

Alcatel-Lucent  
Office Communication  
Solutions for Small and  
Medium Businesses  
**Solution Handbook –  
Spring 2009**



January, 2009

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Alcatel-Lucent Enterprise -

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# Chapter 1: Introduction

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## Section 1: About Alcatel-Lucent

Alcatel-Lucent provides solutions that enable service providers, enterprises and governments worldwide to deliver voice, data and video communications services to end users. As a leader in fixed, mobile and converged broadband networking, IP technologies, applications and services, Alcatel-Lucent offers end-to-end solutions that enable compelling communications services for people at home, at work and on the move.

With operations in more than 130 countries, Alcatel-Lucent is a local partner with global reach. The company has the most experienced global services team and is one of the largest research, technology and innovation organizations in the telecommunications industry. Alcatel-Lucent achieved revenues of 17.8 billion euros in 2007, and is incorporated in France with executive offices in Paris.

Alcatel-Lucent is leading the competitive transformation of its enterprise and government customers by delivering secure, end-to-end, business-critical communications solutions that enable new business generation. These dynamic communications solutions help small- and medium-sized businesses (SMBs) keep customer satisfaction and employee productivity high and operational costs low. They help SMBs strengthen relationships, increase collaboration and mobility and improve performance.

The Alcatel-Lucent SMB product and services portfolio includes business communications applications with unified communications and contact centers, an advanced IP telephony offering, robust IP networking, market-leading IP address and performance management software and world-class security solutions.

These end-to-end solutions combine Alcatel-Lucent enterprise products, its carrier portfolio and comprehensive professional services.

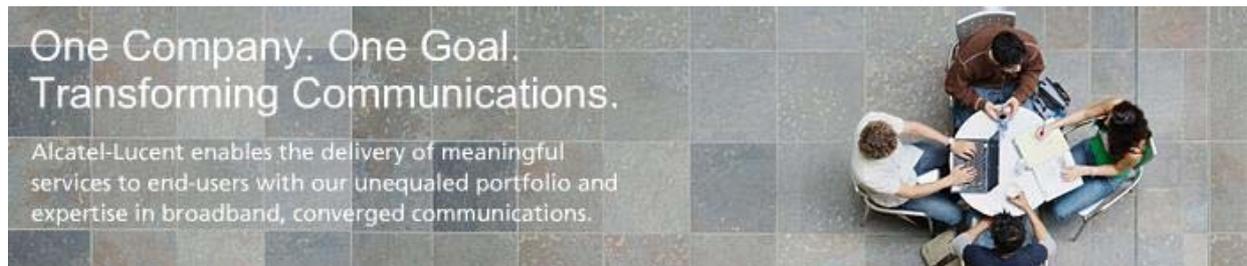
Alcatel-Lucent is the number one PBX vendor in Europe and is continually strengthening its worldwide presence.

Alcatel-Lucent is the first truly global communications solutions provider.

17.8 billion euros in revenues

2.7 billion euros in R&D investment\*

Located in 130 countries



#1 in contact center software

#1 in IP address management software

#2 in SMB telephony

More than 1,800 partners

## Alcatel-Lucent in the SMB market

Alcatel-Lucent understands the needs of SMBs and has the proven credentials to deliver integrated, end-to-end communications solutions that address these needs. By reaching the 12 million end users mark with its flagship product, the Alcatel-Lucent OmniPCX™ Office Communication Server, Alcatel-Lucent is positioned as a recognized leader in the SMB market.

The Alcatel-Lucent Office Communication Solutions for SMBs offers business-grade network infrastructure, communications, collaboration and mobility solutions. These solutions provide the cost control, security and usage features that support the needs of SMB customers.

Alcatel-Lucent Office Communication Solutions for SMBs include multiple services – communications, Internet telephony, collaboration and mobility – delivered across broadband and mobile networks. It provides SMB customers with the best user-centric experience by leveraging common, easy-to-use user interfaces.

Alcatel-Lucent is committed to the SMB market and is now the recognized leader and trendsetter by delivering Alcatel-Lucent Office Communication Solutions for SMBs

## Section 2: Alcatel-Lucent Office Communication Solutions

Alcatel-Lucent Office Communication Solutions provide SMBs with comprehensive options for advanced, end-to-end business communication, including network infrastructure and wireless LAN (WLAN) infrastructure for voice and data. These solutions deliver major innovations by providing unified communications, collaboration and mobility using the fully-integrated Alcatel-Lucent Extended Communication Server. Furthermore, Alcatel-Lucent Office Communication Solutions include professional digital or IP wired and wireless phones.

Alcatel-Lucent Office Communication Solutions are modular, easy, reliable, open and standards-based, and complete.

### **Modular**

Alcatel-Lucent Office Communication Solutions are modular at every level – from communications suites and software licenses to communications servers and networking infrastructure. You can create solutions that meet your clients' exact requirements. And they only pay for what they need.

### **Easy**

Alcatel-Lucent Office Communication Solutions consist of an IP integrated communications server. All voice applications are pre-configured and embedded plus the unique Alcatel-Lucent Extended Communication Server offers collaboration, mobility, Internet and web hosting. Both solutions are easy-to-sell, install, maintain and evolve to the new era of communication.

### **Reliable**

Alcatel-Lucent Office Communication Solutions can be sold with a hardware warranty and a variety of services ranging from a simple maintenance contract to system evolution, to new applications and technology.

### **Open and standards-based**

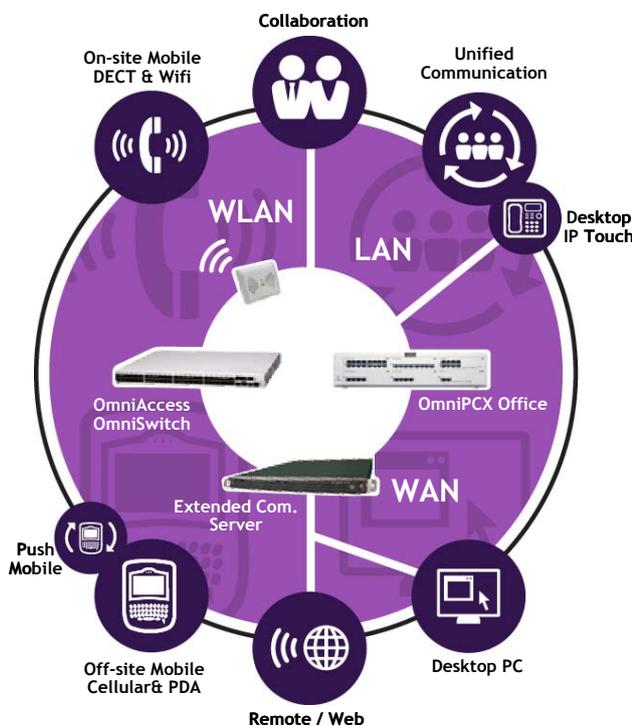
Alcatel-Lucent Office Communication Solutions are built on an IP communications server and based on standard protocols. The server provides application interfaces based on technology attachment packet interface (TAPI), computer supported telecommunications applications (CSTA), extensible markup language (XML), and session initiation protocol (SIP). As a result, Alcatel-Lucent Office Communication Solutions are ready for the future.

## Complete

Voice, Internet, collaboration, mobility and data – Alcatel-Lucent Office Communication Solutions manage it all: voice over IP (VoIP), time division multiplexing (TDM) or SIP, and data traffic. Supported applications include: voice mail, Alcatel-Lucent OmniTouch™ Call Center (CC) Office, Alcatel-Lucent PIMphony™ Softphone, mobile technology, Alcatel-Lucent OmniTouch My Teamwork™ Conferencing and Collaboration Office Edition, call management, collaboration services and Internet.

Alcatel-Lucent Office Communication Solutions were developed around three key concepts:

- **IP Migration:** Alcatel-Lucent Office Communication Solutions provide a comprehensive set of products, applications and services that help SMBs deploy end-to-end, business-grade IP communications solutions through a single catalog.
- **Mobility:** Mobile end users need to keep in touch with their business environment. Alcatel-Lucent Office Communication Solutions now provide mobile users with full suite of voice and data mobility solutions.
- **Collaboration:** Innovative collaboration applications that improve communication.



### Mobility

- **One number service**
  - Any phone, Alcatel-Lucent cellular extension (ACE) client for Windows mobile & Nokia ICC client
- **Push mobile**
  - Push mail & more, Email, Agenda, Contacts, Tasks
- **On-site mobility**
  - DECT, WiFi

### Collaboration

- Fax Server
- My Teamwork Office Edition
- Virtual Desktop
- PIMphony Team
- Call Center

### IP Migration

- SIP trunking
- Gigabit IP Touch Phones
- Complete data infra.portfolio
- XML API pre-packaged
- Fax over IP gateway (AAPP)

Alcatel-Lucent Office Communication Solutions provide end-to-end solutions for SMBs, including:

- Alcatel-Lucent OmniPCX Office
- Alcatel-Lucent Extended Communication Server
- Alcatel-Lucent OmniVista™ 4760 Network Management System (NMS)
- Alcatel-Lucent OmniTouch My Teamwork Conferencing and Collaboration Office Edition
- Alcatel-Lucent XML Web Services Application Programming Interfaces (API)
- Alcatel-Lucent IP Touch™ 8 Series Phones Extended Edition
- Alcatel-Lucent 9 Series Digital Phones
- Alcatel-Lucent DECT Handsets
- Alcatel-Lucent IP Touch WLAN Handsets
- Alcatel-Lucent OmniStack™ 6200 Stackable LAN Switch and OmniSwitch™ 6400 Stackable LAN Switch
- Alcatel-Lucent OmniAccess™ 4302 and 4308 WLAN Switches
- Alcatel-Lucent OmniAccess 60, 61 and 65 WLAN Access Points

## Commercial Offerings

Alcatel-Lucent Office Communication Solutions are available through two different commercial offerings:

- Global see chapter 2a
- On Demand Communications see chapter 2b

The Global offering allows Alcatel-Lucent business partners to tailor TDM or IP communications solutions for customers with all available applications, services and phones.

The On Demand Communications offering is a user-centric offer that helps Alcatel-Lucent business partners build a unique communications service for their end customers with a price per user, per month. Traffic and services can be added as required.

## Section 3: Customer Needs

Alcatel-Lucent Office Communication Solutions improve your customers' competitive advantage through:

- Increased employee productivity
- Improved customer satisfaction
- Reduced operational costs



## Increase employee productivity

A company's profitability depends on the efficiency and responsiveness of its employees.

→ Alcatel-Lucent Office Communication Solutions provide best-of-breed, easy-to-use and hassle-free tools to help employees manage daily phone tasks and electronic information, collaborate more efficiently, and keep track of communications wherever, whenever.

## Improve customer satisfaction

Satisfied customers generate repeat business. And repeat business leads to higher revenues.

→ Alcatel-Lucent Office Communication Solutions enhance your communications system so you can strengthen customer relationships and generate repeat business.

## Reduce operational costs

Lower operational costs means higher profits

→ Alcatel-Lucent Office Communication Solutions deliver easy-to-install and easy-to-manage solutions that streamline telecommunications costs.

## Chapter 2a: Global Offering

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# Overview

Alcatel-Lucent Office Communication Solutions consist of the Alcatel-Lucent OmniPCX Office Communication Server, the Alcatel-Lucent Extended Communication Server and Alcatel-Lucent network infrastructure products. They are designed to be completely modular and adaptable to evolving customer needs. You build the solution by combining the elements best suited to your customer's expectations and budget from the following:





<p><b>Users</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Analog users</li> <li><input checked="" type="checkbox"/> Advanced users</li> <li><input type="checkbox"/> IP users</li> </ul>	<p><b>Application options</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Automated Attendant</li> <li><input checked="" type="checkbox"/> PIMphony</li> <li><input type="checkbox"/> Call Center Office</li> <li><input type="checkbox"/> <u>OmniTouch My Teamwork Office</u></li> <li><input type="checkbox"/> Fax server</li> </ul>
<p><b>Communication suites</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> First</li> <li><input checked="" type="checkbox"/> Business</li> <li><input type="checkbox"/> Business IP</li> <li><input type="checkbox"/> Guest</li> <li><input type="checkbox"/> Extended</li> </ul>	

**OmniPCX Office**



**Extended Communication Server**



<p><b><u>OmniStack 6200, OmniSwitch 6400</u></b></p> 	<p><b><u>OmniAccess Wireless 4302, 4308</u></b></p> 
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**Hardware**

A variety of hardware platforms are available for the Alcatel-Lucent OmniPCX Office (units and boards), the Alcatel-Lucent Extended Communication Server Compact and Premium Editions (hardware options) and for the networking infrastructure (switches and wireless LAN switches).

**Software**

Office Communication Suites for the Alcatel-Lucent OmniPCX Office and Alcatel-Lucent Extended Communication Server integrate most functions. Optional software licenses can also add features such as extended voice mail, multiple automated attendants, Alcatel-Lucent OmniTouch Call Center (CC) Office, six-party conference and extended users.

**Phones and softphones**

A complete line of IP or digital desktop and mobile phones are available. In addition, Alcatel-Lucent Office Communication Solutions can deliver softphone functionality with Alcatel-Lucent PIMphony Softphone Basic (at no extra cost), Alcatel-Lucent PIMphony Softphone Pro, Alcatel-Lucent PIMphony Softphone Team and Alcatel-Lucent PIMphony Softphone Attendant.

**Applications**

Alcatel-Lucent Office Communication Solutions provide voice-to-communication applications, such as integrated voice mail, personal assistant, multiple automated attendant, call center, Internet access, unified communications and off-site mobility, fax server and Alcatel-Lucent OmniTouch My Teamwork Conferencing and Collaboration Office Edition.

## Section 1: Office Communication Suites

Alcatel-Lucent Office Communication Solutions provide advanced communications with more than 500 telephony services. To simplify access to these services, Alcatel-Lucent offers five software packs or *Office Communication Suites* that can be applied according to a company's requirements:

1. The First Pack provides advanced telephony without voice mail.
2. The Business Pack provides advanced telephony with voice mail.
3. The Business IP Pack delivers IP telephony.
4. The Guest Pack is dedicated to the hospitality industry.
5. The Extended Communication Pack is designed for extended office users. This pack is the integration of the Alcatel-Lucent Extended Communication Server into the Alcatel-Lucent Office Communication Solutions.

### Packs

#### *First Pack*

This pack is for traditional desktop telephony. It is available in very small and small configurations.

#### First Pack

- Up to four customizable company greetings
- Two minutes customized music-on-hold with two system languages
- Automatic route selection (ARS) and direct inward selection access (DISA)
- Remote customization for voice mail and automated attendant
- Directory of 3,000 names (stand-alone), 5,000 names (network) and 1,000 network management center (NMC) tickets
- Up to 75 Alcatel-Lucent PIMphony Softphone Basic sessions on compact and advanced units
- Up to 200 Alcatel-Lucent PIMphony Softphone Basic sessions on premium units

### **Business Pack**

This pack is for traditional desktop telephony. It is available in very small, small, medium, large and extra large configurations.

#### **Business Pack**

- Personal assistant with up to four customizable company greetings
- Two minutes customized music-on-hold with two system languages
- ARS and DISA
- Remote customization for voice mail and automated attendant
- Directory of 3,000 names (stand-alone), 5,000 names (network) and 1,000 NMC tickets
- Up to 75 Alcatel-Lucent PIMphony Softphone Basic sessions on compact and advanced units
- Up to 200 Alcatel-Lucent PIMphony Softphone Basic sessions on premium units
- Standard voice mail and user mailbox greeting with two ports and 60 minutes of voice mail storage

### **Business IP Pack**

This pack is for IP communications services with voice mail and XML web services for Alcatel-Lucent IP Touch 8 Series Phones Extended Edition. It is available in very small, small, medium, large and extra large configurations.

#### **Business IP Pack**

- Personal assistant with up to four customizable company greetings
- Two minutes customized music-on-hold with two system languages
- ARS and DISA
- Remote customization for voice mail and automated attendant
- Directory of 3,000 names (stand-alone), 5,000 names (network) and 1,000 NMC tickets
- Up to 75 Alcatel-Lucent PIMphony Softphone Basic sessions on compact and advanced units
- Up to 200 Alcatel-Lucent PIMphony Softphone Basic sessions on premium units
- Standard voice mail and user mailbox greeting with two ports and 60 minutes of voice mail storage

### **Guest Pack**

This pack is tailored specifically for the hospitality industry. It is available in small, medium, large and extra large configurations.

#### **Guest Pack**

- Personal assistant with up to four customizable company greetings
- Two minutes customized music-on-hold with two system languages
- ARS and DISA
- Remote customization for voice mail and automated attendant
- Directory of 3,000 names (stand-alone), 5,000 names (network) and 1,000 NMC tickets
- Up to 75 Alcatel-Lucent PIMphony Softphone Basic sessions on compact and advanced units
- Up to 200 Alcatel-Lucent PIMphony Softphone Basic sessions on premium units
- Standard voice mail and user mailbox greeting with two ports and 60 minutes of voice mail storage
- Software license for accounting over IP for hospitality link activation

### **Extended Communication Pack**

This pack is for businesses that need a high level of collaboration and mobility services. It is a mandatory feature with the Alcatel-Lucent Extended Communication Server and is available in small, medium, large and extra large configurations.

#### **Extended Communication Pack**

- Unified communications
- Collaboration
- Mobility services anywhere and on any device
- Alcatel-Lucent PIMphony Softphone Team
- Nomadic user software license
- E-mail server
- File server
- Internet access router
- Web hosting
- Alcatel-Lucent OmniTouch XML Web Services API to Alcatel-Lucent OmniPCX Office, including My Phone, My IP Touch, My Messaging and My Management with Premium Edition server or My IP Touch with Compact Edition server

## Summary

The software licenses included in the different packs are:

		First		Business					Business IP					Guest			
		VS	S	VS	S	M	L	XL	VS	S	M	L	XL	S	M	L	XL
Users	Total	6	20	16	32	60	100	200	13	21	35	75	125	25	45	80	130
	UA	2	10	8	16	30	50	100	-	-	-	-	-	5	5	10	10
	Z	4	10	8	16	30	50	100	5	5	5	5	5	20	40	70	120
	IP	-	-	-	-	-	-	-	8	16	30	70	120	-	-	-	-
Mixed boards	T0	1x1	2x1	2x1	2x1	-	-	-	-	-	-	-	-	-	-	-	-
	or AT	1x2	2x2	2x2	2x2	-	-	-	-	-	-	-	-	-	-	-	-
Voice mail	Ports	-	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Min	-	-	60	60	60	60	60	60	60	60	60	60	60	60	60	60
XML web services		-	-	-	-	-	-	-	10	10	10	10	10	-	-	-	-
IP call accounting		-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	YES	YES

	Extended Communication			
	Small	Medium	Large	Extra Large
Extended office users	8	30	70	140
Collaboration	8	30	70	140
Unified communications	8	30	70	140
Mobility	8	30	70	140

See Chapter 9 for a description of the Alcatel-Lucent Extended Communication Server.

## Main services

This section describes the advanced features of the five Office Communication Suites offered as part of the Alcatel-Lucent OmniPCX Office CS. Note that some features require additional software licenses.

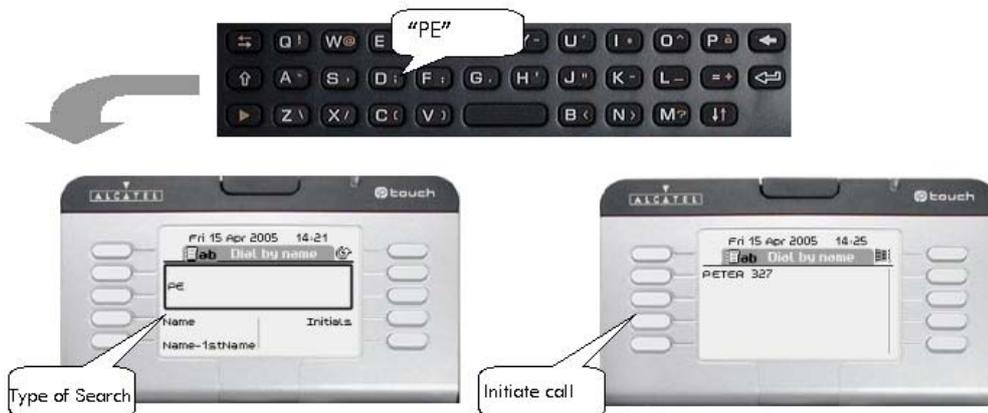
See Chapter 9 for a description of the features related to the Alcatel-Lucent Extended Communication Server.

### *For employee productivity*

#### Directory and dial-by-name

The Alcatel-Lucent OmniPCX Office CS provides up to 3,000 entries for names and abbreviated numbers in the system directory. You can call internal or external users registered in this directory by simply typing their name or initials.

Example of the Alcatel-Lucent IP Touch 8 Series Phones Extended Edition



#### Integrated voice mail

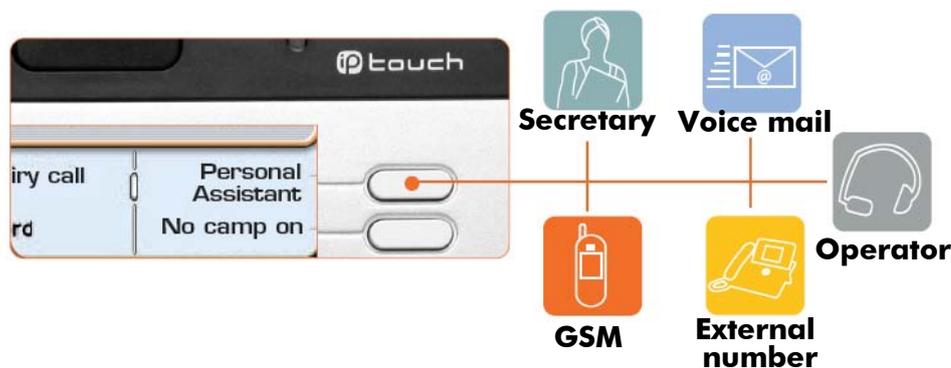
The Alcatel-Lucent OmniPCX Office CS offers standard voice mail with two ports and 60 minutes of voice mail storage. This ensures customers are always greeted, even when employees are unavailable. Integrated voice mail is not available in the First Pack. See Chapter 7 for more details about greetings and call centers.

### Personal assistant

The Alcatel-Lucent OmniPCX Office CS includes a personal assistant function available to all users (except with the First Pack). Based on the “one number follow me” principle, the personal assistant allows users who are away from their desks to give callers a choice of up to five call transfer options:

1. To voice mail
2. To a mobile phone
3. To an external number
4. To an internal number
5. To an operator

This flexible call rerouting function is ready to use and easy to manage, even from outside the company. It can be remotely activated, deactivated and customized. Users can easily program their personal assistant by selecting two to five of the available call transfer options. The voice prompts are prerecorded and cannot be modified.



The call transfer is not supervised. If there is no answer when a call is transferred, the caller cannot leave a message on the voice mail of the original extension.

### Twin phone or multi-phone

The association of Alcatel-Lucent IP Touch 8 Series Phones Extended Edition, Alcatel-Lucent 9 Series Digital Phones or Alcatel-Lucent Reflexes phone with an Alcatel-Lucent Mobile Reflexes™ phone or any other phone provides:

- A single directory number (number of the main phone)
- User awareness, through ringing or beep tone, of all incoming calls on the twin phone
- One voice mailbox for both phones and one forwarding activation or cancellation for both phones
- Manager and secretary filtering from both phones

### One number service (optional)

One number service allows mobile users to remotely access Alcatel-Lucent OmniPCX Office CS voice features to make their mobile phone part of their company's communication system. With one number service, a mobile phone becomes an extension of the Alcatel-Lucent OmniPCX Office CS, inside or outside the company. The user's business number becomes their single contact number. Two levels of solutions are available:

- One number service for any phone - provides access to features via DTMF codes through remote customization
- One number service for Nokia E-series phones and Windows Mobile 6 smartphones with a software client - gives users integrated, ergonomic access to functions

### Alcatel-Lucent PIMphony Softphone

Alcatel-Lucent PIMphony Softphone is a powerful and user-friendly PC softphone. Alcatel-Lucent PIMphony Softphone Basic is provided with the Alcatel-Lucent OmniPCX Office CS. More advanced versions are available that are specifically designed for assistants, team members and attendants. See Chapter 8 for more details about the Alcatel-Lucent PIMphony Softphone.

### DISA

With Direct Inward Access Transit (DISA) functionality, an external user can access the Alcatel-Lucent OmniPCX Office CS for:

- Remote access to some system features like call forwarding to another extension, mobile phone or home phone
- An external line for an international number or a call within the private network

### Workgroups

The Alcatel-Lucent OmniPCX Office CS gives users the option of creating workgroups that can be reached with a single phone number. With this feature, a series of telephone lines is identified as a hunt group so that if one line is busy the next available line is used. Several functions are available:

- Broadcast - speak to all members in a group at once on their phone's loudspeakers
- Pickup - pick up a call for any person in the group
- Unanswered call notification
- Phone monitoring - allows users to know the status of each phone in the workgroup (traffic and agent supervision available depending on the type of set)
- Temporary group - withdrawal and reconnection facilities

Up to 50 groups can be created, with up to 32 subscribers per group.

### Manager and secretary tandem functions

The Alcatel-Lucent OmniPCX Office CS also offers manager and secretary tandem functions. This allows managers and their assistants to supervise each other's phone. The following functions are available:

- Filtering key - activation from manager's and their assistant's phone
- Multi-DDI and multi-key management
- Selective supervision - the manager's private line is not filtered

### Three-party conference

With the Alcatel-Lucent OmniPCX Office, users can establish two conference calls with three participants. To establish a three-party conference call, users place the first call, then make a second call and press the conference key on the Alcatel-Lucent phone to conference in all participants.

### Six-party conference (optional)

The Alcatel-Lucent OmniPCX Office offers a six-party conferencing service that allows users to easily organize a conference with up to five participants and one master. This service is fully password protected and can be set up easily using the voice guide. It is a cost-effective solution for virtual meetings from any location.

### Alcatel-Lucent OmniTouch My Teamwork Conferencing and Collaboration Office Edition (optional)

Alcatel-Lucent OmniTouch My Teamwork Office Edition is a full-featured, multimedia, multi-party conferencing and collaboration solution that operates from a single computer. It is a software-based solution with no proprietary hardware. It works with Alcatel-Lucent OmniPCX Office and supports up to 3,000 instant messaging (IM) users, 96 audio ports and 120 data conferencing ports. The presence-aware, easy-to-use interface supports a full feature set, including meet-me, ad-hoc and schedule events with click-to-conference, IM chat, application and desktop sharing, document management, and more. See Chapter 8b for more information about Alcatel-Lucent OmniTouch My Teamwork Office Edition.

### Extended Communication Server (optional)

The Alcatel-Lucent Extended Communication Server, together with the Alcatel-Lucent OmniPCX Office platform, extends communication from business telephony to unified communications, with collaboration and mobility services. This solution brings complete, integrated communications services to SMBs on any device (Alcatel-Lucent IP Touch 8 Series Phones EE, Alcatel-Lucent 9 Series Digital Phones, Alcatel-Lucent IP Touch WLAN and DECT Handsets, and mobile devices), on any type of interface (Microsoft® Outlook, Alcatel-Lucent PIMphony Softphone, web) and anywhere with virtual desktop and mobile virtual desktop. In addition,

the Alcatel-Lucent Extended Communication Server provides push mail and fax server solutions.

The push mobile service is a powerful software solution for mobile employees. It provides remote access to groupware information using mobile devices such as a Pocket PC or smartphone. Because it is an extension of the company's mail server, it synchronizes e-mails, calendars, contacts and to-do lists over the air and in real time.

The fax server application provides Fax2Mail and Mail2Fax capabilities that work with Alcatel-Lucent OmniPCX Office. This makes sending, receiving and managing faxes as easy and fast as managing e-mails. In addition, a print-to-fax server feature allows users to send faxes from any application that can print. And the embedded Alcatel-Lucent XML Web Services API makes the Alcatel-Lucent OmniPCX Office open to third-party applications.

### ***For customer satisfaction services***

See Chapter 6 for more details about greetings and call centers.

#### ***Company greetings***

There are up to eight integrated greeting messages (the default configuration is four). Greetings are managed by time period, such as lunch time, opening hours, open and closed days, or for busy extensions.

#### ***Music-on-hold***

The system provides music and/or a message-on-hold while callers are waiting. An embedded, rights free, 16-second music-on-hold track is included (*Musicatel* by Fabrice Lemercier).

#### ***Automated attendant***

The automated attendant welcomes callers 24 hours a day. It helps operators during peak periods by providing callers with prerecorded information about operating hours and promotions. It can also automatically connect callers to the right department.

#### ***Automatic Call Distribution (ACD) and the Alcatel-Lucent OmniTouch Call Center Office***

The Alcatel-Lucent OmniTouch Call Center (CC) Office is an integrated call center solution specifically designed to meet SMB's needs. It improves phone response, provides a company greeting and other associated services. This professional solution is ideal for small voice-oriented call centers, as well as for businesses that require a complex greeting solution. Key features include:

- Automatic call distribution, which provides a high quality of service and optimizes company resources.
- Agent assistant, which enables easy call management on a PC for operators.
- Supervision and statistics, which enhances call management and improves revenue generation.

## ***For management and operations***

### ***Automatic Route Selection***

Automatic Route Selection (ARS) is an intelligent routing mechanism designed for multi-carrier and multi-site environments. It automatically routes calls via the most cost-optimized route based on the number dialed, and selects an alternative path when the most appropriate path is overloaded. ARS is fully transparent to the user. The system automatically drops or adds the necessary digits (prefix, suffix, over-dialing) required to reach the right carrier without asking the user to redial. ARS is available for any type of phone connected to Alcatel-Lucent OmniPCX Office.

ARS is applied in all dialing modes:

- Manual dialing
- Automatic dialing (call keys, individual and common speed dialing, redial, caller's address book)
- External forwarding

ARS can be programmed according to the time and day:

- Seven modes per time range (week, weekend, holidays)
- 24 time ranges

ARS is applicable to:

- Any type of trunk bundle (public or private)
- Any type of media (analog or digital)
- Any type of call (voice or data)
- VoIP (toll by pass).

Direct and indirect access to carriers is provided (except for GAP and S0 phones which are indirect access only). The system has ARS overflow on busy carriers and the ARS table can hold up to 3,000 entries (number modification mechanism).

### Alcatel-Lucent OmniPCX Office Management Console

The Alcatel-Lucent OmniPCX Office Management Console (OMC) is an integrated, high-performance console that provides a user-friendly interface to easily manage all features of the Alcatel-Lucent OmniPCX Office, such as user parameters, date and time, and collective speed dial. See Chapter 12 for more details about management tools.

### Alcatel-Lucent OmniVista 4760 Network Management System

Alcatel-Lucent OmniPCX Office can be easily managed remotely with the Alcatel-Lucent Office OMC and the secure access server (HTTPS connection). When integrated with the Alcatel-Lucent OmniVista 4760 Network Management System (NMS), the Alcatel-Lucent Office OMC provides a powerful platform to:

- Manage an installed base with proactive maintenance, like IP alarm monitoring
- Deliver new services such as traffic analysis and VoIP performance monitoring
- Generate automatic customer reports

### Call accounting over IP (optional)

This new, optional, on-the-fly metering is based on an XML interface over IP. Call accounting over IP supports connections to third-party applications (AAPPs) for metering reports and analysis.

Call accounting over IP is an alternative to the V24 interface module.

A software license is required for activation.

### NMC tickets

Alcatel-Lucent OmniPCX Office can store up to 30,000 NMC tickets, with a default setting of 1,000. NMC tickets provide information about each outgoing and incoming call. Traffic analysis and reports are handled by the Alcatel-Lucent OmniVista 4760 NMS.

## Optional software licenses

The five Office Communication Suites are designed to scale based on a customer's requirements. Licenses can be provided:

### *To add users*

- Advanced users
- Analog users
- IP users
- Extended office users
- On-site mobile DECT handset users
- On-site mobile IP Touch WLAN handset users
- Off-site mobile users for any phone
- Off-site mobile users for Nokia E-series phones
- Off-site mobile users for Windows Mobile 6 smartphones and PDAs
- Push mobile users

### *To extend features*

- Music-on-hold
- Voice mail capacity and ports
- System languages
- Greetings

### *To add new features such as:*

- Alcatel-Lucent PIMphony Softphone Pro, Team and Attendant
- Automated attendant and multiple automated attendant
- Six-party conference
- Alcatel-Lucent OmniTouch Call Center Office
- Alcatel-Lucent OmniTouch My Teamwork Conferencing and Collaboration Office Edition
- Fax server
- Internet services
- Alcatel-Lucent OmniVista 4760 Network Management System

### *To open application interfaces:*

- XML web services
- CSTA and TAPI

## Section 2: Alcatel-Lucent OmniPCX Office Hardware

Different hardware components designed by Alcatel-Lucent (CPU, interface boards and daughter boards in specific modules) host the Alcatel-Lucent OmniPCX Office software, which provides your customers with powerful communications services.

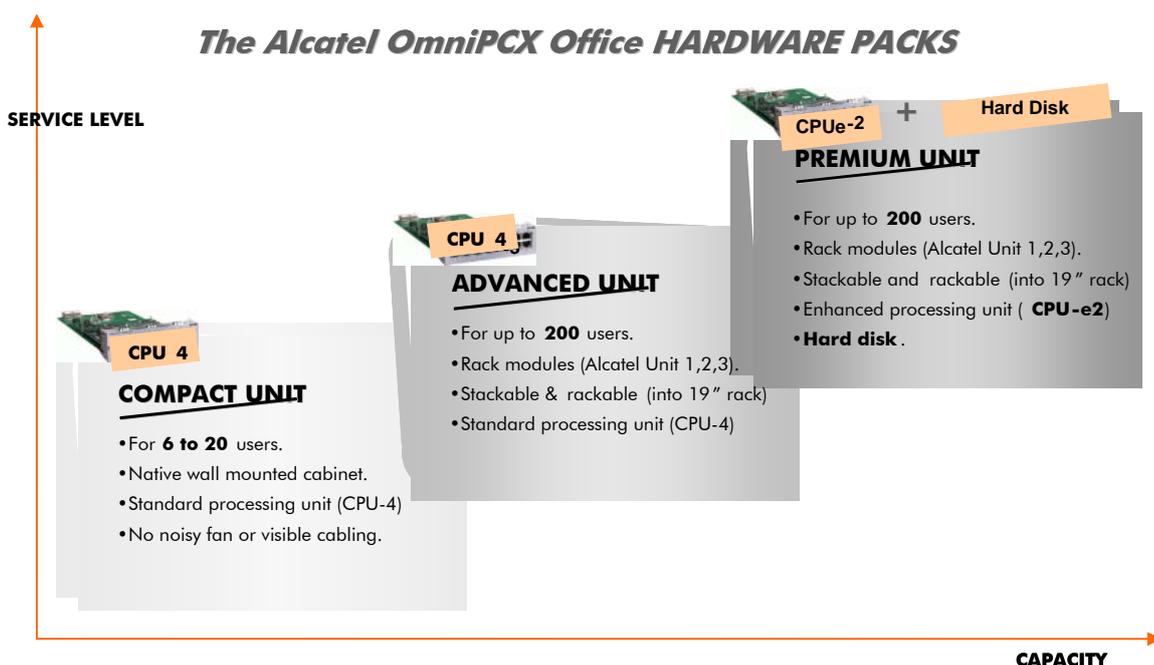
To facilitate the ordering process and help you build a solution that fits your customers' needs, Alcatel-Lucent provides:

- Wall mounting, stackable or rackable cabinets (unit and CPU). You select the most appropriate size whether it is a compact, advanced or premium unit.
- A large choice of interface boards. You combine them to personalize your customer's connectivity requirements.

