

# Alcatel-Lucent OmniPCX Enterprise Communication Server

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



Today's organizations want to improve business responsiveness while offering employees more flexibility in the way they work. The OmniPCX® Enterprise Communication Server (CS) helps employees connect in real time whatever their location, and hold high-quality business calls with colleagues and customers.

Organizations can connect the OmniPCX Enterprise CS to the Alcatel-Lucent Rainbow cloud service: The Rainbow mobile and borderless collaboration application is the perfect business phone companion and helps employees respond faster and better to business requests.

| 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, wireless 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<br><br>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<br><br>Reliability: High-availability options maintain vital business continuity during network or server outages                     |

## Technical specifications

### Premium 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
  - Automatic shift with Near Field Communication (NFC) smartphones
- Call-back and call history features
- Messaging notification and control
- Contextual voice prompts
- Informal group features
- Desk-sharing for shared offices
  - 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
  - Alcatel-Lucent 8018 DeskPhone (IP)
  - Alcatel-Lucent 8028s, 8038, 8058s, 8068s, 8078s Premium DeskPhones (IP)
  - Alcatel-Lucent 8029, 8039 Premium DeskPhone (digital)
  - Alcatel-Lucent 4018 IP Touch (IP), 4019 IP Touch (digital)
  - Alcatel-Lucent IP Desktop Softphone
  - Alcatel-Lucent 8118, 8128 WLAN Handsets
- Alcatel-Lucent 8232, 8242, 8262, 8262EX DECT handsets

### Essential Business Communications

#### User experience

- Multi-line telephony
- Personal call forwarding
- Informal group features
- Message waiting indication
- Computer Telephony Integration (CTI)

#### Supported phones

- Session Initiation Protocol (SIP)
  - Alcatel-Lucent 8088 Smart DeskPhone
  - Alcatel-Lucent 8001, 8001G DeskPhone
  - Alcatel-Lucent 4135 IP Conference Phone
- Third-party SIP phones and softphones
  - Alcatel-Lucent Application Partner Program (AAPP)

#### Huddle video rooms

- Session Initiation Protocol (SIP)
- Peer-to-peer video
- Join a video conference
  - Alcatel-Lucent OpenTouch® Multimedia Services
  - Third-party video room systems (AAPP)
- 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
- Premise-based UC&C:
  - OpenTouch Multimedia Services
  - Alcatel-Lucent OpenTouch Conversation user experience

#### Messaging

- Integrated voice messaging:
  - Alcatel-Lucent 4645 Voice Messaging Service
- Unified messaging and fax:
  - OpenTouch Multimedia Services
- Centralized voice messaging:
  - Alcatel-Lucent OpenTouch Message Center
- Centralized fax management:
  - Alcatel-Lucent OpenTouch Fax Center
- Third-party SIP voice messaging: AAPP

#### Web conferencing

- Premise-based UC&C:
  - OpenTouch Multimedia Services

### 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
- Attendant contextual menus
  - 8068s, 8078s Premium DeskPhones
  - IP Desktop Softphone
- Automated Attendant application:
  - OpenTouch Multimedia Services
  - Alcatel-Lucent Visual Automated Attendant

#### Voice announcement

- External/Internal voices guides
  - From audio station, Premium DeskPhones
  - From audio file in Supervision Desktop
- Interactive Voice Response:
  - Alcatel-Lucent 4625 Interactive Voice Response

#### 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: 8068s, 8078s Premium DeskPhone, IP Desktop Softphone
  - Supervision desktop application
  - Reports
  - Alcatel-Lucent OpenTouch Customer Service: multimedia interactions

### Recording and quality management

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

### Emergency communication services

#### Building and campus emergency communications solution:

- 112 (EU), E911 (North America) services
  - Alcatel-Lucent Emergency Notification Server

### Hospitality communication services

- 8088 Smart DeskPhone
- Premium DeskPhones, 8018 DeskPhone, or analog phones
- Guest features
- Room service features
- Room directory features
- Billing and barring features
- Integration with Property Management Systems: AAPP

### 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 IP users or 5000 TDM 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 INTIP-3, GD-3 and GA-3 boards
- Full-featured branch office survivability
- Backup signaling link for branch office survivability

### Communication Server platform

#### Industry servers

- Lenovo servers
- HP ProLiant DL servers

#### Virtual machines

- VMware vSphere 6.5
- Linux Kernel-based Virtual Machine (KVM)

