– **Number of access point:**[1]
  50 for WLC-15, 150 for WLC 30, 1000 for WLC-3200
– **Access points monitoring**
– **WPA/WPA2/WPA3 Enterprise, WPA/WPA2/WPA3 Personal user authorization**

WLC-15

WLC-30

WLC-3200

WLC-15, WLC-30, **WLC-3200** are enterprise-level controllers for small- and medium-sized enterprises. The devices allow building distributed wireless networks using different traffic scenarios at L2/L3 level. Firewall features are supported on WLC controllers to ensure network security. The devices can be used to create various user authorization scenarios for corporate and guest networks. LDAP, RADIUS and other corporate services are also available.

Built-in AirTune module allows managing radio parameters of access points (AP) and client balancing, as well as adapting to the current environment. Seamless roaming support (802.11r/k/v) provides the best conditions for client switching between AP.

Technical features

	WLC-15	WLC-30	WLC-3200
Interfaces			
Ethernet 10/100/1000BASE-T (LAN/WAN)	4	4	–
Ethernet 1000BASE-X SFP	2	–	–
10GBASE-R SFP+/1000BASE-X (LAN/WAN)	–	2	–
1000BASE-X/10GBASE-R/25GBASE-R (LAN/WAN)	–	–	12
Console (RJ-45)	1	1	1
OOB	–	–	1
USB 3.0	–	1	–
USB 2.0	1	1	1
HDD slot	1	1	1
microSD card slot	–	1	1
Number of CPUs by role			
Management CPU		0	
Balancing CPU	1	–	–
Service CPU	2–3	1–3	1–23
Switching			
Interfaces	bridge – 50 sub – 64 QinQ – 64	bridge – 250 sub – 1024 QinQ – 1024	bridge – 500 sub – 2048 QinQ – 2048
LLDP	interfaces port policies – 8 network policies – 64		
Label switching			
MPLS	LDP neighbors – 128 pseudowires – 128 pseudowire classes – 64 Ethernet over MPLS – 64	LDP neighbors – 1024 pseudowires – 1024 pseudowire classes – 64 Ethernet over MPLS – 256	

[1] Expansion of access points number is available under license: up to 100 APs for WLC-15, up to 500 APs for WLC-30, up to 3000 APs for WLC-3200.

Technical features (continued)

	WLC-15	WLC-30	WLC-3200
System features			
Access points number[1]	50	150	1000
Maximum clients number	2000	5000	30000
Static routes	1K	11K	11K
Concurrent sessions	4K	256K	512K
VLAN support	up to 4K active VLANs according to 802.1Q		
MAC table	2K entries per bridge		16K entries per bridge
FIB size	1M	1.4M	1.7M
VRF	32		
Object-groups			
Object-group network	instances – 500 ip prefixes in group – 1024 ip ranges in group – 1024		
Object-group address:port	instances – 500 address:port in group – 64		
Object-group service	instances – 500 port ranges in group – 64		
Object-group application	instances – 50 apps in group – 128		
Object-group content filter	instances – 64 categories per vendor – 500		
Object-group URL	instances – 31 plain URL in group – 128 regex URL in group – 128		
Object-group MAC	instances – 500 macs in group – 64		
Routing			
BGP	instances – 64 networks in instance – 128 neighbors – 1k RIB – 5M		
OSPFv3	instance, neighbors in interface – 64 summaries in instance – 128 areas – 256 networks in area – 64 virtual links – 1024 RIB – 500k		
IS-IS	instances, circuits – 64 RIB – 500k		
RIP(ng)	neighbors – 16 summaries – 8 networks – 128 RIB – 10k		

[1] Expansion of access points number is available under license: up to 100 APs for WLC-15, up to 500 APs for WLC-30, up to 3000 APs for WLC-3200.

Technical features (continued)

