ELTEXALATAU

Complete solutions for networking

Solutions for

Broadband
access networks

GPON
Switches
Routers
Wi-fi
VoIP
SFP

WHO IS ELTEX?

Complete Cycle of Manufacturing includes

1 Development
2 Production
3 24h customer support

Eltex is a leading Russian designer and manufacturer of a wide range of telecommunications and networking equipment:

- Broadband (Ethernet Switch, PON, Routers, FBWA)
- VoIP (VoIP Gateways, Trunk Gateways, Softswitch)
- Wireless
- IPTV Set-top Boxes
- Thin Clients
- TDM systems
- Power management

All equipment is designed in house by Eltex specialists in Novosibirsk. System built with our devices ensure compatibility of all components.

We have over 400 employees working on our solutions. We implement the complete cycle of product development and production, including schematics development, PCB design, writing software, prototyping and the final mass production.

In our HW labs specialists work on system and case design of future products. Seven SW labs create embedded and system software for our devices.

Eltex Head office is located in Novosibirsk, Russia

Eltex Alatau manufactury in Almaty, Kazakhstan

The Eltex Alatau manufactory was established in order to promote and distribute products with a particular focus on Central Asia. All solutions are manufactured under ELTEX license at ELTEX ALATAU manufacturing facilities in the Kazakhstan.

The Eltex Alatau company provides complete access networks and Triple Play services (Data, TV and Voice): PON Equipment, Ethernet-Switches, Wi-Fi Access Points, VoIP Equipment, Softswitch & IMS 4/5 class, IPTV Set-top Boxes, Thin Clients.

BROADBAND EQUIPMENT

GPON	Switches	Routers	Wireless	Management
⌘ OLT	⌘ Access	⌘ ESR	⌘ Enterprise Wi-Fi	⌘ ACS Configuration
⌘ ONT	⌘ Aggregation		⌘ FBWA Solutions	⌘ EMS Management
	⌘ 10/40G Aggregation			

APPLICATIONS

- Service Provider
- Government
- Security
- Oil Industry, Energy
- Business Solutions, Enterprise
- Data Center

SOLUTIONS

DATA RATE
- N x 1G/2.5G (access)
- N x 10G/40G (transport, data center)

KEY BENEFITS
- Reliable transport network
- Selected versions for access network
- Various versions of CPE devices
- Management System

DATA CENTRE

ACS Server
EMS Server

ECSS-10
Softswitch

10G/40G

MES5324/MES5448
Aggregation
Switch 10G

10G

AGGREGATION

LTP-8X
OLT GPON

MES3124F
Aggregation
Switch

MES2208P
Access Switch

WOP-12ac
Wi-Fi Access Point

2.5G

1G

ACCESS

1.3G

PON
FTTH

FTTB

Wi-Fi

LTP-8X
OLT GPON

NTP-RG-1402G-W
ONT GPON

MES2124
Access Switch

WB-1P
Wi-Fi Access Ppint

PC

NV-310
IPTV STB

TAU-24.IP
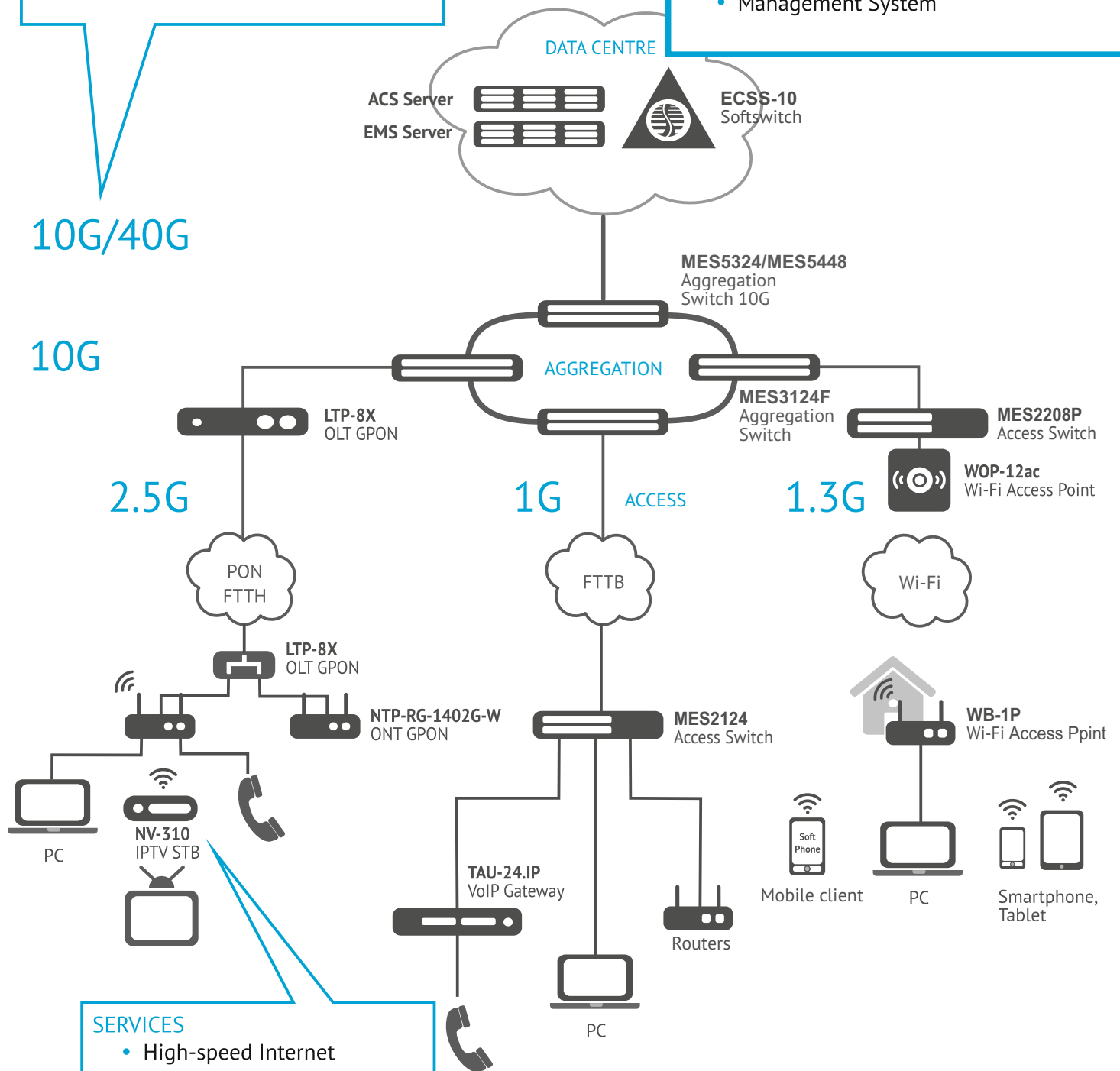VoIP Gateway

Routers

Soft Phone

Mobile client

PC

Smartphone,
Tablet

PC

SERVICES
- High-speed Internet
- VoIP
- Full HD IPTV
- CaTV
- OTT/VoD
- Interactive and Live Services

2

BENEFITS OF PON TECHNOLOGY

- Universal network infrastructure for implementing modern services
- Passive nodes between central office and user nodes
- High reliability (connection, disconnection or malfunction of one or several user nodes does not affect the rest)
- Perfect network scalability
- No 100-meter limit between user and switch
- Wide range of user devices
- Convenient tools enable service providers to manage the entire network - the Eltex.EMS and Eltex.ACS control server unified monitoring and control system enables management of customer devices via the TR-069 protocol
- Universal solution for different types of networks

> PON Technology is the most popular for building «last-mile» fixed networks in the world
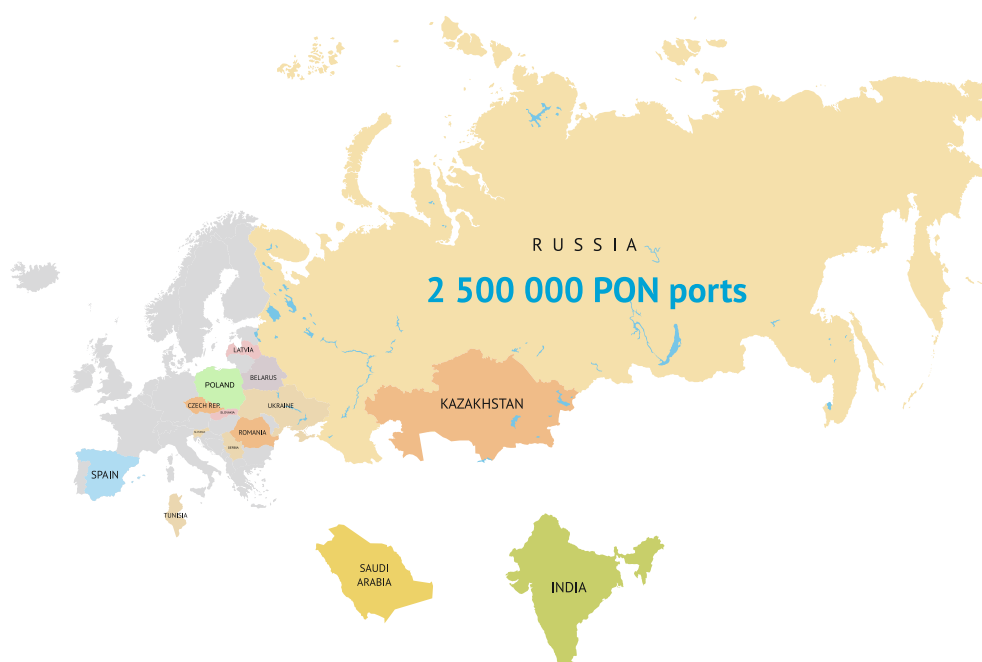
INTERNET
VoIP
IPTV/VoD
INTERACTIVE TV
Quality Monitoring

Since 2010, the company "Rostelecom" has been implementing one of the largest PON network construction projects in Russia. Regional affiliates Sibir, Volga and Ural have set more than one million subscribers to PON ports.

