8 line modules:
 - ME6K-LC24CGE: 24 × 100G QSFP28
 - ME6K-LC48XGE: 48 × 25G SFP28
- Two DC power inputs
- Chassis height - 15U

IP/MPLS routers



With support of SyncE and PTPv2



Routers can be used in 5G mobile communication networks as access and aggregation routers as well as cell-site gateway routers or edge routers

ME3100

4Q2024

- ≈ 2.4 Tbit/s
- 64 × 25G SFP28
8 × 100G QSFP28
2 × 100G QSFP-DD
- 2 PSUs
- 2 RU

ME3002

4Q2024

- ≈ 800 Gbit/s
- 24 × 25G SFP28
2 × 100G QSFP28
2 × 400G QSFP-DD
- 2 PSUs
- 1RU

ME5210S

2Q2024

- 720 Gbit/s
- 32 × 10G SFP+
6 × 100G QSFP28
- 2 PSUs
- 1RU
- More powerful CPU
- RAM (up to 64 Gb)

ME2001

3Q2024

- ≈ 300 Gbit/s
- 16 × 10G SFP+
8 × 25G SFP28
2 × 100G QSFP28
- 2 PSUs
- maintenance-free back panel
- Depth – 300 mm
- 1RU

IP/MPLS routers



With support of SyncE and PTPv2

In development

ME2001

Performance

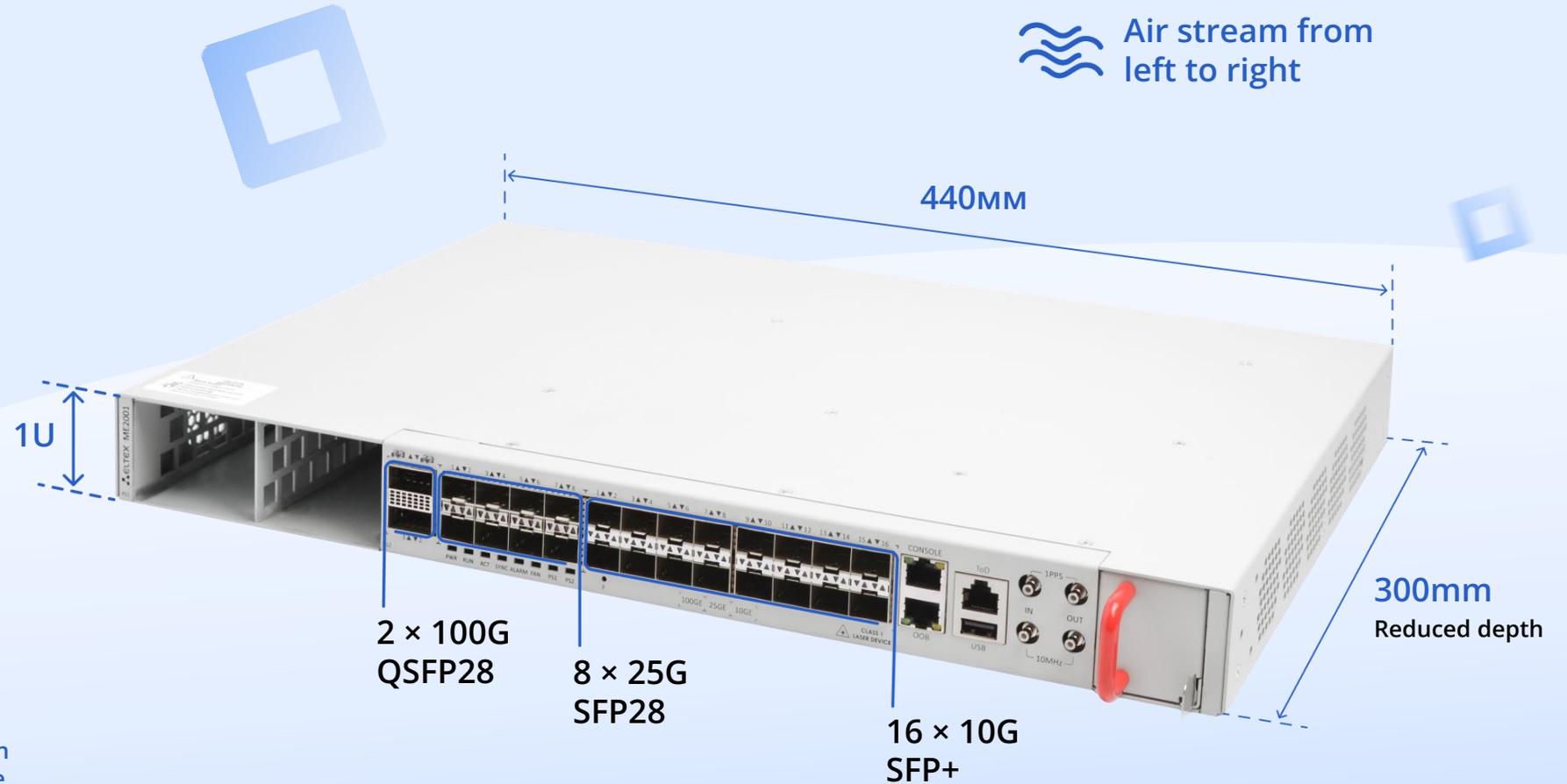
300 Gbit/s

Power supply

2 PSUs

Ventilation

1 ventilation module



No backside access is needed for maintenance. Front access to the power supplies and ventilation module. All redundant units are replaceable while the unit is running

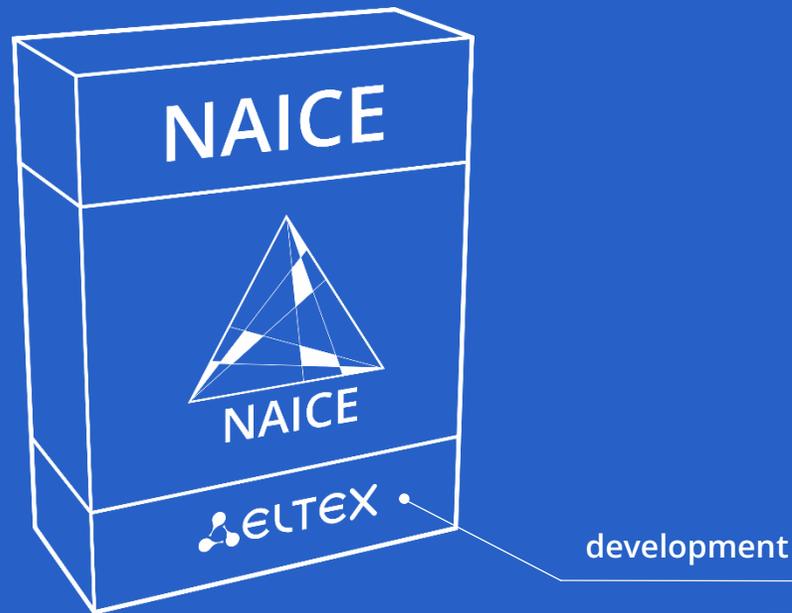
Centralized equipment management system



Roadmap 2024

- LDAP support for authentication and authorization
- Public API (NBI)
- Reports on data available in ECCM
- Log collector from syslog
- Hardware inventory
- Service inventory
- Development of ME, ESR, WLC, MES equipment support with new functionality
- Development of a group of security directions

Access control system to the equipment and enterprise network



Cisco ISE → Eltex NAICE

Key features

- Centralized policy storage and management
- Authentication of network users via 802.1X (RADIUS) protocol
- Authentication of network equipment administrators via TACACS+ protocol
- Registration of new users on the network (BYOD - Bring Your Own Device)
- User segmentation

Main branches of VoIP equipment



SMG



Trunk gateways with redundancy support

TAU



Line of analog subscriber gateways

VP



IP phones

Softswitch



SBC



Session border controller to protect against unauthorized access

Upcoming models of IP-Phones



VP-30P

2Q 2024



- CPU: 2 cores of 800 MHz
- DDR3: 256 MB
- NAND Flash: 512 MB
- PoE+ power supply
- Complete with expansion consoles
- 1GB ports
- Color LCD display
- Up to 6 SIP-accounts
- Automatic configuration and software updates (Autoprovision)