#### Hosted cloud platform

- In Alcatel-Lucent OpenTouch Enterprise Cloud

#### Single UC&C platform

- In Alcatel-Lucent OpenTouch Business Edition

#### 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)

#### OmniPCX Enterprise M2 (cabinet)

- 1 ACT 28 or 2 ACT 14
- Hot-swappable boards
- Height: 740 mm (29.13 in)
- Width: 570 mm (22.44 in)
- Depth: 516 mm (20.31 in)
- Weight: 70 kg (154.32 lb)

#### OmniPCX Enterprise M3 (cabinet)

- 2 ACT 28 or 4 ACT 14
- Hot-swappable boards
- Height: 1500 mm (59.05 in)
- Width: 570 mm (22.4 in)
- Depth: 516 mm (20.31 in)
- Weight: 110 kg (242.5 lb)

#### OmniPCX Enterprise ACT 14-in data rack format (19-in. rack)

- 48 V power supply and battery backup
- Hot-swappable boards
- 1 ACT 14
- Height: 264.4 mm (10.41 in)
- Width: 486.3 mm (19.15 in)
- Depth: 383.4 mm (15.09 in)
- Weight: 30 kg (66.14 lb)

#### OmniPCX Enterprise ACT 28 in data rack format (19-in. rack)

- 48 V power supply and battery backup
- Hot-swappable boards
- 1 ACT 28
- Height: 530 mm (20.87 in)
- Width: 486.3 mm (19.15 in)
- Depth: 383.4 mm (15.09 in)
- Weight: 70 kg (154.3 lb)

### 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

#### IPv6

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

#### IETF standards

- SIP RFC: 1321, 2327, 2617, 2782, 2833, 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, 4497, 4568, 4733, 5009, 5806
- 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
- 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

## Fax

- G3, super G3 fall-back
- Automatic fax detection
- G.711 transparent (Alcatel-Lucent protocol) and T.38 (Alcatel-Lucent protocol and SIP)

## DECT

- DECT/GAP
  - Alcatel-Lucent 8212 DECT Handset
  - Third-party GAP handsets
- DECT/Alcatel-Lucent GAP (AGAP) for Premium Business Communications
  - 8232, 8242, 8262, 8262EX DECT Handsets
- Built-in controller
- Hybrid IBS/RBS and IP DECT networks
  - Alcatel-Lucent 4070 DECT Base Station
  - Alcatel-Lucent 8340 IP DECT Access Point
- Advanced Radio Base Station (RBS)
  - 12 simultaneous communications
  - Dedicated DECT8 board
  - External power supply
  - Outdoor versions

## VoWLAN

- Premium Business Communications
  - 8118, 8128 WLAN Handsets
- 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)
- T1 CAS
- 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, H.323v2
  - ABC VPN for networking over ISDN/ PSTN network
- TDM
  - ABC
  - QSIG BC, QSIG GF, DPNSS

## Business process integration

### Interfaces for Alcatel-Lucent Application Partner Program (AAPP)

- SIP
- XML web services
- CSTA, TSAPI Premium Server, TAPI Premium Server, RTI, WMI
- LDAP
- DR-Link
- Alcatel-Lucent Hospitality Link, InfoCenter
- OmniVista 8770 Ticket collector, OpenAPI and SNMP proxy
- QSIG, Paging Interface

## Security

### Authentication

- Local, RADIUS, LDAP authentication
- NTLM Single Sign-On
- IEEE 802.1X MD5/TLS

### Traffic filtering

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

## Encryption

- SSHv2 for secure sessions (such as Telnet, FTP)
- SSLv2/v3 for secure HTTP session
- SNMP v1/v2c/v3 for complete NMS integration
- Client/device confidentiality (signaling protocol and media)
- IPSec and Secure RTP (AES 128 bits)
  - Premium DeskPhones (IP)
  - GD-3 and GA-3 boards
  - Alcatel-Lucent IP Premium Server Security Module
  - Alcatel-Lucent IP Premium Media Security Module
- Secure SIP/SRTP
  - SIP trunks

## Integrity

- Media gateway, 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

## Operations

### Element management

- Command Line Interface
- Web-based management
  - Configuration

### Centralized operations

- Alcatel-Lucent OmniVista 8770 Network Management System
- Cloud Connect Operations
  - Cloud-based license control

## European Directives and International Standards

### EC Directives

- 1999/5/EC: R&TTE
- 2011/65/EU: ROHS
- 2012/19/EU: WEEE
- 2014/30/EU: EMC
- 2009/125/EC: Ecodesign
- 2014/35/EU: LVD

### Safety

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

## **EMC**

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

## **Miscellaneous environments**

- ACT:
  - CENELEC EN 50121-4: Railway applications
- 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
- ITU-T H.323
- FCC Part 68
- Canada CS03