### Unit and CPU boards

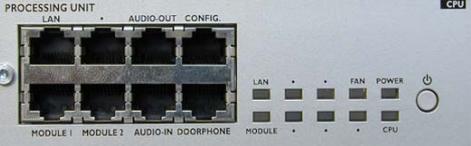
Three hardware packs (including a central processing unit and an adapted module) are available that correspond to specific customer profiles:

- Wall mounting compact units based on CPU-4
- Advanced units based on CPU-4
- Premium units based on the boosted CPUe-2 plus a hard disk



**Compact unit**

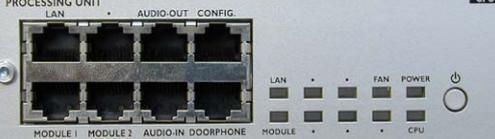
Compact units are ideal for advanced communications solutions for very small and small businesses.

<b>Module type</b>	
	<p><b>Wall mounted cabinet</b></p> <p>Two slots</p> <ul style="list-style-type: none"> <li>• One dedicated CPU slot</li> <li>• One universal slot for mixed board or others</li> <li>• Can be connected to a mini-mix daughter board on the CPU-4</li> </ul> <p>External 12-V AC/DC adapter Internal DC/DC converter Back panel Removable cabling plastic cover</p>
<b>Processing unit type</b>	
	<p><b>CPU-4</b></p> <p>Voice only CPU One CPU per system.</p>

**Advanced units**

Advanced units are ideal for advanced communication solutions for SMBs.

<b>Module type</b>	
	<p><b>Unit 1</b></p> <p>Three slots:</p> <ul style="list-style-type: none"> <li>• CPU slot is dedicated</li> <li>• Two universal slots (except SLI16-1)</li> </ul>
	<p><b>Unit 2</b></p> <p>Six slots:</p> <ul style="list-style-type: none"> <li>• CPU slot is dedicated</li> <li>• Five universal slots</li> </ul>

	<p><b>Unit 3</b> Nine slots:</p> <ul style="list-style-type: none"> <li>• CPU slot is dedicated</li> <li>• Four universal slots</li> <li>• The four other slots accept all the boards except UAI16-1 and MIX board</li> </ul>
<p><b>Processing unit type</b></p>	
	<p><b>CPU-4</b></p> <p>Voice only CPU One CPU per system</p>

**Premium units**

Premium units are ideal for advanced communications solutions, to provide Internet access services and for applications that require a hard disk.

A premium unit is required to:

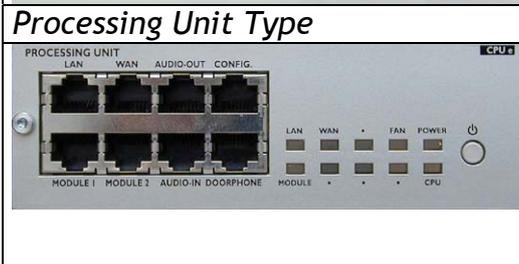
- Enhance call center applications when the company wants more than ten agent assistants and/or more than one supervisor console
- Support more than 75 Alcatel-Lucent PIMphony Softphone users (and up to 200)
- Access any Internet service

<p><b>Module type</b></p>	
	<p><b>Unit 1</b> Three slots:</p> <ul style="list-style-type: none"> <li>• CPU slot is dedicated</li> <li>• Two universal slots (except SLI16-1)</li> </ul>
	<p><b>Unit 2</b> Six slots:</p> <ul style="list-style-type: none"> <li>• CPU slot is dedicated</li> <li>• Five universal slots</li> </ul>



**Unit 3**  
 Nine slots:

- CPU slot is dedicated
- Four universal slots
- The four other slots accept all the boards except UAI16-1 and MIX board



**Processing Unit Type**  
**CPUE-2 and data hard disk**  
 Enhanced voice and Internet applications - one CPU per system  
 Up to 200 Alcatel-Lucent PIMphony Softphone users  
 Up to 32 PC agents (Alcatel-Lucent OmniTouch Call Center Office)

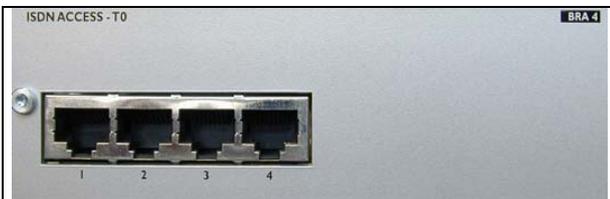
## Interface boards

One set of boards covers all the interfaces required to meet the customers' needs. These boards are inserted on the chosen unit to provide different communications ports and fully exploit the potential of the Alcatel-Lucent OmniPCX Office system.

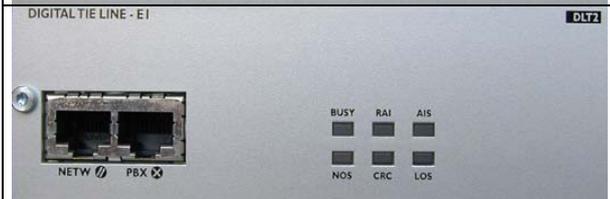


The board features can be enhanced by associating other boards and daughter boards.

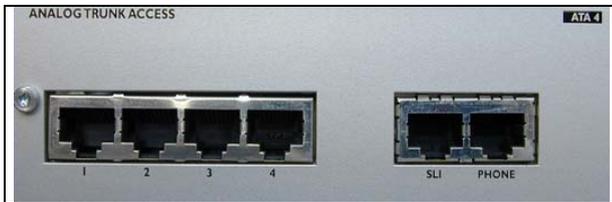
## Trunk boards



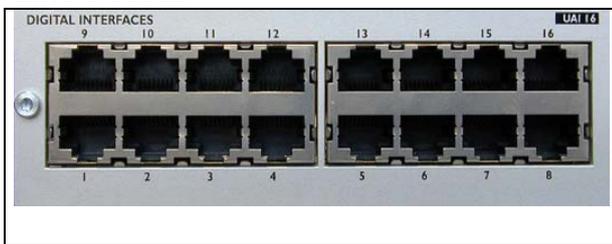
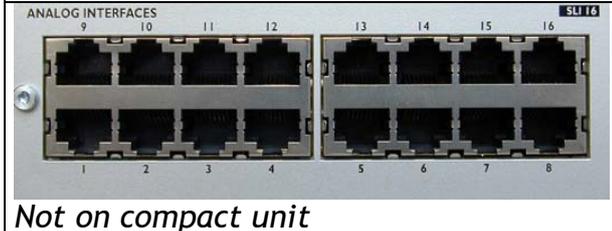
**BRA 2/4/8**  
 ISDN access T0  
 DLT0  
 Modularity: 2/4/8



**PRA**  
 T2  
 T1 (Taiwan, Hong-Kong)  
 DLT2  
 DASS2 (UK)  
 PCMR2

	<p><b>APA 4/8, DDI 4</b>                  Analog trunk access                  Power fail transfer: trunk line to analog set</p>
<p><i>Country dependent</i></p>	<p><b>CLI-DSP</b>                  Signal processing for Calling Line Identification (CLI) on analog trunk</p>

**Line boards**

	<p><b>UAI 4/8/16-1</b>                  Digital interface board (Alcatel-Lucent Reflexes Phone and Alcatel-Lucent 9 Series Digital Phones)</p> <p>Modularity: 4/8/16</p>
	<p><b>SLI 4-1/8-1/16-1</b>                  Analog interface board (standard analog phones, fax, modem, etc.)</p> <p>Modularity: 4/8/16</p>

*Not on compact unit*

**Mixed boards**

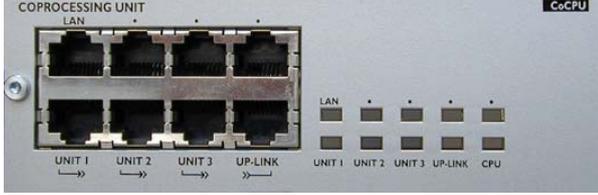
<p><i>A minimum of one software license is required to activate the mixed board for mixed board openings 1T0 or 2AT.</i></p>	<p><b>MIX-1, AMIX-1</b>                  Line and ISDN trunk board:</p> <ul style="list-style-type: none"> <li>• 2T0/4UA/4Z</li> <li>• 4T0/4UA/8Z</li> <li>• 4T0/8UA/4Z</li> </ul> <p>Line and analog trunk board:</p> <ul style="list-style-type: none"> <li>• 4AT/4UA/4Z</li> <li>• 4AT/8UA/4Z</li> <li>• 4AT/4UA/8Z</li> </ul> <p>Mini-MIX-1 (for compact only)                  Line and ISDN trunk board:</p> <ul style="list-style-type: none"> <li>• 2T0/0UA/2Z</li> </ul>
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**VoIP daughter boards**

Digital signal processors (DSPs) are required to enable coding and transmission between an IP phone (or Alcatel-Lucent PIMphony Softphone) and the ISDN/PSTN world (or a circuit extension).

DSPs are provided by the VoIP-1 daughter boards that connect:

- for compact units: directly on the CPU-4
- for advanced units: either directly on the CPU-4 or on Co-CPU-2
- for premium units (CPUe-2): only on Co-CPU-2

	<p><b>VoIP-1 on CPU-4</b> On compact and advanced units, CPU-4 supports one daughter board:</p> <ul style="list-style-type: none"> <li>• VoIP4-1: VoIP daughter board 4 DSPs</li> <li>• VoIP8-1: VoIP daughter board 8 DSPs</li> <li>• VoIP16-1: VoIP daughter board 16 DSPs</li> </ul>
	<p><b>VoIP-1 on CoCPU-2</b> A CoCPU-2 supports one daughter board:</p> <ul style="list-style-type: none"> <li>• VoIP4-1: VoIP daughter board 4 DSPs</li> <li>• VoIP8-1: VoIP daughter board 8 DSPs</li> <li>• VoIP16-1: VoIP daughter board 16 DSPs (on premium and advanced units)</li> </ul>

*Note: There can be up to six CoCPU-2 VoIPs per system that correspond to an overall limit of 96 DSP compression channels.*

For example, if you need eight DSPs you must buy:

- VoIP8-1 (for CPU-4) on compact units and advanced units
- CoCPU-2 + VoIP8-1 on premium units

If you need 12 DSPs you must buy:

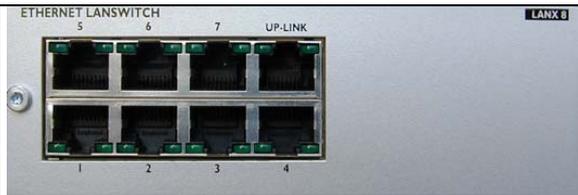
- VoIP8-1 (for CPU-4) and CoCPU-2 + VoIP-4 on advanced units, or if the VoIP16-1 is connected to the CPU-4 directly, then the CoCPU-2 is not required
- CoCPU-2 + VoIP16-1 on premium units

To interconnect the central processing unit and the co-processing units, you need the following daughter board:

	<p><b>SlanX4-1</b> CPU LAN switch to connect CPU-4 or CPUe-2 and CoCPU-2</p>
--	--

**LAN switch boards**

Alcatel-Lucent OmniPCX Office offers LAN switch boards that can be integrated in any slot. Two board capacities are available: a LANX16-2 board (16 ports) and a LANX8-2 board (8 ports).



*Not on compact unit*

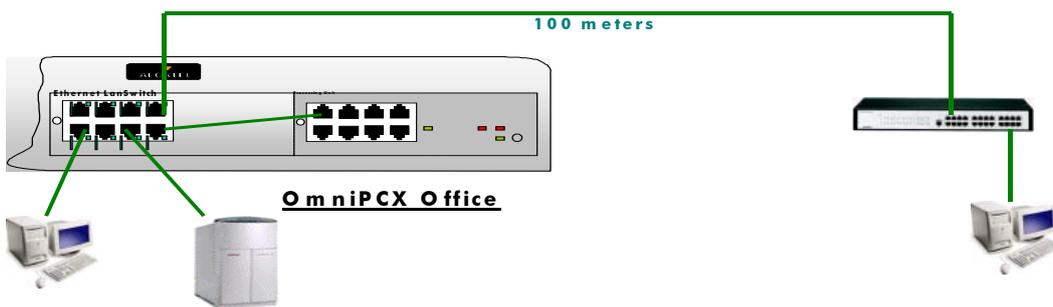
**LANX 8-2/16-2**

Switch 100/1000 Base T  
Auto-sensing 10/100/1000

- Unmanaged: plug-and-play installation
- Store and forward mode: data is stored in a buffer until it has been fully received and checked to be error-free. This reduces the number of bad packets
- Flow control/congestion management: minimizes the amount of dropped packets by sending out collision signals when the receiving port's buffer is full

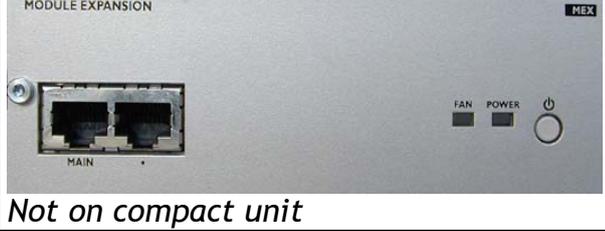
It is possible to extend the network by cascading an external LAN switch like the Alcatel-Lucent OmniStack 6200 when:

- The number of users increases and all ports on the integrated LAN switch are used.
- The distance between the system and the device is more than 100 m.



**System expansion**

On advanced and premium units, up to two rack modules can be added to expand the system. Any combination is possible. System expansion is made possible by the MEX board.

 <p><i>Not on compact unit</i></p>	<p><b>MEX</b> System expansion board; one per additional module Connected to the CPU the HSL link</p>
<p><i>Not on compact unit</i></p>	<p><b>HSL1 or 2</b> Multi-module inter-connection</p>

**Voice services expansion**

It is possible to extend voice services on compact and advanced units equipped with CPU-4 with the XMEM128-1 daughter board or the voice hard disk.

	<p><b>XMEM 128-1</b> Memory expansion for voice services (up to four hours voice mail storage, four additional greeting messages, two additional Languages)</p>
	<p><b>Voice hard disk</b> Memory expansion for enhanced voice services (up to 200 hours voice mail storage, automated attendant, audio text, record-online, NMC tickets)</p>

**Auxiliary functions**

The AFU-1 daughter board allows you to connect external loudspeakers, a public address system (PAS) and other audio equipment to the Alcatel-Lucent OmniPCX Office system.

	<p><b>AFU-1</b> Connections for auxiliary functions (music-on-hold, audio in/out, loop back, mute), door phone, alarm</p>
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## Global limits

This document give the maximum limit for each element.

Alcatel-Lucent OmniPCX Office Release 7.0									
Compact Unit	MAIN			EXPANSION			ABSOLUTE LIMITS		
	Rack Unit 1	Rack Unit 2	Rack Unit 3	Rack Unit 1	Rack Unit 2	Rack Unit 3	Compact & Advanced Edition	Premium Edition	
<b>System</b>									
Module Type	Wall mounted	Rack1	Rack2	Rack3	Additional Rack 1	Additional Rack 2	Additional Rack 3	Up to 3 Rack	
Slots (including CPU and MEX boards)	2	3	6	9	+3	+6	+9	27	
Free slots	1	2	5	8	+2	+5	+8	24	
Main processing unit	1			0			1		
MEX boards	0			1			2		
UA116-1 boards	1	1	3	4	+1	+3	+4	12	
SL116/SLI16-1 boards	0		2	5	0	+2	+5	12	
UA116-1 + Mixed boards	1	2	5	4	+2	+5	+4	12	
Mini-Mix board 2T0 / 0 UA / 2Z	1	0	0	0	0	0	0	1/0	0
Mixed board SWL opening 1T0 or 2 AT	6	8	20	16	+8	+20	+16	48	
Co-processing unit (CoCPU-2)	0	1	2		+1	+2	+3	6	
LANX 16	1	2	4	8	2	4	8	24	
LANX 8 if no CoCPU on the Rack	0	2	3	4	2	3	4	12	
VolP daughterboards <sup>(1)</sup>	1 <sup>(7)</sup>	2 <sup>(7)</sup> / 1		3 <sup>(7)</sup> / 2		2 / 1		+2	+3
VolP DSP	16 <sup>(7)</sup>	32 <sup>(7)</sup> / 16		48 <sup>(7)</sup> / 32		32 / 16		+32	+48
XMem128-1 daughter boards	1			No			1		No
Hard Disk	1	1			No			1	
Hard Disk capacity	20 or 40 GB			NA			20 or 40 GB		
<b>Users</b>									
Directory numbers <sup>(2)</sup>	250								
Virtual terminals	200								
Alcatel 8 Series and IP PIMphony (IP users) <sup>(1)</sup>	60	160/90		200			200		
Alcatel 9 Series and Reflexes terminals <sup>(3a)</sup>	16	24	56	96	24	+56	+96	236	
Alcatel 9 Series and Reflexes <sup>(3b)</sup> + Analog sets	22	28	56	96	28	+56	+96	236	
Analog sets	10	16	32	80	16	+32	+80	196	
H323 or SIP client <sup>(1)</sup>	50	120/54		150/100		+20/ +50		150	
<b>Alcatel Terminals accessories</b>									
Add-on modules (10/20/40 keys)	8	10	40	60	+10	+40	+60	236/136/68	
Add-on module per terminals	3								
Multi-UA	4	6	6	6	+6	+6	+6	18	
Plugwares S0, V24, Z	4	12	24	42	+12	+24	+42	48	
Plugware V24 metering	1								
<b>PIMphony Softphone</b>									
IP PIMphony media (*6)	60/25/10							75/75/10	200/25
PIMphony clients including IP PIMphony Media (*6)	75/25/10							75/75/10	200/25
PIMphony Attendant per OmniPCX Office	2								

This document give the maximum limit for each element.

Alcatel-Lucent <b>OmniPCX</b> Office Release 7.0								
Compact Unit	MAIN			EXPANSION			ABSOLUTE LIMITS	
	Rack Unit 1	Rack Unit 2	Rack Unit 3	Rack Unit 1	Rack Unit 2	Rack Unit 3	Compact & Advanced Edition	Premium Edition
<b>Mobility</b>								
<b>DECT</b>								
DECT Mobile terminals	120							
IBS (remote feeding w/o splitter)	3	4	4	4	+4			12
IBS Base station (remote feeding with splitter)	16	16	48	60	60			60
IBS (remote feeding with +w/o splitter)	16	20	52	60	60			60
IBS (remote + local feeding)	16	23	55	60	60			60
<b>VoWLAN</b>								
Total number of Mobile IP users	120							
Nb of SVP server per system	1							
Nb of Mobile IP user with SVP server 10	10 / 10 simultaneous calls							
Nb of Mobile IP user with SVP server 20	20 / 20 simultaneous calls							
Nb of Mobile IP user with SVP server 100	120 / 80 simultaneous calls							
Simultaneous call per Access Point	8							
<b>Off-site mobility</b>								
Nomadic users	200 / 50 simultaneous connected							
off-site mobile user for Any phone	50							
off-site mobile user for Nokia smartphones	50							
off-site mobile user for Window mobile	50							
<b>Trunks</b>								
Analog NDDI trunks	4	8	16	32	+8	+16	+32	72
Analog DDI Trunks	0		16	32	0	+16	+32	72
Primary Rate physical Access (T1 + T2 + DLT2)	1		3		+1	+3	+3	9
ISDN physical accesses (T0 + T2 + T1 + DLT0 + DLT2)	8		10			10		10
T1 CAS/CCS Access (US only)	1		3			+2		5
PCM R2			1			+1		3
IP trunks H323 or SIP <sup>(1)</sup>	12	24/16	40/32	40/32	+24	+32	+48	96
Total channels (NDDI, DDI, PCM, T1, T2, T0, IP)	38	54	90	120	120			120
<b>Data ports</b>								
LANX-2 switch boards <sup>(4)</sup>	1	2	4	8	+2	+4	+4	12
Free LANswitch ports <sup>(5)</sup>	14	28	56	112	+28	+56	+56	168
<b>Call server</b>								
Voice mail ports	up to 8							
Voice mail storage	60 min							
w/o additional material	60 min & 4 hours							
with Xmem 128	60 min & 4 hours & 8 hours & 200 hours							
with Hard Disk								
Greetings	from 4 to 8							
Languages	from 2 to 4							
Multiple Automated Attendant	4 languages - 5 trees - 3 levels - 100 voice prompts							
Directory entries	5000							
Abbreviated numbers	2200							
System Music on Hold	16 sec							
Customisable Music on Hold	2mn							
Music on Hold with Hard Disk	10 mn							
Multiple EDN per SO	98							
ARS entries	3000							
Account code	250							
Metering tickets	1000 tickets							
NMC tickets with Hard Disk	30000 tickets							
Groups (Hunting/Broadcasting/Pick-up)	50 with up to 32 subscribers in each group							
Attendant group	8 with up to 8 attendants in each group							
3 party Conference	3 simultaneous 3-party conferences							
6 party Conference	1 simultaneous 6-party conferences							
ISDN RAS 2 x 64kbps with Hard Disk	2 x 64kb/s							
ISDN RAS with CoCPU-2 + Hard Disk	No	16 x 64 kb/s						

This document give the maximum limit for each element.

Alcatel-Lucent <b>OmniPCX Office Release 7.0</b>								
Compact Unit	MAIN			EXPANSION			ABSOLUTE LIMITS	
	Rack Unit 1	Rack Unit 2	Rack Unit 3	Rack Unit 1	Rack Unit 2	Rack Unit 3	Compact & Advanced Edition	Premium Edition
<b>OmniTouch Call Center Office</b>								
Easy Contact	5 simultaneous agents and 8 agent groups							
Welcome Office	10 simultaneous agents and 8 agent groups							
Welcome Office Pro	20 simultaneous agents (expandable up to 32) and 8 agent groups							
Total Simultaneous agents	32 on Welcome Office Pro							
Total Agents groups	8							
Statistics	Yes							
Agent Assistant							10	32
Supervisor Console							1	4
<b>Internet Services :</b>								
Shared Internet access							No	128 kb/s - 10 Mbps
Internet users							No	200
Web Communication Assistant users							No	25
Web caching capacities							No	1,5 GB
E-mail boxes							No	200
E-mail storage capacities							No	10 GB
Intranet web server capacity							No	200 Mbytes
File server							No	4 GB
Simultaneous PPTP/IPSec remote workers (VPN)							No	50
Lan-to-Lan networking (IPsec)							No	50
<b>XML Web Services</b>								
My IP Touch XML services	number of serie 8 IP Touchs							
My Phones Web services users	25/75 (*8)							
My Management	25/75 (*8)							
My Messaging	25/75 (*8)							
<b>Application Interfaces</b>								
CTI clients - TAPI 2.0 for AAPP							25	
TAPI 2.0 server monitorings for AAPP							50	
TAPI 2.1 server sessions	25							
TAPI 2.1 server monitorings	236							
CSTA server sessions	25							
CSTA server monitorings	236							
TAPI 2.0+ 2.1+CSTA server sessions							75	200
TAPI 2.0+ 2.1+CSTA server monitorings							250	500
CSTA client desktop sessions	25							
CSTA client desktop monitorings	25							

- (1) 120/80 : the first digit corresponds to the LIMITS on Advanced Edition, the second on Premium Edition
- (2) Number of subscribers includes all terminals and virtual users, 13 auxiliary ports (VMU, Internet access, Remote access), main operator terminal number
- (3a) directly connected without Multi-UA enabler
- (3b) Including 9 Series & Reflexes terminals connected on Multi-UA enabler
- (4) Including 1 LANX8-2 board max
- (5) Last uplink port reserved for external switch connexion
- (6) 60/25/10 : first number is LIMITS using HTTP with a Hard drive, the second is using HTTP without hard disk and the third is using HTTPS
- (7) Including VOIP-16-1
- (8) 25/75 : first number is using a Compact or advanced Edition without hard disk, 2nd is for others

## Section 3: Alcatel-Lucent Extended Communication Server Hardware

The Alcatel-Lucent Extended Communication Server is based on Linux servers. Three different hardware platforms are available. Each provides the same level of service and features with different capacity ranges that can be applied based on your customer's specific needs, such as number of employees or level of traffic.

### **Alcatel-Lucent Extended Communication Server compact edition** **Fanless desktop platform for companies with up to 25 employees**

- 512 Mb RAM
- 1 x 160 Gb HDD SATA @ 7200 rpm
- Two Ethernet cards 10/100 Mb/s
- Third Ethernet card
- Two PCI slots
- Four USB 2.0 ports
- One console port
- One VGA port
- One parallel port
- Optional Wi-Fi card



### **Alcatel-Lucent Extended Communication Server premium edition**

**Powerful, high-performance platform for companies with up to 60 employees**

- Processor: Intel® Core 2 Duo E6320
- Chipset: Intel E3000 (Mukilteo-2)
- 2 Gb DDR2-667 SDRAM
- 3x HDD 250 Gb Hot Swap SATA-2
- 3x Gigabit Ethernet
- Graphical function ATI ES1000
- DVD-ROM slimline
- 300 watt power supply
- Black front cover

## **Alcatel-Lucent Extended Communication Server premium edition MAX**

**Powerful, high-performance platform for companies with up to 250 employees**

Processor Intel® Core™ 2 Duo E6320

Chipset Intel E3000 (Mukilteo-2)

2 Gb DDR2-667 SDRAM

3x HDD 500 Gb Hot Swap SATA-2

3x Gigabit Ethernet

Graphical function ATI ES1000

DVD-ROM slimline

300 watt power supply

Black front cover

### **Environment**

The hardware complies with RoHS (restriction of hazardous substances) in electrical and electronic equipment.

## Section 4: IP Infrastructure Hardware

Alcatel-Lucent provides SMBs with high-performance and affordable Ethernet switching equipment to deploy power-over-Ethernet (PoE) and true plug-and-play connectivity for IP phones, WLAN access points and other campus networking devices.

The Alcatel-Lucent OmniStack 6200 is the first of a series of wired and wireless, highly-available and secure IP infrastructure equipment.

The Alcatel-Lucent OmniSwitch 6400 is part of the Alcatel-Lucent OmniSwitch product family of wired and wireless, highly-available and secure IP infrastructure equipment.

### Alcatel-Lucent OmniStack 6200

The Alcatel-Lucent OmniStack 6200 is a 10/100 Fast Ethernet switch that provides advanced services for small to large IP infrastructure deployments. It supports advanced QoS and security for triple-play applications (outstanding data, voice and video quality) in a secure environment with advanced-user and traffic-classification capabilities.

A compact, one rack unit (1 RU) height form factor, all-in-one stackable design and a comprehensive set of features make the Alcatel-Lucent OmniStack 6200 perfect for:

- Small business workgroup connectivity
- Large business LAN wiring closets
- Edge deployments and branch offices
- Ubiquitous PoE

Beyond the Fast Ethernet ports, every Alcatel-Lucent OmniStack 6200 comes complete with two 10/100/1000 copper ports. These ports can be used with standard Ethernet cables for either fault-tolerant stacking with other Alcatel-Lucent OmniStack 6200 units or as standard gigabit ports in a standalone configuration. In addition, each Alcatel-Lucent OmniStack 6200 also comes with two gigabit combination ports that provide gigabit access for upstream connectivity to a network or to high-speed servers.

A stack of Alcatel-Lucent OmniStack 6200 switches can consist of a maximum of eight switches. A stack can go up to 384 10/100 Fast Ethernet ports and 16 gigabit ports. The management of the stack is simplified through a virtual chassis, whereby the full stack has one unique IP address and behaves as a single chassis.

Six Alcatel-Lucent OmniStack 6200 models are currently available:

	<p><b>OmniStack 6212</b></p> <ul style="list-style-type: none"> <li>• 12 10/100 RJ-45 ports</li> <li>• Two 10/100/1000 RJ-45 ports</li> <li>• Two combo ports</li> </ul>
	<p><b>OmniStack 6212 P</b></p> <ul style="list-style-type: none"> <li>• 12 10/100 RJ-45 ports with PoE</li> <li>• Two 10/100/1000 RJ-45 ports</li> <li>• Two combo ports</li> </ul>
	<p><b>OmniStack 6224</b></p> <ul style="list-style-type: none"> <li>• 24 10/100 RJ-45 ports</li> <li>• Two 10/100/1000 RJ-45 ports</li> <li>• Two combo ports</li> </ul>
	<p><b>OmniStack 6224 P</b></p> <ul style="list-style-type: none"> <li>• 24 10/100 RJ-45 ports with PoE</li> <li>• Two 10/100/1000 RJ-45 ports</li> <li>• Two combo ports</li> </ul>
	<p><b>OmniStack 6248</b></p> <ul style="list-style-type: none"> <li>• 48 10/100 RJ-45 ports</li> <li>• Two 10/100/1000 RJ-45 ports</li> <li>• Two combo ports</li> </ul>
	<p><b>OmniStack 6248 P</b></p> <ul style="list-style-type: none"> <li>• 48 10/100 RJ-45 ports with PoE</li> <li>• Two 10/100/1000 RJ-45 ports</li> <li>• Two combo ports</li> </ul>

The Alcatel-Lucent OmniStack 6200 delivers network intelligence. It improves security for users while simultaneously reducing operating expenses, capital expenditures, training and day-to-day management costs.

## Selling the value of the Alcatel-Lucent OmniStack 6200

### ***High availability***

The Alcatel-Lucent OmniStack 6200 comes with a rich set of features that improve stack availability. The switch itself supports power supply redundancy.

Setup as a virtual chassis in a stack, the first switch becomes the manager of all switches, while the second is in standby mode to become manager. Stacked switches are connected via a daisy chain. Traffic is automatically redirected when there is a break in the loop (chain) so that data connections can be preserved.

At the network element interworking level, the Alcatel-Lucent OmniStack 6200 supports many Layer 2 standards that contribute to rapid network reconvergence: IEEE 802.1w Rapid Reconfiguration Spanning Tree Protocol (RSTP), IEEE 802.1s Multiple Instance Spanning Tree Protocol (MI-STP), IEEE 802.1D Spanning Tree Protocol, IEEE 802.3 Link Aggregation Control Protocol.

### ***Security***

The Alcatel-Lucent OmniStack 6200 is secure right out of the box with its default security settings. Initially designed for management, all TCP and UDP ports are closed except the console port. It is also configured with the latest software code against Denial of Service (DoS) and other similar attacks.

In addition, the Alcatel-Lucent OmniStack 6200 can authenticate end systems through MAC addresses and IEEE 802.1X supplicants, and authenticate network managers via RADIUS and TACACS support.

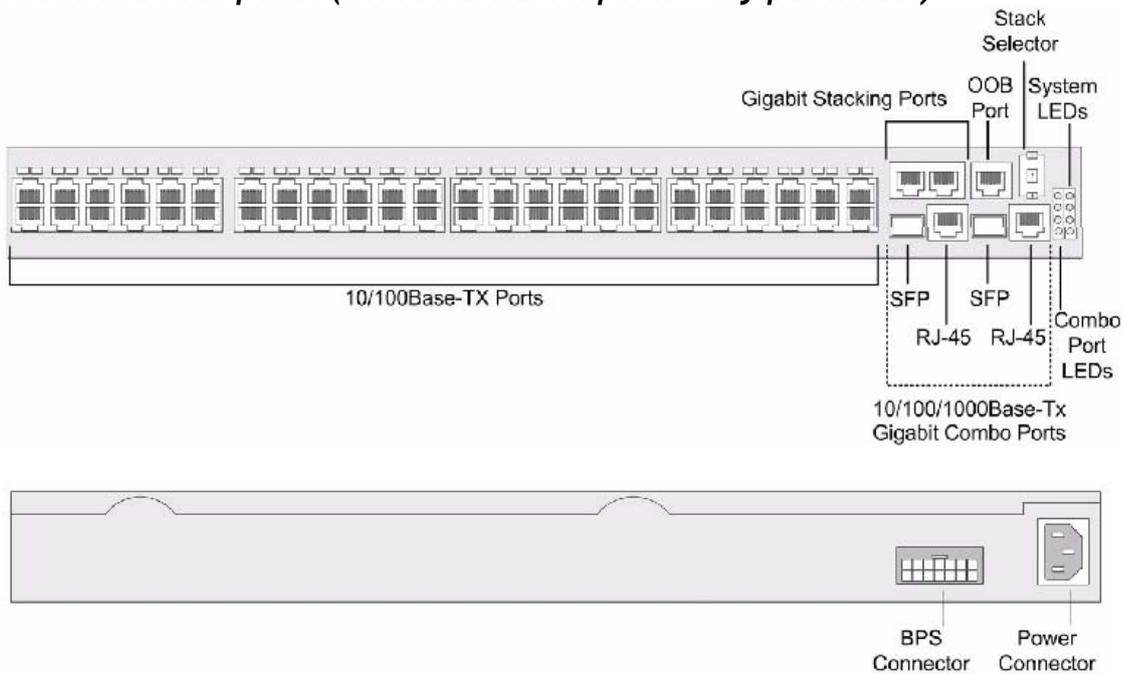
### ***Manageability***

The Alcatel-Lucent OmniSwitch 6200 provides three management options:

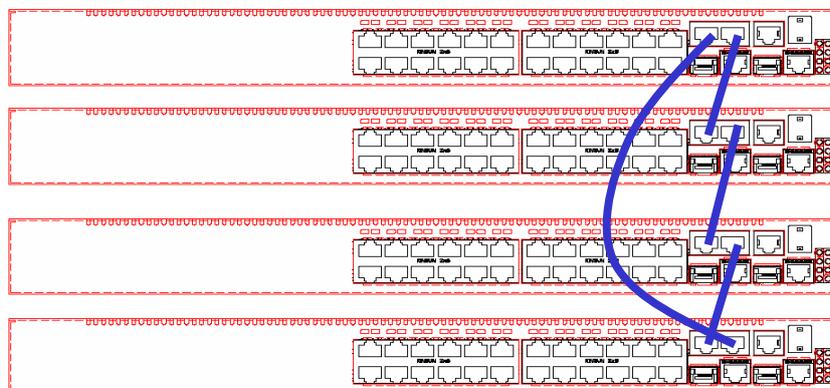
- An industry-standard CLI provides the Telnet Secure Shell (SSH) and console configuration
- A web interface allows for configuration with HTTPS
- SNMP v1, v2c and V3 are supported for network management systems

## Detailed hardware description

*Front and rear panel (10/100 BASE-TX ports vary per model)*



The Alcatel-Lucent OmniStack 6200 is stackable with up to eight switches per stack in a ring or a daisy chain topology as shown below. Stacking the Alcatel-Lucent OmniStack 6200 in this way allows for up to 384 100BaseT and 16 1000BaseT/FX Ethernet ports. The diagram shows an example of 96 Ethernet user ports in a stack configuration with Alcatel-Lucent OmniStack 6224.