Eltex has provided PON equipment and completed projects for over 200 service providers in Russia, CIS and abroad.

R U S S I A
2 500 000 PON ports

LATVIA
BELARUS
POLAND
CZECH REP.
UKRAINE
ROMANIA
KAZAKHSTAN
SPAIN
TUNISIA
SAUDI ARABIA
INDIA

- Russia
- Kazakhstan
- Ukraine
- Belarus
- Latvia
- Czech Republic
- Slovakia
- Poland
- Slovenia
- Serbia
- Romania
- Spain
- Tunisia
- Saudi Arabia
- India

GPON OPTICAL LINE TERMINAL (OLT)

OLT enables the operator to construct scalable, failsafe "last mile" networks, ensuring high safety requirements in either urban or rural areas. OLT controls customer stations, traffic switching and access to the transport network.

Broadband customer access using FTTH technology is the Triple Play service provision option of the highest quality, since it makes a high data transfer rate possible over a long distance. The main benefit of PON technology is that there is no need for active nodes between OLT and ONT, which helps to reduce network maintenance costs. Also, PON technology enables to make savings on the cable infrastructure with fewer optic fiber lines required - there is only one optic fiber line used between the central node and the splitter, which connects up to 64 or 128 subscribers.

	LTP-4X	LTP-8X	MA-4000PX-V
Rack size	19" 1 RU	19" 1 RU	19" 10 RU chassis
Modules			⌘ up to 16 PLC8 modules ⌘ up to 16 PLC16 modules ⌘ up to 2 PP4X modules ⌘ up to 2 PP4Q modules
Chassis capacity	340 Gbps	680 Gbps	1440 Gbps
PON ports	4	8	up to 256
Uplink ports	⌘ 2 x 10GBase-X (SFP+)/ 1000Base-X (SFP) ports ⌘ 4 x 10/100/1000 Base-T/ 1000 Base-X (SFP) ports	⌘ 2 x 10GBase-X (SFP+)/ 1000Base-X (SFP) ports ⌘ 4 x 10/100/1000 Base-T/ 1000 Base-X (SFP) ports ⌘ 4x 10/100/1000Base-T ports	⌘ up to 8 x 40GBase-X (SFP+)/ 10GBase-X (QSFP+) ports ⌘ up to 4x 10/100/1000 Base-T/ 1000 Base-X (SFP) ports
ONT support	512	1024	up to 16 384

Provider's access networks for buildings

Enterprise and government access network

CCTV networks

ELTEX ECOSYSTEM SWITCH

ACCESS

Fast	**MES1124M AC/DC**	24 x 100M 4 x 1G/SFP 220 V AC/48 V DC	**MES1124MB AC**	24 x 100M 4 x1G/SFP 220 V AC/12 V DC (battery)

GE	**MES2124M AC/DC**	24 x 1G 4 x 1G/SFP 220 V AC/48 V DC	**MES2124MB AC**	24 x 1G 4 x1G/SFP 220 V AC/12 V DC (battery)

GE, PoE	**MES2208P**	4 x 1G PoE/PoE+ 4 x 1G/SFP 2 x 1G 2 x 1G SFP	**MES2124P**	24 x 1G PoE/PoE+ 4 x 1G/SFP 220 V AC

GE, 10G	**MES2324/MES2324FB/MES2348**	24G/24G (SFP)/48G 220 V AC/12 V DC (battery)
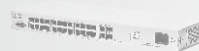
Available / **Under development**

AGGREGATION

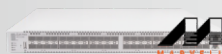| **MES3100**	up to 24 x 1G/SFP up to 4 x 10G/SFP L3	**MES3324F**	up to 24 x 1G/SFP up to 4 x 10G/SFP L3
		MES3424F/3448F	up to 48 x 1G/SFP up to 4 x 10G/SFP L3

Available / **Under development**

AGGREGATION 10G

10G/40G	**MES5324**	**MES5448**	**MES7220**
	24 x 10G SFP+ 4 x 40G QSFP L3 64K MAC	48 x 10G SFP+ 4 x 40G QSFP L3 128K MAC	32 x 40G QSFP L3 544K MAC

2015   2016

GPON OPTICAL NETWORK TERMINAL (ONT)

ONT is a high-performance multi-functional customer terminal, designed to provide access to modern telephone services and broadband Internet connection.
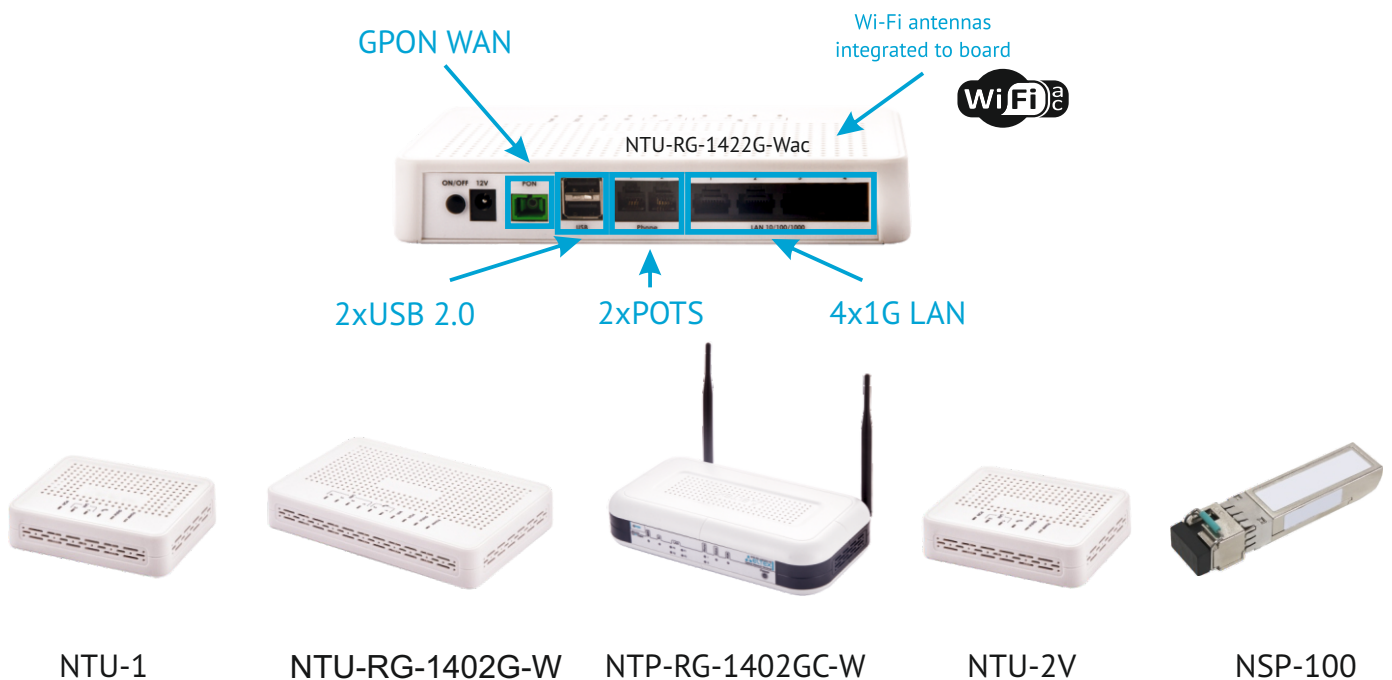
Universal devices

A 4-port Gigabit 10/100/1000Base-T router enables high-speed communications between network devices. Two FXS ports can connect analog phones to use with a voice over IP service. Devices with an onboard triplexer have an RF-port for TV connection and TV programs (if supported by a service provider). One USB port can be connected to a USB storage device to provide convenient storage and file sharing services within a home network.