VP-100P

4Q 2024

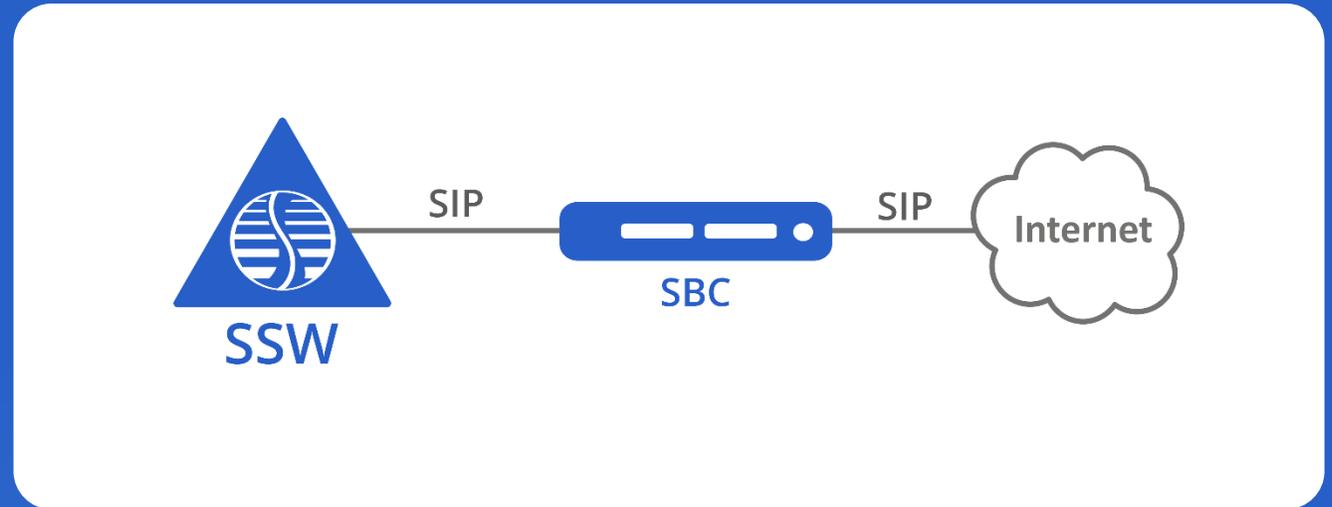


- 4 × Cortex-A53 1600 MHz
- DDR4 16 Gbit
- eMMC 8 GB
- Display 1024×600
- PoE+
- Up to 6 SIP-accounts
- 1GB ports
- Complete with expansion consoles

Session border controller



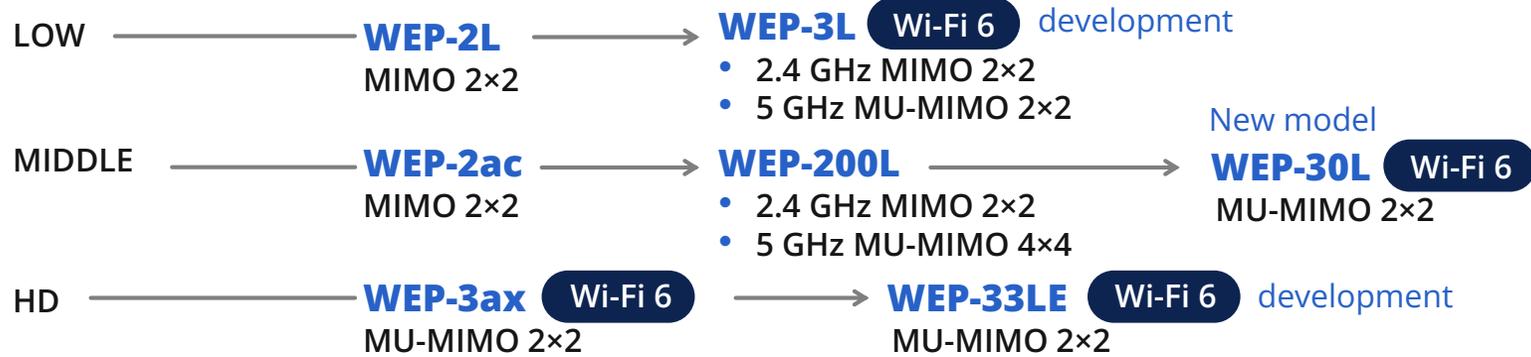
- Integrated with vESR
- Provides full-fledged information security within a given perimeter