**Extensions**

The Alcatel-Lucent OmniStack 6200 supports optical fiber connectivity with small form factor pluggables (SFP). Each unit can accommodate two SFPs. The type of SFP is determined by:

- Speed
- Optical cabling type
- Distance to be covered

	<p><b>Gigabit Ethernet transceiver (SFP MSA)</b></p> <ul style="list-style-type: none"> <li>• 1000BASE-SX Gigabit Ethernet transceiver (SFP-MSA)</li> <li>• Supports multi-mode fiber (MMF) over 850 nm with LC connector</li> <li>• Supports 62.5/125 mm MMF, up to a maximum distance of 300 m or 50.0/125 mm, up to a maximum distance of 550 m</li> </ul>
	<p><b>Gigabit Ethernet transceiver (SFP MSA)</b></p> <ul style="list-style-type: none"> <li>• 1000BASE-LX Gigabit Ethernet transceiver (SFP-MSA)</li> <li>• Supports single-mode fiber (SFM) over a 1300 nm wavelength with LC connector</li> <li>• Supports 9/125 mm SFM up to a maximum distance of 10 km</li> </ul>
	<p><b>SFP-100-LC-MM</b></p> <ul style="list-style-type: none"> <li>• 100BASE-FM short haul multi-mode 62.5/125 μm and 50/125 μm fiber</li> <li>• Supports distances up to 2 km</li> <li>• Uses full duplex LC connectors</li> </ul>
	<p><b>SFP-100-LC-SM15</b></p> <ul style="list-style-type: none"> <li>• 100BASE-FS long haul single mode 9/125 μm fiber</li> <li>• Supports distances up to 15 km</li> <li>• Uses full duplex LC connectors</li> </ul>
	<p><b>OmniStack 6200 BP</b></p> <ul style="list-style-type: none"> <li>• Alcatel-Lucent OmniStack 6200 modular AC backup power supply to non-PoE switch</li> <li>• Ships with chassis connection cable</li> </ul>
	<p><b>OmniStack 6200 BP-P</b></p> <ul style="list-style-type: none"> <li>• Alcatel-Lucent OmniStack 6200 modular AC backup power supply</li> <li>• Provides backup power to one Alcatel-Lucent OmniStack 6200 PoE capable switch</li> <li>• Ships with chassis connection cable</li> </ul>

## Alcatel-Lucent OmniStack 6200 configuration guide

### *Scoping configuration requirements*

The Alcatel-Lucent OmniStack 6200 is designed to interconnect multiple Ethernet devices from a single or distributed connection point.

Before setting up a 12 to 200 port LAN, you must address the following questions:

- Is there a central concentration point for all end systems?
  - How many ports?
- Are there multiple decentralized concentration points for all end systems?
  - How many ports?
  - What type of cabling is between the decentralized concentration points?
    - Copper?
    - SMF or MMF?
- Is there a need to provide PoE?
  - For wireless access points?
  - For IP phones?
  - For other powered Ethernet devices?

### *Application examples*

#### **Example 1**

Starting Point:

- Single concentration point
- One Alcatel-Lucent OmniPCX Office with VoIP (with Fast Ethernet adapter)
- Six Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (with Fast Ethernet switch)
- One file and mail server (with gigabit adapter)
- One Internet modem (with Fast Ethernet adapter)
- Six PCs (connected to Alcatel-Lucent IP Touch 8 Series Phones Extended Edition)

Calculation:

Total: One Gigabit Ethernet, two Fast Ethernet and six Fast Ethernet PoE connections



Setup:

Single device: Alcatel-Lucent OmniStack 6212

- Four gigabit ports
- 12 Fast Ethernet PoE connections supporting PoE and non-PoE devices
- Three gigabit connections and four Fast Ethernet ports remain for future use

**Example 2**

Starting point:

- Single concentration point
- One Alcatel-Lucent OmniPCX Office with VoIP (with Fast Ethernet adapter)
- 30 Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (with Fast Ethernet switch)
- One file and mail server (with gigabit adapter)
- One application server (with gigabit adapter)
- One Internet modem (with Fast Ethernet adapter)
- 30 PCs (connected to the Alcatel-Lucent IP Touch 8 Series Phones Extended Edition)
- 30 PCs (directly connected)

Calculation:

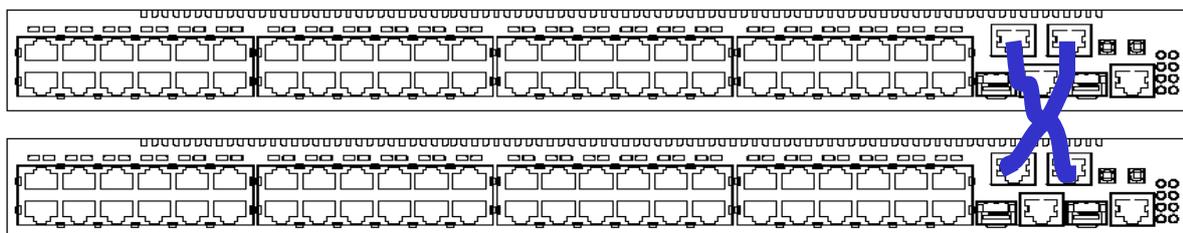
Total: Three gigabit, 32 Fast Ethernet and 30 Fast Ethernet PoE connections

Setup:

The Alcatel-Lucent OmniStack 6200 is only available with a maximum of 48 Fast Ethernet ports. Two units must be stacked to operate as a single Ethernet switch.

A stack of two Alcatel-Lucent OmniStack 6248 has:

- Four gigabit ports:
  - To stack the units, two gigabit ports on each switch are interconnected using standard RJ45 cables
- 96 Fast Ethernet PoE ports supporting PoE and non-PoE devices
- One gigabit connection and 36 Fast Ethernet ports remain for future use



Stack with off-the-shelf RJ 45 patch cables

### Example 3

#### Starting point:

- Three (one main and two secondary) concentration points:
  - Main point:
    - One Alcatel-Lucent OmniPCX Office with VoIP (with Fast Ethernet adapter)
    - Six Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (with Fast Ethernet switch)
    - One file and mail server (with gigabit adapter)
    - One Internet modem (with Fast Ethernet adapter)
    - Six PCs (connected to Alcatel-Lucent IP Touch 8 Series Phones Extended Edition)
  - Secondary point A:
    - Six Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (with Fast Ethernet switch)
    - Six PCs (connected to Alcatel-Lucent IP Touch 8 Series Phones Extended Edition)
  - Secondary point B:
    - Six Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (with Fast Ethernet switch)
    - Six PCs (connected to Alcatel-Lucent IP Touch 8 Series Phones Extended Edition)
- Interconnection based on single mode optical fiber at gigabit speed

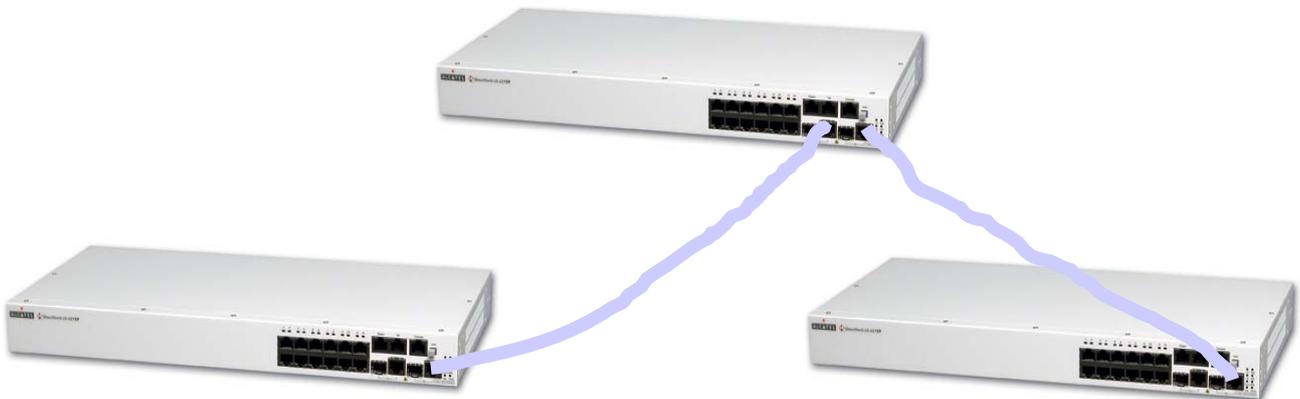
#### Calculation:

- Main point:
  - Total: Two fiber gigabit, two gigabit, two Fast Ethernet and six Fast Ethernet PoE connections
- Secondary point A:
  - Total: Two fiber gigabit and six Fast Ethernet PoE connections
- Secondary point B:
  - Total: Two fiber gigabit and six Fast Ethernet PoE connections

#### Setup:

- Main point:
  - Alcatel-Lucent OmniStack 6212 P:
    - Four gigabit ports, two occupied with gigabit SFP LX-type
    - 12 Fast Ethernet POE connections supporting PoE and non-PoE devices
    - Zero gigabit connections and four Fast Ethernet ports remain for future use

- Secondary point A:
  - Alcatel-Lucent OmniStack 6212 P:
    - Four gigabit ports, one occupied with gigabit SFP LX-type
    - 12 Fast Ethernet POE connections supporting PoE and non-PoE devices
    - Three gigabit connections and six Fast Ethernet ports for future use
- Secondary point B:
  - Alcatel-Lucent OmniStack 6212 P:
    - Four gigabit ports, one occupied with gigabit SFP LX-type
    - 12 Fast Ethernet PoE connections supporting PoE and non-PoE devices
    - Three gigabit connections and six Fast Ethernet ports for future use



OmniStacks equipped with SFP 1000 BASE-SX

## Alcatel-Lucent OmniSwitch 6400

Alcatel-Lucent OmniSwitch 6400 Stackable LAN Switches are gigabit-ready switches that provide advanced services for small to large IP infrastructure deployments. They support advanced QoS and security for triple-play applications (outstanding data, voice and video quality) in a secure environment with advanced user and traffic classification capabilities.

A compact, one rack unit (1 RU) height form factor, all-in-one stackable design, and a comprehensive set of operating system software features make the Alcatel-Lucent OmniSwitch 6400 family perfect for:

- Small business workgroup connectivity
- Large business LAN wiring closets
- Edge deployments and branch offices
- Ubiquitous PoE

Every Alcatel-Lucent OmniSwitch 6400 comes with 10/100/1000 Ethernet user ports, four SFP/RJ45 1-gigabit combination ports, and two 10-gigabit stacking ports. The Alcatel-Lucent OmniSwitch 6400 can operate as a standalone unit or stacked using CX4 stacking cables. Combination ports offer the flexibility of RJ45 copper or SFP fiber connections using gigabit transceivers.

A stack of Alcatel-Lucent OmniSwitch 6400 can have a maximum of eight switches. A stack can go up to 384 10/100/1000 Ethernet ports. The management of the stack is simplified through a virtual chassis, whereby the full stack has one unique IP address and behaves as a single chassis.

The Alcatel-Lucent OmniSwitch 6400 operates with Alcatel-Lucent operating system (AOS) software. This software provides Layer 3 Lite capabilities and supports native IPv4/IPv6 static and RIP routing. This makes it ideal for an SMB edge environment. The Alcatel-Lucent AOS also offers a wide breadth of features and capabilities.

Configuration of the Alcatel-Lucent OmniSwitch 6400 is managed through a WebView browser interface, the Alcatel-Lucent OmniVista 4760 Network Management System or a CLI.

PoE models offer higher maximum per port power (20 watts), which allows for interconnection of PoE devices requiring higher inline power (up to available PoE system power).

Four Alcatel-Lucent OmniSwitch 6400 models are currently available:

	<p><b>OmniSwitch 6400 24</b></p> <ul style="list-style-type: none"> <li>• 20 10/100/1000 RJ-45 ports</li> <li>• Four SFP/RJ45 combo ports</li> <li>• Two 10 Gb stacking ports</li> </ul>
	<p><b>OmniSwitch 6400 24P</b></p> <ul style="list-style-type: none"> <li>• 20 10/100/1000 RJ-45 ports with PoE</li> <li>• Four SFP/RJ45 combo ports</li> <li>• Two 10 Gb stacking ports</li> <li>• ~300W of available PoE power</li> <li>• Supports up to 20 watts per port PoE power</li> </ul>
	<p><b>OmniSwitch 6400 48</b></p> <ul style="list-style-type: none"> <li>• 44 10/100/1000 RJ-45 ports</li> <li>• Four SFP/RJ45 combo ports</li> <li>• Two 10 Gb stacking ports</li> </ul>
	<p><b>OmniSwitch 6400 48P</b></p> <ul style="list-style-type: none"> <li>• 44 10/100/1000 RJ-45 ports with PoE</li> <li>• Four SFP/RJ45 combo ports</li> <li>• Two 10 Gb stacking ports</li> <li>• ~425W of available PoE power</li> <li>• Supports up to 20 watts per port PoE power</li> </ul>

The Alcatel-Lucent OmniSwitch 6400 delivers network intelligence and improves security for users, while simultaneously reducing operating expenses, capital expenditures, training and day-to-day management costs.

## Selling the value of the Alcatel-Lucent OmniSwitch 6400

### **High availability**

The Alcatel-Lucent OmniSwitch 6400 offers a rich set of features, based on the Alcatel-Lucent AOS, that improve stack availability including:

- The switch itself supports power supply redundancy
- The virtual stack manager auto-selects the primary and secondary chassis management module (CMM), so there is no service interruption or data loss on fail-over.
- Data paths are preserved through daisy chain stacking connections (loop).

Support for Layer 2 network availability:

- IEEE 802.1w rapid reconfiguration
- IEEE 802.1s Multiple Spanning Tree Instances Protocol
- IEEE 802.3d Spanning Tree Protocol

### **Security**

The Alcatel-Lucent OmniSwitch 6400 offers a variety of security features that ensure your network is protected against security attacks:

- DoS filtering
- TCP and UDP port scan monitoring and detection
- Learned port security
- 802.1x supplicant and authentication, RADIUS and TACACS support
- Full integration with the Access Guardian and Quarantine Manager applications

### **Manageability**

The Alcatel-Lucent OmniSwitch 6400 provides three management options:

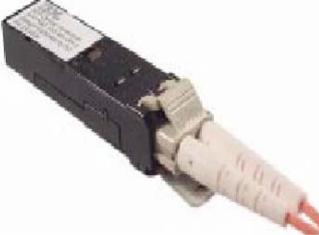
- CLI configuration, with an industry standard CLI via direct console or Telnet SSH
- WebView configuration with HTTPS web interface via a browser
- Alcatel-Lucent OmniVista 4760 NMS SNMP configuration with SNMP v1, v2c and V3 network management

### **Extensions**

The Alcatel-Lucent OmniSwitch 6400 combination ports support SFPs for optical fiber connectivity. Each Alcatel-Lucent OmniSwitch 6400 can accommodate four SFPs.

The type of SFP is determined by:

- Speed
- Optical cabling type
- Distance to be covered

	<p><b>SFP-GIG-SX</b></p> <ul style="list-style-type: none"> <li>• 1000BASE-SX Gigabit Ethernet transceiver (SFP-MSA)</li> <li>• Supports MMF over 850 nm with LC connector</li> <li>• Supports 62.5/125 mm MMF up to a maximum distance of 300 m or 50.0/125 mm up to a maximum distance of 550 m</li> </ul>
	<p><b>SFP-GIG-LX</b></p> <ul style="list-style-type: none"> <li>• 1000BASE-LX Gigabit Ethernet transceiver (SFP-MSA)</li> <li>• Supports SMF over 1300 nm wavelength with LC connector</li> <li>• Supports 9/125 mm SFM up to a maximum distance of 10 km</li> </ul>
	<p><b>SFP-100-LC-MM</b></p> <ul style="list-style-type: none"> <li>• 100BASE-FM short haul multimode 62.5/125 μm and 50/125 μm fiber,</li> <li>• Supports distances up to 2 km</li> <li>• Uses full duplex LC connectors</li> </ul>
	<p><b>SFP-100-LC-SM15</b></p> <ul style="list-style-type: none"> <li>• 100BASE-FS long haul single mode 9/125 μm fiber</li> <li>• Supports distances up to 15 km</li> <li>• Uses full duplex LC connectors</li> </ul>
	<p><b>OmniSwitch 6400 BP</b></p> <ul style="list-style-type: none"> <li>• Alcatel-Lucent OmniSwitch 6400 126W modular AC backup power supply for non-PoE switch</li> <li>• Ships with chassis connection cable</li> </ul>
<p><b>OmniSwitch 6400 BP-P</b></p> <ul style="list-style-type: none"> <li>• 360 W modular AC backup power supply</li> <li>• Provides backup power to one Alcatel-Lucent OmniSwitch 6400 24P PoE capable switch</li> <li>• Ships with chassis connection cable</li> </ul>	
<p><b>OmniSwitch 6400 BP-PH</b></p> <ul style="list-style-type: none"> <li>• 510 W modular AC backup power supply</li> <li>• Provides backup power to one Alcatel-Lucent OmniSwitch 6400 48P PoE capable switch</li> <li>• Ships with chassis connection cable</li> </ul>	
<p><b>OmniSwitch 6400 CBL 150</b></p> <ul style="list-style-type: none"> <li>• OmniSwitch 6400 150 cm long stacking cable</li> </ul>	
<p><b>OmniSwitch 6400 CBL 60</b></p> <ul style="list-style-type: none"> <li>• OmniSwitch 6400 60 cm long stacking cable</li> </ul>	
<p><b>OmniSwitch 6400 CBL 30</b></p> <ul style="list-style-type: none"> <li>• OmniSwitch 6400 30 cm long stacking cable</li> </ul>	

## Alcatel-Lucent OmniAccess Wireless LAN infrastructure

The Alcatel-Lucent OmniAccess Wireless LAN (WLAN) infrastructure provides data infrastructure for wireless LAN and voice over wireless LAN (VoWLAN). Full descriptions of the Alcatel-Lucent OmniAccess WLAN Switch controller and Alcatel-Lucent OmniAccess WLAN Access Points are available in Chapter 4.

## Alcatel-Lucent OmniSwitch 6400 configuration guide

### *Scoping configuration requirements*

The Alcatel-Lucent OmniSwitch 6400 enables network flexibility and scalability. Each Alcatel-Lucent OmniSwitch 6400 can operate as a standalone unit, stacked with other units or in a distributed configuration. In this way, the Alcatel-Lucent OmniSwitch 6400 meets the needs of almost any SMB environment.

Before setting up a 24 to 384 port LAN, you must address the following questions:

- Is there a central concentration point for all end systems?
  - How many ports?
- Are there multiple decentralized concentration points for all end systems?
  - How many ports?
  - What type of cabling is between decentralized concentration points?
    - Copper?
    - SMF or MMF?
- Is there a need to provide PoE?
  - For wireless access points?
  - For IP phones?
  - For other powered Ethernet devices?
- What are the projected future network requirements?

### **Example 1: Standalone unit**

- Single concentration point:
  - OmniSwitch 6400 P24 or P48 port availability
- One Alcatel-Lucent OmniPCX Office with VoIP (Fast Ethernet)
- 10 Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (Fast Ethernet PoE)  
Note: Alcatel-Lucent IP Touch 8 Series Phones Extended Edition with native gigabit connectivity could also be used.
- One file and mail server (with gigabit adapter)
- One print server (with Fast Ethernet adapter)
- 10 PCs (gigabit)

Calculation:

Total: 11 gigabit, 10 Fast Ethernet PoE and two Fast Ethernet connections

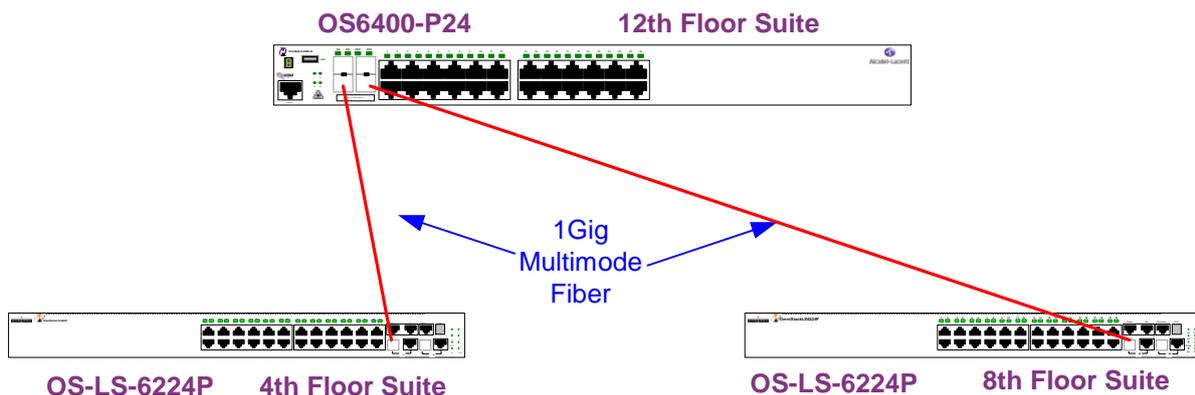
**Solution:**

Single Alcatel-Lucent OmniSwitch 6400 P24

- Triple-speed PoE ports allow flexibility of attached devices
- The P24 solution leaves one gigabit port available for future use
- Using an Alcatel-Lucent OmniSwitch 6400 P48 leaves 25 ports available for future use



**Example 2: Distributed network (office building)**



**Diagram A**

- Three office suites located on separate floors in a high-rise building (one main and two secondary) (diagram A)
  - Main point (12<sup>th</sup> floor):
    - One Alcatel-Lucent OmniPCX Office with VoIP (Fast Ethernet)
    - Six Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (Fast Ethernet PoE)  
Note: IP Touch 8 Series Phones Extended Edition with native gigabit connectivity could also be used
    - Four file servers (with gigabit adapter)
    - One multicast server (gigabit)

- One mail server (gigabit)
- One Internet modem (with Fast Ethernet adapter)
- Six PCs (connected to Alcatel-Lucent IP Touch 8 Series Phones Extended Edition)
- One multicast video flat screen display (gigabit)
- Secondary point A (8<sup>th</sup> floor)
  - Six Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (Fast Ethernet adapter)  
Note: Alcatel-Lucent IP Touch 8 Series Phones Extended Edition with native gigabit connectivity could also be used
  - Six PCs (connected to Alcatel-Lucent IP Touch 8 Series Phones Extended Edition)
  - One multicast video flat screen display (gigabit)
- Secondary point B (4<sup>th</sup> floor)
  - 12 Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (Fast Ethernet)  
Note: Alcatel-Lucent IP Touch 8 Series Phones Extended Edition with native gigabit connectivity could also be used.
  - 12 PCs (connected to the Alcatel-Lucent IP Touch 8 Series Phones Extended Edition)
  - One multicast video display console (gigabit)
- Interconnections based on 1 gigabit MMF
  - Why fiber?
    - Security proof
    - Distance capable
    - Interference proof

#### Calculation:

- Main point (12<sup>th</sup> floor):
  - Total: Two SFP fiber gigabit interconnects, seven gigabit, two Fast Ethernet and six Fast Ethernet PoE connections
- Secondary Point A (8<sup>th</sup> floor):
  - Total: One fiber gigabit and 6 Fast Ethernet PoE connections
- Secondary Point B (4<sup>th</sup> floor):
  - Total: One fiber gigabit and 12 Fast Ethernet PoE connections

### Solution:

Combine two product families to meet requirements. The Alcatel-Lucent OmniSwitch 6400 P24 can be used as a main triple-speed switch and the Alcatel-Lucent OmniSwitch 6400 -6224P Fast Ethernet switches can be used as satellites.

- Main point (12<sup>th</sup> floor):
  - Alcatel-Lucent OmniSwitch 6400 P24:
    - 15 of 20 tri-speed ports occupied:
      - Seven gigabit copper
      - Six Fast Ethernet PoE copper
      - Two Fast Ethernet non-PoE
    - Two of four gigabit SFP/combination ports occupied (SX-type)
    - Two SFP/combination ports open and five triple-speed PoE connections remain for future use
- Secondary point A (8<sup>th</sup> floor)
  - Alcatel-Lucent OmniStack 6224 P
    - Six of 24 Fast Ethernet PoE ports occupied
    - One of 2 gigabit SFP/Combination ports occupied
      - 1 SFP (SX-type)
    - One of 2 uplink/stacking ports occupied
      - 1 RJ-45 copper
    - 18 Fast Ethernet PoE ports and two gigabit uplink/stacking ports remain for future use
- Secondary point B (4<sup>th</sup> floor)
  - Alcatel-Lucent OmniStack 6224 P
    - 12 of 24 Fast Ethernet PoE ports occupied
    - One of 2 gigabit SFP/combo ports occupied
      - 1 SFP (SX-type)
    - One of 2 uplink/stacking ports occupied
      - 1 RJ-45 copper
    - 12 Fast Ethernet PoE, one gigabit SFP/RJ45 combination port and one gigabit uplink/stacking ports remain for future use

### Add redundancy:

By placing a one gigabit fiber link between Point A (8<sup>th</sup> floor) and Point B (4<sup>th</sup> floor) a fully redundant network is created (Diagram B) This occupies the available Alcatel-Lucent OmniStack 6224 P SFP/combination ports from the previous solution.

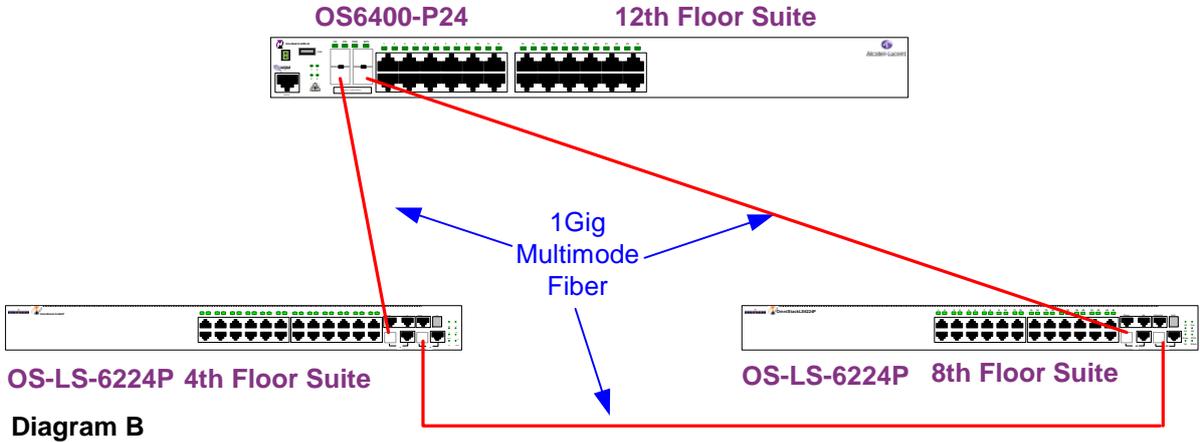


Diagram B

## Section 5: Order Processing

The Alcatel-Lucent OmniPCX Office solution, accompanying Office Communication Suites and the three different platforms, provide a high level of flexibility that allow the complete solution to be easily adapted to customer requirements.

Alcatel-Lucent can deliver the Alcatel-Lucent OmniPCX Office in three ways:

- Ordered and integrated through Alcatel-Lucent Integration Services (AIS)
- Ordered without integration
- Ordered in stock mode

### Stock mode and Alcatel-Lucent Integration Services

All hardware in the Alcatel-Lucent Office Communication Solutions Global Offering catalog is available in stock mode, except the Alcatel-Lucent Extended Communication Server. The hardware can be ordered in large quantities, and all software (Office Communication Suites and software licenses) can be ordered before installation, or as part of a bulk account. Custom configurations are also possible.

With AIS, the Alcatel-Lucent OmniPCX Office is ready to install with all boards integrated, software installed based on country requirements (languages, voice messages and numbering plan), and software licenses downloaded and delivered directly to a customer's premises.

There are four different Alcatel-Lucent Integration Services (AIS):

- AIS for Compact Edition
- AIS for Advanced/Premium Unit 1
- AIS for Advanced/Premium Unit 2
- AIS for Advanced/Premium Unit 3

The Alcatel-Lucent Extended Communication Server includes Alcatel-Lucent Integration Services.

### Quotation tools



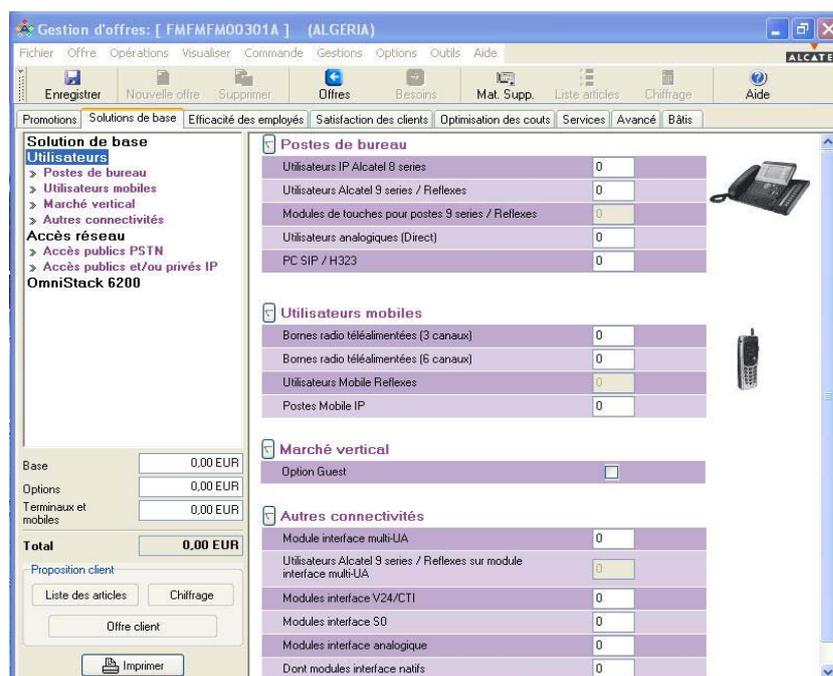
To simplify quotation, the ACTIS structure follows the commercial tools structure (sales companion, solution guide). The available ACTIS sheets are:

- Ready to sell and promotion
- Base solution - build the offer
- Employee productivity - choose the sets and applications

- Customer satisfaction - choose the applications
- Operational costs - choose the applications
- Services - select the kind of service
- Advanced menu - for expert and for fine-tuning
- Summary - description of the complete solution

ACTIS for Alcatel-Lucent Office Communication Solutions integrates everything required to provide an end-to-end solution to customers:

- Alcatel-Lucent OmniPCX Office
- Sets and applications
- Alcatel-Lucent Extended Communication Server
- Alcatel-Lucent OmniTouch My Teamwork Office Edition
- Data products



A ready-to-use ACTIS, with price and catalog pre-downloaded, is available on the Business Partner web site.

Finally, you can edit and customize your customer proposal according to the quotation made for your customer.



# Chapter 2b: On Demand Communications Offer

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# Overview

Alcatel-Lucent Office On Demand Communications (ODC) is a simplified & modular offer that answer the need of SMBs from 6 to 100 users. The ODC offer is a full IP offer with the following services:

- Enriched IP telephony with ISDN, analog or SIP connectivity
- On-site mobility (DECT, WiFi)
- Off-site mobility
- Collaboration tools
- IT services with Internet access, e-mail server, file & print server, ...
- Data infrastructure (LAN and WLAN)

The ODC offer is based on:

- **User Profiles** and value-added user options,
- A full range of powerful **platform options**,
- A complete range of desktop and mobile **phones**.

## Alcatel-Lucent Office - On Demand Communications



Options	<p><b>User options</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> PIMPhony attendant</li> <li><input checked="" type="checkbox"/> Off-site mobility</li> <li><input checked="" type="checkbox"/> Push mobile</li> <li><input checked="" type="checkbox"/> Kaspersky Antivirus</li> <li><input checked="" type="checkbox"/> URL Filtering</li> <li><input checked="" type="checkbox"/> Mobility &amp; collaboration</li> </ul>
Users Profiles	<p><b>Users</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> IP Desktop users</li> <li><input checked="" type="checkbox"/> On-site Mobile user</li> <li><input checked="" type="checkbox"/> Tandem user</li> <li><input checked="" type="checkbox"/> IP Softphone user</li> <li><input checked="" type="checkbox"/> Off-site Mobile user</li> <li><input checked="" type="checkbox"/> Extended Office user</li> </ul>
Advanced Comm. Services	<p><b>Advanced Communication Services</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Advanced Voice Mail</li> <li><input checked="" type="checkbox"/> Automated Attendant</li> <li><input checked="" type="checkbox"/> 6-Party Conference</li> <li><input checked="" type="checkbox"/> Personal assistant</li> <li><input checked="" type="checkbox"/> Company greeting</li> <li><input checked="" type="checkbox"/> Full Application Openness</li> </ul>
Hardware Platforms	<p>  <b>OmniPCX Office</b>                <b>Extended Communication Server</b>                <b>OS 6200 /6400</b>                <b>OmniAccess Wireless</b> </p>

## On Demand Communications benefits for:

### For Alcatel-Lucent Business Partners

#### Simple sales

- Sell according to user profiles
- Easy to quote

#### Simple operation

- Shipping fully equipped with pre-packaged platforms

#### Simple business model

- Paying according to usage
- Flexible and predictable

### Provide new services to your customers

- Differentiate yourself from competition
- Develop new services

### For your Customers

#### Flexible

- Pay for what customer needs: Increase or decrease number of users at the pace of the SMBs
- Pay for what you use: choose and modify the level of services

#### Predictable

- Plan ahead for next year's budget, with a known periodic payment per user and predictable price for new users
- Hardware and software built-in scalability to anticipate evolution

#### Future-proof

- Always having up-to-date solutions thanks to ODC insurance
- To benefit from new communication usages (mobility, collaboration, presence, ...) thanks to IP technologies

The Office On Demand Communications offer is a user-centric offer which helps the Alcatel-Lucent Business Partners to built from a simple, flexible, predictable IP offer with a price per user, a unique communication service to their end customers with a price per user and per month, by adding traffic and/or services.

# Section 1: Users

## User profiles

It has never been so simple, just select the user profiles your customer needs and benefits for all state-of-the-art and advanced communication services.

**Six user's profiles** are available:



### The IP Desktop user

- User equipped with an Alcatel-Lucent 4068EE, 4038EE, 4028EE, 4018EE or 4008EE
- PIMphony Team is included in the profile
- The IP Desktop user benefits from all Advanced Communication Services

The **IP Desktop user** is a sedentary employee with advanced communication needs from low to intensive use.