Services

- ⌘ High-speed Internet
- ⌘ Full HD IPTV, VoD, OTT
- ⌘ CaTV
- ⌘ VoIP
- ⌘ Interactive services

Integration options

- ⌘ Broadband network access to apartment buildings and complexes, campus structures and villages
- ⌘ Corporate networks for large-scale strategic enterprises or business centers with advanced security and bandwidth requirements

GPON WAN

Wi-Fi antennas integrated to board

NTU-RG-1422G-Wac

WiFi ac

2xUSB 2.0   2xPOTS   4x1G LAN

NTU-1   NTU-RG-1402G-W   NTP-RG-1402GC-W   NTU-2V   NSP-100

	WAN	LAN	FXS	RF	Wi-Fi	USB
NTU-1	1xGPON	1x1G				
NTP-2C	1xGPON	2x1G		1xRF		
NTP-RG-1402GC-W	1xGPON	4x1G	2	1xRF	IEEE 802.11b/g/n	1xUSB2.0
NTU-2V	1xGPON	1x100M + 1x1G	1			
NTU-RG-1402G-W	1xGPON	4x1G	2		IEEE 802.11b/g/n	2xUSB2.0
NTU-RG-1422G-Wac	1xGPON	4x1G	2		IEEE 802.11ac Simultaneous Dual Band	2xUSB2.0
NSP-100	1xGPON	eth				

SWITCHES

ACCESS AGGREGATION AGGREGATION 10G

Access Switch

The MES access switch is a managed L2 switch with 24 10/100/1000Base-T(X) ports and 4 combined 10/100/1000Base-T/1000Base-X ports. The Switch is designed to connect end users to large-scale corporate networks, medium and small business networks, and to the service provider networks using 100M/1G interfaces.

Switch functions include physical stacking, VLAN support, multicast groups and advanced security functions.

Aggregation Switch

Key features of this type of device are the advanced L2 functions, support for static IP routing, dynamic routing, up to 4x10 Gbit/s (SFP+) interfaces, the ability to work in a stack of up to 8 devices, and power source redundancy with a hot swap function.

Support for fast convergence EAPS protocol makes it possible to achieve an optical ring convergence time of 200 ms, which enables uninterrupted service provision.
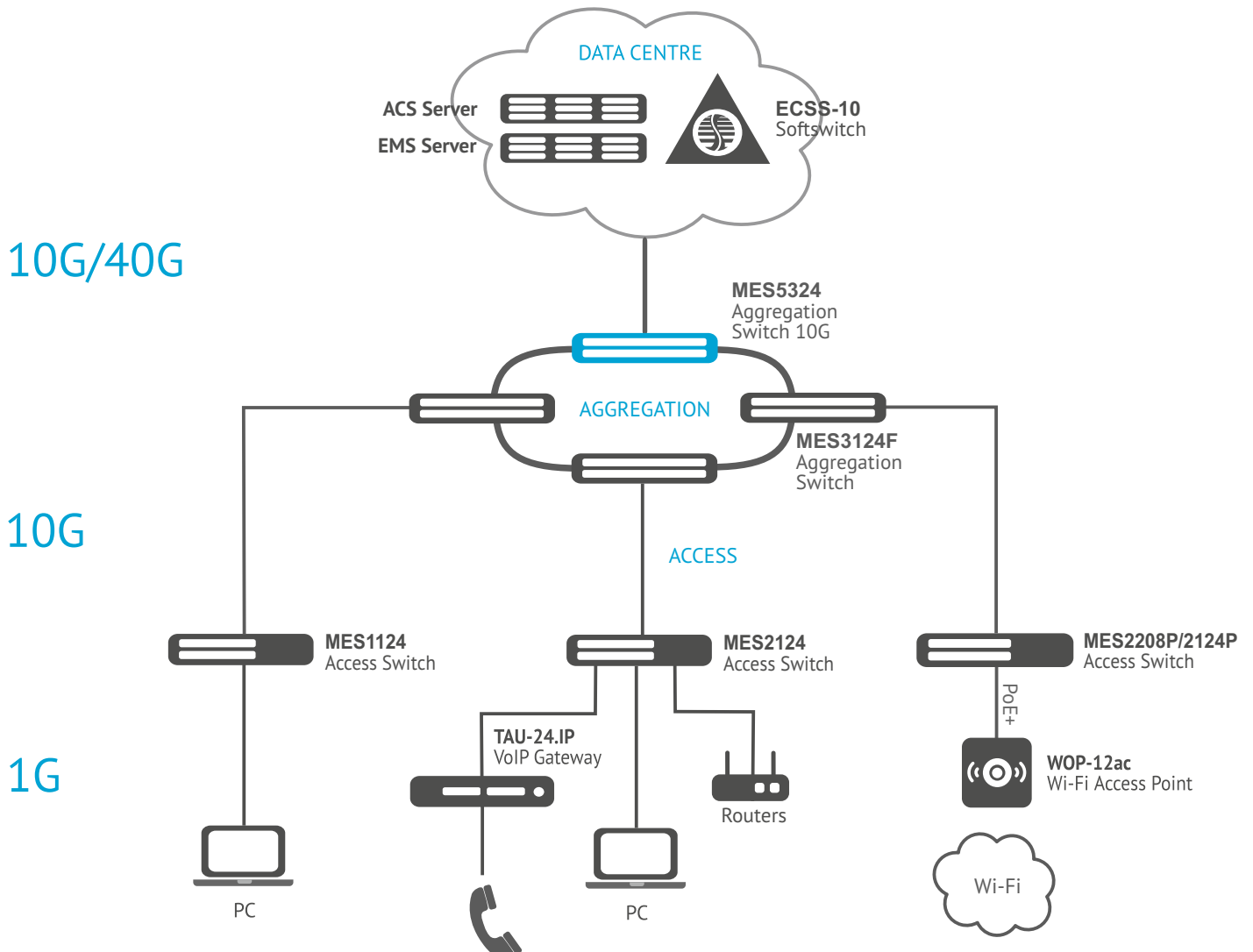
SERVICE ROUTERS

	ESR-100	ESR-200	ESR-1000	ESR-1200
Firewall performance (large packets), Gbps	0.91	1.6	7.2	
NAT performance (large packets), Gbps	0.98	1.6	6.1	
Ipsec VPN performance (large packets), Gbps	0.58	0.82	3.7	
VPN tunnels	200	200	500	
Static routes	11K	11K	11K	
Concurrent sessions	256K	256K	512K	
L2 switching performance (large packets), Gbps	3.03	3.94	86.9	
L3 routing performance (large packets), Gbps	1	1.6	8.2	
BGP routes	1.2M		2.6M	
OSPF routes	300K		500K	
RIP routs	10K		10K	
FIB table	550K		1.7M	

Hardware Benefits

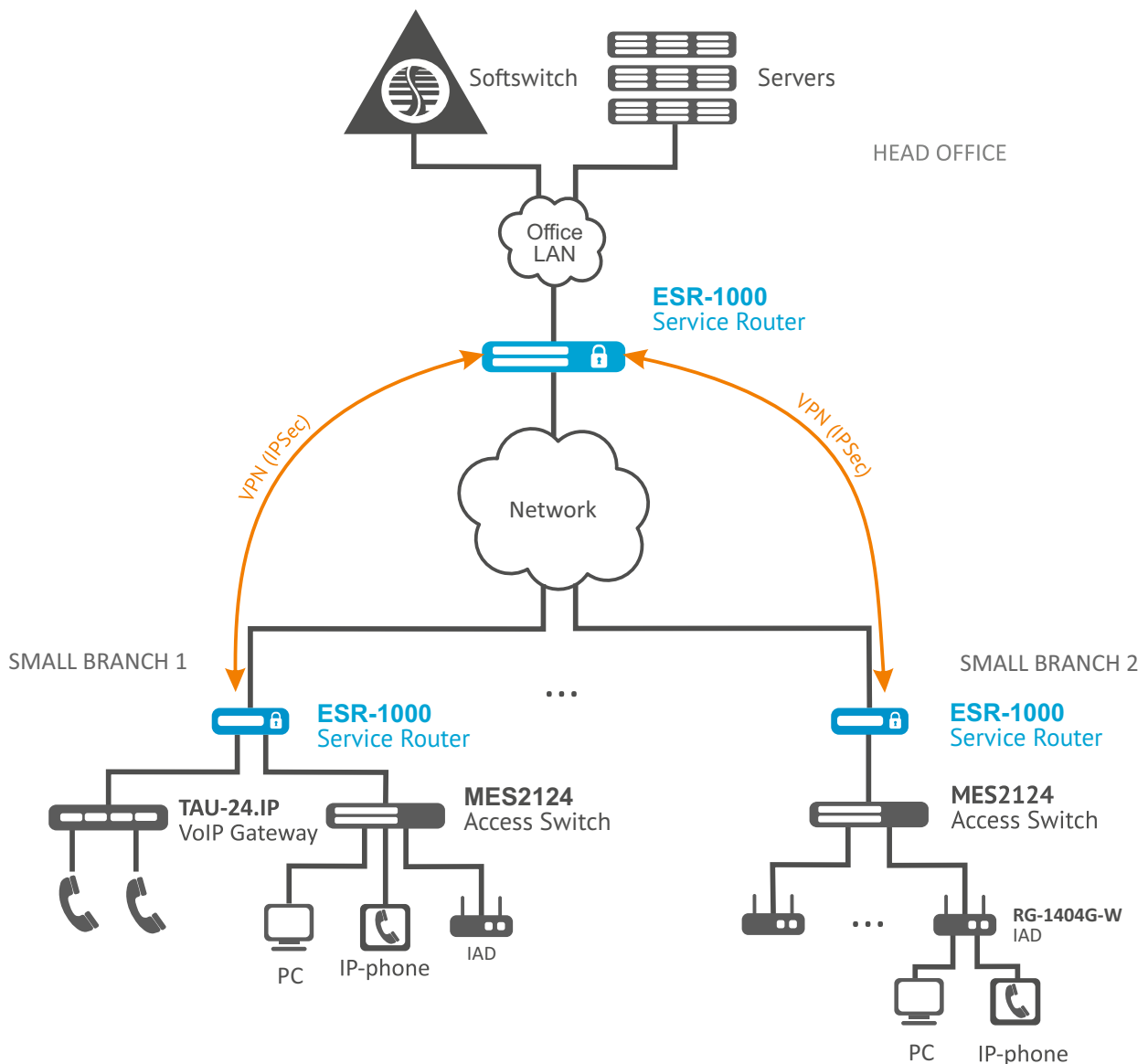|	ESR-100	ESR-200	ESR-1000	ESR-1200
Image				
Interfaces				
Ethernet 10/100/1000 Base-T		4	24	12
Combo 10/100/1000BASE-T / 1000BASE-X SFP	4	4		4
10GBASE-R SFP+/ 1000BASE-X			2	8
USB2.0	1	1	2	2
USB3.0	1	1		
SD-card slot	●	●	●	●
Technical parameters				
Memory (DRAM)	to 8 GB	to 8 GB	to 8 GB	to 8 GB
Flash memory	1 GB	1 GB	1 GB	1 GB
Power supply	220 V AC	220 V AC	220 V AC/48 V DC	220 V AC/48 V DC
Redundant power supply			●	●
Removable fans			●	●
Technical parameters				
Data encryption hardware acceleration	●	●	●	●
DPI Hardware acceleration	●	●	●	●
L2, L3 functions hardware acceleration			●	●