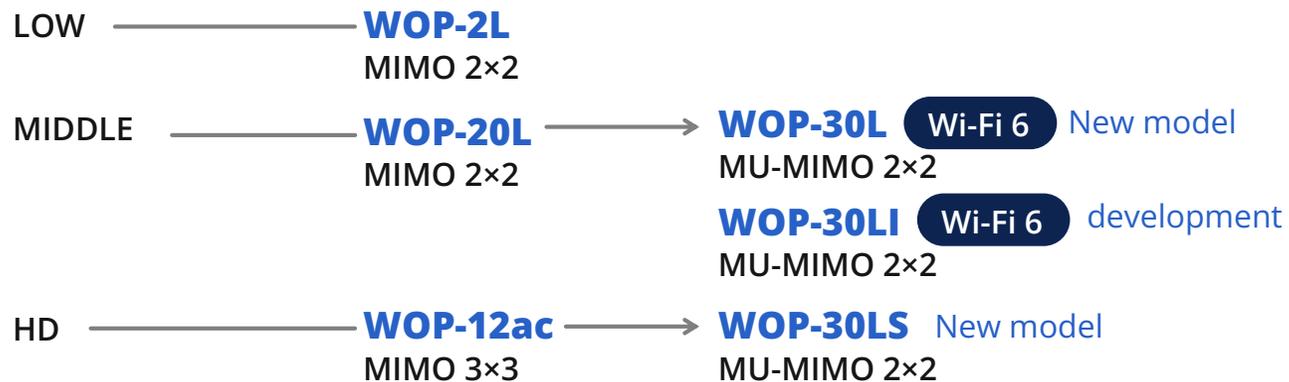
Wireless access points – serial devices



INDOOR



OUTDOOR



Wi-Fi 6: Outdoor



- Increase wireless network throughput
- Use in high-load, high-class-of-service networks

Middle WOP-30L



- 2.4/5 GHz 802.11ax
- MU-MIMO 2x2
- Seamless roaming 802.11r/k/v
- 1 Ethernet 2.5G port
- PoE+ 48 V/54 V (IEEE 802.3at-2009)
- Up to 50 users
- Centralized network management and monitoring with SoftWLC / WLC

Middle WOP-30LS



- 2.4/5 GHz 802.11ax
- MU-MIMO 2x2
- Seamless roaming 802.11r/k/v
- 60x38 9dBi 2.4G, 11dBi 5G directional antenna
- 1 Ethernet 2.5G port
- PoE 48 V/56 V (IEEE 802.3af-2003)
- Up to 50 users
- Centralized network management and monitoring with SoftWLC / WLC

Middle WOP-30LI



- 2.4/5 GHz 802.11ax
- MU-MIMO 2x2
- Seamless roaming 802.11r/k/v
- 2x2.5G Ethernet ports, 2xSFP (1G)
- PoE 48V/56V (IEEE 802.3af-2003), from 12V source
- Up to 50 users
- Centralized network management and monitoring with SoftWLC / WLC

WLC hardware controller lineup



- Management and monitoring of Wi-Fi access points
- Airtune. Management of access point radio parameters and roaming (802.11 r/k/v)
- WPA-Enterprise / WPA-Personal authorization
- Controller monitoring via SNMP
- Authorization on external Radius server

Serial production



WLC-15

Serial production



WLC-30

Pre-series



WLC-3200

Interfaces

2 × **Ethernet 1000BASE-X SFP**
4 × **Ethernet 10/100/1000BASE-T**
1 × **Console RS-232 (RJ-45)**
2 × **USB 2.0**
1 × **HDD**

4 × 10/100/1000BASE-T
2 × 10GBASE-R SFP+/1000BASE-X
1 × Console
1 × USB 3.0
1 × USB 2.0
1 × microSD card
1 × HDD

12 × 1000BASE-X/10GBASE-R/25GBASE-R (LAN/WAN)
1 × OOB
1 × Console (RJ-45)
1 × USB 2.0
1 × microSD card
1 × HDD

