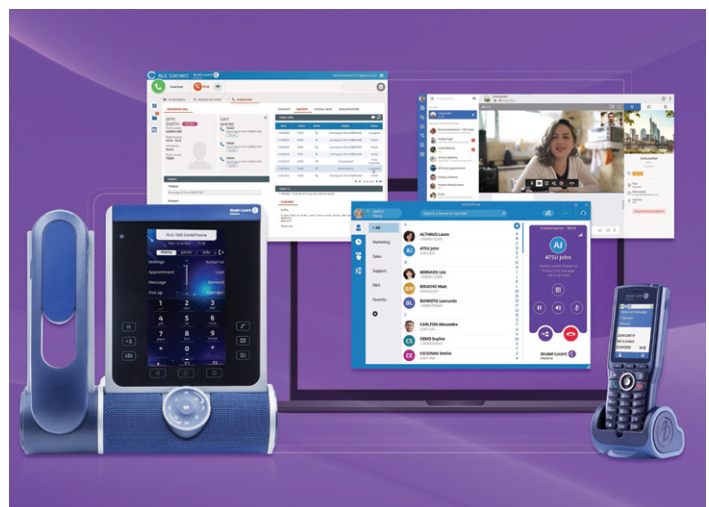


# Alcatel-Lucent OmniPCX Enterprise Communication Server

The expert enterprise phone system for medium, large and very large-sized companies

[Alcatel-Lucent OmniPCX® Enterprise Communication Server \(CS\)](#) offers business communications designed for the digital age. It connects the entire enterprise and provides organisations the freedom, quality, and agility they need to grow their business.

OmniPCX Enterprise CS Purple is the next generation of business communications solution, featuring advanced and flexible calls management, multimedia conversations, cloud openness and hybrid cloud connectivity with [Rainbow™ by Alcatel-Lucent Enterprise](#) to integrate mobility, video conferencing, and secure group messaging into your business applications.



Features	Benefits
Excellent voice connectivity to customers and employees	Quality business response: Zero lost calls; powerful communication tools ensure instant connection to the right people
Ensure employees can call wherever they are, on any device	Mobility: Standardized communication experience across the organization; employees can use desk phones, wire-less handsets, or softphones at the office, on site, at home or on the move
A borderless and mobile collaboration application lets employee connect the phone system to the Alcatel-Lucent Rainbow cloud-based unified communications service	Instant business response: Employees exchange instant messages, video, and screen sharing with their teams and business community while leveraging the office phone Simplicity: Unified communications delivered by a cloud service connected to the phone system; seamless user experience; agile IT operations
Serve users across multiple sites, with guaranteed high availability	Cost-saving: Expect lower telecom bills with free Voice over IP (VoIP) across sites, built-in least-cost routing and centralized trunks to SIP, and traditional service providers Reliability: High-availability options maintain vital business continuity during network or server outages

**Datasheet**

[Alcatel-Lucent OmniPCX Enterprise Communication Server](#)

## Technical specifications

### Advanced Business Communications

#### User experience

- Centralized directory with call by name
- Multi-line telephony
- Call options, including speed dial
- Audio conferencing
- Personal and enterprise call routing and forwarding
- Call shift of current session between desk phone and mobile device of choice
- Call-back and call history features
- Messaging notification and control
- Contextual voice prompts
- Informal group features
- Desk-sharing for shared offices
  - ALE Enterprise and Essential DeskPhones (IP)
  - Alcatel-Lucent Premium DeskPhones (IP)
  - Logon, logoff, re-logon
  - Automatic logoff

#### Manager/assistant

- Teams
- Filtered lines and private lines
- Text messaging, IM and voice messaging
- Discreet listening

#### Teams and groups

- Hunting groups and queues
- Supervision

#### Multi-tenancy

- Services per entity:
  - Speed dial
  - CLIP/CLIR
  - Auto attendant
  - Greeting message
  - Music on hold
  - Night service

#### Supported phones:

- Alcatel-Lucent New Office Environment (NOE) protocol
  - ALE Enterprise ALE-300, ALE-400, ALE-500 DeskPhones (IP)
  - ALE Essential ALE-20h, ALE-30h DeskPhones (IP/digital)
  - ALE Essential ALE-20 DeskPhone (IP)
  - Alcatel-Lucent 8008 (G) Deskphone (IP)
  - Alcatel-Lucent IP Desktop Softphone
  - Alcatel-Lucent 8158s, 8168s WLAN Handsets