	WLC-15	WLC-30	WLC-3200
Quality of Service (QoS)			
QoS limitations	class-maps – 50 policy-maps – 24 classes in policy-map – 76	class-maps – 256 policy-maps – 256 classes in policy-map – 768	class-maps – 1024 policy-maps – 1024 classes in policy-map – 3072
Tunneling			
VPN tunnels	IPIP – 10 GRE – 10 Ethernet over GRE – 10 GRE SUB – 10 SoftGRE – 100 SoftGRE SUB – 250 L2TPv3 – 10 LT – 128 IPsec VTI –10	IPIP – 250 GRE – 250 Ethernet over GRE – 250 GRE SUB – 250 SoftGRE – 600 SoftGRE SUB – 1500 L2TPv3 – 250 LT – 128 IPsec VTI – 250	IPIP – 500 GRE – 500 Ethernet over GRE – 500 GRE SUB – 500 SoftGRE – 4000 SoftGRE SUB – 10000 L2TPv3 – 500 LT – 128 IPsec VTI – 500
IPsec VPN tunnels	64	64	256
Remote access			
Remote Access	L2TP concurrent connections – 10 PPTP concurrent connections – 10 OpenVPN concurrent connections – 10 OpenVPN remote addresses per connection – 8		
WireGuard tunnel, RA	instance – 16 peers per instance – 16 local addresses – 1 addresses per peer (address-range & obj-group) – 10k		
Services			
Source NAT	ruleset – 20 rules in ruleset – 100 pool – 20	ruleset – 100 rules in ruleset – 100 pool – 100	
Destination NAT	ruleset – 20 rules in ruleset – 20 pool – 20	ruleset – 100 rules in ruleset – 100 pool – 100	
DHCP Server	pools – 20 pool size – 10k static address in pool – 128	pools – 100 pool size – 10k static address in pool – 128	
Security			
ACL	instances – 512 rules – 512	instances – 1533 rules – 1533	
Firewall	zone – 48 zone-pair – 192 rules – 4096	zone – 128 zone-pair – 512 rules – 10k	
IPS	user update servers – 32 ips-categories – 20 rules – 500		
IKE (v1/v2), IPsec (esp/ah) encryption algorithms			
Authentication	md5, sha1, sha2-256, sha2-384, sha2-512		
Encryption	des, blowfish128, aes128, camellia128, aes128ctr (IKEv2 only), blowfish192, aes192, camellia192, 3des, aes192ctr (IKEv2 only), blowfish256, aes256, camellia256, aes256ctr (IKEv2 only)		
Diffie Hellman	Regular Groups: 1,2,5,14-18. Modulo Prime Groups with Prime Order Subgroup: 22-24. NIST Elliptic Curve Groups: 19-21, 25-26. Brainpool Elliptic Curve Groups: 27-30. Elliptic Curve 25519: 31		

Technical features (continued)

	WLC-15	WLC-30	WLC-3200
Physical specifications and environmental parameters			
RAM	4 GB DDR4		24 GB DDR4
Flash memory	8 GB eMMC		
Maximum power consumption	18 W	26 W	118 W
Power supply	100–264 V AC, 50–60 Hz	100–264 V AC, 50–60 Hz	100–240 V AC, 50–60 Hz; 36–72 V DC (up to 2 hot-swappable power modules)
Operating temperature	from 0 to +40 °C	from -10 to +45 °C	from -10 to +45 °C
Storage temperature	from -40 to +70 °C		
Operating humidity	no more than 80 %		
Storage humidity	from 10 to 95 %		
Dimensions (W × H × D)	430 × 44 × 226 mm	430 × 40 × 225 mm	430 × 44 × 330 mm
Weight	2.7 kg	2.9 kg	6.1 kg
Lifetime	no less than 15 years		

Features and capabilities

Access points management

– WPA/WPA2/WPA3[1] Personal
– WPA/WPA2/WPA3[1] Enterprise
– OWE[1] open network
– Local collecting of user account information[2]
– Collecting user account information to an external RADIUS server
– IEEE 802.11r/k/v standard seamless roaming
– Integration with external portals[3]
– Automatic management of radio environment resources
– Access point authorization by certificate

Supported access points

– WEP-1L
– WEP-2L
– WEP-3L
– WEP-200L
– WEP-30L
– WEP-30L-Z
– WEP-30L-NB
– WEP-3ax
– WEP-550K
– WOP-2L
– WOP-20L
– WOP-30L
– WOP-30LI
– WOP-30LS
– WOP-30L-EX
– WEP-2ac
– WEP-2ac Smart
– WOP-2ac
– WOP-2ac rev.B
– WOP-2ac rev.C

Switching

– Up to 4094 VLAN (802.1Q)
– Voice-VLAN
– Q-in-Q (802.1ad)
– MAC-based VLAN
– Bridge domain
– LAG/LACP (802.3ad)
– Port-security, protected port
– Jumbo-frames

MPLS

– LDP
– L2VPN VPWS
– L2VPN VPLS Martini Mode, Kompella Mode
– L3VPN MP-BGP (Option A, B, C)
– L2VPN/L3VPN over GRE, DMVPN
– Transparent transfer of service protocols

Routing

BGP:

– Address family: IPv4, IPv6, VPNv4, L2VPN, IPv4 label-unicast, Flow-spec
– Flexible management of route information by attributes. Support for Conditional Advertisement, Route Aggregation and Local-AS mechanisms

[1] WPA3 and OWE are supported for WEP-3ax, WEP-3L, WEP-30L, WEP-30L-Z, WOP-30L, WOP-30LI, WOP-30LS APs.
[2] The features will be available in future firmware versions.
[3] Operation with ELTEX-NAICE, WNAM Netams, Cisco ISE is tested.