SERVICE ROUTERS

ESR is a high-performance network security solution for enterprises and service providers that pack high port-density, advanced security, and flexible connectivity into one easily managed platform.

Key benefits of the ESR-1000 is a hardware acceleration of data rate which enables a high-perfomance solution. Hardware and software processing is distributed among the nodes of the device.

- ⌘ **IPSec VPN**
- ⌘ **Next generation firewall protection and NAT**
- ⌘ **L2TP, PPTP**
- ⌘ **L3 routing**
- ⌘ **Conversion from IPv4 to IPv6 (6to4, 4to6)**
- ⌘ **Network data filtering**
- ⌘ **Detection and prevention of network intrusion attempts, data loss protection**
- ⌘ **Analysis of network traffic and network activity in relation to applications and users**

ESR-1000

Softswitch   Servers

HEAD OFFICE

Office LAN

ESR-1000
Service Router

VPN (IPSec)   VPN (IPSec)

Network

SMALL BRANCH 1   SMALL BRANCH 2

ESR-1000   **ESR-1000**
Service Router   Service Router

TAU-24.IP   **MES2124**   **MES2124**
VoIP Gateway   Access Switch   Access Switch

RG-1404G-W
IAD

PC   IP-phone   IAD   PC   IP-phone

BROADBAND WI-FI ACCESS

Solution for businesses

ELTEX AP provides a high-speed, secure, accessible and easy to use wireless network, which combines a variety of features and services needed for corporate clients. AP will become a universal solution for the organization of the wireless network with a large number of users and high traffic (office, government offices, conference rooms, laboratories, parks, hotels, etc.)

up to 1.3 Gbps   up to 400 users   Cluster up to 64 AP   PoE/PoE+ Low energy

WEP-12AC

Wi-Fi Enterprise
Indoor Access Point

Applications
- Offices
- Hotels
- Education
- Medical
- Government

WOP-12AC / WOP-12AC-LR

Wi-Fi Enterprise
Outdoor Access Point

Applications
- ⌘ Roads
- ⌘ Parks
- ⌘ Villages
- ⌘ CCTV
- ⌘ Manufacturing
- ⌘ Parking

WB-1P/WB-1P-LR

Wi-Fi Users
Outdoor Access Point

WB-2

Wi-Fi Users
Indoor Access Point

- ⌘ **High-perfomance chipset**
- ⌘ **Broadcom chipset**
- ⌘ **Wi-Fi IEEE 802.11ac (5G)**
- ⌘ **PoE+, Power Adapter**
- ⌘ **Zero-Handoff Roaming**
- ⌘ **Modern tools for authentication and encryption (WPA, WPA2 ...)**
- ⌘ **High performance AP**
- ⌘ **Dual Band Wi-Fi: 2.4 and 5 GHz (Integrated antennas)**
- ⌘ **Centralized autorization via RADIUS server (WPA Enterprise)**
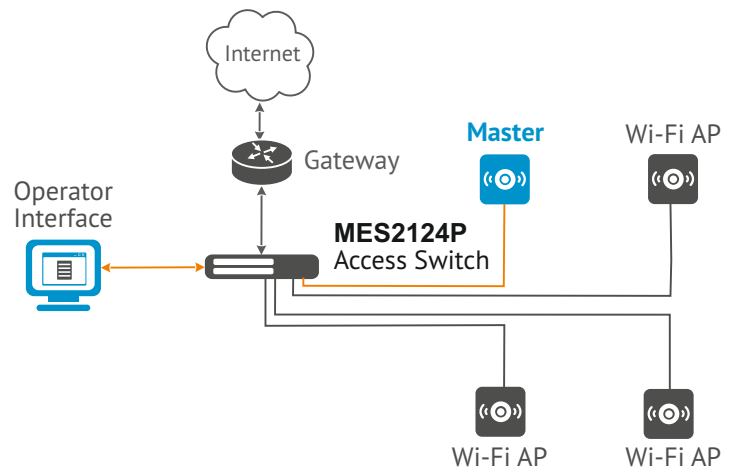- ⌘ **Controller Clustering**
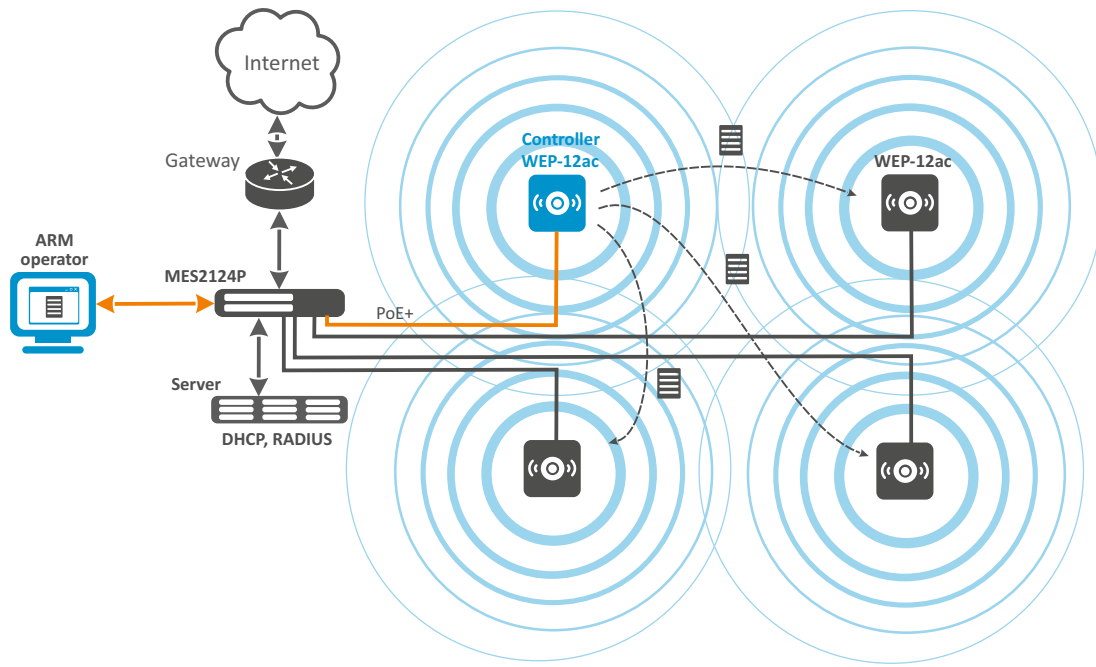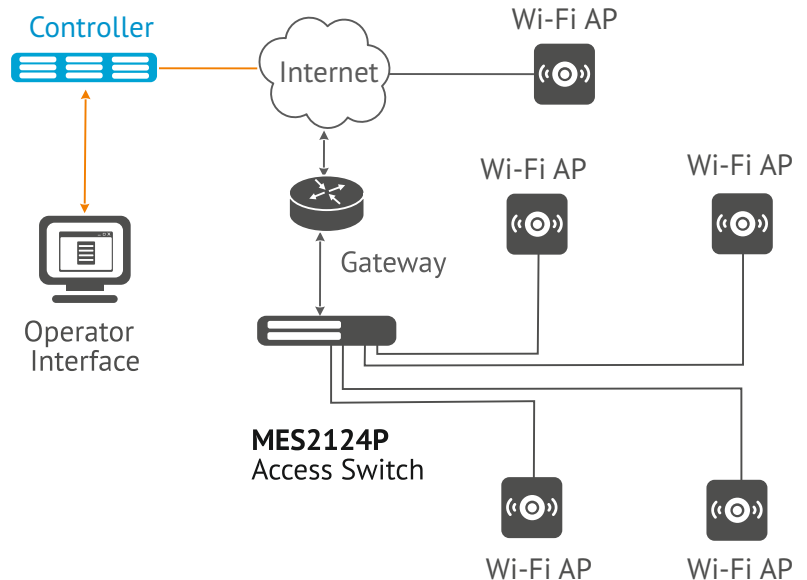
MANAGEMENT