- Alcatel-Lucent 8234, 8244, 8254, 8262, 8262EX DECT handsets

### Standard Business Communications

#### User experience

- Multi-line telephony
- Personal call forwarding
- Group features
- Message waiting indication
- Computer Telephony Integration (CTI)
- Supervision and call pick up

#### Supported phones

- Session Initiation Protocol (SIP)
  - ALE SoftPhone
  - Alcatel-Lucent 8088 Smart DeskPhone
  - ALE-500, ALE-400, ALE-300, ALE-3, ALE-2, 8008(G), DeskPhones
  - Alcatel-Lucent 8135s IP Conference Phone
- Third-party SIP phones and softphones
  - Developer and Solutions Partner Program (DSPP)

#### Huddle video rooms

- Session Initiation Protocol (SIP)
- Peer-to-peer video
- Join a video conference
  - Third-party video room systems (DSPP)
- Supported phones
  - 8088 Smart DeskPhone

### Unified Communications and Collaboration

#### Enterprise mobility, desktop integration, enterprise instant messaging

- Cloud-based UC&C:
  - Alcatel-Lucent Rainbow cloud connectivity
  - Alcatel-Lucent Rainbow user experience
  - See on-the-phone presence status
  - Search directory and click to call from desk phone or cordless handset
  - Pop-up notification when phone rings
  - Communication history
  - Call to/from Rainbow client (WebRTC Gateway)
  - One number service: desk phone, Rainbow smartphone and desktop apps

### Messaging

- Integrated voice messaging:
  - Alcatel-Lucent 4645 Voice Messaging Service
  - 7000 mailboxes
  - 30 simultaneous accesses
  - Up to 8 supported simultaneous languages per system
  - IMAP compatible
- Third-party SIP voice messaging: DSPP
- Centralized fax management:
  - Alcatel-Lucent OpenTouch Fax Center

### Web conferencing

- Cloud-based conferencing:
  - Alcatel-Lucent Rainbow cloud connectivity

### Customer welcome and Contact center

#### Greeting services

- Call queuing services
- Alarm indication
- Attendant group features
- Busy Lamp Field
- Multi-tenant services
- Record online
- Trunk and charging features
- VIP line features
- User management features
- Add-on module
- Headset capability

#### Attendants

- Centralized attendant console
  - Alcatel-Lucent 4059EE Attendant Console
  - ALE Dispatch Console
- Attendant contextual menus
  - ALE-300 DeskPhone
- Automated Attendant application:
  - Alcatel-Lucent Visual Automated Attendant (VAA)

#### Voice announcement

- External/Internal voices guides
  - From ALE DeskPhones
  - From audio file in Supervision Desktop
- Interactive Voice Response:
  - Alcatel-Lucent 4625 Interactive Voice Response (IVR)

## Customer welcome and contact center

- Alcatel-Lucent OmniTouch Contact Center Standard Edition:
  - Built-in OmniPCX Enterprise call distribution
  - Distributed distribution over ABC network
  - Agent context menus: ALE Enterprise and Essential DeskPhones, 8008 DeskPhone, IP Desktop Softphone
  - Supervision desktop application
  - Reports
  - ALE Connect for omnichannel hybrid cloud services and web-based agent/supervisor desktop application

## Recording and quality management

- Phone, softphone and trunk recording:
  - Alcatel-Lucent OmniPCX RECORD Suite
  - Third-party recorders: DSPP

## Emergency communication services

### Building and campus emergency communications solution:

- 112 (EU), E911 (North America) services
  - Alcatel-Lucent Visual Notification Assistant (VNA)
- Emergency Notification - Notify specific users about ongoing emergency calls

## Hospitality communication services

- 8088 Smart DeskPhone
- ALE Enterprise, Essential or analog phones
- Guest features
- SIP phones
- Room service features
- Room directory features
- Billing and barring features
- Integration with Property Management Systems: DSPP

## Architecture

### System architecture

- 100% software architecture:
  - 100% IP, SIP communications
  - Communication Server
  - Software media services
- Hybrid architecture:
  - IP, SIP, digital, analog, DECT communications
  - Communication Server
  - Rack modules and Cabinets for media services and TDM connectivity

## Capacity

- Single server or VMware delivery: 15,000 users (IP or SIP), 5000 TDM users, 9,000 Rainbow users
- 100 servers in a single network
- Fully networked servers, 100,000 IP/TDM users with single image
- 250 servers in a supra network
- More than 1 million users in a supra network
- BHCC per server: 300,000
- Software media services
  - IP, SIP, ABC network deployment
  - Up to 120 ports per virtual machine
  - G.711, G.729.AB, G.722
  - Transcoding
  - Ad hoc, meet-me and mastered audioconferencing
  - Dynamic voice guides

