

# 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, 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

## 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 8008, 8018 DeskPhones (IP)
  - Alcatel-Lucent 8028s, 8058s, 8068s, 8078s Premium DeskPhones (IP)
  - Alcatel-Lucent 8029s, 8039s Premium DeskPhones (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 8028s Premium DeskPhone
  - Alcatel-Lucent 8001, 8001G, 8008, 8018 DeskPhones
  - Alcatel-Lucent 8135s 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
- Call to/from Rainbow client (WebRTC Gateway)
- One number service: desk phone, Rainbow smartphone and desktop apps
- 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
  - 8058s, 8068s, 8078s Premium DeskPhones
- Automated Attendant application:
  - Alcatel-Lucent Visual Automated Attendant

## Datasheet

## 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: 8008, 8018, 8019s DeskPhone, 8028s, 8029s, 8068s, 8078s Premium DeskPhone, IP Desktop Softphone
  - Supervision desktop application
  - Reports
  - Alcatel-Lucent OpenTouch Customer Service: multimedia interactions
  - DECT 8232, 8242, 8262

## 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
- SIP phones
- 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
- Linux Kernel-based Virtual Machine (KVM)

## Hosted cloud platform

- In Alcatel-Lucent OpenTouch Enterprise Cloud

## 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, 4904, 5009, 5806, 6140, 7433
- 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, 802.1p/Q

## Fax

- G3, super G3 fall-back
- Automatic fax detection
- G.711 transparent and T.38 (Alcatel-Lucent protocol and SIP) 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
  - 8232, 8242, 8262, 8262EX DECT Handsets
- Built-in controller
- Hybrid IBS/RBS and IP DECT networks
  - Alcatel-Lucent 8340 IP DECT Access Point
  - Alcatel-Lucent 8378 DECT IP-xBS base station
  - Alcatel-Lucent 8379 DECT IBS
  - Alcatel-Lucent 8318 SIP-DECT single Base station
- Advanced Radio Base Station (RBS)
  - Dedicated DECT8 board

## 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 (IP and TDM)
- Alcatel-Lucent Hospitality Link, InfoCenter
- OmniVista 8770 Ticket collector, OpenAPI and SNMP proxy
- QSIG, Paging Interface
- SNMP v1/v2c/v3 for complete NMS integration
- OmniPCX Open Gateway: Call control, Management and Analytics

## Security

### Authentication

- Local, RADIUS, authentication
- IEEE 802.1X TLS1.2
- Integrated audit tool to assess security management

### Traffic filtering

- Communication Server
  - Trusted hosts file
  - TCP wrapper function
- Premium 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
  - Pure software based
  - SHA2 certificate authentication

- Premium DeskPhone (IP) and IPDSP
- GD3/INTIP3/OMS and PCS
- DTLS scalability with External Encryption Gateway
- TLS 1.2 with AES 256 and SRTP with AES 128
  - SIP trunks

### IP premium security encryption

- Client/device confidentiality (signaling protocol and media)
- IPSec and Secure RTP (AES 128 bits)
  - Premium DeskPhones (IP) and IP Touch
  - GD-3 and GA-3 boards
  - Alcatel-Lucent IP Premium Server Security Module
  - Alcatel-Lucent IP Premium Media Security Module
- Secure SIP/SRTP with security modules

### 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
  - Remote worker with 8008(G), 8018, 8028s

### 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
  - 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



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