### The IP Softphone user

- User equipped with an Alcatel-Lucent IP Softphone
- Complete telephony environment on PC
- Audio media on PC
- PIMphony Team is included in the profile

The **IP Softphone user** is a sedentary employee with a multimedia PC and provides a powerful telephony tool.



### The On-site Mobile user

- DECT or WiFi mobile user with Wireless telephony
- PIMphony Team is included in the profile

The **On-site mobile user** is an employee who is most of his/her time on the move within the company. He/she should be reachable at any time and anywhere inside the company.



#### The Off-site cellular user

- Cellular mobile user - delivered without mobile phone
- Cellular phone as business phone
- PIMphony Team is included in the profile
- Optional Applications

The **Off-site cellular user** is an employee, most of the time out of the company, who wants to make and receive his business calls on behalf of the company using one number and one cellular phone.



#### The Tandem user

- All inclusive user:
- a multi-profile combining IP Desktop, IP Softphone, on-site & off-site mobile user profiles

The **Tandem user** is an employee who needs several devices, mobile inside the company and on the road, with a complete and comfortable communication environment when at his desk.



#### The Extended Office user

- IP Desktop, IP Softphone with PIMphony Team, and Off-site mobile user profiles
- Extended Office communication with collaboration, unified communication and mobility services

The **Extended Office user** is a user with a high need of collaboration tool & unified communication. Furthermore, the Extended Office user could be a mobile worker who needs to have access to his/her business critical data using his/her mobile devices.

## User options

All user profiles have the capability to evolve with additional software options to increase user's productivity and teamwork.

The user options are the following:

- **PIMphony Attendant softphone per user**
  - A complete solution for operator in small companies



- **Collaboration & mobility option per user**

Transform any user in Extended Office user. This option is used for add-on sales. For new sales, it is recommended to select the Extended Office user profile.

- **Off-site mobility option per user**

A new voice mobility solution, **simple to operate**, with a cellular client supported on multiple devices:

  - Cellular SW client for Nokia e-series phones
  - Cellular SW client for Windows Mobile 6 Smartphones

*This option is available for Off-site Mobile user, Tandem User & Extended Office user.*

- **Push Mobile option per user**

Real time synchronization of email, calendars, contacts and tasks

*This option is available for extended office user only.*

## Applications & services available for all users

The Alcatel-Lucent Office On Demand Communication offer provides value-added services. The main Alcatel-Lucent OmniPCX Office services and applications are provided by default, **neither** additional software licenses **nor** additional hardware are required.

The application & features available are the following:

- Voice mail with maximum capacity (8 ports - 200 hours message storage)
- Voice mail & automated attendant remote customization
- On-line recording and distribution list
- Personal assistant
- Customized automated attendant
- 6-party conference
- Up to 8 customizable company greetings
- Up to 10 min music on hold
- 4 system languages
- Full application Openness (TAPI, CSTA, XML)
- + more than 500 telephony features

## Section 2: Hardware platforms

Once the user profile are chosen and according to the number of users, needed pre-packaged hardware platforms are automatically selected.

### The Alcatel-Lucent OmniPCX Office platforms

In order to suit the exact size of customer's company and work out the system capability according to customer needs, five hardware platforms are available.



#### Alcatel-Lucent OmniPCX Office Platform 1

- For 6 to 9 users
- A native wall mounted cabinet
- Flexibility up to 15 users
- 4 analog ports, up to 3 DECT Base Stations
- 4 T0 or 4 analog trunks



#### Alcatel-Lucent OmniPCX Office Platform 2

- For 10 to 19 users
- Flexibility up to 30 users
- 8 analog ports, up to 4 DECT Base Stations
- 6 T0 or 8 analog trunks



#### Alcatel-Lucent OmniPCX Office Platform 3

- For 20 to 39 users
- Flexibility up to 50 users
- 8 analog ports, up to 8 DECT Base Stations
- 8 T0 or 16 analog trunks
- Option: PRA-T2 (T2 could be replaced by T1 in your country)



#### Alcatel-Lucent OmniPCX Office Platform 4

- For 40 to 59 users
- Flexibility up to 70 users
- 16 analog ports, up to 8 DECT Base Stations
- 1 T2 (T2 could be replaced by T1 in your country) or 16 analog trunks



### Alcatel-Lucent OmniPCX Office Platform 5

- **For 60 to 100 users**
- Flexibility up to 110 users
- 16 analog ports, up to 16 DECT Base Stations
- 1 T2 (T2 could be replaced by T1 in your country) or 24 analog trunks

## The Alcatel-Lucent Extended Communication Server

In order to suit the exact size of the customer's company and work out the system capability according to customer needs, three servers are available. The following Extended Communication Server is defined by the number of the Extended Office user & the collaboration & mobility option.



### Extended Communication Server Platform 1

- **For 6 to 25 Extended Office users**
- Extended Communication Server Compact Edition
- Flexibility up to: 25 users
- 512 MB RAM
- 1 Hard Disk 160 GB
- 3 x RJ45 10/100 Mbps Ethernet card
- Collaboration, Unified Communication and mobility services



### Extended Communication Server Platform 2

- **For 20 to 60 Extended Office users**
- Extended Communication Server Premium Edition
- Flexibility up to: 70 users
- 2GB RAM
- 2 Hard Disks 250 GB RAID
- 1 Hard Disk 250 GB for Data back-up
- 3 x RJ45 10/100/1000 Mbps Ethernet card
- 2 USB ports
- Collaboration, Unified Communication and mobility services



### Extended Communication Server Platform 3

- **For 60 to 100 Extended Office users**
- Extended Communication Server Premium Edition MAX
- Flexibility up to: 110 users
- 2GB RAM
- 2 Hard Disks 500 RAID
- 1 Hard Disk 500 GB for Data back-up
- 3 x RJ45 10/100/1000 Mbps Ethernet card
- 2 USB ports
- Collaboration, Unified Communication and mobility services

## Global Limits

### *OmniPCX Office Platforms*

- Advanced voice mail 8 ports, 200 hours
- Up to 8 company greetings
- 10 minutes customized music on hold
- 4 system languages

Concerning the power supply, all of those platforms are 110V/220V plug in and allow average 10 minutes battery back up (except the Platform 1). Extended autonomy capacity can be proposed upon request.

OmniPCX Office platforms		Users max flexibility	PIMphony	On-site mobile users max	DECT base station max	Off-site mobile users max*	Analog ports	IP trunks OR	ISDN Trunks OR	Analog trunks
from 6 to 9 users	Platform 1 Compact Edition 	15	15	12	3	6	4	8	4 T0	4
from 10 to 19 users	Platform 2 	30	30	16	4	12	8	12	6 T0	8
from 20 to 39 users	Platform 3 	50	50	32	8	20	8	16	8 T0 or 1 T2 in option	16
from 40 to 59 users	Platform 4 	70	70	60	16	28	16	22	1 T2	16
from 60 to 100 users	Platform 5 	110	75	60	16	36	16	28	1 T2	24

## Extended Communication Server

*Users max flexibility*

Extended Communication Server platforms			
from 6 to 20 Extended Office users	Compact Edition	25	
from 21 to 60 Extended Office users	Premium Edition	70	
from 61 to 100 Extended Office users	Premium Edition MAX	110	

## Section 3: ODC contents

The Alcatel-Lucent Office On Demand Communication offer is a full IP offer with packaged features and applications, IP infrastructures and Alcatel-Lucent IP phones.

The Office On Demand Communication catalog additional items are:

*for more details see:*  
Chapter 3  
Chapter 4  
Chapter 4  
Chapter 4  
Chapter 2a  
Chapter 4  
Chapter 4

- IP Touch phones and accessories
- IP Touch WLAN handsets
- DECT handsets
- DECT accessories
- OmniStack 6200 & OmniSwitch 6400
- OmniAccess Wireless 43xx
- Access Points

The Applications and features included:

- OmniPCX Office Communication Server Chapter 2a
- Voice mail service Chapter 2a + 7
- Automated Attendant Chapter 7
- Personal assistant Chapter 2a
- 6-party conference Chapter 2a
- Off-site mobility solutions Chapter 5
- Greetings Chapter 7
- PIMphony Chapter 8
- Extended Communication Server Chapter 9
- Full application openness (TAPI, CSTA, XML) Chapter 11

## Section 4: How to quote

It has never been so simple to quote an Office Communication Solutions:

### Choose the users profiles

According to customer need select the right user profiles between the 6 user profiles available:

- IP Desktop user
- IP Softphone user
- On-site mobile user
- Off-site cellular user
- Tandem user
- Extended Office user



Add user options

- Pimphony Attendant soft phone
- Collaboration & Mobility option
- Off-site mobility options
- Push Mobile option

### Choose the right Alcatel-Lucent phones

Choose between the Alcatel-Lucent desktop or wireless phones

- IP Touch sets (4068EE, 4038EE, 4028EE, 4018EE, 4008EE)
- DECT handsets (300, 300EX & 400)
- IP Touch WiFi handsets (310 & 610)



### Complete the offer

Complete with platform option, networking infrastructure or wireless LAN infrastructure, power back-up...



## Hardware platforms are automatically selected

According to the number of users, the right OmniPCX Office platform is automatically selected and if Extended Office users are quoted than an Extended Communication Server platform is selected.



## Quotation

Within ACTIS choose On Demand Communications offer. ACTIS is able to manage up-front quote or yearly quote according to the customer needs or the Business Partner offer.

Quotation could also be done manually or integrated into their own Business Partner quotation tool.

## Chapter 3: Desktop Phones

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# Overview

Alcatel-Lucent offers a variety of desktop professional phones, which cover the needs of most end-user profiles, from budget to executive. These phones are grouped into two product lines:

## *Alcatel-Lucent IP Touch 8 Series Phones Extended Edition*

A high-performance range of IP phones that can be connected directly to an IP network and can support any web-based, XML business application.

## *Alcatel-Lucent 9 Series Digital Phones*

A high-performance range of TDM phones that can be connected to a traditional telephony network.

	Budget	Entry	Mid	Top	Executive	
<b>IP Touch phones Extended edition</b> <ul style="list-style-type: none"> <li>&gt; Performance IP range</li> <li>&gt; Same features as digital range</li> <li>&gt; XML capability</li> </ul>		 4008EE	 4018EE	 4028EE	 4038EE Gigabit Ethernet	 4068EE
<b>Digital phones</b> <ul style="list-style-type: none"> <li>&gt; Performance digital range</li> <li>&gt; Same features as IP range</li> </ul>		 4019	 4029	 4039		

Alcatel-Lucent Phones - User Friendly and Powerful

## Section 1: Alcatel-Lucent Phones

All Alcatel-Lucent IP Touch 8 Series Phones EE (except 4008 and 4018) and Alcatel-Lucent 9 Series Digital Phones (except 4019) have the same general operation. Each phone is divided into different areas:

- Display and soft keys. The soft keys are associated with the contextual information displayed on the screen and used to activate functions.
- Navigation keys. These are used to navigate within the display (change information, return to the homepage)
- Alphabetic keyboard
- Numeric keypad
- Audio features



Alcatel-Lucent IP Touch 4068 Phone Extended Edition - User Interface

## Main characteristics

### Display characteristics

#### Display and navigation

A large graphic display and associated navigation keys on each phone improves phone ergonomics and the presentation of services. When the phone is idle, the navigation menu's homepage is displayed. The homepage consists of three default tabs. On Alcatel-Lucent IP Touch 8 Series Phones EE, an external XML application can be used to add a new tab to this screen.



To display the homepage within an application, simply press the Exit/Home key. From there, users can initiate a new application or access information.

#### Multiple context

During a call, the user can return to the homepage or any application by using the Exit/Home key.



#### Alphabetic keyboard

The alphabetic keyboard consists of 34 keys, but the character mapping is country dependent.



### Alarm LED

A two-color LED (green, orange) at the top of the screen signals incoming calls or application alarms. It is visible from all sides of the phone.

### **Audio characteristics**

Audio control features such as speaker, hands-free audio control and mute are separate from the system's function keys. This enables clear and easy audio control for users.



### Hands-free mode



The full duplex hands-free mode includes echo cancellation and attenuation, which provide excellent audio quality. The translucent hands-free key has an embedded green LED. This LED is on when the hands-free feature is activated. This key also enables a smooth transfer from handset to headset to hands-free mode.

### Mute mode



The mute key allows users to mute their side of a conversation so that the remote party is unable to hear it. This translucent key has an embedded green LED that lights up when the key is pressed.

### Ringling melodies

Users can choose from 16 different ringing melodies. Ringing can be deactivated or the user can choose to program the phone to beep rather than ring.

### External ringing signal

This feature uses an RJ11 connection, which is accessible via a specific plug.

### Audio extension connection

A micro-headset jack (3.5 mm x 5 mm) with presence detection allows users to easily connect and disconnect headsets, external speakers or conferencing modules.

## **Accessories and options**

### **Smart display module**

The smart display module can be connected to the phone to extend its capabilities. This large LCD display allows for quick and easy paperless identification of associated function keys.



Smart display module on Alcatel-Lucent IP Touch 4068 Phone EE

The smart display module provides users with 14 additional direct access buttons. It is available on all phones except on the Alcatel-Lucent IP Touch 8 Series 4008 and 4018 Phones EE and the Alcatel-Lucent 9 Series 4019 Digital Phone. Up to three smart display modules can be connected to one phone. Smart display modules cannot be mixed with 10-key and 40-key modules.

**Paper-labeled modules**

Extension modules with paper labels can be connected to a phone to increase the number of programmable function keys. The additional keys may be used for direct station selection, busy lamp field, line appearance and other functions.



Paper-labeled modules on Alcatel-Lucent IP Touch 4068 Phone EE

Two models of paper-labeled extension modules—10-key and 40-key modules—are available for all phones except the Alcatel-Lucent IP Touch 8 Series 4008 and 4018 Phones EE and the Alcatel-Lucent 9 Series 4019 Digital Phone. Each phone can accommodate up to 120 additional keys.

**60-degree foot-stand**



All Alcatel-Lucent IP Touch 8 Series Phones EE and Alcatel-Lucent 9 Series Digital Phones are compatible with a 60-degree foot-stand. This stand minimizes the phone's footprint on an employee's desk and optimizes the display angle for comfortable viewing.

### ***Corded headsets***

All phones except the Alcatel-Lucent IP Touch 8 Series 4008 and 4018 Phones EE and the Alcatel-Lucent 9 Series 4019 Digital Phone are equipped with a 3.5 mm headset plug. The headset plug allows users to connect to:

Monaural headsets, which are intended for office users and can be mounted either as an ear hook or headband.



Binaural headsets, which are intended for active users who want a secure, fixed headset while communicating on the move or in noisy, telephone-intensive environments such as warehouses or shop floors.



### ***Country-specific keyboard***

In some countries, phones (except the IP Touch 4008 and 4018 phones and the 4019 phone) can be activated for a specific entry mode that allows users to enter characters in a dedicated alphabet. This entry mode is available for the following features:

- Dial-by-name
- Direct call key programming

### ***Cyrillic zone***

In countries that use the Cyrillic alphabet, the keyboard can be switched to Cyrillic mode. A Cyrillic sticker is available to map Cyrillic characters to the alphabetic keyboard.



Alphabetic Keyboard with Cyrillic Sticker

### Chinese zone

In mainland China, Pin Yin entry mode can be activated using the input method editor.

In Taiwan, Zhuyin entry mode can be activated using the input method editor. A Zhuyin sticker is available to map Zhuyin symbols to the alphabetic keyboard.



Alphabetic Keyboard with Zhuyin Sticker

In Hong Kong, stroke entry mode can be activated using the input method editor. A stroke sticker is available to map stroke elements to the numeric keypad.



Numeric Keypad with Stroke Sticker

### ***Alcatel-Lucent OmniTouch 4125 Compact Conferencing Module***

The Alcatel-Lucent OmniTouch 4125 Compact Conferencing Module adds high quality, easy-to-use audio conferencing capabilities to Alcatel-Lucent IP Touch 8 Series Phones and Alcatel-Lucent 9 Series Digital Phones.

With the OmniTouch 4125 Compact Conferencing Module, up to five local participants can collaborate with remote participants while enjoying crystal clear and natural sound. To help foster more creative exchanges, sound quality remains consistently high even as participants move around the room.



#### **Plug and play audio conferencing**

Easy to connect - plugs into headset jack on Alcatel-Lucent IP Touch 8 Series or 9 Series Digital Phones

Easy to use - no configuration required

Uses existing phone line

Full duplex, 360° sound recording and reproduction

Ultra-sensitive, Omni directional microphone and three built-in surround speakers

15 levels of speaker volume and three levels of microphone input sensitivity

## Features list and release compatibility

### Features list

	<b>IP Touch 4068 Phone EE</b>	<b>IP Touch 4038 Phone EE/4039 Digital Phone</b>	<b>IP Touch 4028 Phone EE/4029 Digital Phone</b>
<b>Display</b>	Graphical display	Graphical display	Graphical display
	Adjustable	Adjustable	Adjustable
<b>Resolution</b>	240 x 320 pixels 1/4VGA	100 x 160 pixels	64 x 128 pixels
<b>Size</b>	73.52 x 55.64 mm (2.9 in x 2.2 in)	78 mm x 51 mm (3.1 in x 2.0 in)	70 X 38 mm
<b>Color</b>	4096 colors	4 gray levels	black and white
<b>Backlight</b>		-	-
<b>Keys</b>			
<b>Contextual keys</b>	2 x 5 contextual keys	2 x 5 contextual keys	2 x 3 contextual keys
<b>Programmable keys</b>	Up to 40 keys 2 personal keys/LED	Up to 40 soft keys 2 personal keys/LED	Up to 40 soft keys 2 personal keys/LED
<b>Navigator</b>	4 directions	4 directions	4 directions
<b>Validation (OK) and exit keys</b>	✓	✓	✓
<b>Message key and LED</b>	✓	✓	✓
<b>End key</b>	✓	✓	✓
<b>Redial key</b>	✓	✓	✓
<b>Help key</b>	✓	✓	✓
<b>Alarm LED (2 colors)</b>	✓	✓	✓
<b>Hands-free key with LED</b>	✓	✓	✓
<b>Other Characteristics</b>			
<b>Hands-free mode</b>	✓	✓	✓
<b>External loudspeaker</b>	✓	✓	✓
<b>Volume keys</b>	✓	✓	✓
<b>Mute key with LED</b>	✓	✓	✓
<b>Handset</b>	Comfort	Comfort	Standard on 4029 Digital Phone; comfort on IP Touch 4028 Phone EE
<b>Headset plug (3.5 mm)</b>	✓	✓	✓
<b>Alphabetic keyboard</b>	✓	✓	✓
<b>Keyboard cover</b>	Option	Option	Option
<b>PC connectivity (IP only)</b>	10/100/1000	10/100/1000	10/100/1000
<b>Bluetooth® 1.2</b>	✓	-	-
<b>Wall mounting kit</b>	Option	Option	Option
<b>60-degree foot-stand</b>	Option	Option	Option
<b>Additional key modules</b>	Up to 120 keys	Up to 120 keys	Up to 120 keys
<b>Smart display module</b>	3 modules maximum	3 modules maximum	3 modules maximum

	<b>IP Touch 4018 Phone EE/4019 Digital Phone</b>	<b>IP Touch 4008 Phone EE</b>
<b>Display</b>	Character display	Character display
<b>Resolution</b>	20 characters	20 characters
<b>Size</b>	75 x 12 mm	75 x 12 mm
<b>Color</b>	black and white	black and white
<b>Backlight</b>	-	-
<b>Keys</b>		
<b>Contextual keys</b>	-	-
<b>Programmable keys</b>	6 keys with LED	6 keys with LED
<b>Navigator</b>	2 directions	2 directions
<b>Validation (OK) and exit keys</b>	✓	✓
<b>Message key and LED</b>	✓	✓
<b>End key</b>	✓	✓
<b>Redial key</b>	✓	✓
<b>Help key</b>	✓	✓
<b>Alarm LED (2 colors)</b>	-	-
<b>Hands-free key with LED</b>	✓	✓
<b>Other Characteristics</b>		
<b>Hands-free mode</b>	✓ (only on IP Touch 4018 Phone EE)	✓
<b>External loudspeaker</b>	✓	✓
<b>Volume keys</b>	✓	✓
<b>Mute key with LED</b>	✓	✓
<b>Handset</b>	Standard on 4019 Digital Phone; comfort on IP Touch 4018 Phone EE	standard
<b>Headset plug (3.5 mm)</b>	-	-
<b>Alphabetic keyboard</b>	-	-
<b>Keyboard cover</b>	-	-
<b>PC connectivity (IP only)</b>	<b>10/100</b>	-
<b>Bluetooth® 1.2</b>	-	-
<b>Wall mounting kit</b>	Option	Option
<b>60-degree foot-stand</b>	Option	Option
<b>Additional key modules</b>	-	-
<b>Smart display module</b>	-	-

### **Release compatibility**

All Alcatel-Lucent 9 Series Digital Phones are compatible with Alcatel-Lucent OmniPCX Office from Release 4.0. All Alcatel-Lucent IP Touch 8 Series Phones EE are compatible with Alcatel-Lucent OmniPCX Office from Release 5.1. Operating software already installed on customer phones must be updated to the current release version.

	R4.0	R4.1	R5.0	R5.1	R6.0	R7.0
4068EE				✓	✓	✓
4038EE				✓	✓	✓
4028EE				✓	✓	✓
4018EE				✓	✓	✓
4008EE				✓	✓	✓
4039	✓	✓	✓	✓	✓	✓
4029	✓	✓	✓	✓	✓	✓
4019	✓	✓	✓	✓	✓	✓

## Section 2: Alcatel-Lucent IP Touch 8 Series Phones Extended Edition

Alcatel-Lucent IP Touch 8 Series Phones Extended Edition (EE) are full-featured products with integrated IP connectivity and telephony that deliver the converged power of data and VoIP to users. Besides their ability to support any web-based business application, Alcatel-Lucent IP Touch 8 Series Phones EE have optimized design, high-resolution adjustable color or grayscale displays, superior audio quality and the freedom of movement provided by Bluetooth wireless technology.

### Differentiation



**IP Touch 4068 Phone  
Extended Edition**

Features	Benefits
<ul style="list-style-type: none"> <li>■ Adjustable graphical color display (4096 colors)                             <ul style="list-style-type: none"> <li>• 240 x 320 pixels (¼ VGA)</li> <li>• 73.5 X 55.6 mm</li> </ul> </li> <li>■ 10 soft keys and 4-way navigator</li> <li>■ Alphabetic keyboard</li> <li>■ Bluetooth 1.2 connectivity</li> <li>■ Hands-free</li> <li>■ Best quality loudspeaker and microphones</li> <li>■ Comfort handset with soft grip and hearing aid</li> <li>■ Bluetooth handset (optional)</li> <li>■ Headset jack</li> <li>■ Application openness</li> <li>■ Two Gigabit Ethernet ports</li> <li>■ Downloadable software</li> </ul>	<ul style="list-style-type: none"> <li>■ Enjoy the comfort and ergonomics of the large color screen and easy-to-use navigation and contextual keys</li> <li>■ Includes all necessary direct access keys such as mail, mute and redial</li> <li>■ Reach people quickly with call-by-name</li> <li>■ Go wireless with Bluetooth, which is ideal for your headset or a conferencing station</li> <li>■ Outstanding audio quality using either the handset or loudspeaker</li> <li>■ Aimed at intensive phone users; senior executives</li> <li>■ Applications can be customized to suit your business; it's accessible from your phone</li> <li>■ Easy to install, easy to move</li> </ul>

Specifications: 240 x 188 x 133 mm, 1070 grams



**IP Touch 4038  
Phone Extended Edition**

<ul style="list-style-type: none"> <li>■ Adjustable graphical display with 4 grey levels                             <ul style="list-style-type: none"> <li>• 100 x 160 pixels</li> <li>• 78 X 51 mm</li> </ul> </li> <li>■ 10 soft keys and 4-way navigator</li> <li>■ Alphabetic keyboard</li> <li>■ Hands-free</li> <li>■ Best quality loudspeaker and microphone</li> <li>■ Comfort handset with soft grip and hearing aid</li> <li>■ Headset jack</li> <li>■ Application openness</li> <li>■ Two Gigabit Ethernet ports</li> <li>■ Downloadable software</li> </ul>	<ul style="list-style-type: none"> <li>■ Enjoy the comfort and ergonomics of a large screen and easy-to-use navigation keys</li> <li>■ Includes all necessary direct access keys such as mail, mute and redial</li> <li>■ Reach people quickly with call-by-name</li> <li>■ Outstanding audio quality using either the handset, headset or hands-free option</li> <li>■ Aimed at intensive desktop phone users who work alone or in a team</li> <li>■ Applications can be customized to suit your business; it's accessible from your phone</li> <li>■ Easy to install, easy to move</li> </ul>
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Specifications: 240 x 180 x 133 mm, 1020 grams



**IP Touch 4028  
Phone Extended Edition**

- Adjustable black and white graphical display
    - 64 x 128 pixels
    - 70 x 38 mm
  - 6 softkeys and 4-way navigator
  - Alphabetic keyboard
  - Hands-free
  - Best quality loudspeaker and microphones
  - Comfort handset with soft grip and hearing aid
  - Headset jack
  - Application openness
  - Two Gigabit Ethernet ports
  - Downloadable software
- Provides ease-of-use with a comfortable graphical display, navigation keys and all necessary keys including voice mail, directory, mute and redial
  - Reach people quickly with call-by-name
  - Outstanding audio quality using either the handset, headset or hands-free option
  - Applications can be customized to suit your business; it's accessible from your phone
  - Easy to install, easy to move

Specifications: 240 x 175 x 133 mm, 1015 grams



**IP Touch 4018 Phone  
Extended Edition**

- 1 x 20 character display
  - Six programmable, bi-directional keys
  - External loudspeaker
  - Hands-free
  - Best quality loudspeaker and microphones
  - Comfort handset with soft grip and hearing aid
  - Two Ethernet ports
  - Downloadable software
- Compact phone combines ease-of-use with a simple, effective navigation for all functions
  - Includes all necessary direct access keys including voice mail, directory, mute and redial and six programmable keys
  - Outstanding audio quality using either the handset or external loudspeaker
  - Easy to install, easy to move

Specifications: 220 x 175 x 133 mm, 790 grams



**IP Touch 4008 Phone  
Extended Edition**

- 1 x 20 character display
  - Six programmable keys and bi-directional
  - External loudspeaker
  - Hands-free
  - Best quality loudspeaker and microphones
  - One Ethernet port
  - Downloadable software
- Compact phone combining ease of use with a simple, effective navigation in all offered functions
  - Includes all necessary direct access keys such as voice mail, directory, mute and redial and six programmable keys
  - Outstanding audio quality using either the handset or external loudspeaker
  - Easy to install, easy to move

Specifications: 220 x 175 x 133 mm, 790 grams

## Connectivity, IP and XML

### Connectivity

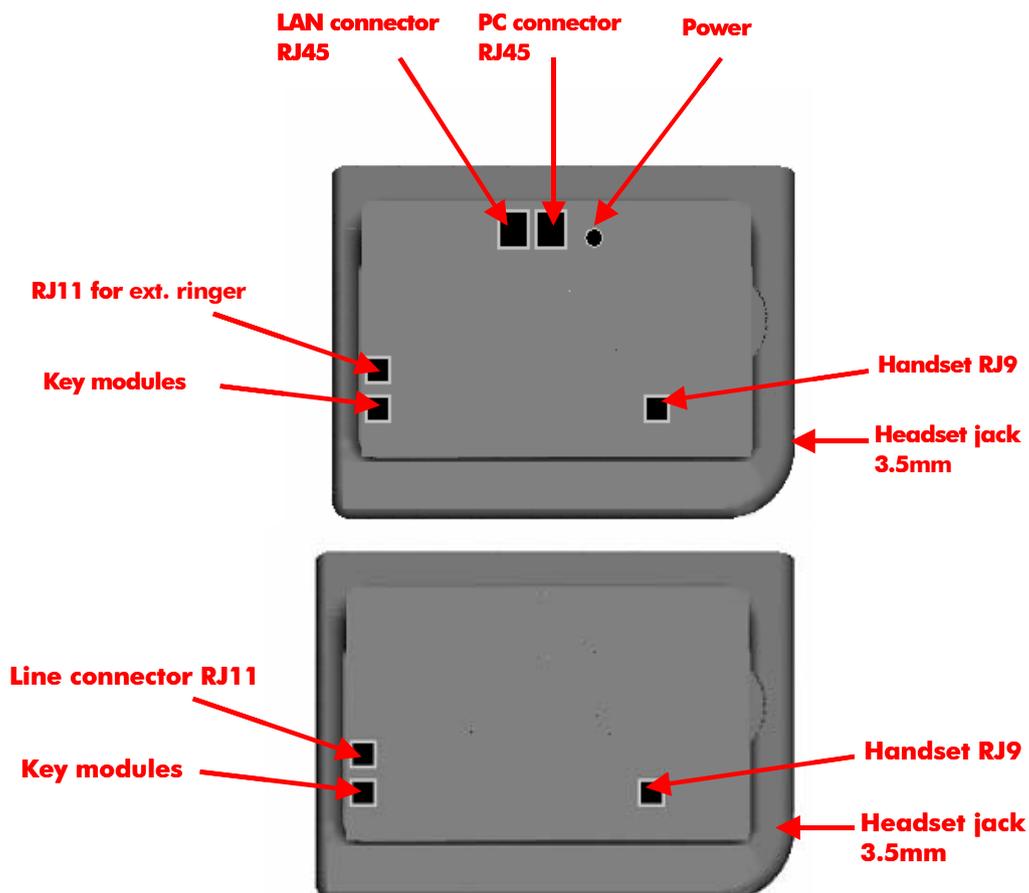
Alcatel-Lucent IP Touch 8 Series Phones EE have:

An Ethernet connector to connect to the LAN

An additional Ethernet connector (with an integrated Ethernet switch) to connect a PC or another IP phone (except the Alcatel-Lucent IP Touch 4008 Phone EE), 10/100/1000 for the Alcatel-Lucent IP Touch 4028, 4038, and 4068 Phones EE, 10/100 on the Alcatel-Lucent IP Touch 4018 Phone EE

A key module connector

A power plug for local power supply connection



### **IP Characteristics**

- 10BT/100BT/1000BT connection: half or full duplex with auto negotiation and configuration; maximum cable length is up to 100 m (330 ft)
- VoIP standard: H.323 voice compliance, RTP, RTCP
- Voice compression standards: G711, G723.1, G729a
- QoS: integrated Ethernet switch with QoS support, TOS IP Differentiated Services (diffserv), 802.1p/q
- IP addressing: static or dynamic IP parameter configuration; integrated DHCP client
- IEEE 802.3af full standards compliance (Class of Consumption 2: consumption between 3.84 and 6.49 watts)

### **XML services**

IP Touch 8 Series Phones EE are much more than just phones. The Alcatel-Lucent IP Touch 8 Series Phones EE (except the IP Touch 4008 and 4018 Phones EE) are fully open to XML business and communications applications, such as free desktop environment, presence and video management, security, alarm management and much more. Customized applications can also be developed by Alcatel-Lucent Applications Partners to fit specific requirements.

## **Bluetooth accessories and options**

### **Bluetooth 1.2 wireless connectivity**

Cordless freedom at the desktop is possible with a Bluetooth handset (Note: This works only on the Alcatel-Lucent IP Touch 4068 Phone EE).

- 10 m coverage
- Superlative sound quality
- Pick up and hang up key, volume settings, ringing and battery integrated with the handset



 Bluetooth™



Any Bluetooth equipment can be connected to the Alcatel-Lucent IP Touch 4068 Phone EE:

- Headsets\*
- Conferencing station\*

\*Not sold by Alcatel-Lucent

## Section 3: Alcatel-Lucent 9 Series Digital Phones

Alcatel-Lucent offers a complete range of professional digital phones to make you feel completely comfortable, and give you immediate access to all the services your Alcatel-Lucent OmniPCX Office can deliver. You can even take your phone with you when you move to a new office. Functions and recorded data are retained and your phone number remains the same.

### Differentiation



4039 Digital Phone

Features	Benefits
<ul style="list-style-type: none"> <li>Adjustable graphical display with 4-grey levels                             <ul style="list-style-type: none"> <li>•100 x 160 pixels</li> <li>•78 x 51 mm</li> </ul> </li> <li>10 soft keys and four-way navigator</li> <li>Alphabetic keyboard</li> <li>Best quality loudspeakers and microphones</li> <li>Hands-free</li> <li>Headset jack</li> <li>Comfort handset with soft grip and hearing aid</li> <li>Downloadable software</li> </ul>	<ul style="list-style-type: none"> <li>Enjoy the comfort and ergonomics of a large screen and easy-to-use navigation keys</li> <li>Includes all necessary keys such as voice mail, mute and redial)</li> <li>Reach people quickly with call-by-name</li> <li>Outstanding audio quality using the handset, headset or hands-free option</li> <li>Aimed at intensive desktop phone users who work alone or in a team</li> <li>Easy to install, easy to manage</li> </ul>

Specifications: 240x180x133 mm, 1020 grams



4029 Digital Phone

<ul style="list-style-type: none"> <li>Adjustable graphical B&amp;W display                             <ul style="list-style-type: none"> <li>•64 x 128 Pixels</li> <li>•70 X 38 mm</li> </ul> </li> <li>Six soft keys and four-way navigator</li> <li>Alphabetic keyboard</li> <li>Hands-free</li> <li>Headset jack</li> <li>Downloadable software</li> </ul>	<ul style="list-style-type: none"> <li>Ease-of-use with a comfortable display, navigation keys and all necessary keys (voice mail, mute, redial)</li> <li>Reach people quickly with call-by-name</li> <li>Use the handset, a headset or hands-free with the same outstanding audio quality</li> <li>Easy to install, easy to manage</li> </ul>
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Specifications: 240 x 175 x 133 mm, 1015 grams



4019 Digital Phone

<ul style="list-style-type: none"> <li>1 x 20 character display</li> <li>Six programmable keys with LED and bi-directional navigator</li> <li>External loudspeaker</li> <li>Downloadable software</li> </ul>	<ul style="list-style-type: none"> <li>Compact phone combines ease-of-use with a simple, effective navigation</li> <li>Includes all necessary direct access keys including voice mail, directory, mute, redial and six programmable keys</li> <li>Easy to install, easy to manage</li> </ul>
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Specifications: 220 x 175 x 133 mm, 790 grams

## Accessories and options

Alcatel-Lucent interface modules offer additional flexibility and openness. They allow peripheral equipment to be added to any system, which reduces the cost of cabling.



The AP interface module supports connections of analog devices such as fax and POTS using just one line.



The S0 interface module supports connections of S0 devices and takes advantage of ISDN services.



The V24/CTI interface module allows a phone to be connected to a computer, a Braille console or any other V24 device to enable transmission and reception of data via a telephone line.



The multiple UA interface module supports the connection of up to three phones on one digital access line.

These interface modules are only available for Alcatel-Lucent 9 Series Phones.