Number of access points

up to 100

up to 500

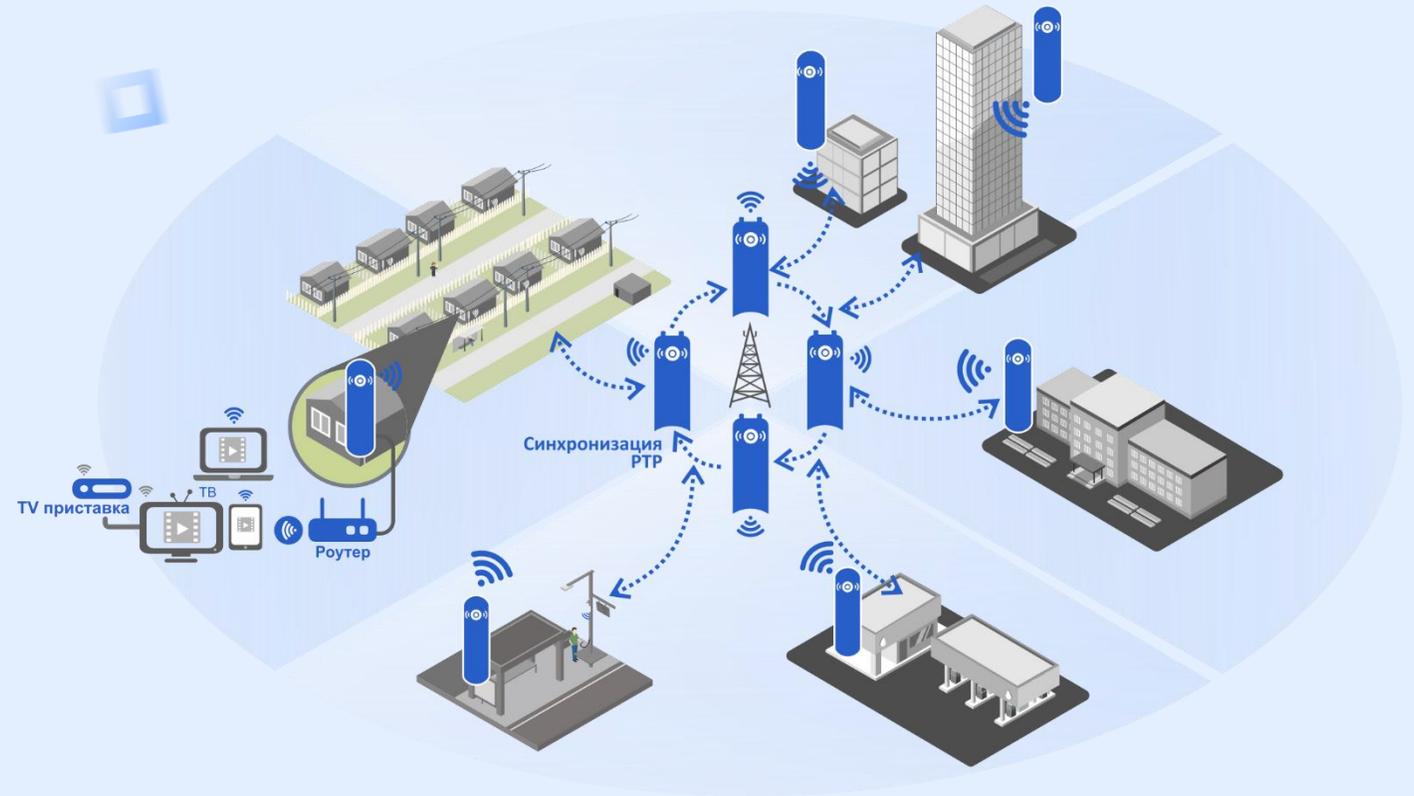
up to 1000

FBWA equipment



Key features

- Using one frequency for multiple base stations
- Synchronization of up to 4 base stations via PTP protocol
- Increased subscriber capacity



 **WOP-2ac-LR5 SYNC**
Base station

 **WB-2P-LR5**
Client station

Wi-Fi-6 FBWA solution



WOP-3ax-LR6



- 6-7 GHz 802.11ax
- Transmit power up to 28 dBm
- SFP option
- Signal level indication
- Intersectoral synchronization
- Up to 50 users
- Centralized network management and monitoring with Eltex EMS

4Q2024

WB-3P-LR6



- 6-7 GHz 802.11ax
- Transmit power up to 28 dBm
- Signal strength indication

4Q2024



Eltex Home

Takes care of safety and comfort in one touch



ELTEX smart home



Eltex Smart Home automates and simplifies many household tasks: lighting and climate control, home security and monitoring. Smart devices are combined into a single system and controlled through convenient services in the Eltex Home application