Cluster
up to 64 Access Points

The WEP-12ac controller
- ⌘ To manage the configuration of devices in the cluster group
- ⌘ A guest zone
- ⌘ Authorization within the local area
- ⌘ A WLAN Group

Controller
up to 100 000 Access Points

FBWA
(Fixed Broadband Wireless Access)

FBWA (Fixed Broadband Wireless Access) is used to create an end-to-end network with a central base station connected to many subscribers.

This solution is an alternative version of the networking broadband in villages and areas where there is no possibility to build a wired 1.5-2 km network area.
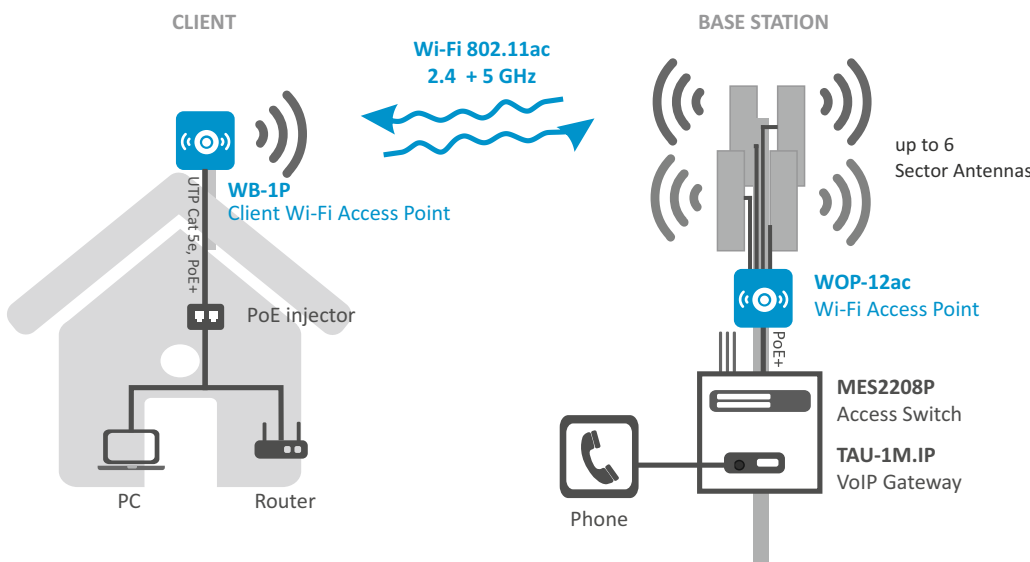
Related OPTOKON equipment:
- ⌘   Wi-Fi Outdoor Access Point WOP-12AC/WOP-12AC-LR
- ⌘   Antennas (up to 6 sector antennas)
- ⌘   Access Switch MES2108P/2124P with PoE+ support
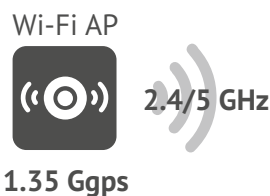- ⌘   Wi-Fi Access Point for Home - WB-1P/WB-1P-LR

CLIENT
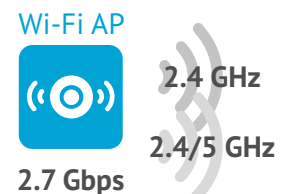
**Wi-Fi 802.11ac
2.4 + 5 GHz**

WB-1P
Client Wi-Fi Access Point

UTP Cat 5e, PoE+

PoE injector

PC   Router

BASE STATION

up to 6
Sector Antennas

WOP-12ac
Wi-Fi Access Point

PoE+

MES2208P
Access Switch

TAU-1M.IP
VoIP Gateway

Phone

WOP-12ac

WB-1P

NEXT WAVE GENERATION

1 generation
Wave 1

Wi-Fi AP

2.4/5 GHz

1.35 Ggps

2 generation
Wave 2[1]

Wi-Fi AP

2.4 GHz

2.4/5 GHz

2.7 Gbps

- Wi-Fi 802.11ac
- 3x3 MIMO
- 2.4+5 GHz
- 80 MHz
- 256 QAM
- 2 x 1 Gbps Uplink Ethernet

- Wi-Fi 802.11ac
- **4x4 MU-MIMO**
- 2.4+2.4/5 GHz
- **160** MHz (80+80)
- **1024** QAM
- 2 x **2.5** Gbps Uplink Ethernet
- TX and RX 802.11ac **Beamforming, Smart Antenna**

[1] 4Q'2015

AUTO CONFIGURATION SERVER (ACS)
MANAGEMENT SYSTEM (EMS)

⌘   **State and performance monitoring**

⌘   **Remote editing and work with template settings**

⌘   **Adding or removing connection session**

⌘   **Session management of devices**

⌘   **Updating firmware on devices**

⌘   **Creating tasks that will be completed on schedule**

⌘   **A single management server via network**

⌘   **EMS connection with superior OSS/BSS providers**

⌘   **Control through WEB-interface**

The ACS automatic configuration server is designed for easy and automated configuration of customer devices (CPE) via the protocol, corresponding to the TR-069 standard, and allowing the service provider to manage customer devices from a single location via the global network. This standard defines the technology to carry out secure automated CPE configuration, and includes all CPE management functions on a single system.

OPTOKON EMS is a centralized network device management system made by OPTOKON. EMS is based on client-server architecture. A single access server allows to manage various network elements using a web-interface.

EMS main functions:

⌘ Monitoring device parameters such as uptime, temperature, CPU load, fan speed, firmware version and serial number

⌘ Graphic presentation of physical port status

⌘ Monitoring physical and logical interface statistics

⌘ Monitoring optical interface parameters: module type, optical power and received signal level, and measured distance

⌘ SFP module management

⌘ Gathering information on the large number of active subscribers

⌘ Gathering information on established PPPoE sessions.

⌘ Managing swistomer profiles

⌘ Managing customer ports: DSLAM, PON configuration, profile roles

⌘ Power supply monitoring

⌘ Internet, VoIP and IPTV services monitoring and customer
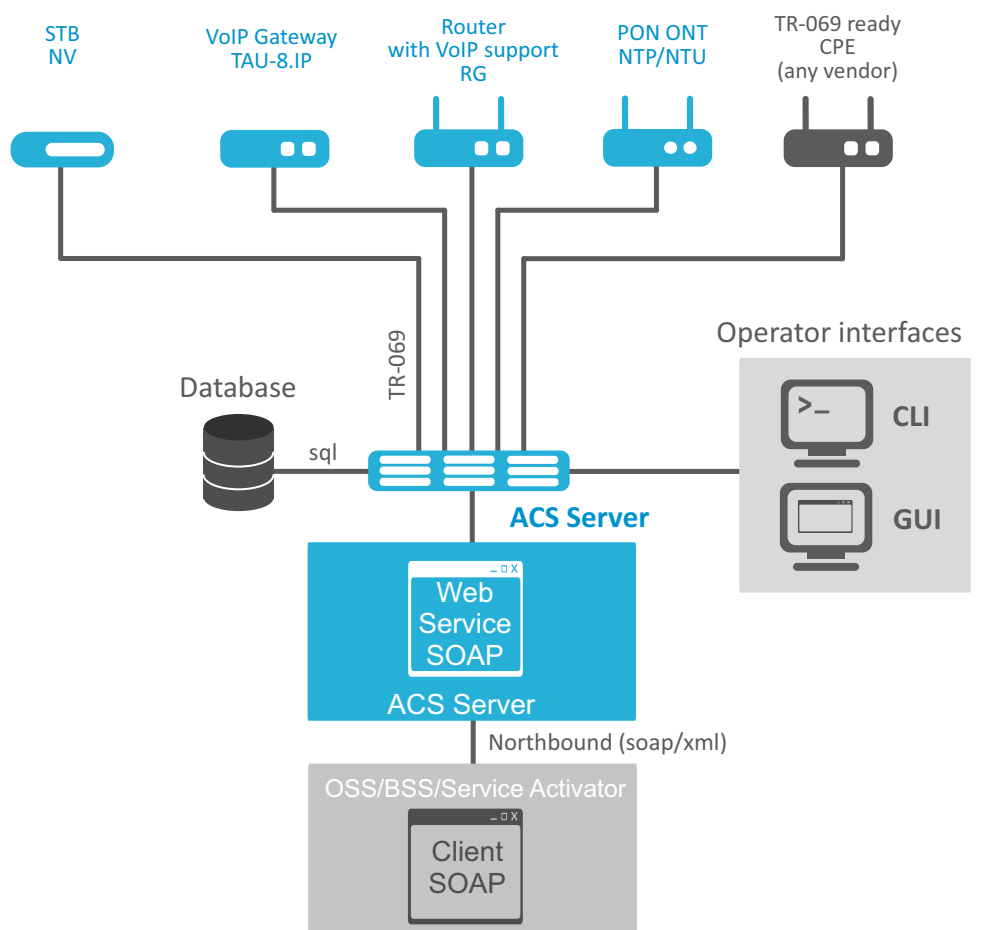
ELTEX VoIP SOLUTIONS

