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 wherever 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.

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Excellent voice connectivity to customers and employees</td>
<td>Quality business response: Zero lost calls; powerful communication tools ensure instant connection to the right people</td>
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<td>Ensure employees can call wherever they are, on any device</td>
<td>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</td>
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<td>A borderless and mobile collaboration application lets employee connect the phone system to the Alcatel-Lucent Rainbow cloud-based unified communications service</td>
<td>Instant business response: Employees exchange instant messages, video, and screen sharing with their teams and business community while leveraging the office phone</td>
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<td>Serve users across multiple sites, with guaranteed high availability</td>
<td>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</td>
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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 (G) (CE), 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)

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, 8008 (G) (CE) 8018 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
  ~ Alcatel-Lucent OpenTouch* Multimedia Services
  ~ 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
- 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: DSPP

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
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: DSPP

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: 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 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, CD-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)
- Microsoft Hyper-V

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, 3311, 3323, 3324, 3325, 3327, 3315, 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
- G.711 audio wideband
- G.711 A-law and µ-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
- G.3, super G3 fall-back
- Automatic fax detection
- G.711 transparent and T38 (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
  - TO 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

Fax
- G.3, super G3 fall-back
- Automatic fax detection
- G.711 transparent and T38 (Alcatel-Lucent protocol and SIP) and T38 with G711 fallback (SIP)

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 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
Session Border Controller
- SIP perimeter defense:
  - Alcatel-Lucent OpenTouch Session Border Controller
  - Remote worker with 8008(G), 8018, 8028s
- 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

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