## High availability

- Communication Server and database duplication
- Seamless communications failover
- Ethernet redundancy on GD-4 and GD/GA-XL, GA-4 boards
- Branch office full continuity with Passive Communication Server (PCS)

## Communication Server platform

### Industry servers

- Lenovo servers
- HP ProLiant DL servers

### Virtual machines

- VMware vSphere
- Linux Kernel-based Virtual Machine (KVM)
- Microsoft Hyper-V
- Nutanix hypervisor - Acropolis OS

### Hosted cloud platform

- In Alcatel-Lucent OpenTouch Enterprise Cloud (OTEC)

### Optimized platform

- In Rack modules and Cabinets

## Rack modules and Cabinets

### OmniPCX Enterprise RM1 (19-in. rack)

- 3 modular slots (stackable up to 3 with RM3)
- Hot-swappable boards
- Height: 66 mm (2.60 in)
- Width: 442 mm (17.40 in)
- Depth: 400 mm (15.75 in)
- Weight: 10 kg (22 lb)

### OmniPCX Enterprise RM3 (19-in. rack)

- 9 modular slots (stackable up to 3 with RM1)
- Hot-swappable boards
- Height: 154 mm (6.06 in)
- Width: 442 mm (17.40 in)
- Depth: 400 mm (15.75 in)
- Weight: 17 kg (38 lb)
- Power Supply: 150Watts

### OmniPCX Enterprise XL-Rack (19-in. rack)

- 14 modular slots
- 48 V power supply and battery backup
- Hot-swappable boards
- Height: 265,9 mm (10.47 in)
- Width: 482,6 mm (19.00 in)
- Depth: 362 mm (14,25 in)
- Weight: 7kg (15,43 lb)(empty)

## Connectivity

- Hybrid SIP, IP, digital, analog switching
- IPv4 or IPv6 support

## SIP

- SIP proxy/registrar/redirect server and SIP gateway
- Server redundancy (active/passive)
- Branch office survivability
- SIP Device Management for ALE devices and softphone

## IPv6

- IPv6 and IPv4 dual stack
  - Communication server
  - RM1 and RM3
- IPv6/IPv4 proxy
  - RM1 and RM3
- IPv6 or IPv4 stack
  - ALE DeskPhones (IP)

## IETF standards

- SIP RFC: 1321, 2327, 2617, 2782, 2833, 2976, 3261, 2543, 3262, 3263, 3264, 3265, 3311, 3323, 3324, 3325, 3327, 3515, 3725 (partial), 3842, 3891, 3892, 3398, 3608, 3903, 3960 (partial), 3966 (partial), 4028, 4235, 4497, 4568, 4662, 4733, 4904, 5009, 5246, 5621, 5806, 6140, 7433, 7434, 8224 (partial)
- RTP RFC: 1889, 1890, 2198, 3362, 3550, 3551, 3711

## VoIP

- G.722 audio wideband
- G.711 A-law and  $\mu$ law, G.723.1A, G.729. AB audio
- Call admission control
- Automatic compression algorithm allocation

- Dynamic jitter buffer, echo cancellation, packet loss concealment (PLC), VAD: silence suppression and comfort noise generation
- DTMF Q23, robust DTMF relay, RFC 2833, in band DTMF
- Generic signal qualification and modem transport
- Anti-saturation mechanism; backward and forward automatic gain control
- Embedded signal quality diagnostic tool
- QoS: TOS or DiffServ tagging, 802.1 p/Q
- VoIP ticket for quality experience analysis

### Fax

- G3, super G3 fall-back
- Automatic fax detection
- G.711 transparent and T.38 and T38 with G711 fallback (SIP)

### DECT

- DECT/GAP
  - Alcatel-Lucent 8212 DECT Handset
  - Third-party GAP handsets
- DECT/Alcatel-Lucent GAP (AGAP) for Premium Business Communications
  - Alcatel-Lucent 8234, 8244, 8254, 8262, 8262EX DECT handsets
- Built-in controller
- Hybrid IBS/RBS and IP DECT networks
  - Alcatel-Lucent 8378 DECT IP-xBS base station
  - Alcatel-Lucent 8379 DECT IBS
  - Alcatel-Lucent 8318 SIP-DECT single Base station

### VoWLAN

- Premium Business Communications
  - 8158s, 8168s WLAN Handsets in NOE mode
- Alcatel-Lucent OmniAccess® WLAN access points and WLAN controllers
  - Built-in QoS