## Chapter 4: On-site Mobility

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## Overview

Mobile communications is a vital necessity in today's business environment. It is the key to greater employee productivity.

### *On-site mobility*

With Alcatel-Lucent on-site mobility solutions, employees can access all the advantages of a top-grade communications system while they are away from their desk.

Two on-site mobility solutions are available:

- **DECT** solution: a mature and proven technology, appropriate for voice mobility
- **Voice over wireless LAN (VoWLAN)** solution: a secure technology that provides full mobility and is based on a single WLAN infrastructure for converged voice and data communications (laptops, PDAs and Alcatel-Lucent IP Touch 310/610 WLAN Handsets, etc.)

# Section 1: DECT Handsets

## Introduction

Alcatel-Lucent offers a variety of professional mobile handsets based on the Alcatel-Lucent 300/400 DECT Handset. These handsets are compatible with existing indoor and outdoor Alcatel-Lucent DECT base stations. They offer access to all the voice services available on the Alcatel-Lucent desktop digital phones.

Alcatel-Lucent mobile handsets are designed to suit the voice requirements of employees who are away from their offices. The Alcatel-Lucent 300 DECT Handset with its black and white display is a convenient solution for basic mobility needs, while the Alcatel-Lucent 400 DECT Handset with its color display is ideal for intensive mobility needs. Both handsets offer excellent usability through functions like backlit displays and vibrator. The Alcatel-Lucent DECT are based on an efficient and comfortable user interface:

### Alcatel-Lucent 300 DECT Handset



**Alcatel-Lucent 400 DECT Handset:**



**Main characteristics**

Usability:

- Enhanced aesthetics
- Integrated antenna
- Backlit display
- High-quality audio reception
- Vibrate mode
- Great autonomy (Li Ion technology)
- Belt clip
- Global portability through software-programmable country adaptations (frequency and power) that allow handset to be used in multiple countries.

Protocols:

- GAP profile
- Alcatel-Lucent OmniPCX Office enhanced call features

## Sets Differentiation

**Alcatel-Lucent 400 DECT™**



Features	Benefits
<ul style="list-style-type: none"> <li>■ Graphic display - 98x66 pixels, 4096 colors</li> <li>■ Backlight keypad (blue)</li> <li>■ Vibrate mode</li> <li>■ Loudspeaker</li> <li>■ Headset connection</li> <li>■ GAP &amp; OmniPCX features</li> <li>■ Battery capacity: up to 20-hour talk time, up to 160-hour standby time</li> <li>■ Belt clip (removable)</li> <li>■ Color: black - soft painting</li> <li>■ Ingress protection Naked device IP43</li> <li>■ Device with pouch IP54</li> </ul>	<ul style="list-style-type: none"> <li>■ 'Matching DECT expectations'</li> <li>■ Designed for office and industrial intensive collaboration</li> <li>■ User-friendly</li> <li>■ Durability in harsh environments</li> </ul>

Specifications: 120x45x22 (mm), 110 grams

**Alcatel-Lucent 300 DECT™**



<ul style="list-style-type: none"> <li>■ Black &amp; White graphic display - 96x48 pixels</li> <li>■ Backlight display (blue)</li> <li>■ Vibrate mode</li> <li>■ GAP &amp; OmniPCX features</li> <li>■ Battery capacity: up to 20-hour talk time, up to 160-hour standby time</li> <li>■ Belt clip</li> <li>■ Color: black</li> <li>■ Ingress protection Naked device IP 44</li> <li>■ Device with pouch IP54</li> </ul>	<ul style="list-style-type: none"> <li>■ 'DECT simplicity with style'</li> <li>■ Designed for standard one-to-one use</li> <li>■ User-friendly</li> <li>■ Durability in harsh environments</li> </ul>
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Specifications: 120 x 45 x 22 (mm), 110 grams

**Alcatel-Lucent 300 Ex DECT™**



<ul style="list-style-type: none"> <li>■ Black &amp; White graphic display - 96x48 pixels</li> <li>■ Backlight display (blue)</li> <li>■ GAP &amp; OmniPCX features</li> <li>■ Battery capacity: up to 10-hour talk time, up to 150-hour standby time</li> <li>■ Belt clip on protective case</li> <li>■ Color: black</li> </ul>	<ul style="list-style-type: none"> <li>■ Designed for hazardous industrial environments</li> <li>■ User-friendly</li> </ul>
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Specifications: 120 x 45 x 22 (mm), 110 grams

## Accessories and Options

### Charging Units

Basic desktop charger  
for Alcatel-Lucent 300/400 DECT Handsets:

One slot for the handset. No LED. The handset displays the battery status.

Power supply independent from the charger.  
Basic charger delivered in commercial offer.



Dual desktop charger

for Alcatel-Lucent 300/300 EX/400 DECT Handsets:

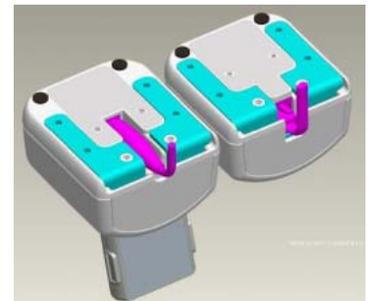
Intended for users requiring continuous long-term operational availability. The dual desktop charger can simultaneously charge a ready spare battery as well as the handset's existing battery. One LED to control the spare battery status.

Power supply independent from the charger.



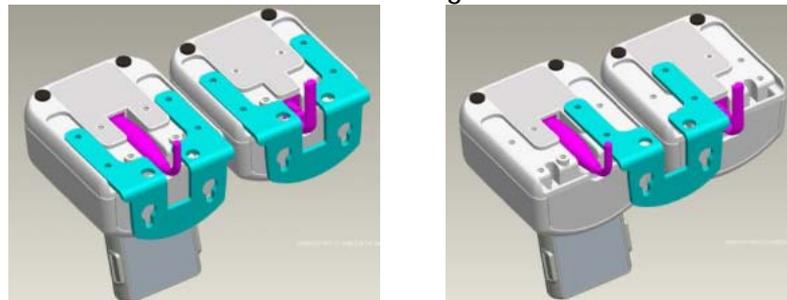
### A 'charger bracket' accessory made of metal provides different functions:

'Weight' function for basic or dual charger:



(charger bracket in blue color, wire in pink color)

Wall mounting' function for basic or dual charger:



(charger bracket in blue color, wire in pink color)

### Headsets

The Alcatel-Lucent 400 DECT Handset offers a standard wired headset connection. When a headset is connected to this handset, the microphone and speaker are automatically switched off.

### Pouch

The use of a pouch will improve the durability of Alcatel-Lucent 300/400 DECT Handsets in harsh environments, especially against dust, water and shock.



### Features List

Mechanical Aspects	Alcatel-Lucent 400 DECT Handset	Alcatel-Lucent 300 DECT Handset	Alcatel-Lucent 300 EX DECT Handset
Dimensions (mm) (in)	120 x 45 x 22 4,72 x 1,77 x 0,87	120 x 45 x 22 4,72 x 1,77 x 0,87	120 x 45 x 22 4,72 x 1,77 x 0,87
Weight (g) (oz)	110 3.9	110 3.9	110 3.9
Volume (cm <sup>3</sup> )	119	119	119
Graphical Display <sup>3</sup>	98 x 66 4096 Colors	96 x 48 Monochrome	96 x 48 Monochrome
Loudspeaker	Yes	No	No
Multi-line management	Yes	Yes	Yes
Dial-by-name	Yes	Yes	Yes
Headset connection (standard wiring)	Yes	No	No
Backlit display	Yes	Yes (blue)	Yes (blue)
Backlit keypad	Yes (blue)	No	No
Vibrate mode	Yes	Yes	No

Mechanical Aspects	Alcatel-Lucent 400 DECT Handset	Alcatel-Lucent 300 DECT Handset	Alcatel-Lucent 300 EX DECT Handset
Color	Black - soft painting	Black	Black
Explosion proof	No	No	Yes <sup>1</sup>
Belt clip	Yes (removable)	Yes (removable)	Yes (on carrying case <sup>2</sup> )
<b>Batteries</b>			
Battery pack	Li Ion	Li Ion	Li Ion
Talk / Standby times (h)	Up to 20/120	Up to 20/160	Up to 10/150
<b>Charging times</b>			
Spare battery (h)	3 hours, 30 minutes	3 hours, 30 minutes	3 hours, 30 minutes
Handset battery (h)	3 hours, 30 minutes	3 hours, 30 minutes	3 hours, 30 minutes
<b>Software aspects</b>			
GAP protocol	Yes	Yes	Yes
Alcatel-Lucent OmniPCX protocol (A-GAP protocol)	Yes	Yes	Yes

<sup>1</sup>  ATEX Certification (Directive 94/9/EC) for EC countries, IEC Ex Certification for countries under IEC scheme (Australia, Russia....), NEC 500 Certification (US).

<sup>2</sup> The use of a carrying case is mandatory with this handset: an integral industrial case with rotating clip is delivered with each Alcatel-Lucent 300 EX DECT Handset.

<sup>3</sup> Screen content depends on the system used.

## Section 2: DECT Base Stations

### Introduction

The DECT mobility service of the Alcatel-Lucent OmniPCX Office system is based on Alcatel-Lucent intelligent base stations (IBS) plugged into digital ports. According to the coverage area required, those base stations will create a network of access points around the company premises, ensuring rooming and handover.

Alcatel-Lucent offers 2 new generation of IBS base stations named:

- 4070 IO (Alcatel-Lucent Indoor-IBS radio base station),
- 4070 EO (Alcatel-Lucent Outdoor-IBS radio base station),

These base stations can be connected on a UA board, and support a maximum of six simultaneous calls. The maximum number of simultaneous communications on a base station can be temporarily reduced while one or several handsets are requesting a handover.

### Indoor Base Stations

#### **4070 IO (Indoor Optimized):**

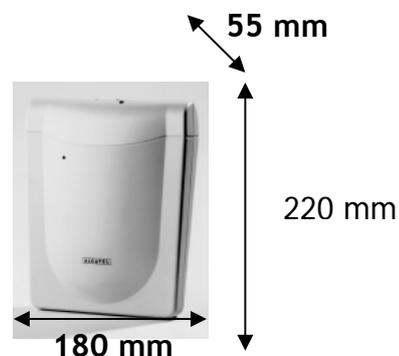
- 6 radio channels,
- 3 or 6 simultaneous calls,
- Connection on a UA board (1 or 2 ports),
- Operating temperature: +10°C to +40°C.

#### **Number of users in the same cell:**

- 1.4 Erlang/4070 IO-1 UA link: around 7 standard users per cell,
- 2,8 Erlang/ 4070 IO-2 UA links: around 14 standard users per cell,
- A standard user traffics at 0.2 Er.

#### **Other characteristics:**

- Radio coverage from 50m to 300m depending on location and environment,
- Connection to the PABX through a regular 2 pair-twisted cable,
- Remote power feeding through the system or local power with a 230v/42v (150mA),
- Wall mounted,
- Built-in antennae,



- Environment protection: IP 20,
- Switched antenna diversity (for each handset the system chooses which of the two antennae to broadcast),
- 2 connections for external antennae.

## Outdoor Base Stations

### **4070 EO (External Optimized):**

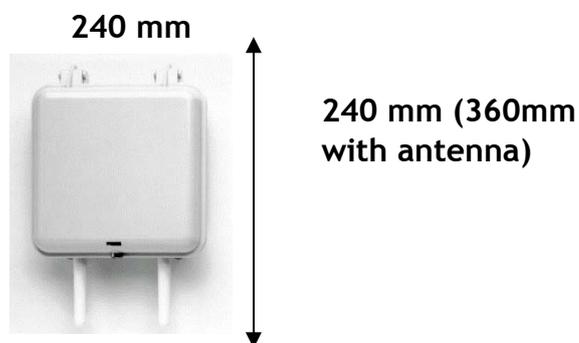
- 6 radio channels,
- 3 or 6 simultaneous calls,
- Connection on a UA board (1 or 2 ports),
- Operating temperature: -20°C to +55°C. with antenna)

### **Number of users in the same cell:**

- 1.4 Erlang/4070 IO-1 UA link: around 7 standard users per cell,
- 2.8 Erlang/4070 IO-2 UA links: around 14 standard users per cell,
- A standard user traffics at 0.2 Er.

### **Other characteristics:**

- Radio coverage from 50m to 300m depending on location,
- Connection to the PABX through a regular 2 pair-twisted cable,
- Remote power feeding only through the system,
- External antennae,
- Environment protection: IP55,
- Wall mounted,
- Switched antenna diversity (for each handset the system chooses which of the two antennae to broadcast).



## Gain antenna

In some cases, a gain antenna can be used to reduce the number of radio base stations required for a deployment. This can be a significant way to decrease the price of the infrastructure. It can divide the number of base stations by three for outdoor coverage.

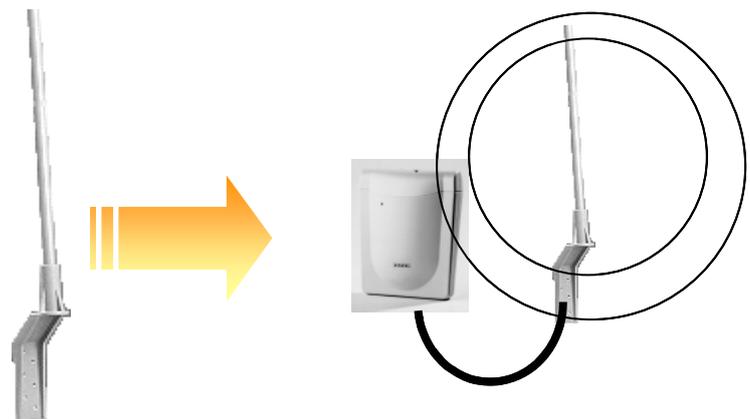
Two types of gain antennae are available. They are:

- Omni-directional antennae
- Directive antennae

Both can be connected to the Alcatel-Lucent Indoor/Outdoor IBS radio base station.

### *Omni-directional gain antennae*

This type of antennae is particularly used in open areas (parking lots, sales areas) with only one floor.



### *Directive gain antennae*

Directive gain antennae increase the field only in one direction.



## Global Limits

### *IBS 4070 IO/EO System limits*

	<i>OmniPCX Office Advanced/ Premium Units 1</i>	<i>OmniPCX Office Advanced/ Premium Units 2</i>	<i>OmniPCX Office Advanced/ Premium Units 3</i>	<i>OmniPCX Office Maximum limits</i>
<b>IBS</b> (remote feeding without splitter)	4	4	4	12
<b>IBS</b> (remote feeding with splitter)	16	48	60	60
<b>Mobile Reflexes</b>	120	120	120	120

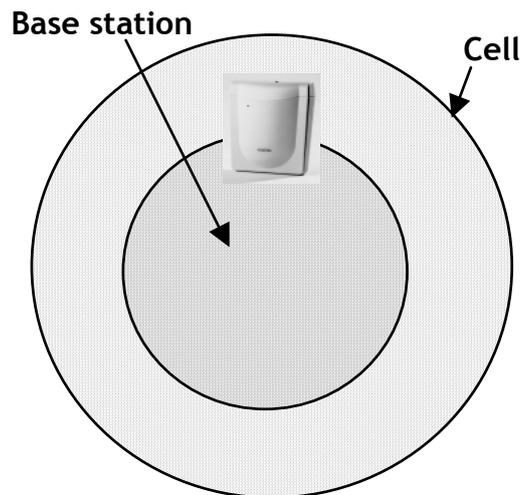
### *Cabling distance between Alcatel-Lucent OmniPCX Office and 4070 IO*

Type of cable	Locally or remotely powered
<b>2 twisted-pair cabled LYO 0.5 mm</b>	800 m
<b>2 twisted-pair cabled LYO 0.6 mm</b>	1200 m

Cabling distances are identical whether or not the base station is being locally or remotely-powered.

## Coverage studies

The size and shape of the coverage area (also called "cell") depend on the obstacles met by the radio wave: walls, stairs, elevators ...

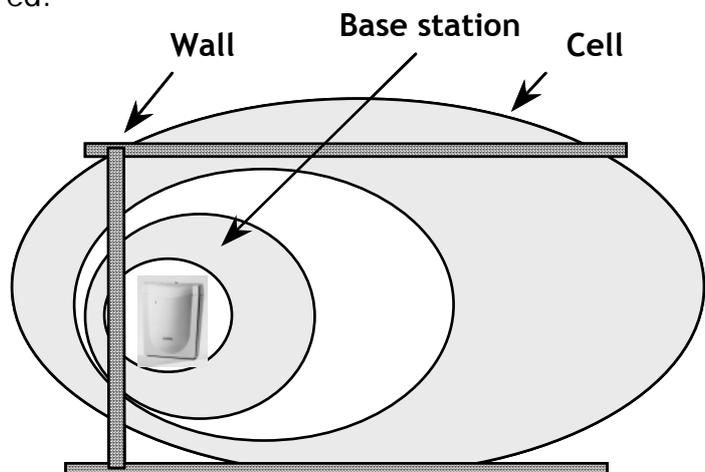


The strength of the radio wave decreases with the distance. The base station is a slave to the handsets. It doesn't decide which channel to use. This decision is made by each handset. This is one of the most important differences between DECT and other existing wireless technologies.

In order to increase the traffic capacity of a cell, it is possible to use several base stations to cover the same area (cluster topology). A **coverage study** will enable to define the number of base stations required.

### Why make an accurate coverage study?

If you underestimate the number of base stations needed, you will sign the contract with the customer but the company will end up losing money by delivering additional base stations, free of charge.



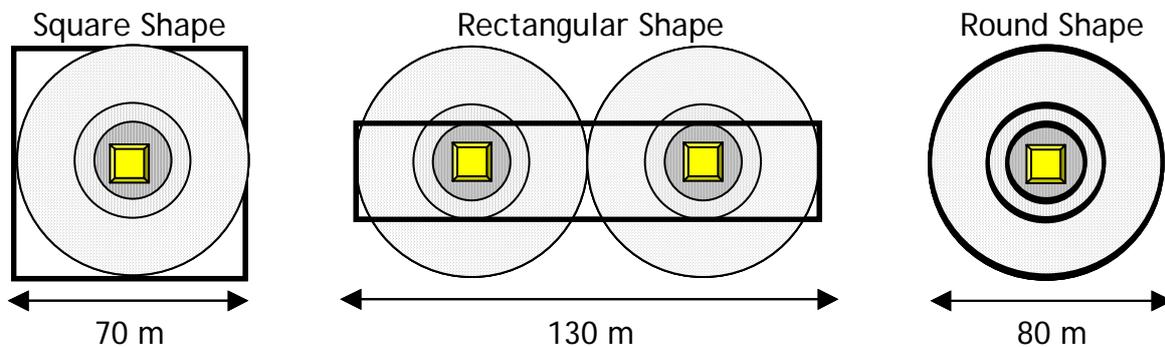
### How to make a coverage study?

Begin by positioning base stations on the blueprint according to range and environment.

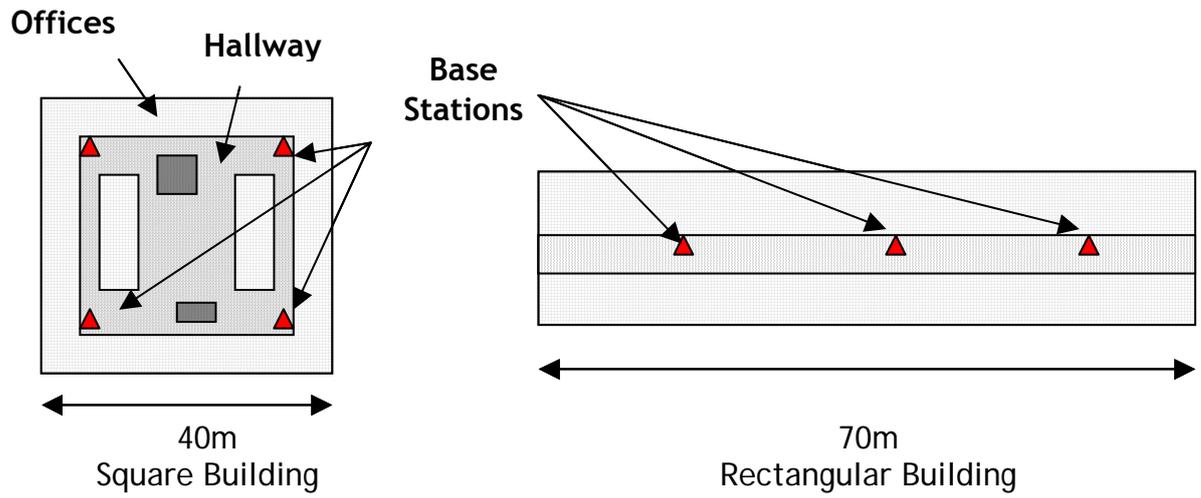
Here are some recommendations to help you improve the positioning of base stations:

- Avoid placing base stations too close to structures such as reinforced concrete, metal framework, thick walls, ...
- They should be positioned in an environment which limits electromagnetic disturbances due to TVs, computer screens, halogen lamps, ...
- If possible, outdoor base stations should be installed as far as possible from buildings and be elevated above cars, trees... When installed outdoors, the base station should be equipped with a lightening protection.
- The average range of a base station depends on the shape of the buildings as well as their structure. The following examples show simple configurations of base stations.

### Examples of coverage zones in empty building structures:



Examples of different base station configurations in office environments:



## Section 3: VoWLAN

### What is wireless LAN and voice over wireless LAN?

A **wireless LAN** is a wireless local area network that uses radio waves based on 802.11 wireless networking standard. 802.11b (11Mbps) was the first widely accepted wireless networking standard, followed by 802.11a and 802.11g (54 Mbps). Today, the most used standards in business environments are the 802.11b and 802.11g based on the 2.4 GHz band.

When most people think of wireless LANs (WLANs), they generally think about data applications. However, it is possible to provide mobility for IP-based voice calls with voice over WLAN (VoWLAN).

For example, a company with fixed warehouses or locations can use a WLAN network for VoIP (hence VoWLAN) to allow employees to communicate with one another.

In an environment where both wireless data and voice are required, the Alcatel-Lucent IP Touch 310/610 WLAN Handsets offer the best optimization for voice mobility needs. They allow businesses to take advantage of the cost savings and simplified management of a converged infrastructure.

The Alcatel-Lucent IP Touch 310/610™ WLAN handsets operate on a converged voice and data network to reduce costs and simplify management while significantly improving employee mobility, responsiveness, and productivity.

For Voice over WLAN based on already **deployed** Alcatel-Lucent Office Communication solutions, the package is composed of:

**Alcatel-Lucent OmniPCX Office**

- On-site mobile IP users software license
- Require VoIP hardware

**Alcatel-Lucent IP Touch WLAN Handsets:**

- Mobile IP Touch 300
- Mobile IP Touch 600
- IP Touch 310
- IP Touch 610

**Alcatel-Lucent VoWLAN server**

- VoWLAN SVP server 10
- VoWLAN SVP server 20
- VoWLAN SVP server 100

**WLAN data infrastructure**

- OmniAccess Access Point 60, 61 or 65
- OmniAccess 4302 or 4308 WLAN Switches



For Voice over WLAN based on **green field** Alcatel-Lucent Office Communication solutions, the package is composed of:

**Alcatel-Lucent OmniPCX Office**

- On-site mobile IP users software license
- Require VoIP hardware

**Alcatel-Lucent IP Touch WLAN Handsets:**

- IP Touch 310
- IP Touch 610

**WLAN data infrastructure**

- OmniAccess Access Point 60, 61 or 65
- OmniAccess 4302 or 4308 WLAN Switches

**Note: No need for Alcatel-Lucent VoWLAN SVP server.**



**Other WLAN infrastructures are compatible with the Alcatel-Lucent VoWLAN solution.** In the Business Partner Web Site, you will find an interoperability list of compliant wireless infrastructures and the process to follow prior to the deployment on other type of WLAN infrastructure.

With third party WLAN infrastructure **the VoWLAN SVP server is required** in addition to the on-site mobile IP user SWL, necessary hardware and the Alcatel-Lucent WiFi handsets.

**Compatibility table**

	MIPT 300/600	Alcatel-Lucent IP Touch 310/610 WLAN Handsets
OmniPCX Office R5.x	Support + Download	Support + Download via Cradle
OmniPCX Office R6.0/R7.0	Support + Download	Support + Download

## Alcatel-Lucent IP Touch 310 and 610 WLAN Handsets

The feature-rich Alcatel-Lucent IP Touch 310/610 WLAN Handsets offer the best optimization for voice mobility needs. Just like the Alcatel-Lucent 300/400 DECT Handsets, they offer a complete set of features that address the requirements of users who are away from their desks most of the time.

As a new key feature, Alcatel-Lucent IP Touch 310/610 WLAN Handsets support the IEEE 802.11a, b and g radio standards, allowing businesses to choose the most appropriate WLAN implementation for application segmentation, interference mitigation and user density.



The Alcatel-Lucent IP Touch 310/610 WLAN Handset integrates all features of Alcatel-Lucent **OmniPCX Office**.

### Main Characteristics

With this handset range, you benefit from:

- The same level of OmniPCX Office call features as provided by DECT range.
- An efficient and comfortable user interface
- A simple user interface with four-way navigation and four soft keys to facilitate access to business telephone features and minimize end-user training
- Integrated speakerphone for hands-free and wireless conferencing applications (group listening)
- Interchangeable battery units to support the most demanding enterprise usage requirements
- Enhanced durability for shock and vibration and the IP 53 standard for liquid and dust resistance
- Compatibility with enterprise-grade WLAN networks with interoperability and performance guaranteed (refer to interoperability list)
- Voice quality using proprietary (running with SVP server) or standard\* 'Wireless Multimedia' mechanism (WMM) (running without SVP server)
  - \* compliant with new Alcatel-Lucent WiFi infrastructure
  - \* depending on WiFi infrastructure support (refer to interoperability list)
- Ability to mix 300/600 & 310/610 WLAN handsets on existing infrastructure because of presence of Alcatel-Lucent VoWLAN SVP server.
- Secure, private conversations using Wi-Fi Protected Access (WPA/WPA2)

### Sets Differentiation

Alcatel-Lucent IP Touch 610™



Features	Benefits
<ul style="list-style-type: none"> <li>▪ 802.11 a/b/g radio</li> <li>▪ Graphic display - 128x96 pixels</li> <li>▪ Backlight display &amp; keypad (green)</li> <li>▪ Vibrate mode</li> <li>▪ Loudspeaker</li> <li>▪ Headset connection</li> <li>▪ QoS: SVP or WMM (802.11e)</li> <li>▪ OmniPCX call features</li> <li>▪ Push-To-Talk (24 channels) plus one priority override</li> <li>▪ Battery (standard capacity): up to 4-hour talk time, up to 160-hour standby time</li> <li>▪ Ingress protection Naked device IP53</li> </ul>	<ul style="list-style-type: none"> <li>▪ 'Matching WiFi expectations'</li> <li>▪ Designed for industrial intensive collaboration (rugged design)</li> <li>▪ User-friendly</li> <li>▪ Different battery packs</li> <li>▪ Improved Push-To-Talk</li> <li>▪ Durability in harsh environments</li> </ul>

Specifications: 145x51x23 (mm), 120 grams

**Alcatel-Lucent IP Touch 310™**



- 802.11 a/b/g radio
- Graphic display - 128x96 pixels
- Backlight display & keypad (green)
- Vibrate mode
- Loudspeaker
- Headset connection
- QoS: SVP or WMM (802.11e)
- OmniPCX call features
- Battery (standard capacity): up to 4-hour talk time, up to 160-hour standby time
- Ingress protection Naked device IP53
- 'Wi-Fi simplicity with style'
- Designed for office intensive collaboration
- User-friendly
- Different battery packs
- Durability in harsh environments

Specifications: 137x51x23 (mm), 110 grams

**Accessories and options**

**Basic desktop charger** for Alcatel-Lucent IP Touch 310/610 WLAN Handsets

Charges one battery via handset.  
No LED. The handset displays the battery status.  
Basic charger delivered in commercial offer.  
Power supply independent from charger.



**Desktop charger** for Alcatel-Lucent IP Touch 310/610 WLAN Handsets

Charges handset battery or a second battery via battery slot.  
Charging of the handset battery takes precedence if both slots are occupied.  
Intended for users requiring continuous long-term operational availability.  
One LED to control the spare battery status.  
Power supply independent from charger.



**Gang/quad charger** for Alcatel-Lucent IP Touch 310/610 WLAN Handsets

Charges four batteries simultaneously via battery slots. Wall mountable with support for cable routing underneath.  
For very high use or for several batteries, the gang / quad charger simultaneously charges up to 4 ready spare batteries.  
One LED per spare battery to control the status.  
Power supply independent from charger.



### Carrying accessories for Alcatel-Lucent IP Touch 310/610 WLAN Handsets

- Lanyard



- Swivel clip



- Pouch with keypad cover



- Rugged holster



## Configuration cradle, a tool for the installation

- Through USB link provided on dual charger device (Dual charger also functions as a configuration cradle)
- For firmware upgrades and configuration downloads through Windows-based application (PC running Windows 2000 or Windows XP or Windows Vista)
- Designed as a time-saving device for rapid administration and configuration of a number of handsets
- Configuration options include:
  - Setting all options on the Admin menu
  - Setting all options on the Config menu
  - Assist troubleshooting by recording error information
  - Upgrade handset software



### Technical specifications

<b>Radio frequencies</b>	2.4 - 2.4835 GHz (802.11b, 802.11g) 5.15 - 5.35 GHz and 5.725 - 5.825 GHz (802.11a in North America) 5.15 - 5.35 GHz and 5.47 - 5.725 GHz (802.11a in Europe)
<b>Transmit data rates</b>	Up to 54 Mb/s (802.11a/g), up to 11 Mb/s (802.11b)
<b>Transmit power</b>	Adjustable through configuration (up to 100 mW)
<b>Wireless QoS</b>	SVP mode (proprietary), standard (WMM)
<b>Codecs</b>	G.711 (A- and $\mu$ -law), G.729a/ab
<b>Wireless security</b>	WEP 40-bit and 128-bit Wi-Fi Protected Access (WPA) and WPA2 with Pre-Shared Key (PSK) Cisco Fast Secure Roaming (FSR)
<b>Telephony protocols</b>	SpectraLink Radio Protocol, Alcatel-Lucent OmniPCX Office
<b>Management</b>	DHCP, TFTP
<b>Display</b>	128 x 96 backlit display with icons and line-status indicators

<b>Dimensions</b>	137 x 51 x 23 mm (310) 5.4" x 2.0" x 0.9" (310)  145 x 51 x 23 mm (610) 5.7" x 2.0" x 0.9" (610)
<b>Weight</b>	With standard battery  110g (310) 3,9oz (310)  120g (610) 4,2oz (610)
<b>Battery capacity</b>	LI Ion technology Standard - up to 4-hour talk time, up to 80-hour standby Extended - up to 6-hour talk time, up to 120-hour standby Ultra-Extended - up to 8-hour talk time, up to 160-hour standby
<b>Headset jack</b>	2.5 mm
<b>Durability</b>	IP 53 certified for resistance to dust and liquid resistance MIL 810F Proc IV 516.5 for shock resistance
<b>Operating temperature</b>	0 - 50° C

## Alcatel-Lucent VoWLAN SVP server

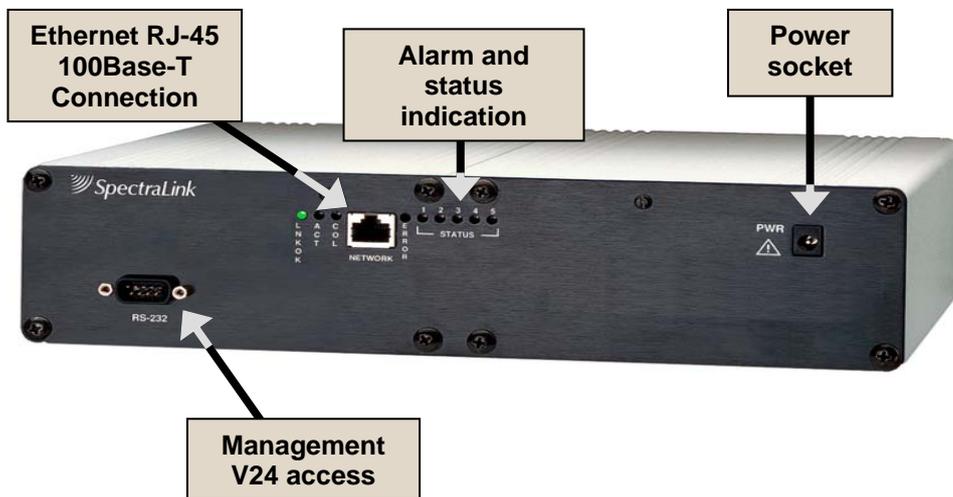
### *Focus on voice quality*

An Alcatel-Lucent VoWLAN SVP server - 802.11b/g - is required in a deployed system to ensure excellent voice quality. The Alcatel-Lucent VoWLAN SVP server is standards-compatible, easy to implement, and reduces packet queuing delays for voice traffic. One of its primary functions is the management of IP Touch WLAN Handsets battery life, as well as the number of simultaneous calls allowed per access point so that it can spread traffic effectively across the WLAN.

The VoWLAN Server comes in three versions depending on the number of on site mobile IP Touch WiFi handset:

- VoWLAN server 10 supports a maximum 10 Alcatel-Lucent IP Touch 310/610 WLAN Handsets
- VoWLAN server 20 supports a maximum 20 Alcatel-Lucent IP Touch 310/610 WLAN Handsets
- VoWLAN server 100 supports a maximum 120 Alcatel-Lucent IP Touch 310/610 WLAN Handsets with a maximum of 80 simultaneous communications

Only one VoWLAN server is possible per OmniPCX Office



## Global limits

**OmniPCX Office Release 7.0**

<b>Mobility</b>	
<b>VoWLAN</b>	
Total number of Mobile IP users	120
Nb of SVP server per system	1
Nb of IP Touch WiFi handset with SVP server 10	10 / 10 simultaneous calls
Nb of IP Touch WiFi handset with SVP server 20	20 / 20 simultaneous calls
Nb of IP Touch WiFi handset with SVP server 100	120 / 80 simultaneous calls
Simultaneous call per Access Point	8

## Section 4: OmniAccess WLAN Infrastructure

### Introduction

Alcatel-Lucent provides small and medium enterprises with state of the art and easy deployable WLAN infrastructure products. This wireless infrastructure complements the Office Communication solutions with WiFi mobility for voice, data and combined terminals.

### OmniAccess WLAN Infrastructure offer

The main part of the wireless infrastructure consists of two elements:

- **Wireless switches**, the controlling heart of the infrastructure
- **Wireless access points**, enabling wireless terminals to communicate with other wired and wireless terminals

The wireless switch is necessary to set-up and manage the wireless access points, control the security of terminals and encrypt wireless traffic and provides Quality of Service and DECT a like features (Call Admission Control, Battery Saving, Handover..) to VoWLAN terminals.