Call Center

Trunking Gateway

Softswitch

ELTEX

EMS
EMS

Access VoIP Gateways

Management System

Visual Communication

Voice Mail   Call Forward

Call Recording   Call Hunt

Fax-to-Email   Call Center

Session Border Controllers

IP Centrex

Conference   Mobile Client

Group Call

Voice   Call Hold

Selective Telephony

Follow me   IVR   Parallelism

Conference   Queue

Operator

ACS
EMS

SNMP

ECSS-10

16 x E1
SS7, PRI DSS1

SIP
H.248

PSTN

SMG 2016

SRM-1

E1
X.25

SORM

SIP

MSAN MC1000-PX

Internal
IP Network

Eth

SIP

SBC-2000

SIP

Public
IP Network

SIP

TAU-24.IP

TAU-72.IP

SIP

TAU-1M.IP

SIP

SIP

RG-5402G-Wac

Wi-Fi 802.11ac

TAU-8.IP
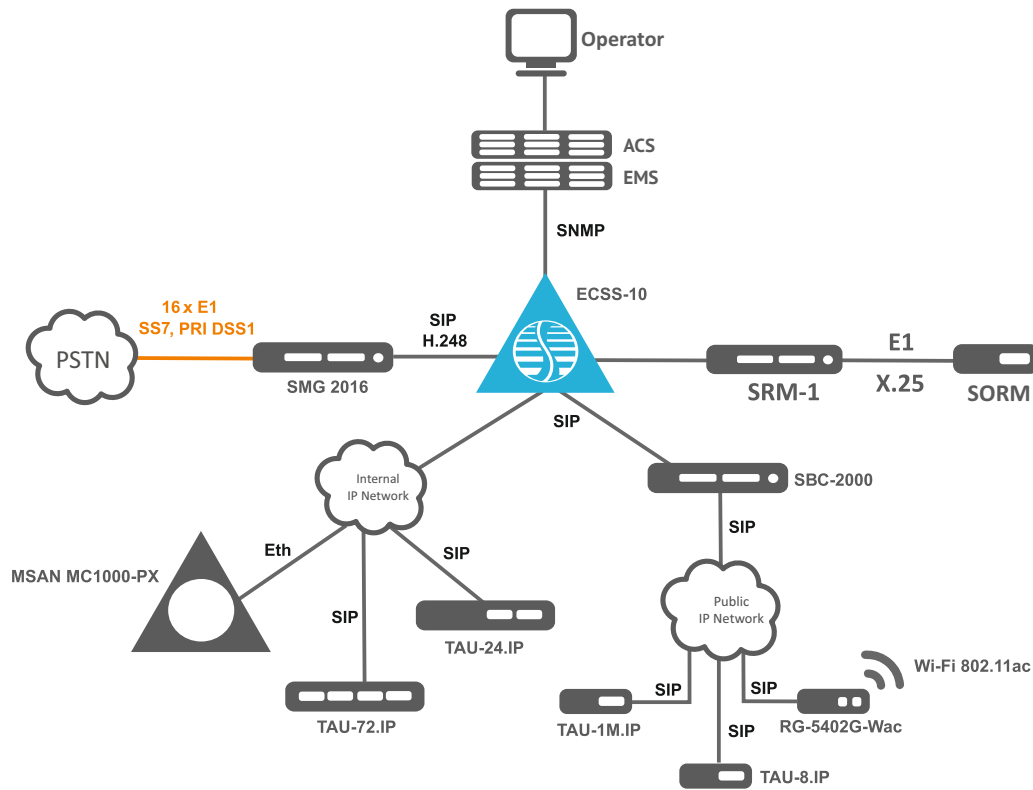
IP-PBX

- Corporate solutions for 500 users
- Operator solutions for 2000 and 3000 users
- Softswitch 4/5 classes
- Session Border Controllers
- SORM Solutions

Contact Center

- Corporate call center
- High-Loaded redundant nodes

Emergency Call System 112

- Redundant Call Center
- Ethernet Switches
- Unified management system

Access Equipment

- Home terminals
- Business terminals
- Access gateways
- Trunking gateways

Home terminals

	WAN	LAN	FXS	USB	Wi-Fi
TAU-1M.IP	1x100M	2x100M	1	1	
RG-4402G-W	1x1G	4x1G	2	1	●
RG-5421G-Wac	1xSFP	4x1G	2	1	●
RG-34-Wac	1x1G	4x100M	1	1	●

Business terminals

	WAN	LAN	FXS	USB	Wi-Fi
TAU-2M.IP	1x100M	1x100M	2	1	
TAU-8.IP	1x1G		8		
RG-1404G	1x1G	4x1G	4	1	
RG-1404G-W	1x1G	4x1G	4	1	●
RG-1404GF-W	1xSFP	4x1G	4	1	●
RG-4402GF-W	1xSFP	4x1G	2	1	●

Access VoIP Gateways

Number of FXS ports

TAU-16.IP	TAU-24.IP	TAU-32M.IP	TAU-36.IP	TAU-72.IP	MC1000-PX
16	24	to 32	36	72	to 1152

Trunking Gateways

SMG-1016M
- Trunking gateway with 16x E1 support (up to 40 cps)
- IP-PBX with 2000 SIP registrations support

SMG-2016
- Trunking gateway with 16x E1 support (up to 90 cps)
- IP-PBX with 3000 SIP registrations support support (up to 90 cps)

SMG-4 - Convertor TDM and VoIP protocols with 4x E1 support

SMG-2 - Up to 2x E1

15

Home terminals

TAU-1M.IP

RG-5421G-Wac

RG-4402G-W

RG-34-Wac

– high quality voice
– VLAN per service
– autoconfiguration
– 3G/4G reservation
– 5G Wi-Fi 802.11ac

	TAU-1M.IP	RG-4402G-W	RG-5421G-Wac	RG-34-Wac
FXS	1	2	1	
WAN	1x100M	1x1G	1x1G	1x1G
SFP WAN		optional		
LAN	2x100M	4x1G	4x1G	4x100M
USB 2.0	1	1	2	1
Wi-Fi b/g/n		MIMO 2x2	MIMO 2x2	MIMO 1x1
Wi-Fi ac			MIMO 2x2	MIMO 2x2
IPv6			●	●
3G/4G modem	●	●	●	●
Chipset	Realtek RTL8954C	Realtek RTL8954C	Realtek RTL8954ES	Realtek RTL8881AB
Customization	●	●	●	●

Business terminals

RG-1404G-W

> – high performance
> – 3G/4G reservation
> – access to network resources
> – optical WAN
> – autoconfiguration

TAU-2M.IP

TAU-8.IP

RG-4402GF-W

	TAU-2M.IP	RG-1404G	TAU-8.IP	RG-4402GF-W
FXS	2	4	8	2
WAN	1x100M	1x1G	1x1G	1x100M
SFP WAN		optional		●
LAN	1x100M	4x1G		4x1G
USB 2.0	1	1	1	1
Wi-Fi		optional 802.11 b/g/n MIMO 2x2		802.11 b/g/n MIMO 2x2
3G/4G modem	●	●	●	●
Chipset	Realtek RTL8954C	Mindspeed C1000	Mindspeed C1000	Realtek RTL8954C
Customization	●	●	●	●

Access VoIP Gateways

TAU-16/24.IP

TAU-32M.IP

	– **IP-PBX functionality**
	– **high quality voice**
	– **voltage and current protection**
	– **measurement of physical parameters**
	– **maximum length 4 miles**