Security

Management

Control

Survey



 Sending notifications

 Voice control

 Cloud or local solution

 Executing scenarios

 Wireless technologies

 Home state monitoring

Z-Wave sensors



New design



Wi-Fi Smart Devices



SW-SBR

Q2'24



Smart switch

Smart Wi-Fi socket
SW-PLG02



New design

Wi-Fi camera

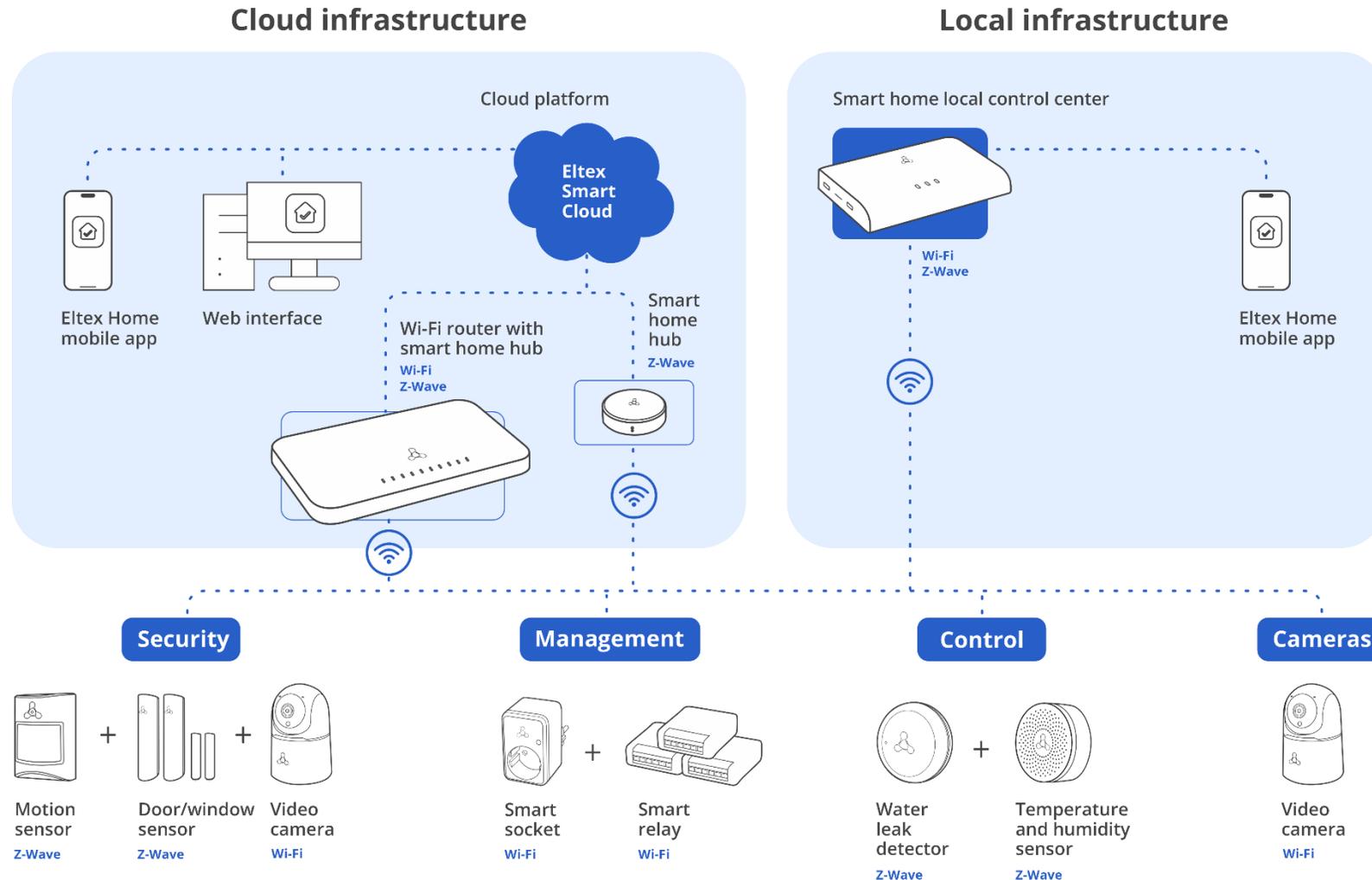


| Characteristics | SV-C01 |
|------------------------|---------------------------------|
| Power supply | Micro USB 5B 2A |
| Wireless network | IEEE 802.11 b/g/n 2.4 GHz/5 GHz |
| Sensor viewing angle | Horizontal 84° |
| | Vertical 46° |
| | Diagonal 99° |
| Angle of rotation | Horizontal 360° |
| | Vertical 110° |
| Supported resolutions | FullHD 1920 × 1080 |
| | HD 1280 × 720 |
| | nHD 640 × 360 |
| Power consumption | Max 3.1 W |
| Dimensions (W × H × D) | 77.5 × 116.3 × 77.5 mm |
| Weight | 190 g |
| Matrix resolution | 4 megapixels |
| Operating temperature | -5 to +35 °C |

Eltex Home ecosystem



Two infrastructure options: cloud or local



Eltex Home infrastructure



Smart home hub

The device can connect to the router's home network either via LAN or Wi-Fi 2.4.

It performs the functions of the main Z-Wave hub.

The hub is added via the Eltex Home application.

The hub connects Z-Wave smart home sensors with the Eltex SC cloud platform

Key features of the cloud platform:

- Security: Contact door/window sensor, motion sensor
- Management: lighting and electrical appliances