The wireless Access Point has a built in radio and integrated or external antennae to communicate with wireless terminals and in addition an Ethernet interface to forward traffic from the wired to the wireless terminals and vice versa. An Alcatel-Lucent wireless switch **MUST** manage an Alcatel-Lucent wireless access point.

There are two ways to connect wireless Access Points to a wireless switch:

- **Direct** (an AP has a physical point-to-point connection with a wireless switch, while powered via Power over Ethernet by the same switch.)
- **Indirect** (an AP has logical connection with a wireless switch. Meaning both the wireless switch and AP are connected to an existing infrastructure while the AP is powered via Power over Ethernet or an external (optional) power adapter.)

There are switches in the portfolio (e.g. the OmniAccess WLAN 4308) that allow both direct and indirect connection, providing Power over Ethernet at the same time. Other switches (e.g. the OmniAccess WLAN 4302) only allow indirect connections and rely on an existing wired infrastructure. A wired infrastructure can be build with the OmniStack 6200, which is available in a PoE-version as well.

## Selling the value of the Alcatel-Lucent OmniAccess WLAN infrastructure

The OmniAccess WLAN comes with a rich set of features that improve deployment and operation of a wireless infrastructure. Especially when deploying three or more access points in a single building the system is very attractive compared to traditional access points, originally designed for home usage.

### **Easy**

The Alcatel-Lucent wireless LAN infrastructure requires a straightforward installation. Using an off-the-shell Internet browser one can access the wireless switch for initial setup, requiring to assigning the wireless network name (SSID) and some other variables. However it is not necessary to setup radio channels, as the system will apply automatically the best channel to every radio (access point) in the network to avoid interference between access points. (With traditional access points this has to be done manually every time a new access point is installed.)

After configuring the wireless switch, access points can be directly or indirectly connected and are recognized and configured automatically by the wireless switch. Whenever there is a need to upgrade the system (i.e. new features), only the wireless switch has to be upgraded, while the access points are upgraded automatically. (With traditional access points every unit has to be upgraded separately.)

### **Automatic**

Because of wireless access points are centrally managed, a graphical view of the radio coverage of the access points is available via the management interface. This view can be projected on a map of the premises to be able to see automatically areas that are not covered. This mean, that instead of doing a costly site-survey, one just adds an access point in the middle of the so-called "black hole" to regain full coverage.

Radio channels are assigned automatically. There is no need to configure the radio channel per access point individually to prevent interference. Even in case of interference access points can automatically adapt their radio parameters to maintain coverage in difficult areas.

Rogue access points (illegal access points) can be detected automatically. Detection can result in automatic containment of the rogue access point if enabled by management. Detected rogue access points are visible in the management view, while the OmniAccess 4308 shows a blinking LED in case.

### ***Integrated***

Security of the system is provided by the IEEE 802.11i standard. Both user and pre-shared key authentication is integrated into the system. Encryption through the air is supported as well to avoid one's neighbor eaves dropping traffic. Eventually for advanced companies the ability to invite guests to the network is possible as well by means of an integrated, so called captive portal accessible by any Internet Browser but protected by a firm authentication mechanism.

The Alcatel-Lucent wireless LAN infrastructure has integrated a graphical management system based on standard Internet Browser access. No additional application is required to manage the wireless infrastructure. The management interface will show for instance the radio black spots, not covered by Access Points, allowing easy and adequate improvement of radio coverage in a building without an expensive site survey. Also using the graphical management interface one can enter the address of a wireless terminal. The display in turn will show the real-time whereabouts of this terminal within the radio-coverage of the system.

### ***Advanced VoWLAN support***

Alcatel-Lucent includes the required features for operating business telephony in the WLAN-offer. Although the dedicated WiFi technology is different from DECT, many features common to DECT are available in WiFi nowadays.

- **Seamless roaming** (handover), to keep a conversation when walking from one wireless access point to another
- **Quality of Service**, using the most modern technology a high audible quality conversation can be achieved, examples of implemented technologies are: WMM, SVP, T-Spec, DSCP, IEEE 802.1p
- **Battery Saving**, to extend the battery life of the wireless terminal, technologies like U-APSD, Proxy ARP, Multicast filtering are included.

## Hardware Description

### *Alcatel-Lucent OmniAccess 4302 WLAN Switch*

**Capacity**

Up to 6 Access Points  
100 Associated wireless devices

**Performance**

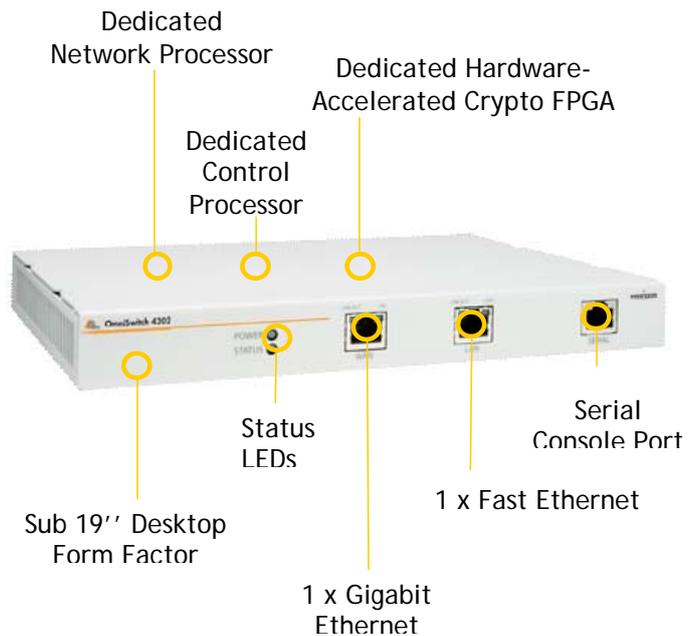
1 Gbps Clear / 200 Mbps Crypto

**Interfaces**

1 x Fast Ethernet Port (RJ-45)  
1 x Gigabit Ethernet Port (RJ-45)  
1 x Serial Console Port (RJ-45)

**Programmable architecture**

Control & Data Planes  
Network Processor Core  
Hardware- Accelerated Engine



### *Alcatel-Lucent OmniAccess 4308T WLAN Switch*

**Capacity**

Up to 16 Access Points  
256 Associated wireless devices

**Performance**

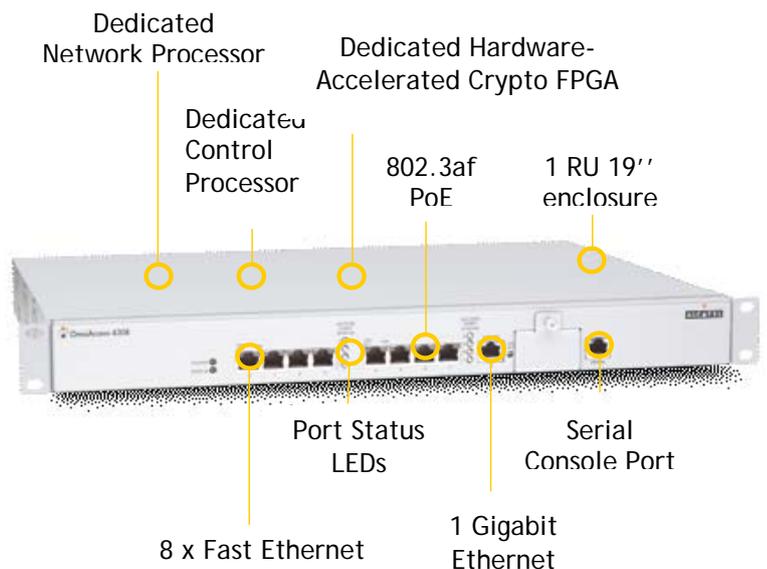
800 Mbps Clear / 200 Mbps Crypto

**Interfaces**

8 x Fast Ethernet Port (RJ-45)  
with 802.3af PoE support  
1 x Gigabit Ethernet Port (RJ-45)  
1 x Serial Console Port (RJ-45)

**Programmable architecture**

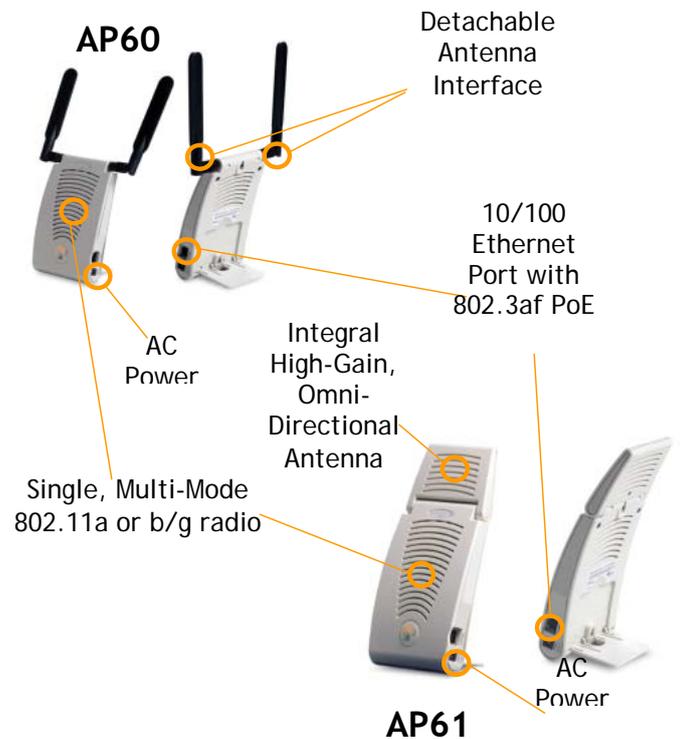
Control & Data Planes  
Network Processor Core  
Hardware- Accelerated Engine



### Alcatel-Lucent OmniAccess WLAN Access Point AP60 and AP61

#### Features

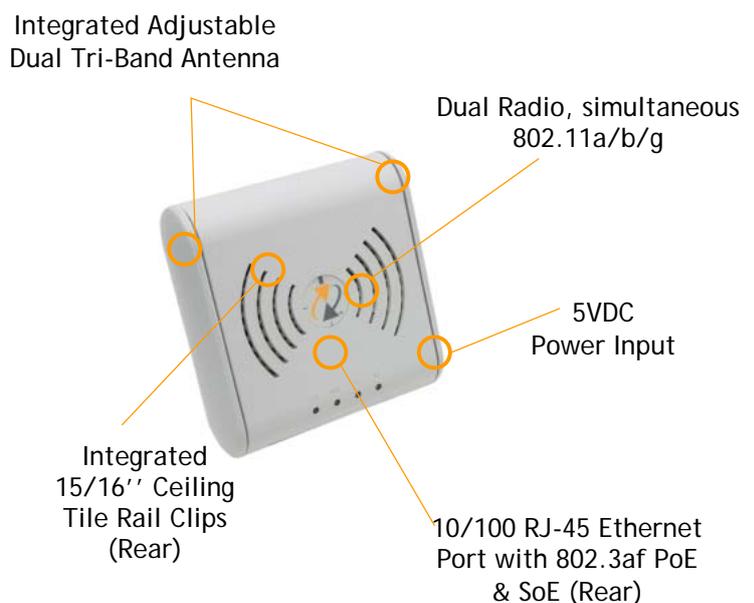
- 802.11a or b/g Access Point
- Software Configurable Radio
- Multi-band 802.11a or b/g Operation
- Support Radio Signal Diversity
- 10/100Base-T RJ-45 Interface
- 802.3af PoE Power Sourcing
- Detachable Antenna Interfaces **for AP-60**
- Integrated Omni-Direction Antenna **for AP-61**
- UL 2043 Plenum & EN60601 Medical Cert.
- Small Form Factor
- (Wall, Under Desk, Pole, Plenum Deployable)



### Alcatel-Lucent OmniAccess WLAN Access Point AP65

#### Features

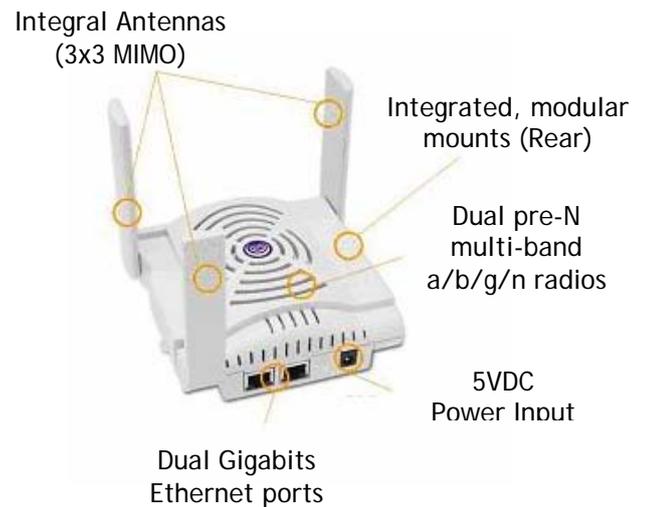
- 802.11a/b/g Access Point
- Software Configurable Radio
- Multi-band 802.11a/b/g Operation
- Support Radio Signal Diversity
- 10/100Base-T RJ-45 Interface
- 802.3af PoE Power Sourcing
- 5VDC Power Input (multi-region AC kits)
- Integrated Dual, High-Gain, tri-Band Omni-directional Antenna
- UL 2043 Plenum & EN60601 Medical Cert.
- Ultra Compact Form Factor(Wall, Ceiling Tile Rail, Cube, Penum Deployable)



## Alcatel-Lucent OmniAccess WLAN Access Point AP125

### Features

802.11a/b/g/n (Draft 2.0) Access Point  
High Speed Wireless - up to 300Mbps per radio  
Multi-band 802.11a/b/g/n Operation  
Dual 10/100/1000Base-T RJ-45 Interface  
802.3af or 802.3at or PoE + interoperable  
Power-Over-Ethernet (PoE) with intelli-source PSE sourcing intelligence  
5VDC Power Input (multi-region AC kits)  
Integral, tri (3x3), omni-directional multi-band dipole antenna elements (supports up to 3x3 MIMO with spatial diversity)  
Ultra Compact Form Factor (Wall, Ceiling Tile Rail, Cube, Plenum Deployable)



### Gain antenna

In some specific cases, a gain antenna can be useful in reducing the number of radio base stations. It can be a significant way in decreasing the price of the infrastructure. It can divide the number of base stations by 3 for an outdoor coverage.

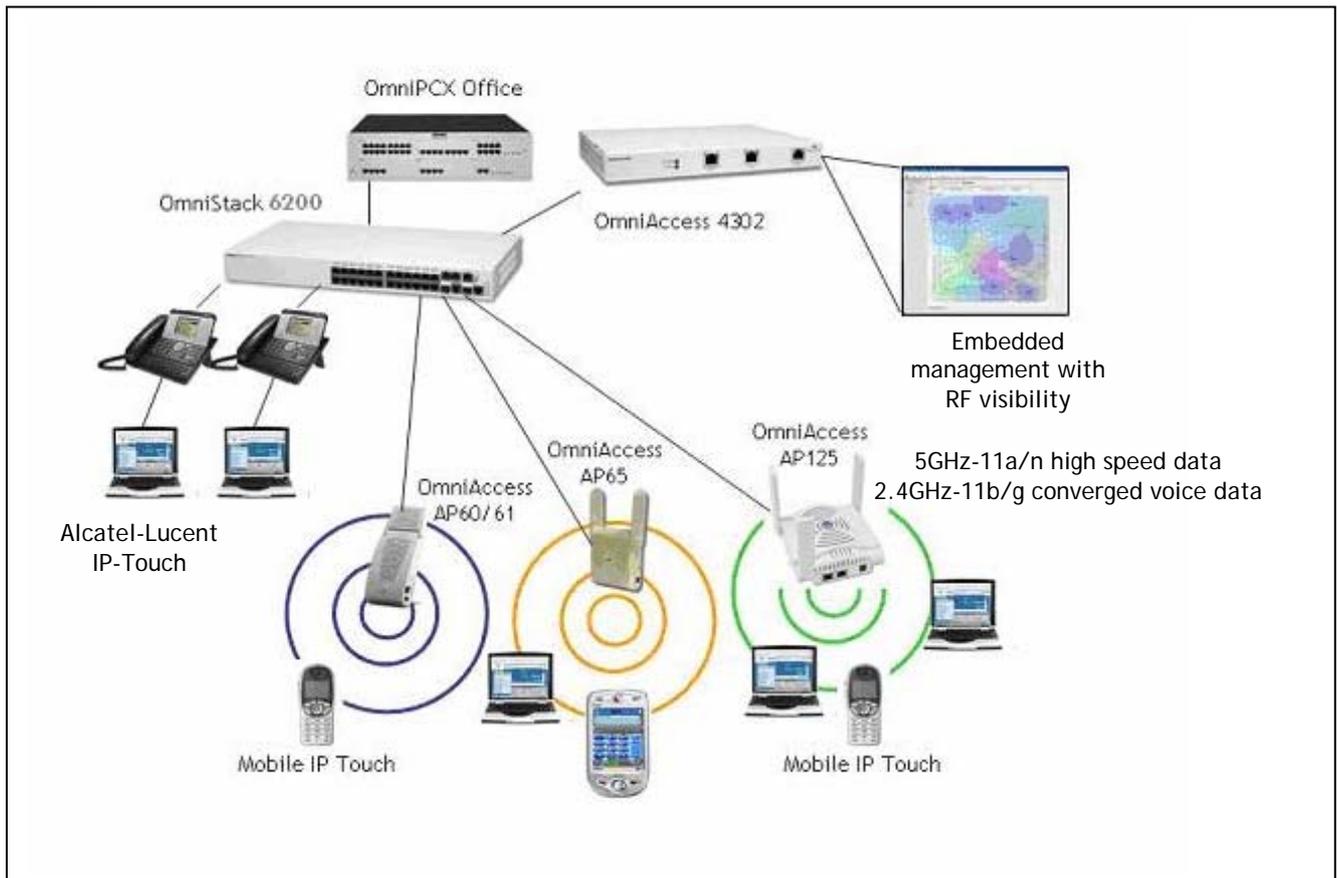
Two types of gain antennae are available. They can be connected to OAW-60.

- Omni-directional antennae,
- Directive antennae.

Please have a look in the catalog for antennae available

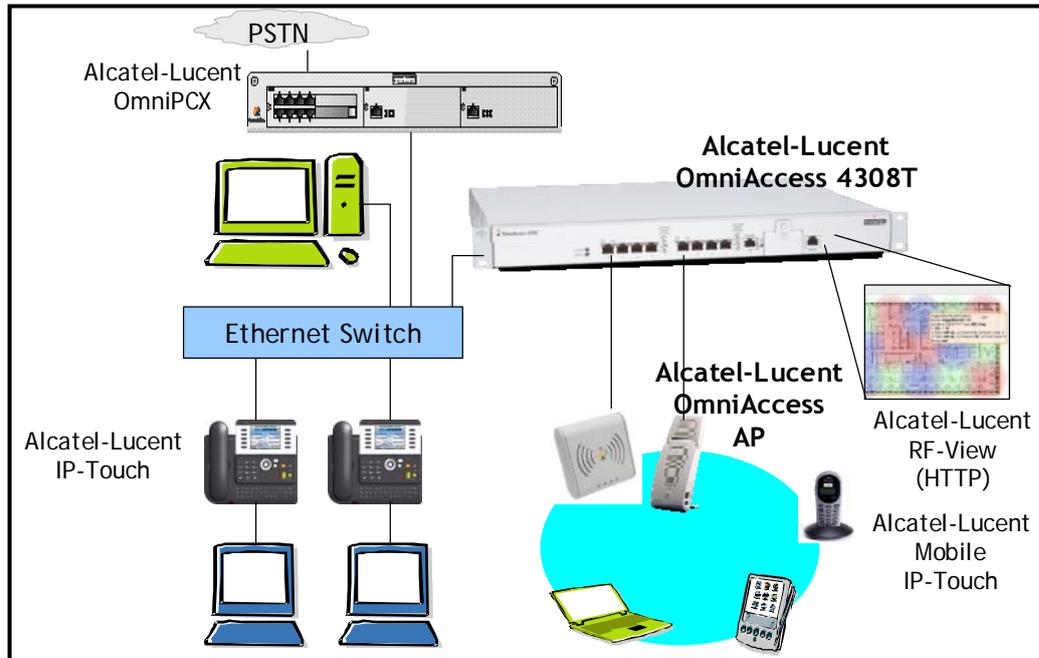
## Configuration guide

### Example 1



In this example the OmniPCX Office provides IP Telephony services via the wired (OmniStack) and Wireless (OmniAccess) infrastructure. The OmniStack provides Ethernet connectivity for the OmniPCX, possible servers and printers, IP Touch terminals and Wireless Access Points. The OmniStack (PoE version) will at the same time be provide power to the IP Touch and OmniAccess Wireless Access Points over the Ethernet link. Powering Ethernet devices prevents deployment of additional power supplies and power cabling. The OmniAccess 4302 Wireless Switch will control up to six Access Points. In addition, the OmniAccess 4302 supports centralized management and policy enforcement with configuration, monitoring, RF coverage visualization and network admission control. The OmniAccess APs and Wireless switch offer advanced capabilities to ensure the highest quality and security in voice services. These capabilities include WMM Quality of Service (QoS), battery boost, U-APSD, Connection Admission Control (CAC), voice-aware scanning, seamless AP to AP hand-off, and voice-aware stateful firewall.

## Example 2



In this specific example the OmniPCX Office provides IP Telephony services via the wired (Ethernet Switch) and Wireless (OmniAccess) infrastructure. The existing Ethernet switch provides Ethernet connectivity for the OmniPCX, possible servers and printers, IP Touch terminals and possible Wireless Access Points. The OmniAccess Wireless Switch connects directly up to 8 Wireless Access Points and at the same time provides power to Wireless Access Points over this Ethernet link. The OmniAccess 4302 Wireless Switch will give full view on the radio coverage of a maximum of 16 Access Points, of which can 8 connected directly to the OmniAccess 4308.

## Access point quoting and deployment

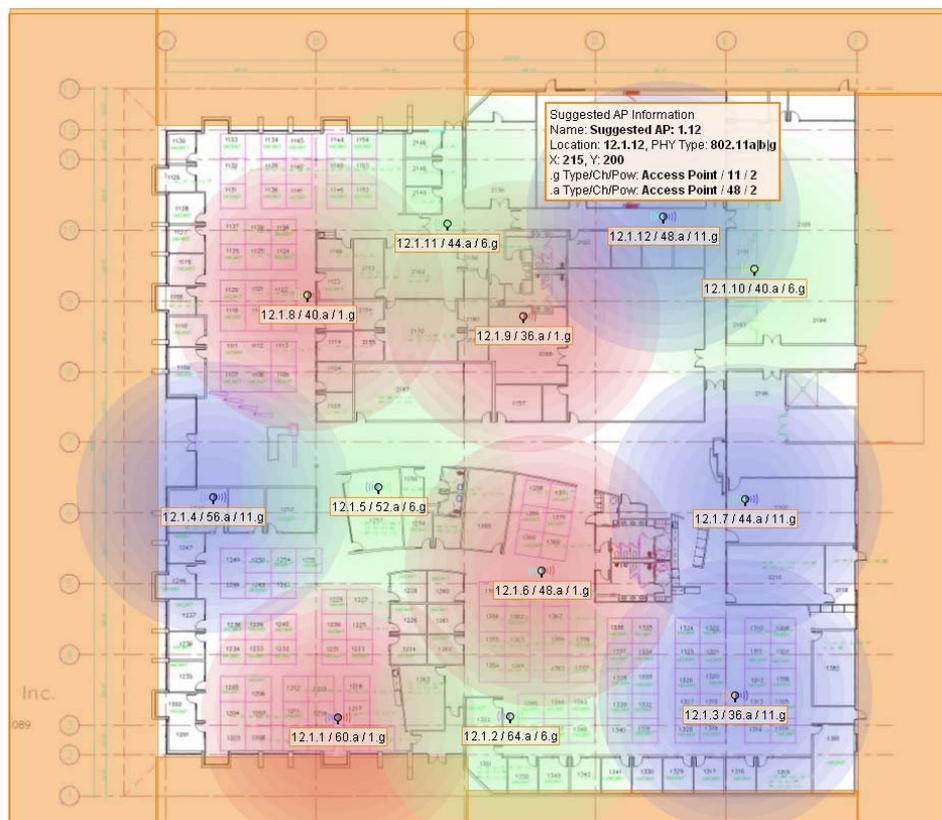
Practically there are three ways of planning/quoting a WiFi environment.

1. The Alcatel-Lucent RF planner
2. Engineering Rules
3. Site Survey

### 1 The Alcatel-Lucent RF planner

The Alcatel-Lucent RF-planner (available for free on the Alcatel-Lucent Business Partner Web Site) is a graphical tool that aids in planning deployment of OmniAccess wireless access points. It allows importing a building map (which can be used later again into the Live RF View). Based on user parameters it will give a rough indication on the amount of Access Points needed and their position in the building.

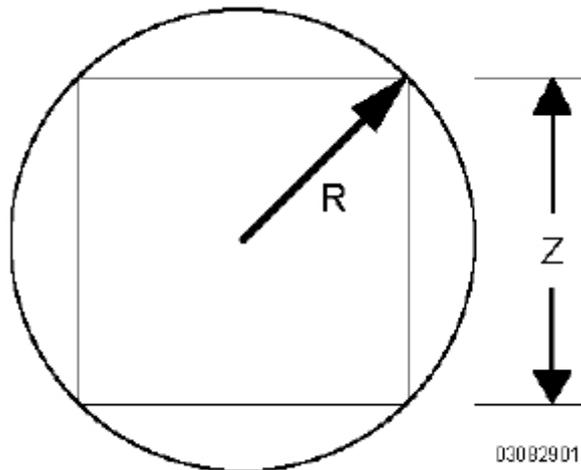
The following depicts an example image from the RF Planner:



*The RF planner will give an indication on placement only and is often used to generate a quick quotation. It does not take in account physical constraints like cabling, walls, metal objects, etc...*

## 2 Engineering rules

To determine the coverage area of a radio based on the building type and desired average user performance. The Z factor represents the length of a square that corresponds to the coverage area of the access point.



The following table includes building types, and shows the coverage area measurements for a coverage at -70 dBm for the WLAN phones and for data on 802.11a band. **These values are based on empirical data and can vary from one site to the other and depending on the WLAN card used for data, a WLAN adaptor D-link Air Xpert DWL-AG650 802.11 triband has been used for these measurements.**

Building Type	Measurement	802.11b/g: coverage at - 70dBm for the phones = - 65 dBm for data (note 1)	802.11a: average user throughput of 15 Mbps	802.11a: average user throughput of 18 Mbps
Typical Office	A (m <sup>2</sup> )	450	450	324
	R (m)	15	15	13
	Z (m)	21	21	18
Drywall Office Space	A (m <sup>2</sup> )	324	324	289
	R (m)	13	13	12
	Z (m)	18	18	17

Building Type	Measurement	802.11b/g: coverage at - 70dBm for the phones = - 65 dBm for data (note 1)	802.11a: average user throughput of 15 Mbps	802.11a: average user throughput of 18 Mbps
Brick Wall Office Space	A (m <sup>2</sup> )	288	288	N/A
	R (m)	12	12	-
	Z (m)	17	17	-
Hospital	A (m <sup>2</sup> )	324	324	289
	R (m)	13	13	12
	Z (m)	18	18	17
Warehouse/ Manufacturing with no obstacles, metallic separations	A (m <sup>2</sup> )	450	450	324
	R (m)	15	15	13
	Z (m)	21	21	18

*The engineering rules give an indication on coverage only and is often used to generate a quick quotation. It does not take in account physical constraints like cabling, walls, metal objects, etc...*

### 3 Site survey

The most reliable way of planning AP deployment is by a site survey by professionals using professional equipment. Alcatel-Lucent can quote and perform a site survey. Based on customer parameters Alcatel-Lucent will provide a complete site-survey report, including recommendations on placement and possible adaptations on the wired infrastructure.

# Chapter 5: Off-site Mobility

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## Overview

Forty percent of SMBs now have mobile employees. Mobile access is vital for all employees in a company – for sales personnel of course, but also for executives, managers and those who work from home or who take work home. No matter where they are, mobile employees need to access their professional communications environment at any time. Alcatel-Lucent provides professional mobility solutions for various devices.

- **Any phone solution** - an easy-to-deploy and flexible cellular-based voice solution that reduces communications costs and brings remote access to Alcatel-Lucent OmniPCX Office telephony services
- **Smartphone solutions with cellular voice client** - a user-friendly interface with integrated ergonomics (available on many smartphones in the market) make it easy to access remote services
- **Data solutions** - employees can access and share information in real time, including e-mail, calendar, contacts and tasks, from any location and on any device, with the Alcatel-Lucent Extended Communication Server
- **Remote access server** - a PC-based solution that ensures work continuity and reduces costs



<p><b>Standard One Number Solution</b></p>	<p><b>Solutions for Windows Mobile 6 and Symbian 9.x Smartphones</b></p>	<p><b>Web-based Solutions</b></p>
<p><i>Any Phone</i></p> <p>Basic voice solution</p> <p>Any mobile</p> <p>No client</p> 	<p><i>Advanced Cellular Extension for Windows Mobile &amp; Nokia e-series</i></p>  <p><i>Push Mobile</i></p> <p>Real time e-mail, calendar, contacts</p> 	<p><i>Mobile Virtual Desktop</i></p> <p>Nomadic telephony</p> <p>Voice mail</p> <p>E-mail, calendar, contact, tasks</p> 
<p><b>With PC</b></p>		
 <p><i>Alcatel-Lucent PIMphony Softphone</i></p> <p>Complete telephony environment</p>	<p><i>Virtual Desktop</i></p> <p>Web-based client</p>	

## Section 1: Voice Mobility Solutions

Alcatel-Lucent voice mobility solutions are based on one number service, which enables remote access to Alcatel-Lucent OmniPCX Office features. With these solutions, a mobile phone can be an integral part of the company's communications system, inside or outside the company. The user's phone number becomes the single contact point for colleagues, customers and partners. The key solutions based on one number service are:

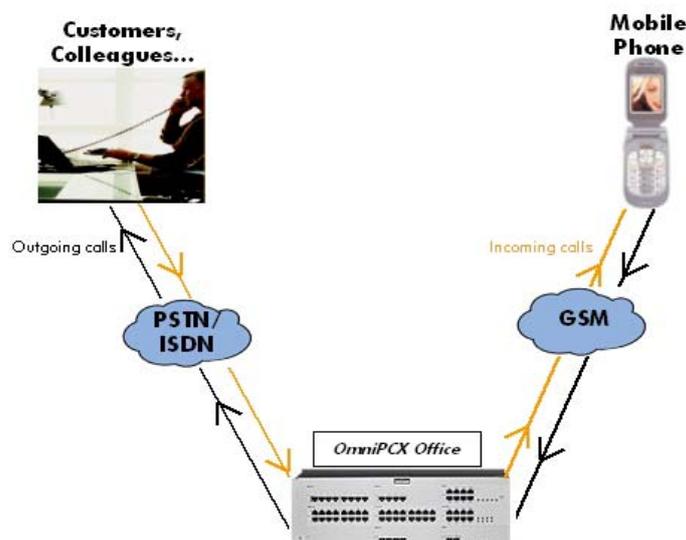
- **Any phone solution**, which enables access to enhanced features through dual-tone multi-frequency (DTMF) codes and remote customization.
- **Voice solutions** for Nokia E-series and Windows Mobile 6 smartphones with a software client, which provide enhanced ergonomic access to integrated functions.

### One number service

With one number service, mobile users can access the features of Alcatel-Lucent OmniPCX Office remotely. Users benefit from:

- Having only one unique office number for external contacts to reach an employee
- Short number dialing for intra-company calls
- Colleagues can call the mobile user by using dial-by-name functionality
- Call supervision and rerouting for unanswered calls
- Office voice mailbox access from anywhere, anytime
- Personal assistant
- Remote configuration of the communications environment

In addition, when combined with an Alcatel-Lucent PIMphony Softphone, users have access to advanced features, including in-conversation services, contact screen pop and call logs.



**Note:** One number service can be also used with a desk phone, hotel room phone or a home phone.

## How it works

One number service provides easy access to employees:

- An external contact dials the direct dial in (DDI) number
- An internal user dials the user's short number or dials by name

One number service can be activated from the mobile phone. Depending on the type of mobile phone being used, this activation can be completed by accessing an interactive voice menu or, for a Windows Mobile 6 or Nokia E-series smartphone, the activation can be completed by accessing the phone's business mode menu.

Additional features include:

- Remote access to office voice mailbox
- Remote activation and deactivation of personal assistant
- Forwarding configuration and activation
- Busy/free status monitoring of the mobile phone by the company's operator via a busy lamp field (BLF) on an operator console

## Receiving calls

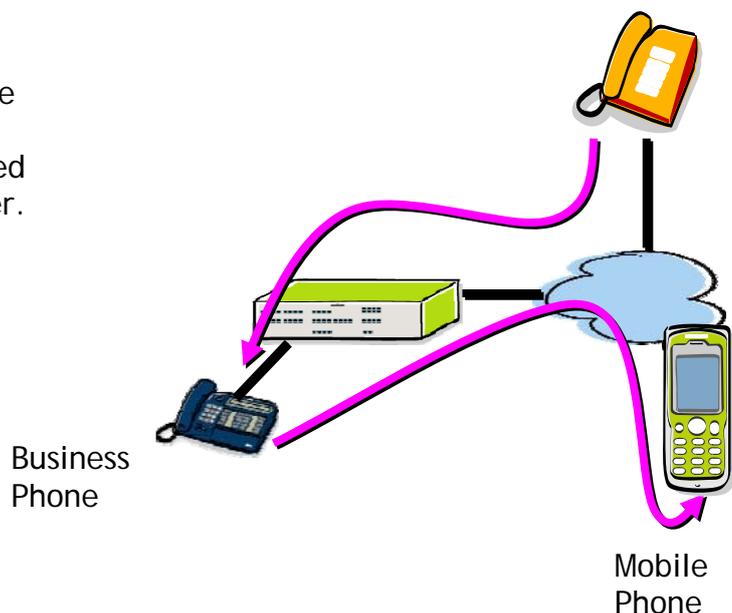
When an incoming call occurs:

- In basic profile, only the mobile phone rings when one number service is activated.
- In advanced profile, the mobile phone and the employee's desk phone ring together and the user can answer the call with either of the two phones (twinset function).

If the user does not answer the call, the incoming call is routed to another destination, based on the pre-configured dynamic routing preferences of the user.

Preferences include:

- Attendant of the company
- Office voice mailbox



### Outgoing calls

On any phone, without a software client, the user can:

- Call the DISA number (remote forwarding feature)
- Enter a password
- Dial a short number or an external number

On smartphones, with a software client, the user can:

- dial a short number or an external number (when in business mode)
- Initiate the call with another application

### Alcatel-Lucent PIMphony Softphone

Mobile users can also benefit from all the features and services supported by Alcatel-Lucent PIMphony Softphone on a PC such as:

- Screen pops of a contact card from a contact management application (Outlook, Lotus Notes, ACT!, Goldmine, Access)
- Visual mailbox
- Control over calls with inquiry call, transfer and conference
- Call log review
- Ability to record conversations

### Global limits

When preparing a quote, be aware that two trunks are mandatory for calls, either incoming or outgoing. This avoids traffic blocking situations once the solution is deployed. Up to 50 one number service users can be active at one time.