### Public networking protocols

- SIP, SIP/TLS, E164 support
  - Audio, video
- T0 ISDN
- T1-CCS ISDN (T2)
- E1CAS
- T1 CCS (PRI)
- DID/DDI or NDDI/non-DID analog networks

### Private networking protocols

- Alcatel-Lucent ABC
  - User feature transparency
  - Network-wide management
  - Network-wide routing
  - Centralized applications
- IP
  - ABC based on enhanced QSIG (tunneling) and SIP for VoIP
  - SIP
  - ABC VPN for networking over ISDN/PSTN network
  - ABC Direct IP Link
- TDM
  - ABC
  - QSIG BC, QSIG GF, DPNSS

### Business process integration

#### Interfaces for Developer and Solutions Partner Program (DSPP)

- SIP
- XML web services
- CSTA, TSAPI Premium Server, TAPI Premium Server, RTI, WMI
- LDAP
- DR-Link (IP and TDM)
- Alcatel-Lucent Hospitality Link, InfoCenter
- OmniVista 8770 Ticket collector, OpenAPI and SNMP proxy
- QSIG, Paging Interface
- SNMP v3 for NMS integration
- OmniPCX Open Gateway (O2G): Call control, Management and Analytics

### Security

#### Authentication

- Local or external RADIUS
- IEEE 802.1X TLS1.2
- Integrated audit tool to assess security management
- LDAPS authentication for OXE SIP Device Management

#### Traffic filtering

- Communication Server
  - Trusted hosts file
  - TCP wrapper function
- ALE DeskPhones
  - ARP spoofing protection
  - PC port switch VLAN filtering

#### Encryption for management

- SSHv2 for secure sessions (such as Telnet, FTP)
- TLS1.2 for secure HTTP session
- LDAPS for directory access

### Native encryption

- Client/device confidentiality (signaling protocol and media)
- DTLS 1.2 with AES 256 and SRTP with AES 128
  - 100% software based
  - SHA2 certificate authentication
  - ALE Enterprise and Essential DeskPhones (IP), IP Desktop Softphone
  - GD/GA-XL, GD4/GD3/OMS and PCS
  - DTLS scalability with External Encryption Gateway
  - IP-XBS DECT encryption
  - Rainbow WebRTC Gateway encryption
  - OmniPCX Record encryption
- TLS 1.2 with AES 256 and SRTP with AES 128
  - SIP trunks
- Migration from IP Premium Security Encryption

### Integrity

- Call Server, Media gateway, Enterprise, Essential and Premium DeskPhones binary signatures
- User policy enforcement
- Call monitoring and barring
- Internal toll fraud protection by class of services

### Session Border Controller

- SIP perimeter defense:
  - Alcatel-Lucent OpenTouch Session Border Controller (OEM AudioCodes Mediant Virtual Edition)
  - Remote worker with 8008 (G), ALE-2, ALE-3 DeskPhones (SIP) or ALE SoftPhone

### Operations

#### Element management

- Command Line Interface
- Web-based management
  - Configuration
  - Mass provisioning

#### Centralized operations

- Alcatel-Lucent OmniVista 8770 Network Management System
- Media and Management IP flows separation
- Cloud Connect Operations
  - Push/Get licence files
  - Software download
  - Inventory
  - Incidents
  - Remote Management console

## European Directives and International Standards

### EC Directives

- 2014/53/EU : ROHS
- 2011/65/EU: ROHS
- 2012/19/EU: WEEE
- 2014/30/EU: EMC
- 2009/125/EC: Ecodesign
- 2014/35/EU: LVD
- 1907/2006 : REACH Regulation

### Safety

- IEC 60950-1
- UL/CSA 60950-1
- IEC 62368-1
- UL/CSA 62368-1

## EMC

- IEC CISPR 32 Class B
- CENELEC EN 55032 Class B
- FCC Part 15B
- IEC CISPR24
- CENELEC EN 55024
- CENELEC EN 61000-3-2
- CENELEC EN 61000-3-3
- ICES-003

## Miscellaneous environments

- RM1, RM3:
  - DNV certificate: Maritime
  - IEC 60945: Maritime

## Environmental conditions

- ETSI – ETS 300 019 Part 1-1: Storage
- ETSI – ETS 300 019 Part 1-2: Transportation
- ETSI – ETS 300 019 Part 1-3: In Use

## Telecom

- ETSI EG 201 121
- ETSI ES 203 021
- ETSI ES 203 038
- ETSI TBR 010, 022, 003, 033, 004, 034, 008
- FCC Part 68
- Canada CS03