- Control: temperature and humidity sensors, smoke detector, water leak detector
- Cameras: live streaming, recording video data to archive
- Working with scenarios and automation

SH-10-WZ

2Q 2024

ZigBee support with USB dongle in future versions



SH-20-WBZ

- Z-WAVE
- ZigBee
- Bluetooth
- 2Q-3Q 2024

SH-XX

4Q2024

+ Matter



Eltex Home infrastructure



Smart home local control center

Commands and information about the system operation are stored on a separate device where the local platform is installed.

It performs the same functions as the cloud one, but it does not transfer information to shared storage — the user data does not go beyond the perimeter of the home.

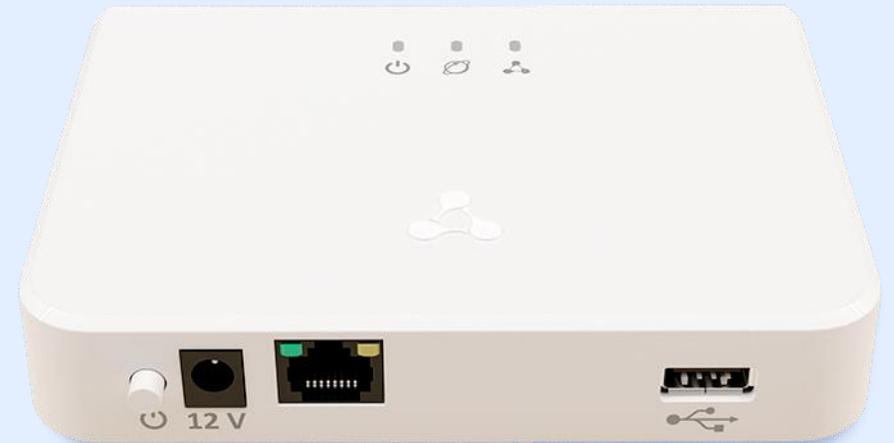
Key capabilities

- Security: Contact door/window sensor, motion sensor
- Management: lighting and electrical appliances
- Control: temperature and humidity sensors, smoke detector, water leak detector
- Cameras: live streaming, recording video data to archive
- Working with scenarios and automation

2Q 2024

ZigBee support with USB dongle in future versions

SL-10



Eltex Home application



Eltex Home application configures the operation of the smart home individually for each user. The application has a user-friendly interface, even a beginner can master it.

The app allows selecting only the services you need.

The app can be based on the cloud or local platform, the user can decide where it is more convenient to store data.