## BENEFITS

### Productivity enhancement

Empower your mobile workers with one business phone number they can access from anywhere, at anytime, from any mobile phone.

### Cost control

- Control mobile phone usage with Alcatel-Lucent OmniPCX Office services like barring and least-cost routing.
- Reduce communications costs through a company-negotiated fixed rate for mobile users.
- Leverage the company's mobile fleet negotiated plan.

## Any phone mobility solution

The any phone solution gives users access to one number service through DTMF codes. This solution requires a mobile user for any phone software license.

### BENEFITS

#### Easy deployment

As easy to deploy as any other extension of Alcatel-Lucent OmniPCX Office. All you need is a mobile phone.

#### Universal service

Can be used with any type of mobile phone and is compliant with any mobile network.

## Smartphone mobility solution

The Advanced Cellular Extension (ACE) mobility solution is a voice mobility offering from Alcatel-Lucent. It is easy to:

- Deploy because Alcatel-Lucent offers a one-stop shopping process
- Operate because of its integrated ergonomic features

The solution is based on a cellular software client supported on multiple devices:

- Advanced Cellular Extension for Nokia E-series phones
- Advanced Cellular Extension for Windows Mobile 6 smartphones

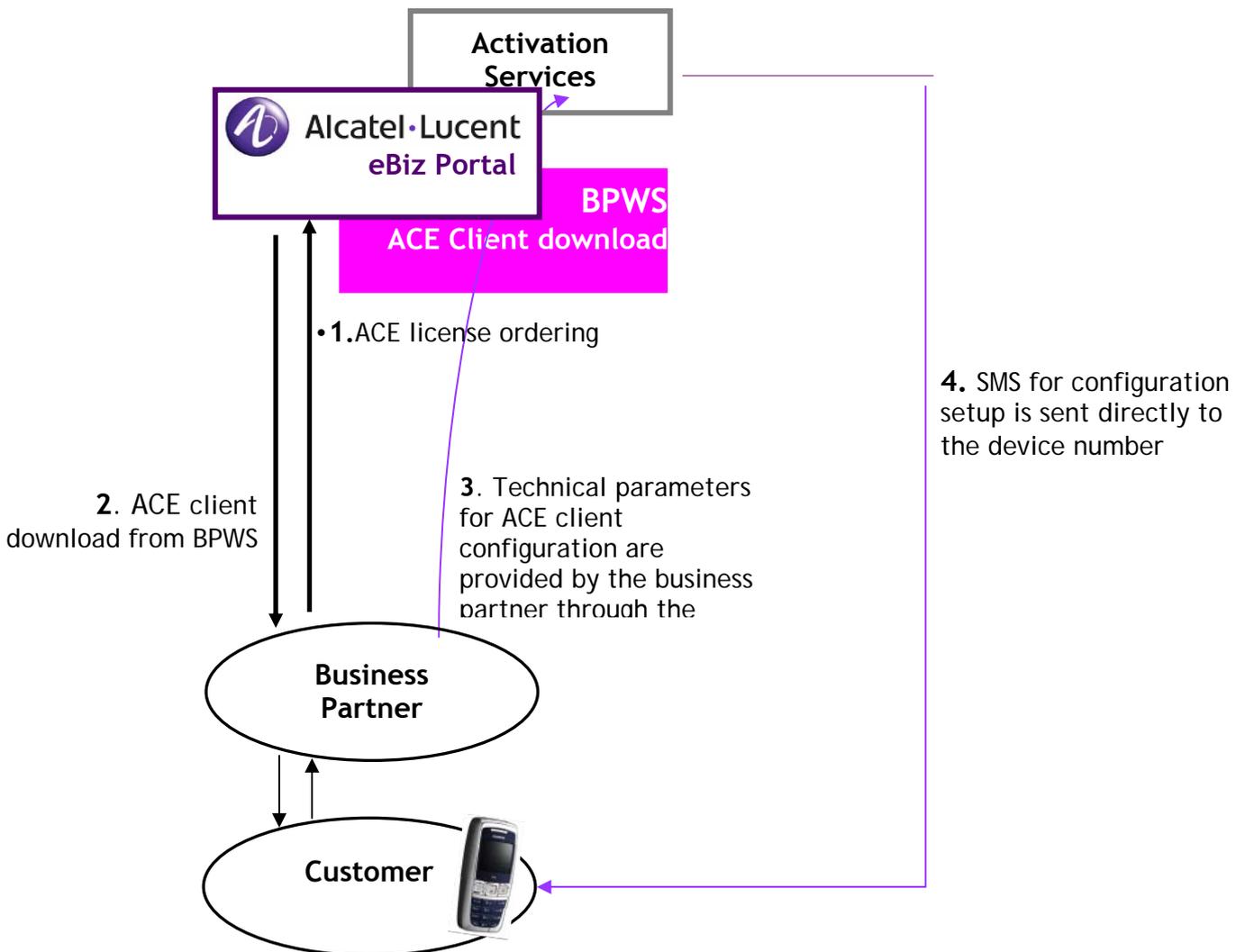
Functions accessible directly from the user interface include:

- Business mode control (coupled with one number service activation and deactivation)
- Call initiation:
  - From Alcatel-Lucent OmniPCX Office numbering plan (in native dialer)
  - From GSM contacts
  - To attendant
- Voice mailbox access (consultation, configuration)
- Forwarding:
  - Immediate
  - Immediate to voice mail
  - Immediate to personal assistant
- Personal call (temporary out of business mode)



### How to order

The smartphone mobility solution requires a mobile user for Nokia E-series or mobile user for Windows Mobile 6 software license, which includes the software client, configuration and activation, as well as one number service.



For Nokia client:

- The Nokia license provided by Alcatel-Lucent must be keyed into a Nokia device after the client is downloaded (step 2).
- After the license is keyed into the mobile device, the device automatically connects to a Nokia license server and activates the client via an SMS.
- ICC client configuration can be completed through the Business Partner web site (step 3)

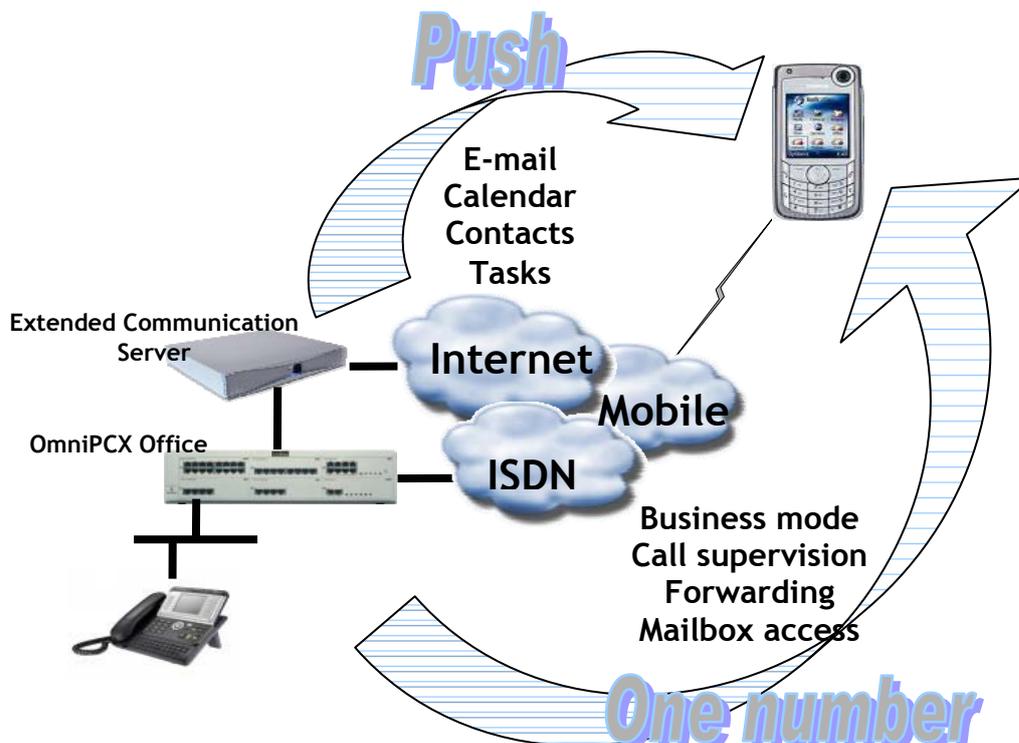
In case of mobile phone loss, hard reset or change (same phone number kept):

- The ACE client is downloaded to the mobile phone.
- The same Nokia license must be entered for a new SMS activation message to be automatically sent to the new device.
- A configuration SMS returns through the Business Partner web site for both clients.

Note: Re-activation for one phone number can be done up to three times.

### Push mobile service

These voice solutions can be combined with the Alcatel-Lucent push mobile service (see data mobility solutions section). This will provide users with a complete mobility solution with one number for professional calls and real-time e-mail, contacts and calendar features.

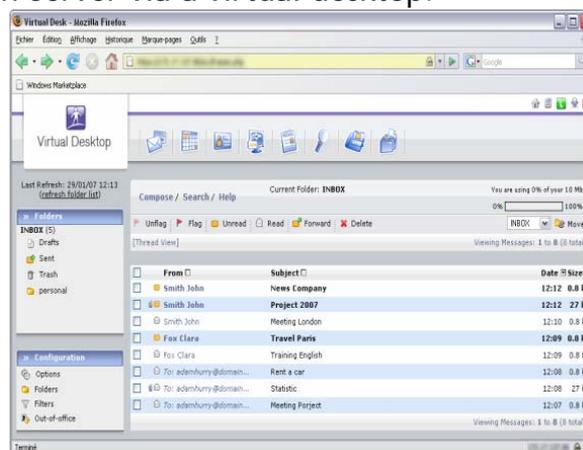


## Section 2: Data Mobility Solutions

The Alcatel-Lucent Extended Communication Server provides mobile users and remote workers with access to their business critical data from their mobile phone and from their PC via a powerful web-based interface. For more information see Chapter 9: Extended Communication Server.

### Access from a PC

Remote workers can access data from their PC using an Internet connection. This feature allows them to securely access and share information stored in the Alcatel-Lucent Extended Communication Server via a virtual desktop.



### Access from mobile devices The Mobile Virtual Desktop

The mobile virtual desktop allows mobile employees to access and share information, such as e-mails, calendar, contacts and tasks, via the Internet using a web interface on mobile devices that support GPRS, Edge, UMTS or Wi-Fi, with WAP 2.0.



### Push mobile service

Push mobile is a powerful solution for mobile employees. Push mobile gives mobile employees access to groupware information using mobile devices such as a Pocket PC or smartphone. It is an extension of the company's mail server and synchronizes e-mails, calendars, contacts and to-do lists over the air and in real time.

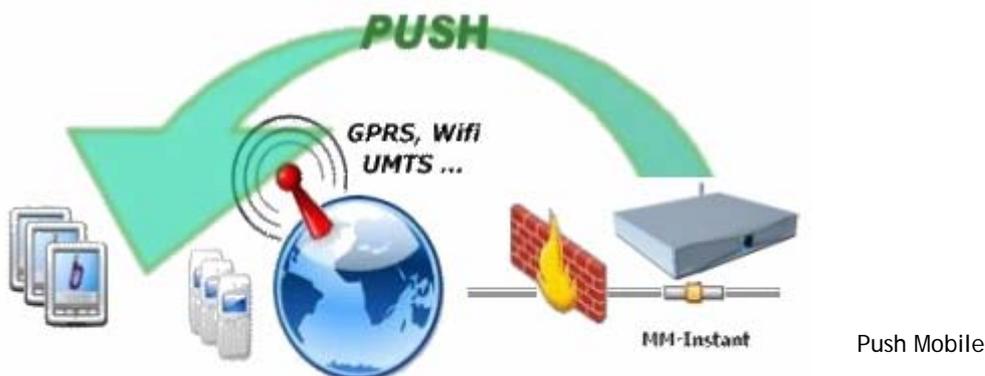
Push mobile does not require any modification of your company's e-mail server or any Internet access specific configuration. Solution deployment is immediate regardless of the number of users.

### How it works

Push mobile synchronization can work in three different modes:

- On demand synchronization
- Cyclical synchronization
- Push mode synchronization

Depending on your usage and location, the user can switch modes at anytime. The push mode is the most efficient mode because it allows users to receive all updated content from an e-mail server in real time and without any intervention.



### Mobile extension of e-mail server

Push mobile is a homogeneous e-mail server extension. In a mobile situation, users can check all their folders, sort their messages and read attached files. When an e-mail contains an attachment, the user can see the title, the format and the size of the file. The user can also download the file to his mobile device.

**Security**

Security is a crucial issue when deploying a solution that enables remote information access. Push mobile is a secured, end-to-end solution that guarantees a high level of security. No modification of the company security policy is required, and no specific port opening is required on the firewall or the DMZ.

**Deployment**

The ECS administrator starts the service and sets the rights of use, then each authorized user may download the Push Mobile client software from the ECS via his Virtual Desktop or Mobile Virtual Desktop

**Compatibility**

Push mobile is compliant with a variety of Internet access architectures and with the following devices:

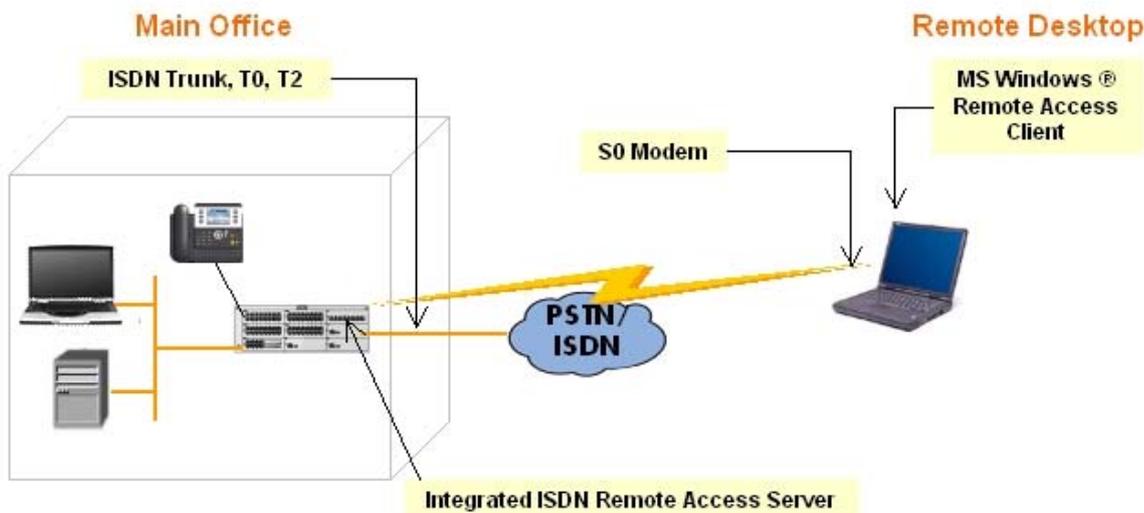
- PDA and smartphones on Windows Mobile 5.0 and 6.x
- Smartphones on Symbian 9.x for Nokia or Ericsson

Push mobile is compliant with a variety of mobile access modes, such as GSM, GPRS, Wi-Fi, UMTS and WiMAX, and is NOT dependant on a service provider

Push mobile service is ideal for small companies with very few users, as well as large companies. It guarantees a return on investment within six months.

## Section 3: Remote Access Server

The Alcatel-Lucent OmniPCX Office includes an integrated ISDN remote LAN access server. This can be used to enable remote access to the company LAN using point-to-point connections through an ISDN network and the shared B-channels of PBX trunks.



### Main features

<b>&gt; Access</b>
--- Up to 16 simultaneous ISDN 64Kb/s Remote
--- ISDN Static 64 or 128
--- ISDN Bandwidth on demand from 64 up to 128
--- PPP/ MPPP Connection protocol
--- PAP/CHAP
<b>&gt; Callback</b>
--- CBCP (Callback Control Protocol)
--- Callback to calling
--- Callback to pre-defined
<b>&gt; Compression</b>
--- PPP header
--- VAN Jacobson TCP/IP
--- BSDCOMP data payload

<b>&gt; IP services</b>
--- Automatic IP address allocation to remote
--- Remote LAN access
<b>&gt; IP Quality of Service</b>
--- IP : Differentiated Services
--- PPP : Multi Class Extension to MPPP (RFC)
<b>&gt; Security</b>
--- Remote Access Server availability controlled by time
--- PAP/CHAP user
--- Idle connection time-
--- Connection logs
<b>&gt; Administration ,</b>
--- Global and per user RAS
--- Integration within global PBX call

- ISDN Remote Access Server: Remote LAN Access and/or voice application remote access
- Single ISDN access number to RAS server
- User authentication, call back, compression and QoS
- Compatible with Alcatel-Lucent PIMphony Softphone
- Supported remote access clients: Native Microsoft Windows remote access clients (Windows 9x/NT/2000/XP)

## Capacity

- Unlimited number of declared ISDN remote access users
- Up to 16 simultaneous 64 Kb/s ISDN remote access connections per Alcatel-Lucent OmniPCX Office node
- 128 Kb/s B-channels aggregation support (static or bandwidth on demand)

## Configuration requirements

### Main office:

- Business or e-business solution
- ISDN trunk board (T0, T2)
- ISDN RAS software license (2B channels or 16 B channels)
- CoCPU-2 ISDN RAS co-processing unit (if more than 2 B channels)
- Hard disk (2B channels or 16B channels)

### Remote desktop:

- PC: Microsoft Windows with native remote access client
- ISDN S0 modem

## Benefits

- Improve productivity with secure, point-to-point remote connection through ISDN that gives mobile and home workers access to the company's resources remotely.
- Reduce costs by using shared PBX ISDN trunks; does not require dedicated lines.
- Can be deployed where Internet VPN remote access is not possible.

## Chapter 6: IP peering/networking

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## Overview

Internetworking Protocol (IP) is transforming SMB's environment.

IP, through the Internet, has already brought significant changes. SMBs communicate via e-mail, publish information online, and use e-commerce solutions to better serve their customers. But SMBs have yet to adopt IP technology for voice and telephony services, as opposed to residential users and large businesses, which have been quick to embrace it.

This situation will dramatically change when Operators will provide an IP connection that supports Internet, Voice over IP (VoIP), and new services. This change will generate new SMB demands for comprehensive solutions combining information technology, Internet, and telephone services, and allow them to access new multimedia services.

New IP Operators already propose **VoIP connections that replace PSTN/ISDN links** for external calls and allow SMBs to benefit from attractive tariff. Incumbent Operators have started the transition of their public network towards IP. **Analysts estimate that, in Europe, this transition could be completed around 2010 for enterprises connections.**

H323 has been the initial protocol supporting VoIP. It is a mature solution that is still widely used by Operators to connect enterprises to their network. But H323 design scope was limited to voice and video, and did not integrate Internet tools and infrastructure. SIP, designed by IETF, is a protocol that fully integrates Internet tools and infrastructure, and is designed to support multimedia services (voice, video, presence, messaging, conferencing, etc.). SIP is at the core of NGN/IMS/3GPP network transformation. **SIP will become the dominant protocol for IP communications.**

OmniPCX Office allows SMBs to get the benefits from IP connectivity for voice.

OmniPCX Office has been supporting H323 from the very beginning. SIP is now added to allow connections to new operators, as well as to actively support public network transition from PSTN/ISDN to IP/SIP for enterprises connections.

IP connectivity can be used by SMBs to build a private network supporting voice and data services, connecting different sites, integrating remote workers. H323 or SIP protocols can be used for Private Networking. This provides the SMBs with transparent voice and data services, while dramatically reducing communication costs.

IP will increasingly be used for enterprise connection to public network, replacing PSTN/ISDN trunks. Although H323 might still be used, SIP is the protocol of choice. OmniPCX Office connection to public network allows the SMB to benefit from VoIP tariff for all its external communication. Using SIP, OmniPCX Office supports a "peering mode" that connects a "private network" (the different sites, remote workers) to the "public network" with the possibility to have transparent services between the two networks (telephony features, presence, etc.)

# Section 1: SIP peering

## Introduction

Most of the existing Service providers are today developing activities around SIP protocol, targeting end-users and PBX connections in ISDN replacement evolution. It appears at different levels new actors on the Voice market delivering services thru SIP protocol seen as easy and open and surfing on Internet global assets, and driven by cost reductions interest. OmniPCX Office is an answer to these new commercial offers.

## SIP definition

SIP, the Session Initiation Protocol, is a signaling protocol for Internet, flexible, extensible and open. SIP connectivity provides a Universal and multi-services Access. SIP was developed within the IETF MMUSIC (Multiparty Multimedia Session Control) working group.

The OmniPCX Office SIP implementation allows to natively connect the SMB to a SIP network. It thus eliminates the need for a gateway that would make the translation between legacy PSTN protocols and SIP. Having a native SIP link allows to have a real peering solution between the SMB and the public network where added-value information can be exchanged to deliver new features (services transparency between SMB and network, presence). Which is not the case with a gateway, as connection to the PBX remains PSTN/ISDN and interaction is limited to what legacy protocol can transport. The OmniPCX Office SIP implementation is an efficient connection to public SIP network that allows smooth transition from PSTN/ISDN to IP/SIP. It is ready for further deployment of new multi-media services where OmniPCX Office and public network will cooperate to better serve SMBs.

The OmniPCX Office SIP implementation is compliant with: RFC 3261 (SIP Session Initiation protocol June 2002), RFC 2327 (Session Description Protocol), RFC 2833 (DTMF, tones, and telephone signals), RFC 2617 (HTTP authentication).

## SIP Network Services:

ICMP keep alive

Bandwidth Management per destination (ARS configuration)

Automatic overflow on remote gateway busy (RFC 3398)

Automatic overflow on remote gateway failure (RFC 3398)

Automatic overflow on unavailable bandwidth (RFC 3398)

**Media services:**

Compression algorithm: G711, G723.1, G729A

Framing: 10-120 ms

VAD

Echo cancellation

Gain switching

**Telephonic services:**

Basic VoIP calls

Name and number identifications:

- Calling party name identification (CNIP)
- Calling party number identification (CLIP)
- Calling party identification restriction (CLIR)

Alerted number

Connected party name identification (CONP)

Direct Dialing Inwards

Break-in/Break-out:

- for telecom bills reduction
- data networking investments optimization
- customers' satisfaction

DTMF dialing transparency transported through the IP network

Enquiry/ Broker call

Conference call

Transfer ringing

Transfer conversation

Call forwarding local

Call forwarding external

Automatic overflow on local busy (RFC 3398)

Automatic overflow on attendant (RFC 3398)

Transit Gateway/ Gateway without decompression

Transit Gateway / IP Phone without decompression

Fax over IP (T38)

## Section 2: IP Private Networking

### Introduction

Companies are today willing to mix voice and data on this network to save money on inter site telephone calls. This can be done by sending voice over IP over their “managed WAN data network”. These solutions are particularly popular with multi-site businesses that call long-distance and/or internationally on a frequent basis.

### Capacities

- IP trunks: 96.
- Number of DSP channels: up to 96.

For IP trunking, OmniPCX Office delivers not only G723.1 but also G729a compression mechanism. G711 coding can also be used but does not optimize bandwidth.

### Interoperability

		Private or public	
Private		SIP	H323
	SIP	Yes	No
	H323	No	Yes*

\*H450 protocol ensures that IP trunks are allocated in an optimized way, the number of DSP necessary for IP network communications is reduced in case of transfer and diversion between different nodes of the IP network.

OmniPCX Office being H323 V1, V2, V4 compliant is able to interoperate with Alcatel-Lucent and non Alcatel-Lucent network elements supporting this standard.

SIP being an open protocol, the interoperability status has to be checked on our Alcatel-Lucent Business Partner Web Site.

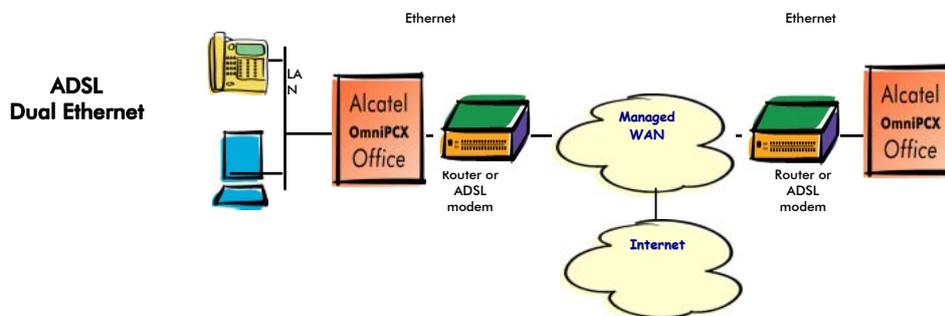
The Alcatel-Lucent OmniPCX Office is **either** in SIP mode **or** in H323 mode. The 2 kinds of standard can't coexist

## WAN Access Methods

IP phones managed by the OmniPCX Office can access to the WAN through the OmniPCX Office WAN connection or directly through an external router.

### *WAN access through OmniPCX Office (refer to chapter internet)*

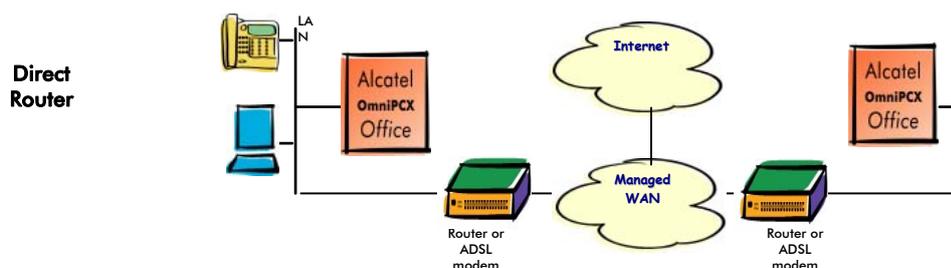
- Ethernet connection to any existing router (called dual Ethernet),
- PPP over Ethernet (PPPoE) connection to an ADSL modem.



In those configurations, VoIP packets share the bandwidth with OmniPCX Office internet applications (E mail, VPN, etc...if used) and benefit from OmniPCX Office WAN QOS mechanism.

- Policing: Based on TOS/Diffserv header, OmniPCX put Voice over IP in its high priority queue.
- Queuing/ Shaping: OmniPCX Office manages 2 queues in a buffer memory. High priority queue and Lower priority queue.
- Congestion control: OmniPCX Office use Random Early Detection mechanism (RED) on the Lower priority queue to inform packet sources to decrease their transmission rate.

### *Private data network:*



In this configuration, VoIP packets benefit only from the external router QoS mechanism (if any).

Nota: OmniPCX Office internet applications (firewall, E mail, VPN, etc...) cannot be used in such a configuration, therefore external devices will be required for such applications.

## IP Trunking overflow and back up

Whatever the connection method, OmniPCX Office offers ISDN Overflow and Backup mechanism fully integrated with ARS.

- Overflow: when VoIP calls exceeds a threshold,
- Back up: In case of failure of the WAN link.

## Main IP networking services

IP networking services are based on IP, SIP or H323 and H450 protocols supported on the Alcatel-Lucent and other SIP/H323 compliant IP PBXs providing VoIP trunking services.

VoIP is provided throughout the Alcatel-Lucent system range

VoIP trunking is available via an Operator's IP virtual private network (VPN) based on an IP managed network, ensuring security and bandwidth availability through a SLA, as well as via digital leased lines of a private IP network.

### 1) *Private homogeneous numbering plan*

**2) Name and number identifications:** caller, called, connected and/or forwarded name are presented

**3) Call path optimisation:** in case of transfer or forwarding the OmniPCX Office releases the useless inter-sites links, thanks to H450 protocol elements

**4) DTMF dialing transparency** transported through the IP network

### 5) *Break-in/Break-out:*

- for telecom bills reduction
- data networking investments optimization
- customers' satisfaction

### 6) *Least cost routing and Toll-by-pass:*

- Centralised attendant functions (master/slave configuration)
- break-in through the main site
- access to remote extensions deprived of DDI

- dynamic overflow on no answer/busy
- general attendant call by dialling 9
- DECT multi-location mobility (terminal identification in several OmniPCX Office).

#### **7) Automatic overflow and back-up based on ARS mechanism:**

- over public PSTN or ISDN network,
- on quality of voice service within the WAN IP network,
- on available bandwidth of the WAN link, or WAN link failure,
- on the gateway status, as gateway failure or gateway busy,
- Overflow on overload.

#### **8) Compressed voice during transport:**

- through different standard compression algorithms as G.711, G.723.1 and G.729a
- for voice quality optimization depending on local or remote calls.

#### **9) PC to Phone and Phone to PC communications:**

- Thanks to VoIP and IP Telephony services of the Alcatel-Lucent systems, any H323 multimedia PC with NetMeeting can be establish calls with any terminals of the Alcatel-Lucent systems. Only Basic Call features are available.
- A PC multimedia with PIMphony IP application can be seen as an IP subscriber of the OmniPCX Office and Office systems and then accesses all IP networking features of traditional Reflexes terminals where multi-site environment applies

## **Main SIP evolutions since the release 6.0**

The OmniPCX Office release 7.0 brings the following SIP evolutions:

- Support of private IP trunks with Alcatel-Lucent OmniPCX Enterprise.
- Alternative CLI can used per trunk bundle in case of multicarrier connexion.

### ***IP Trunking benefits:***

#### **International/Long distance savings:**

- By replacing « E1 tie-lines boards and dedicated voice leased lines » between dispersed PBXs with « VoIP gateways and data leased lines », multi-site customers can circumvent expensive telephone charges, by using the data Wan infrastructure.
- A company can reduce long-distance charges for intra-company calls by integrating voice, in the enterprise data networks.

## Section 3: Private Networking services comparison

### ISVPN services

**As a reminder**, multi-site configurations are possible using the PSTN network. ISVPN level of feature is the reference in term of private networking

ISVPN is an exclusive Alcatel-Lucent protocol using ISDN set of services + supplementary information carried through the UUS (User to User Signalling)  
ISVPN is provided throughout the Alcatel-Lucent system range  
ISVPN is available via a virtual private network based on ISDN, as well as on digital leased lines and in both cases on BRA and PRA.

#### 1) Private homogeneous numbering plan

**2) Name identification and call status:** caller, called, connected and/or forwarded name are presented on the user's terminal display

**3) Call path optimisation:** in case of transfer or forwarding the OmniPCX Office releases the useless inter-sites links

#### 4) Differentiation of private and public calls:

- network identification by a letter on the display,
- different ringing,
- caller name,
- information in metering,
- no dynamic routing to the attendant and no pre-announcement for private calls.

#### 5) Centralised services:

- Centralised attendant functions (master/slave configuration):
- break-in through the main site,
- access to remote extensions deprived of DDI,
- dynamic overflow on no reply/busy,
- general attendant call by dialling 9.
- Metering information consistently handled (ISVPN+)
- DECT multi-location mobility (terminal identification in several OmniPCX Office)

**6) Cost-optimised ARS mechanism:**

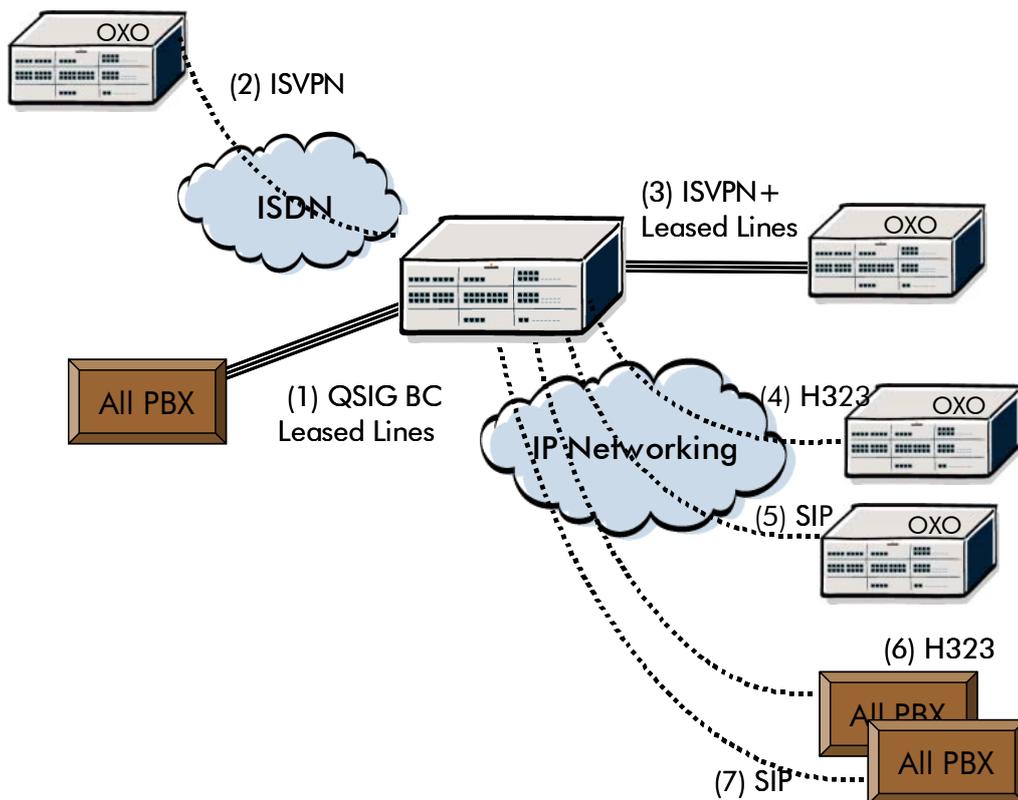
- Break -out through the network up to the node closest to the public destination,

External forwarding,

- Operator/installation forwarding,
- Overflow on overload.

Ex: Any attempts to call C through digital leased line and C are forwarded to B. The digital leased line is busy and if the overflow is allowed the call is optimised by going directly to B, with the same level of ISVPN service for the user.