Features and capabilities (continued)

– High scalability and configuration flexibility: support for peer-group, dynamic neighbor, as-range and Route-reflector
– Fall over based on BFD and Fast Error Peer Detection
– Graceful restart
– Authentication
– Flexible redistribution from/to BGP process of other protocol routes
– Ability to run up to 64 processes simultaneously
– ECMP
– Support for policy-based routing

OSFP(v3):
– Different types of zones: Normal, Stub, Totally stub, NSSA, Totally NSS
– Operation in different types of networks: Broadcast, NBMA, Point-to-point, Point-to-multipoint, Point-to-multipoint non-broadcast
– Summarization and filtering of route information
– Authentication
– ECMP
– Passive interface
– Flexible redistribution from/to OSPF process of other protocol routes
– Ability to run up to 64 processes simultaneously
– Support for BFD
– Auto cost calculation mechanism
– Support for policy-based routing

IS-IS:
– Operation in different types of networks: Broadcast, Point-to-point
– Setting the neighbourhood of L1/L2 layers
– Metric style: narrow, wide, transition
– Authentication
– Filtering of route information
– Flexible redistribution from/to IS-IS process of other protocol routes
– Ability to run up to 64 processes simultaneously
– Support for policy-based routing

RIP(ng):
– Operation modes (RIP only): Broadcast, Multicast, Unicast
– Summarization and filtering of route information
– Managing route metrics
– Authentication
– Passive interface
– Flexible redistribution from/to RIP process of other protocol routes
– Support for policy-based routing

Static:
– Support for BFD
– Recursive search
– Managing route metrics
– Ability to select the option of notifying the sender when traffic is blocked

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))
– Hierarchical QoS
– Queue management: RED, GRED, SFQ, CBQ, WFQ, WRR
– Session labeling
– Bandwidth management (policing, shaping)

IPsec
– Policy-based and route-based modes
– Incapsulation modes: tunnel and transport
– Authentication pre-shared key, public key, xauth (ikev1 only), eap (ikev2)
– Support for mobike (ikev2 only)
– Support for ike ikering

Remote Access
– PPTP, L2TP over IPsec, OpenVPN, WireGuard
– PPPoE/PPTP/L2TP client
– User authentication
– Connection encryption

Security
– Access Control Lists (ACL) based on L2/L3/L4 fields
– Zone-based Firewall in two modes: stateful and stateless. Rule triggering logging, counters
– Filtering by applications
– Protection against DoS/DDoS/Spoof attacks and their logging
– Intrusion Detection/Prevention system (IPS/IDS) and their logging[1]
– Signature analysis via IPS in two modes: transit and mirrored traffic analysis[1]
– Interaction with Eltex Distribution Manager to obtain licensed content: rule sets provided by Kaspersky SafeStream II[2]

Monitoring and management
– Support for standard and extended SNMP MIB, RMONv1
– Zabbix agent/proxy
– Authentication methods: RADIUS, TACACS+, LDAP
– Protection against configuration errors, automatic configuration recovery
– CLI, Syslog
– System resource usage monitoring

[1] Activated by the license.
[2] Rule sets are available by subscription. The minimum subscription period is 1 year.

Features and capabilities (continued)

– Ping, monitor, 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 (RJ-45) and OOB[1]
– Remote control, WEB, Telnet and SSH (IPv4/IPv6)
– LLDP, LLDP MED
– Local/remote router configuration storage

SLA

– SLA-responder for Cisco-SLA-agent
– Eltex SLA:
  – Delay (one-way/two-way)
  – Jitter (one-way/two-way)
  – Packet loss (one-way/backward/two-way)
  – Packet Error Rate
  – Out-of-order delivery (one-way/backward/two-way)

Redundancy and clustering

– VRRP v2, v3
– Tracking based on VRRP or SLA test
– Managing VRRP parameters
– Managing PBR parameters
– Managing the administrative status of the interface
– Activating and deactivating a static route
– Managing AS-PATH and preference attributes in a route-map
– DHCP failover to reserve the IP address database issued by the DCHP server
– Failover Firewall to reserve Firewall and NAT sessions
– MultiWAN
– Dual-Homing
– Certificate synchronization
– WLC state synchronization