Home state monitoring



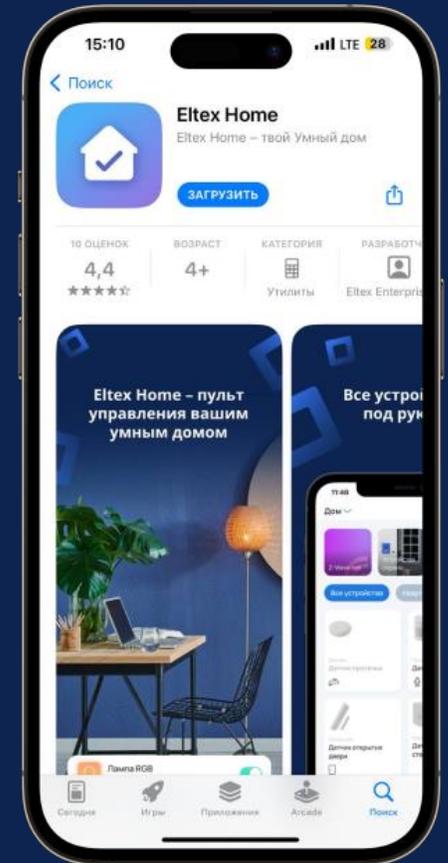
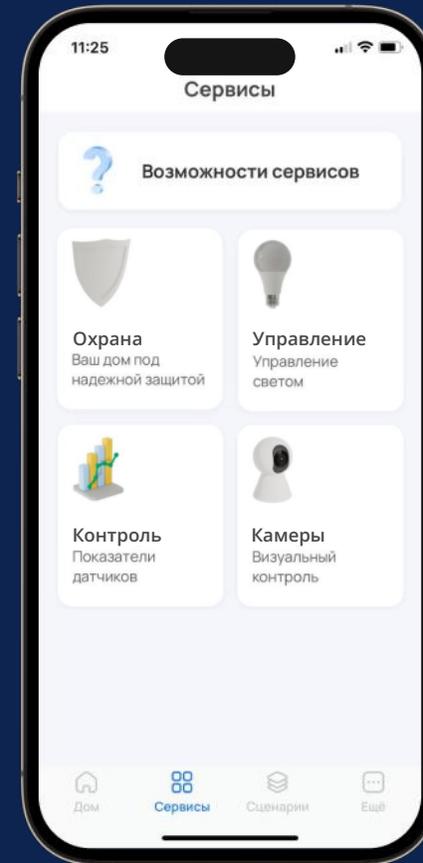
Sending notifications



Executing scenarios



Scan the QR code to download the application



Demo Mode Access





EVI Perimeter Enterprise - video monitoring system

EVI Perimeter



EVI video server is a complete solution for organizing a video monitoring system



Receiving video broadcasts from CCTV cameras

Arrangement of streams from different cameras on the same screen in different configurations

Viewing video broadcasts in real time

Formation and recording of video stream data in the archive

Access to the archive of video recordings from the client interface

Support for multiple video streams from a single camera

Motion Detection Module

Support for modern video codecs: H.264

Support for the RTP/RTSP video surveillance standard

Importing and exporting a list of cameras

User rights system, role support

The work of the visual client on the Linux platform

API for integration with third-party systems

EVI Perimeter



Ongoing development



- Sabotage Detector. Monitors video signal quality, informs services and operators about image problems
- Self-diagnostics.
General checks for the server and its internal components
- Event and alarm system
- Service of camera detection in the local network.
For convenient addition of cameras without manual entry of data in the main fields

- Blurring of frame areas. Blurring is effective only during live video broadcasting and on still images from the archive. The image is not blurred during archive playback.
- Hiding private information
- Car plate recognition
- Face recognition
- Import/export all server settings
- Premises plan



Cameras for citizen and business



Camera models



SV-B01

- 4M (2560×1440)
- Built-in speaker and microphone
- Memory card
- RAM 128 Mb
- Flash 16 Mb
- Fixed lens 2.8mm
- 25 fps
- DWDR
- IR up to 25m
- DC 12V/ PoE 802.3af



SV-B02

- 4M (2560×1440)
- RAM 128 Mb
- Flash 16 Mb
- Fixed lens 2.8mm
- 25 fps
- DWDR
- IR up to 25m
- DC 12V/ PoE 802.3af



SV-B03

- 4M (2560×1440)
- RAM 128 Mb
- Flash 16 Mb
- Variofocal 2.8mm lens
- 25 fps
- DWDR
- IR up to 25m
- DC 12V/ PoE 802.3af

Thank you for your attention!



We are always ready for dialog, development and customization of solutions in compliance with your ideas



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