TAU-36.IP

TAU-72.IP

	TAU-16.IP	TAU-24.IP	TAU-32M.IP	TAU-36.IP	TAU-72.IP
FXS ports	16	24	up to 32	36	72
FXO ports			up to 32		
Connector type	TELCO-50	TELCO-50	CENTRONICS-36	CENTRONICS-36	CENTRONICS-36
Ethernet ports 10/100/1000Base-T (RJ-45)	2	2	3	3	3
Ports 1000Base-X (slots for SFP-modules)	1	1	2	2	2
VoIP protocols	SIP, H.323, H.248				
Faxing	T.38, G.711 pass through				
Type of WAN connection	Static, DCHP, PPPoE				

Trunking Gateways

	SMG-2016	SMG-1016M	SMG-4	SMG-2
Appearance				
Dimensions	420x340x45 mm 19" 1U	420x240x45 mm 19" 1U	187x120x32 mm table top mounting	187x120x32 mm table top mounting
Chipset	Quad-Core ARMv7	Dual-Core ARMv5	Dual-Core ARMv7	Dual-Core ARMv7
Interfaces	– 2 ports 1G (RJ-45) – connectors type RJ-48 – 2 slots SATA HDD 2.5" – 2 ports 1G (RJ-45)	– 3 ports 1G (RJ-45) – connector type CETRONICS-36 – 2 slots SATA SDD – 2 ports 1G SFP	– 2 ports 1G (RJ-45) – connector type RJ-48	– 2 ports 1G (RJ-45) – connector type RJ-48
Maximum load intensity	90 cps	up to 40 cps	40 cps	40 cps
SIP user registration	up to 3000	up to 2000		
Value Added Services support	up to 3000	up to 1000		
Capacity	– up to 768 channels – up to 16 E1 flows		– up to 128 VoIP channels – up to 4 E1 flows	– up to 64 VoIP channels – up to 2 E1 flows
Functional capabilities	– Work with billing via RADIUS – DTMF – CDR file formation – TDM protocols: (SS7, PRI (Q.931), Q.699) – VoIP protocols: SIP, SIP-T/SIP-I – SNMP – STUN server			
Options	– Expanded Value Added Services – SORM – H.323 activation – VLAN number increasing – RADIUS Call Management – CallRecording			
Cooling	Exchangeable fans	Built-in fans	Passive cooling	

IP-PBX Platform

	ECSS-10		
	SOFTSWITCH	SMG-2016	SMG-1016M
Maximum user amount	Depends on server resources	3000	2000
Simultaneous connections amount		768	768
Maximum load intensity		90 cps	14 cps
Scalability	●		
Reservation	active-active		

Services

	SOFTSWITCH	SMG-2016	SMG-1016M
Standard set	●	●	●
IVR	●	●	●
Voice Mail	●		
Call Record	●	●	●
Fax-to-Email	●		
IP Centrex	●		
Selector communication	●		
Follow Me	●		
Call Hunt	●	●	●
Call Pickup	●	●	●
Music on hold	●	●	●
Call Transfer	●	●	●
Queue	●		
External attack protection	●	●	●

Solutions for operators

IP-PBX with SORM

1. Minimum expenses at launch

VAS
Call Recording

SMG-1016M
Gateway

PSTN

E1
SIP-T

E1

SORM

SIP/H.323

SIP

TAU
VoIP Gateway

IP terminal

FXS

...
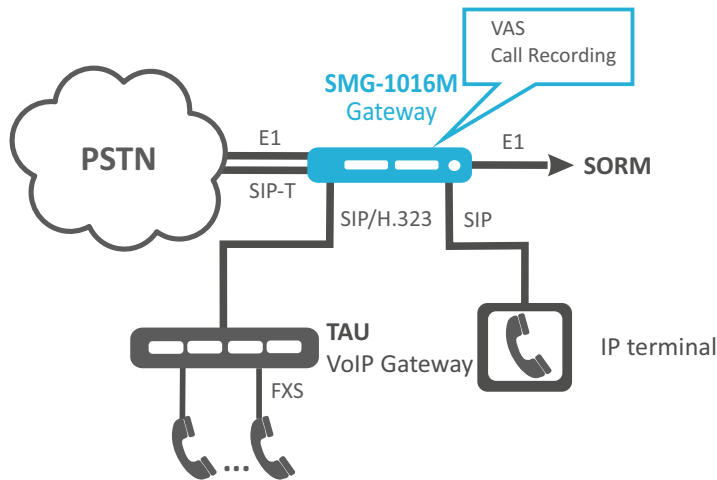
2. Migration to scalable solution with IP Centrex

User cabinet
Video-conference
Contact center

SMG
Gateway

ECSS-10
Softswitch

PSTN

E1
SIP-T

E1

**SORM**

SBC
Border Controller

IP-Set

IP terminal
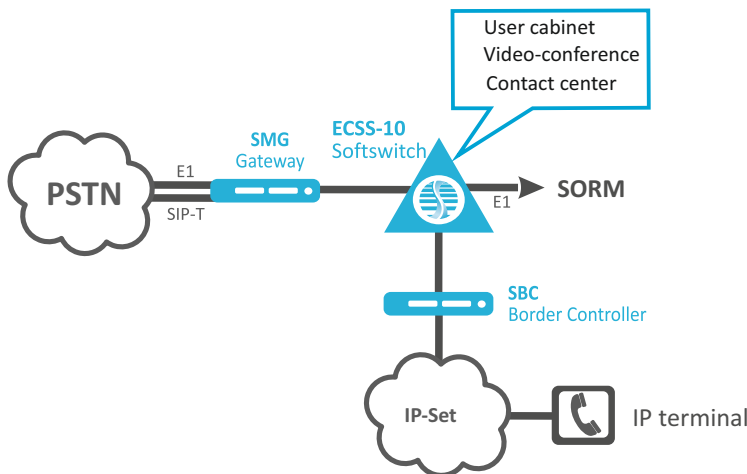
Key benefits

– minimum expenses for IP-PBX launch

– save on investment during migration from one step to another

– complete safe solution from one vendor

– unified management system of one vendor

– interoperability
– adaptation to customer requirements

– quick technical support

– migration to server solution
  • linear scalability
  • active-active reservation
  • geographic reservation
  • hot software reservation

Corporate solutions
Distributable corporate VoIP network
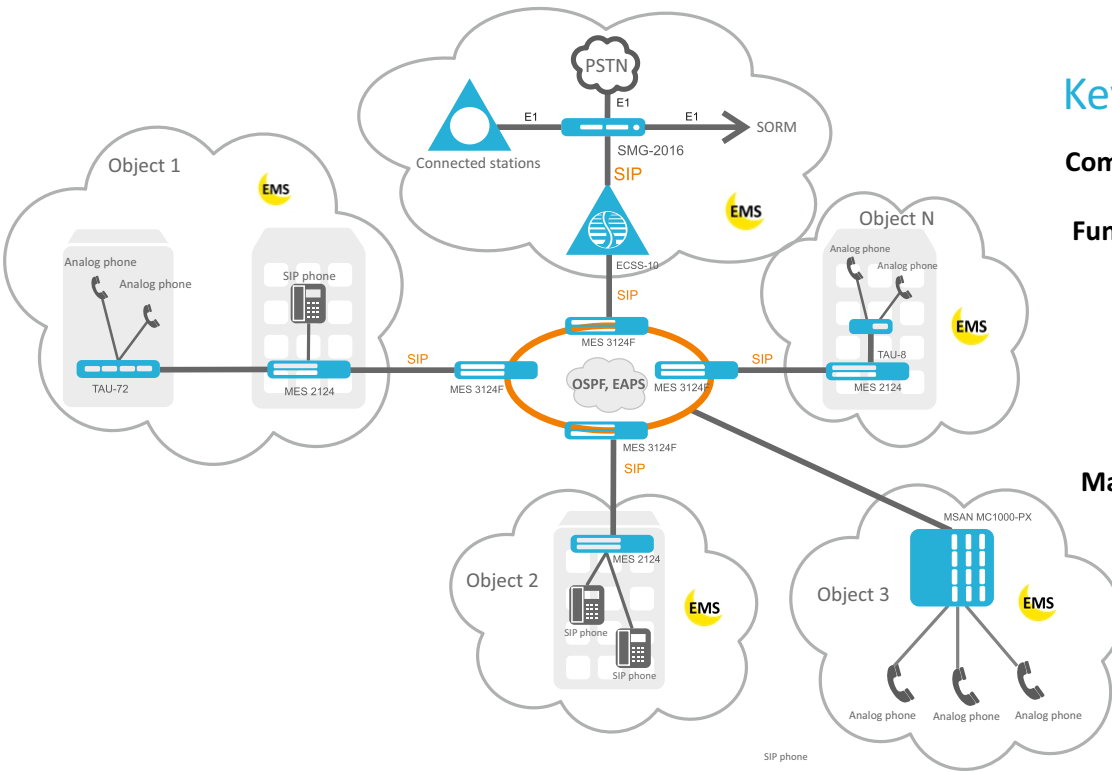
Key features
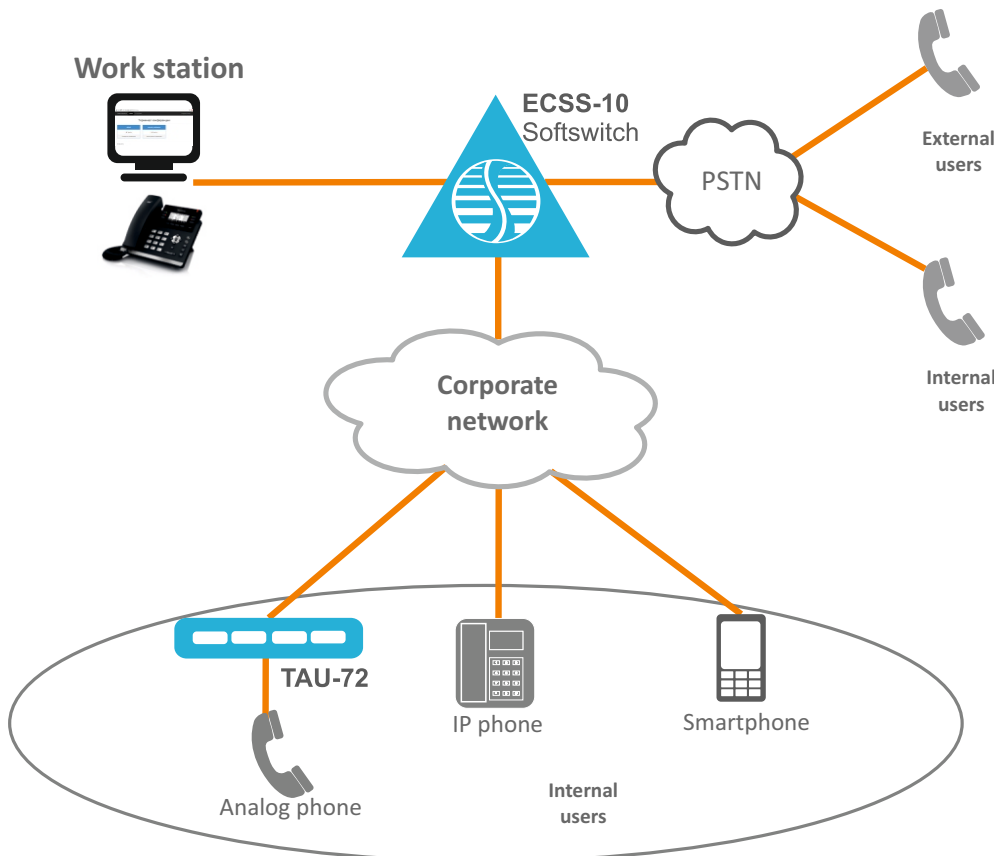
Complete solutions from one vendor