Fault-tolerant cluster:

– Easy administration and integration: synchronization of configurations, time, versions, licences; Zero Touch Provisioning (ZTP)
– Redundancy of all connections in the cluster
– Router redundancy (in current version 1+1 redundancy is supported)

Services

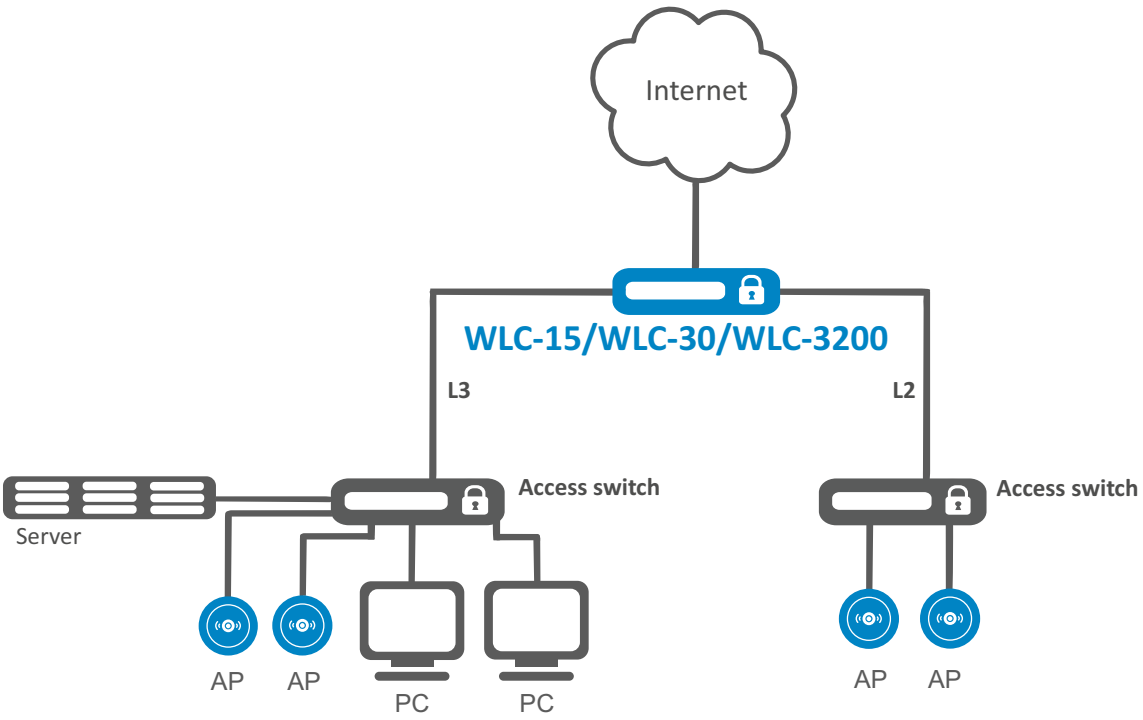
– DHCP client, DHCP server
– DHCP Relay Option 82
– DNS resolver
– NTP
– TFTP server
– E1/multilink, modems

BRAS (IPoE)[2]

– 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

[1] Applicable for WLC-3200.
[2] Activated by license.

Use case in the corporate network



Ordering information

Name	Description
WLC-15	WLC-15 wireless access controller, 4 × Ethernet 10/100/1000BASE-T, 2 × Ethernet 1000BASE-X SFP, 1 × Console (RJ-45), 1 × USB 2.0, 1 × HDD slot, 4 GB DDR4 RAM, 8 GB eMMC, 100–264 V AC
WLC-30	WLC-30 wireless access controller, 4 × Ethernet 10/100/1000BASE-T, 2 × 10GBASE-R SFP+/1000BASE-X, 1 × Console (RJ-45), 1 × USB 3.0, 1 × USB 2.0, 1 × HDD slot, 1 × microSD card slot, 4 GB DDR4 RAM, 8 GB eMMC, 100–264 V AC
WLC-3200	WLC-3200 wireless access controller, 12 × 1000BASE-X/10GBASE-R/25GBASE-R, 1 × Console (RJ-45), 1 × OOB, 1 × USB 2.0, 1 × HDD slot, 1 × microSD card slot, 24 GB DDR4 RAM, 8 GB eMMC, 2 slots for 100–240 V AC or 36–72 V DC power modules

Power modules[1]

Device	AC power module	DC power module
WLC-3200	PM160-220/12	PM160-48/12

[1] On request.

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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.