Functionality
- Telephony
- Queue
- Conference call
- Selective telephony
- Intercom system

Management
- Unified management system

Selective telephony

Key features

Unified platform for telephony and selective telephony

Operator work station
- Modern console
- Web interface

Member terminals
- Analog and IP phones used as internal connections

Members
- Up to 120 participants
- Internal users
- External users

Template meetings

Conference record

History

Sheduling

SFP Transceivers

GPON SFP Transceivers

GPON OLT transceiver GP-LP-LX is designed for G.984.2 Class B+ network transmission requirements. The module is contained in a SFP package with SC/UPC receptacle connector. The module consists of a 1490 nm DFB laser, InGaAs APD, Preamplifier and WDM filter in a high-integrated optical sub-assembly, and can transmit up to 2.5 Gbps of continuous data at 1490 nm, and receives 1.25 Gbps burst-mode data at 1310 nm. The module data links up to 20 km in 9/125 µm single mode fiber

Main features

- Bi-directional 1.25 Gbps Upstream/2.5 Gbps Downstream
- Complies with ITU-T G.984.2 Class B+
- SFP package with SC Receptacle
- 1490 nm continuous-mode 2.5 Gb/s DFB transmitter,
- 1310 nm burst-mode 1.25 Gb/s APD receiver
- Single +3.3 V power supply
- Rx Signal Detect

GEPON SFP Transceivers

GEPON OLT transceiver GEP-LP-LX-D is designed for Gigabit Ethernet Passive Optical Network transmission. The module is contained in a SFP package with SC/UPC receptacle connector. The module consists of 1490 nm DFB laser, InGaAs APD, Preamplifier and WDM filter in a high-integrated optical sub-assembly, and it receives up to 1.25 Gbps of continuous data at 1310 nm, and receives 1.25 Gbps of burst-mode data at 1310 nm. The module data link up to 20 km in 9/125 µm single mode fiber

Main features

- Bi-directional 1.25 Gbps Upstream/1.25 Gbps Downstream
- Complies with IEEE802.3ah 1000Base-PX20 application
- SFP package with SC Receptacle
- 1490 nm continuous-mode 1.25 Gb/s DFB transmitter, 1310 nm burst-mode 1.25Gb/s APD receiver
- Single +3.3 V power supply
- LVTTL Bias Control input and Rx Signal Detect output

SFP Transceivers

SFP Transceivers 155 Mbps

The S155 series are hot pluggable 3.3 V Small-Form-Factor (SFP) duplex, bidirectional and CWDM transceiver modules designed expressly for high speed communication applications that require rates of up to 155 Mbps. Transceivers are compliant with the Fast Ethernet, ATM, SONET OC 3/SDH STM 1 standards. All SFP transceivers have the digital diagnostic monitor feature.

SFP Transceivers 622 Mbps

The 622 Mbps series are hot pluggable Small-Form-Factor (SFP) duplex, bidirectional and CWDM transceiver modules expressly designed for high speed communication applications that require rates of up to 622 Mbps. Transceivers are compliant with the Fast Ethernet, ATM, SONET OC 12/SDH STM 4 standards. All SFP transceivers have the digital diagnostic monitor feature.

SFP Transceivers 1.25 Gbps

The 1.25Gbps series are hot pluggable Small-Form-Factor (SFP) duplex, bidirectional and CWDM transceiver modules expressly designed for high speed communication applications that require rates of up to 1.25 Gbps. All SFP transceivers have the digital diagnostic monitor feature.

SFP Transceivers 2.50 Gbps

The 2.50 Gbps series are hot pluggable Small-Form-Factor (SFP) duplex, bidirectional and CWDM and DWDM transceiver modules expressly designed for high speed communication applications that require rates of up to 2.50 Gbps. All SFP transceivers have the digital diagnostic monitor feature.

SFP Transceivers 4.25 Gbps

The 4.50 Gbps series are hot pluggable Small-Form-Factor (SFP) duplex, bidirectional and CWDM transceiver modules expressly designed for high speed communication applications that require rates of up to 4.50 Gbps. All SFP transceivers have the digital diagnostic monitor feature.

SFP+ Transceivers 10 Gbps

OPTOKON transceivers are compliant with IEEE 802.3ae and the 10G MSA (Multi-Source Agreement). The S10-D55, 1550 nm cooled EML laser based 10 Gigabit SFP+ transceiver is designed to transmit and receive optical data over single mode optical fiber for link length of up to 80 km.

QSFP28 SR4 Transceivers 100 Gbps

OPTOKON QSFP transceivers are compliant with IEEE 802.3ba and the 100G MSA (Multi-Source Agreement). Up to 27.952 Gbps Data rate per channel. Maximum link length 100 m on OM3 or 150 m on OM4 multimode fiber.

CFPA LR4 Transceivers 100 Gbps

OPTOKON CFP2 transceivers are compliant with IEEE 802.3ba and the 100G MSA (Multi-Source Agreement). Support line rates from 103.125 Gbps to 111.81 Gbps. Integrated LAN DWM TOSA / ROSA for up to 10 km.

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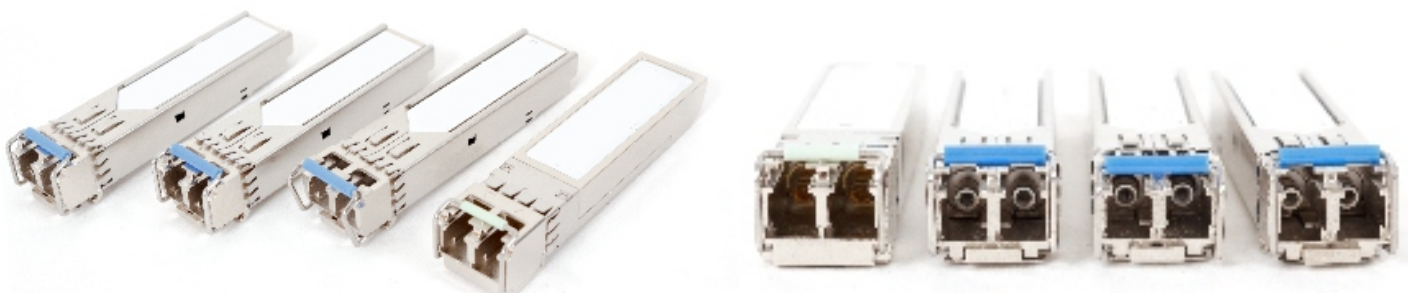
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