**Sum-up**



<b>Networking</b>	<b>(1) QSIG BC Digital Leased Lines</b>	<b>(2) ISVPN ISDN With UUS</b>	<b>(3) ISVPN+ Digital Leased Lines</b>	<b>(4) IP private H323</b>	<b>(5) IP private SIP</b>	<b>(5b) IP private SIP</b>	<b>(6) IP private H323</b>	<b>(7) IP private SIP</b>
OmniPCX Office<->	All PBX	OminPCX Office	OminPCX Office	OminPCX Office	OmniPCX Office	OmniPCX Enterprise	H323 PBX	SIP PBX
Basic call	X	X	X	X	X	X	X	X
Block dialling	X	X	X	X	X	X	X	X
Caller's repertory	X	X	X	X	X	X	X	X
Homogeneous numbering plan	X	X	X	X	X	X	X	X
Private / Public Call differentiation	X	X	X	X	X		X	X
Enquiry / Broker / Conference	X	X	X	X	X	X	X	X
Break-in, Break-out	X	X	X	X	X	X	X	X
DTMF transparency	X	X	X	X (H245)	X	X		X (if RFC 2833)
Called party state indication on display		X	X	X	X	X	X	X
Calling line/name id. Presentation (CLIP/CNIP)		X	X	X	X	X	X	X
Calling Line Identification restriction (CLIR)		X	X		X	X		X
Connected line identify. Pres. (COLP)					X			
Connected line identify. Restriction (COLR)					X			X
Call forwarding Unconditional (CFU)		X	X	X	X	X	If H450	X
Call forwarding on Busy (CFB)		X	X		X	X		X
Call Hold (CH) OXO initiator		X	X	X	X	X	X	
Call Hold (CH) at OXO reception		X	X	X	X	X	X	X
Transfer		X	X	X	X	X	X	X
Intrusion			X					
Account code			X					
Metering information sent to master PBX			X					
Call back request		X	X					
Fax support		Fax G4	Fax G4	T38	T38	T38	T38	T38
SMS transparency		X (R4.0)	X (R4.0)					
Centralized Attendant		X	X	X PIMphony Attendant	X PIMphony Attendant		X	
Direct end-to-end call					X	X		X
Call passing through a SIP proxy					X (5020)	X (5020)		X
Authentication for Outgoing call					X	X		X (if RFC 2617 &

<b>Networking</b>	<b>(1) QSIG BC Digital Leased Lines</b>	<b>(2) ISVPN ISDN With UUS</b>	<b>(3) ISVPN+ Digital Leased Lines</b>	<b>(4) IP private H323</b>	<b>(5) IP private SIP</b>	<b>(5b) IP private SIP</b>	<b>(6) IP private H323</b>	<b>(7) IP private SIP</b>
								1321)
Registration with or without authentication					NA	NA		X
Automatic overflow to ISDN or IP thanks to ARS					X	X		X
RTP proxy between 2 joined IP trunks or between a IP trunk and an IP phone				X	X	X		X
Management: Multisite installation wizard, synchronized phonebook				X	X			
QoS Call records				X	X	X	X	X
Voice compression G711, G723.1, G729A				X	X	X	X	X

# Chapter 7: Greeting/Call Center

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# Overview

## *Welcome Greeting*

A professional greeting is the first high-level service a company should deliver in order to convey a good image. Therefore, the Alcatel-Lucent OmniPCX Office proposes several features to enhance company welcome.

- **Voicemail:** Reduces number of lost calls, and allows to customize greeting messages. Remote access is possible.
- **Attendant Console:** Optimizes important call reception and offers to the operator(s) advanced features.
- **Automated Attendant:** For nonstop professional greeting, cost efficiency, to relieve congestion.
- **Multiple Automated Attendant:** A multiple language and multiple trees Automated Attendant.
- **Greeting messages:** To maintain high level of service and customize welcome, which will impact positively on company image.
- **Music on hold:** To enhance professional image, to encourage patience, and provide audio comfort.

## *OmniTouch Call Center Office*

The Alcatel-Lucent OmniTouch Call Center Office is an integrated Call Center solution, specifically designed to meet SME needs. It critically improves phone response, company greeting and other associated services. This professional solution targets not only small voice oriented call centers, but also services with enhanced welcome needs thanks to:

- **Automatic Call Distribution:** For high quality of service and optimized use of the company resources.
- **Agent Assistant:** For easy call management on PC for the agent.
- **Supervision and Statistics:** For enhanced visibility with positive impact in revenue generation.

# Section 1: Welcome Greeting

## Introduction

The Alcatel-Lucent OmniPCX Office provides a comprehensive set of applications in support of answering customer calls. There are applications such as voice mail, auto attendant, and other advanced applications.

## Voicemail

Alcatel-Lucent OmniPCX Office Voice Mail is embedded in the system. A voice mail box is automatically installed by the system on each Alcatel-Lucent set and the user just has to enter a username and a password. Remote connections to voice mail are possible because OmniPCX Office supports the VPS protocol.

## Features

- Automatic mailbox creation at system setup for every user,
- Automatic creation of voice mail key on the set,
- Automatic transfer to mail box on no reply or busy,
- Message management,
  - + Display of the list of all messages,
  - + Scroll message: ability to go directly to a message in the list,
  - + No predefined rank to read the message left,
  - + Ability to skip or delete the messages before the end of listening,
  - + CLI-based call back: caller's recall without dialing,
  - + Ability to send a copy of the message.
- Record on line,
  - + Conversation is stored in the voice mail box,
  - + Subject to software key and system management authorization user by user (Hard disk required).
- Screening,
  - + Ability to listen to a person leaving a message on voice mail,
  - + Possibility to hook off and talk to the person meanwhile.
  - + Mailbox user interface.
  - + Silent mode, mixed mode or voice guidance mode.

### **Plus...**

- Easy creation of customized message,
- Notification by message LED,
- Remote activation/deactivation of notification,
- Remote consultation/modification of mailbox,
- External notification (on mobile, phone pager, home set, ...),
- Personal options: customized greeting, protection by password, resend with comments, dial by name, setting up to 50 distribution lists\*(hard disk required), forwarding to a list, reply function key,
- Answer only mode,
- Unconditional / On busy / On no answer forward on voice mail with specific message
- Virtual mailbox,
- Hunting group mailbox.

### **Hotel Features**

- Setting up mail box on check-in,
- Simplified consultation functions,
- Protection by password

### **Voice mail capacity**

The Alcatel-Lucent **OmniPCX Office** includes a voice mail with 2 ports and 60 min voice mail storage (except on First communication Suite).

This capacity is fine for a maximum of 30 users with a standard use (2 min recording per user).

The voice mail capacity and ports can evolve with the customer needs and provides the following capacity:

- Up to 8 ports
- 4 hours voice mail storage      require a XMem 128 or a Hard Disk
- 8 hours voice mail storage      require a Hard Disk
- 200 hours voice mail storage    require a Hard Disk

**In standard use**, ACTIS choose automatically the ideal capacity storage and the number of ports required.

- Up the 29 users, the recommended voice mail is 60 min and 2 ports
- From 30 to 99 users, the recommended voice mail is 4 hours and 4 ports
- From 100 to 200 users, the recommended voice mail is 8 hours and 6 ports

In high use of voice mail or with conversation recording, it is recommended to use a 200 hours voice mail storage

## Automated attendant

The automated attendant allows to welcome correspondents 24 hours a day. It represents a valuable help for operators in peak times, by automatically connecting correspondents to the right service. Information such as opening hours or promotions can be broadcast. There are two levels of automated attendant:

### *Customized*

A pre-configured Automated Attendant is available with choice per default. Nevertheless, to really fit with the customer organization, the customized menu is more relevant.

Customized main menu with 2 levels of 10 choices per level, with Hard disk.

Available choices:

- Free dialing (the caller is asked to enter an internal extension number),
- Transfer to extension (the caller is connected to a pre-defined extension number),
- Transfer to operator,
- Information message,
- Leave a message (the caller is asked to enter a mailbox number),
- Mailbox (the caller is connected to a pre-defined mailbox),
- General mailbox,
- Call release (the application plays the "Good bye" announcement -customizable- and releases the call),
- Submenu (the submenu can offer another 10 choices -digits 0 to 9- assigned respectively to one previously described function, except to submenu one).

Automated attendant menu / submenus voice prompts: Voice prompts of main menu and submenus can be recorded.

Automated attendant access: direct, call forwarding, attendant overflow...

Separate day /night services.

Dialogue by DTMF.

Transfer to the operator always available, semi-supervised transfer.

Forwarding to outside line.

Automatic transfer of incoming faxes and modem.

### *Information on demand (Audiotext)*

50 voice information boxes,

Recording per default 120 sec.

## Fax switch

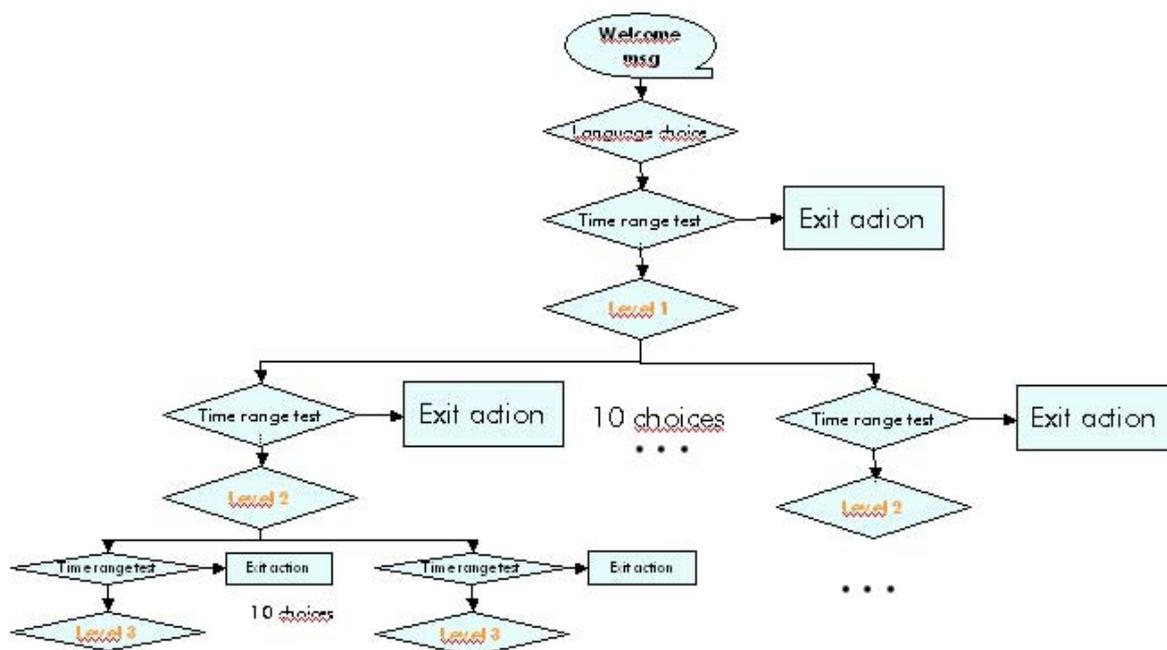
Automatic fax detection

## Multiple Automated Attendant

The Multiple Automated Attendant offers a standard AA with in addition new features and enhancements like:

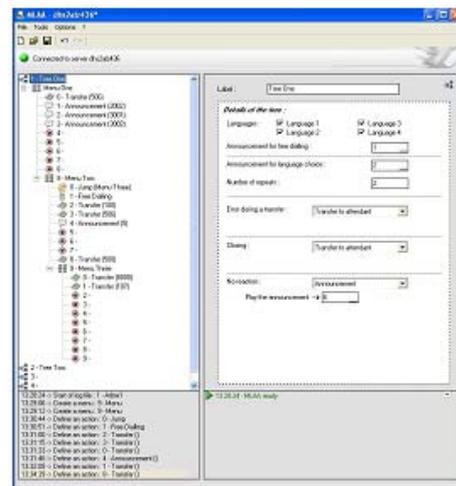
- Multi-language management: up to 4 possible languages,
  - Same tree is declined in up to 4 languages,
- Up to 5 different trees,
  - 5 different Automated Attendants for the system,
- 3 levels with 10 choices per tree,
- Routing of calls to the AA based on DDI and/or CLI.

### Architecture of 1 tree



## Description of the features

A graphical user interface allows to configure this AA.



The actions available in a menu are the following:

- Voice prompt,
- Transfer to a subscriber/group,
- Transfer to the general menu of the mailbox,
- Transfer to attendant
- Transfer to an external number,
- Dialing an extension
  - format is <extension number>#,
- Jump to a menu of the tree.

Exit actions:

- Predefined number,
- General menu of mailbox,
- End of call,
- Message.

Go to upper level with '\*' character:

- From level 2/3 to message level 1,
- From level 1 to language choice.

Free dialing is available directly at the welcome message level:

- Format is <extension number>#.

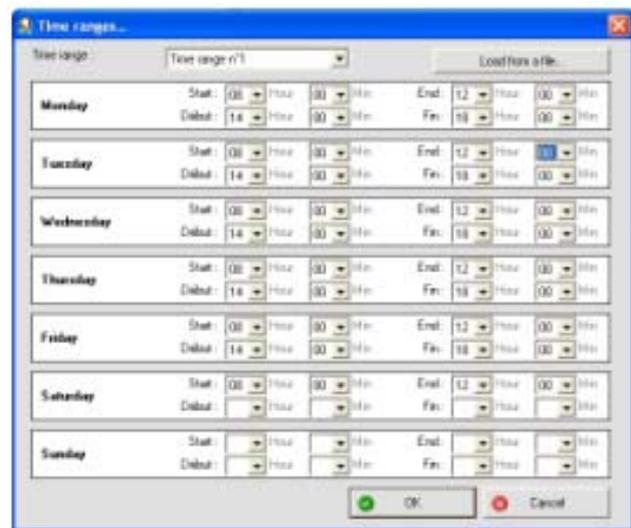
Same principle of Voice prompt management as the ACD:

- Voice prompts can be recorded from a set or downloaded,
- Up to 100 voice prompts available per language,
- No default voice prompts loaded.

Hard disk is mandatory.

Time management:

- Up to 10 different time ranges,
- 2 possible periods for each day of the week,
- Test of the time range possible at each level.



## Intelligent Routing

### *Introduction*

In today's dynamic business environment, organizations face an increasing number of incoming calls. More and more, the client care strategy of these enterprises is to improve the way they greet and respond to their customers. In an effort to assist them in understanding the need, instead of discussing Call Center technology, the discussion should concern call response and call distribution.

The technology required is characterized by an advanced routing mechanism that provides:

- **Call Distribution functions**

The Call Distribution mechanism routes the incoming calls to the most appropriate resource / individual according to the criteria defined by the installer or administrator. The mechanism can prioritize calls and ensure equal distribution of call assignments to workgroups and individuals within workgroups. The call is queued if no resource is immediately available.

- **Call Queuing**

If no qualified individuals are available to handle the call, it is placed in a queue and recorded voice announcements are played. Depending on the application, these can be simple announcements or messages about queue position or expected waiting time.

Queuing allows the operation to receive more calls than it has individuals to respond. This results in the handling of a greater number of calls and organizing the management of the calls.

- **Overflow management**

Complementing the call queuing, calls can be rerouted as stated above, or sent to alternate individuals such as overflow groups, which are based on a preprogrammed waiting time.

- **Night and closure management**

A recorded message can be played stating the company's business hours and alternatives can be offered to the caller, such as, transfer to voicemail, or to another extension.

### ***OmniTouch Call Center Office***

The Welcome Office, offers up to 8 groups and 10 agents. It is specially designed to meet small and medium enterprise needs with a complete, packaged solution. A key differentiator is that no external server is needed.

This solution is supplied pre-installed. Only the license has to be loaded in the OmniPCX Office. It is particularly easy to install, configure and use, thanks to its intuitive graphic user interfaces.

The **EasyContact Office** pack is a simple, comprehensive and professional greeting solution, which is designed especially to meet these needs, and to enable potential evolution to a "traditional call center". This Entry-level pack offers up to 8 groups and 5 agents, but does not include statistics nor supervisory display capabilities.

EasyContact Office is best suited for verticals such as, pools of assistants, hotels, eGovernment, travel agencies etc.

**Welcome Office Pro** offers up to 8 groups and 32 agents and is packaged with the Statistics application.

## Other Welcome Greeting Services

### ***Attendant console***

See PIMphony Attendant chapter 9

### ***Greeting Messages***

The greeting can be:

- Individual,
- Programmed on a group of extensions,
- Programmed on the company level.

There are up to 8 different greeting messages.-The greeting is managed by time range (lunch time, opening hours...) depending on the status of the extension. It automatically detects fax messages.

### ***Music on Hold***

An implicit 16-second music on hold is included in the OmniPCX Office: "Musicatel", (author: Fabrice Lemercier). This music is free of rights (author, performing ...).

It is possible to customize the music on hold, for a duration of 2 minutes to 10 minutes (in that case, a hard disk is required).

To customize the music on hold, it is necessary to download, using a browser, a .wav format file, re-sampled in PCM 8000 kHz, 8 bits, mono (available from any standard .wav reader / recorder on a PC).

In case a customized music on hold is used, it might be necessary, depending on the chosen piece of music, and according the local country regulations, to declare and pay associated rights.

### ***Attendant group call handling:***

Up to 8 attendant groups with max. 8 attendants in each group.

Internal and external dynamic routing,

Internal and external unconditional call forwarding.

- By time range,
- By restricted mode,
- By specific key.

## Section 2: Call Center

### Introduction

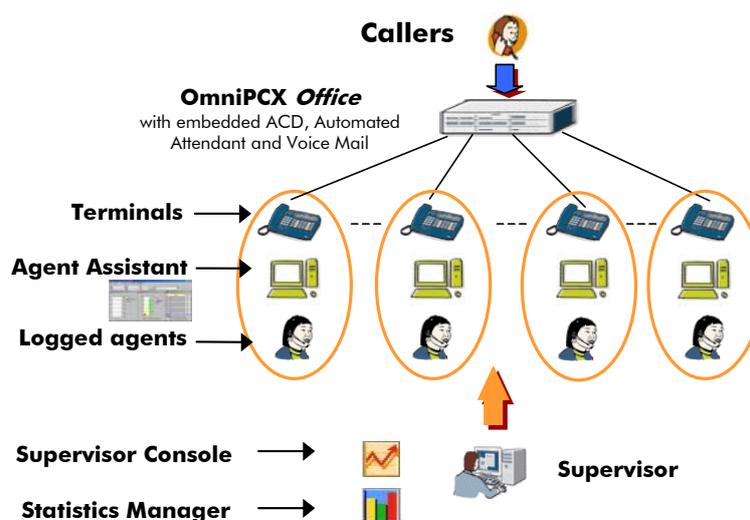
The Alcatel-Lucent OmniTouch Call Center Office offers a professional solution for managing distribution of incoming calls. It allows every call to be immediately and efficiently connected to the most appropriate person or service.

It delivers advanced call queuing and call routing functions, to optimize management of a large flow of incoming calls and at the same time protect the quality of service for the caller. The Alcatel-Lucent OmniTouch Call Center Office is particularly easy to install, configure and use, thanks to its intuitive graphic user interfaces.

This solution targets not only small voice oriented call centers, but also services with enhanced welcome needs.

A complete set of applications is included:

- the Agent Assistant, a desktop application for the agent enhancing his efficiency,
- the Supervisor Console, providing real-time monitoring and allowing the supervisor to overview service levels and traffic,
- the Statistics Manager, an application dedicated to post-processing of traffic and call information stored in the system.



## Automatic Call Distribution

Calls are automatically distributed to agent positions (according to their availability), either directly or through a waiting queue. The distribution of calls to free ACD agents is based on one of the following distribution rules:

- Longest idle time: the calls are distributed to the longest free agent.
- Rotating priority: the calls are equally distributed, sequentially to the different agents belonging to a group.
- Fixed priority: the calls are distributed in a fixed order according to the agent rank in the ACD group.

Distribution to groups is done according to called numbers (DNIS) and/or calling numbers (ANI). It can also be combined with the Automated Attendant.

Opening and closing of each group is either determined by time periods defined by the administrator or can be done using the Supervisor Console.

There can be up to 32 declared agents belonging to one or more groups. The agent statuses are:

- Logged off,
- Logged on and off duty,
- Logged on and on duty,
- Wrap-up (or clerical work),
- Pause (temporary absence).

The Alcatel-Lucent OmniTouch Call Center Office supports the following sets for the agents:

- Alcatel-Lucent IP Touch sets,
- Alcatel-Lucent 9 Series digital sets,
- Reflexes sets,
- DECT handsets,
- MIPT 300 and 600,
- IP Touch 310 & 610 WIFI handsets
- PIMphony IP softphone,
- Analog sets.

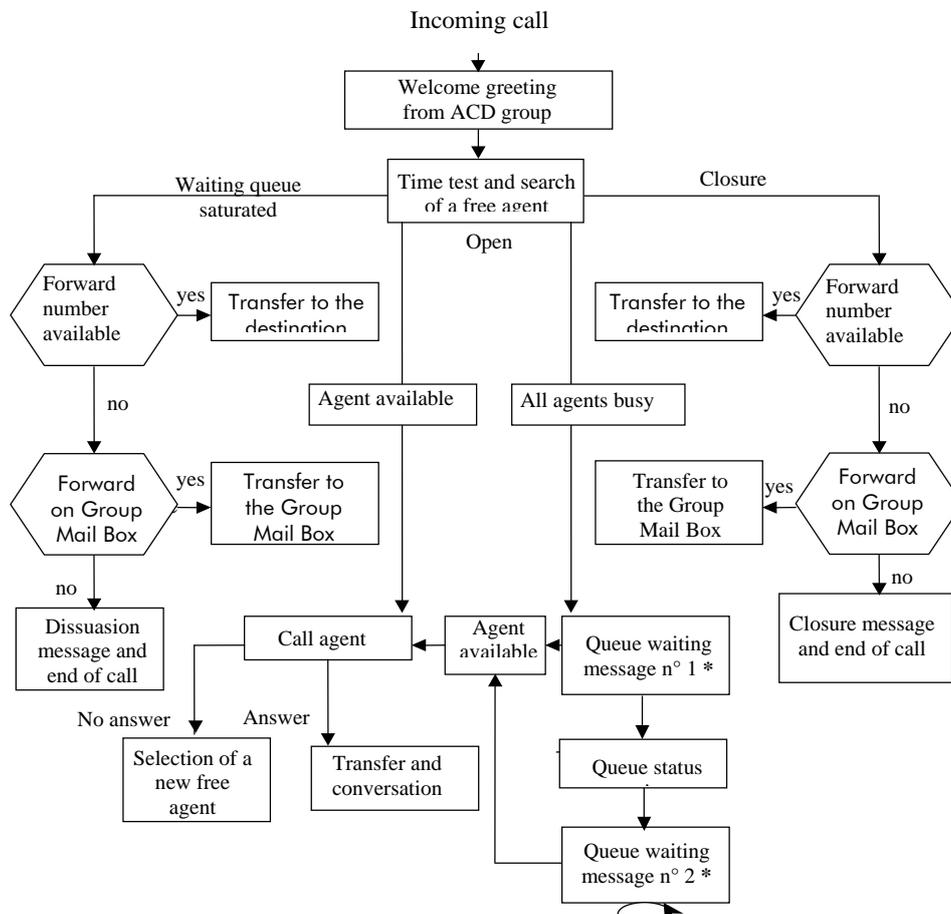
IP Touch and PIMphony IP make it possible to deploy an IP Call Center in the company with the possibility of remote agents.

## Queue

Queuing is performed when a new call arrives and all the agents assigned to the destination group are busy. Calls are queued after the greeting message, in the chronological order, according to the FIFO (First In First Out) principle.

When a call is queued, a first waiting message specific to the group is played. Then we have the possibility to announce a pre-defined message about the numbers of calls in queue or the estimated waiting time. Finally, another waiting message is played in loop. Calls can overflow from one group to another if the waiting time is excessive. However the caller can leave the queue at any time.

Calls are removed from the queue in chronological order and distributed automatically to the agent stations according to their availability. If an agent becomes free while the first waiting message is being played, the call is presented to the agent without waiting for the end of the message. When the queue is full, the dissuasion message is played. In case of agent belonging to several groups, calls are distributed according to the priority between the groups.



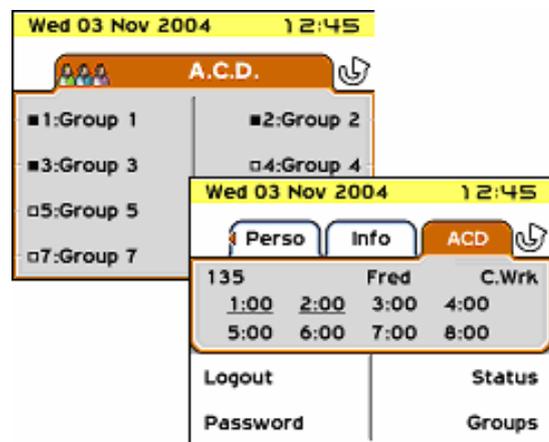
\* The caller can escape from the queue at any time and leave a message in the group mail box or be forwarded to a pre-configured extension.

If an ACD group is opened without free agent, the first call is routed to a specific fallback number (if configured), otherwise he goes in dissuasion. Other calls are queued in waiting queue. The maximum duration of ACD message is 60 seconds (it is recommended to have shorter message <15 s) except for the waiting message 2 (300 seconds).

### Agent features on Alcatel-Lucent Sets

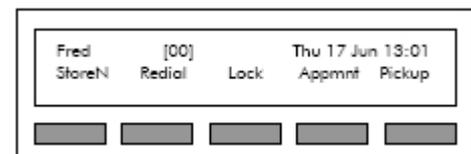
The Alcatel-Lucent 8 and 9 series offers to the agents ergonomic access to the following features:

- Agent login with password,
- Free seating is possible,
- Agent logout,
- Password management,
- Group management,
- Display of groups the agents belongs to,
- Enter / exit from groups (if allowed from supervisor),
- Status modification,
- Queue information (number of calls in queue, saturation status).



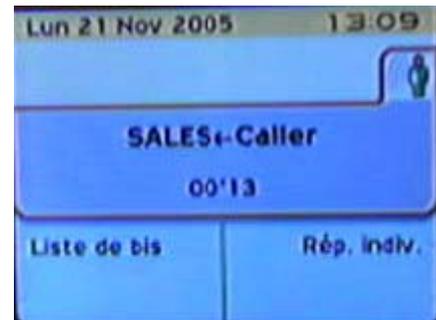
With all the other sets, the agent has access to the following features directly by entering codes (on all sets) or by pressing the set's function keys (on Advanced Reflexes):

- Login with password,
- Free seating possible,
- Logout,
- Status management,
- Number of waiting calls for the queues where the agent belongs (for sets with a display).



Display of the group name on all Alcatel-Lucent sets with screen

- Information is displayed in ringing state
- Display format depending on the size of the screen
- Minimum size is 16 characters
- If known name is displayed, else number
- In addition, display of waiting time in queue; depending on the size of the screen
- Information is displayed with the group name
- Or alternatively, group name and waiting time
- Multi-secretary, Business Center option
- Instead of group name, possibility to display the called number
- Configuration is done through a global flag in OMC



**Main characteristics**

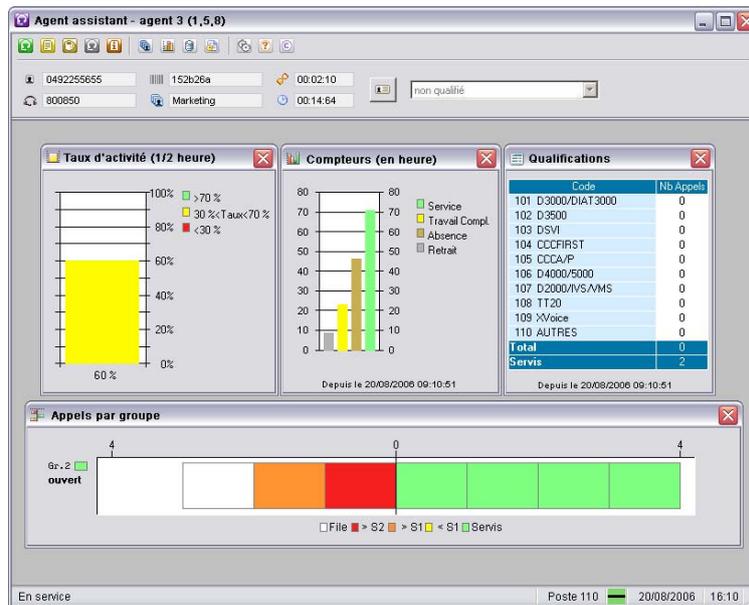
Number of ACD groups	8
Number of agents (active agents)	32 (32)
Number of supervisor	4
ACD incoming calls distribution principle	Caller's number (ANI) and / or Direct dial in number (DNIS) (max 999 entries) Via automated attendant
Agent's selection mode for call distribution	Longest idle time Rotating priority Fixed priority
Agent assignment to several groups	Yes
Priority levels between groups	8
Queuing	1 queue per group Size defined per group and dynamic based on number of active agent(s)
Group overflow	To another ACD group (no cascading)
Group forwarding	To ACD group mail box To internal or external destination
Opening and closing groups management	Manually (supervisor) Time ranges

Agent status	<p>Logged in (off duty)</p> <p>Logged in (on duty)</p> <p>Logged out</p> <p>Wrap up time</p> <p>Pause</p>
Modification of the agent status	<p>By the agent from his telephone set</p> <p>By the agent with the Agent Assistant</p> <p>By the supervisor with the Supervisor Console</p>
Voice message	<p>6 messages per ACD group (hard disk mandatory, otherwise voice messages are the same for all groups)</p> <p>Welcome message</p> <p>2 Waiting queue messages</p> <p>1 optional message for estimated waiting time or number of waiting calls (pre-recorded message)</p> <p>Dissuasion message</p> <p>Closing message</p>
ACD group mail box	1 per group
ACD ports	14



## Agent Assistant

The agent application enhances agent activity by providing session control, personal statistics and screen pop-up. The agent can focus on customer satisfaction in order to reinforce the call's effectiveness.



Dedicated ACD features enabling agents to control their session	Other features	Dedicated information or features for the current call of the agent
<ul style="list-style-type: none"> <li>• Log-on</li> <li>• Log-off</li> <li>• Wrap-up</li> <li>• Pause</li> <li>• Skills management</li> </ul>	<ul style="list-style-type: none"> <li>• Password protection</li> <li>• Agent application customization</li> <li>• Free-seating</li> <li>• Personal statistics                             <ul style="list-style-type: none"> <li>• Activity rate</li> <li>• Call classification</li> <li>• Waiting calls in queue of groups with waiting time</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Caller number</li> <li>• Calling number</li> <li>• Group reached</li> <li>• Classification of the call</li> <li>• Waiting time in queue for the call</li> <li>• Call duration</li> <li>• Screen pop up</li> </ul>

The agent application provides 3 different modes for screen pop described after. For complete details, see the Technical Communication.

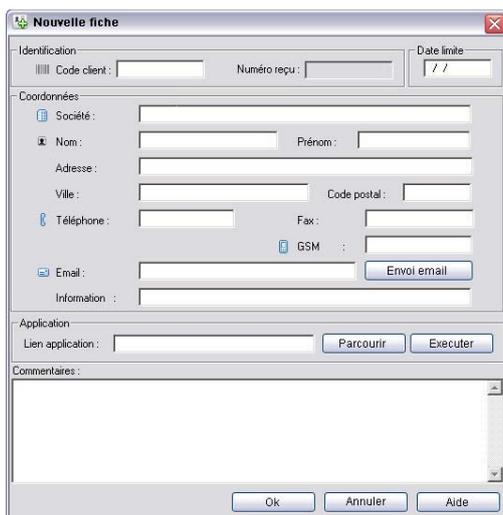
In addition, PIMphony enables screen pop with the following Contact Manager software:

- Microsoft® Outlook™,
- Act,
- GoldMine,
- Microsoft Access.

The Agent Assistant provides the following screen pop possibilities configured through the Agent Configuration application.

### ***The integrated mode***

The Agent Assistant includes a packaged built-in contact management application.



This is a Microsoft Access database. It contains the standard fields for contact management such as company name, contact name, telephone numbers, address, comments, etc...

Screen pop are pre-defined and can be "standard" (see example) or in "HTML" format.

### ***The connected mode***

This mode provides a screen pop of an Outlook 2000 contact card.

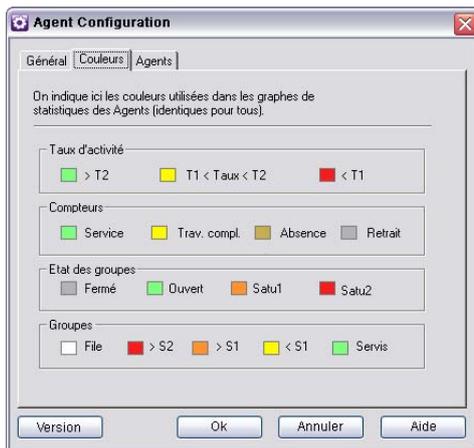
### ***The specific mode***

This mode is used to provide interconnection between Agent Assistant and a third party application. This is useful if companies use their own customer relation management software.

Using the Agent Configuration application, the call center manager specifies an application which will be called by the agent application.

On an ACD incoming call, the agent application executes a command line followed by two parameters specific to the call: the caller number (CLI) and the called number (DDI).

## The Agent Configuration



In addition to the configuration of the screen pop, this application offers the call center manager a simple interface to modify parameters of the Agent Assistant.



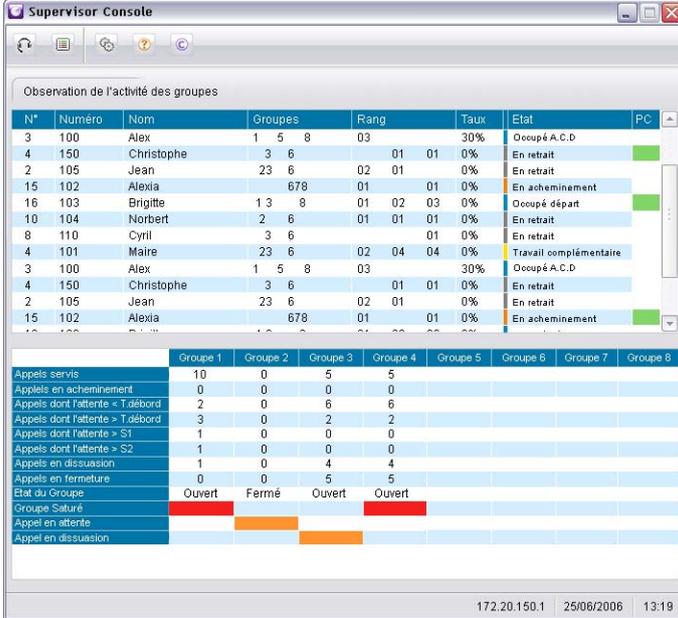
## Supervisor Console

The supervisor application provides:

- Real-time performance analysis for the agents, groups and lines,
- Modification of agent or group status.

### ***ACD activity monitoring***

This window provides a real time view (refreshed every second) of the information on the stations of agents or groups, and the activity rates.



Supervisor Console

Observation de l'activité des groupes

N°	Numéro	Nom	Groupes	Rang	Taux	Etat	PC
3	100	Alex	1 5 8	03	30%	Ocupé A.C.D	
4	150	Christophe	3 6	01 01	0%	En retrait	
2	105	Jean	23 6	02 01	0%	En retrait	
15	102	Alexia	678	01 01	0%	En acheminement	
16	103	Brigitte	1 3 8	01 02 03	0%	Ocupé départ	
10	104	Norbert	2 6	01 01 01	0%	En retrait	
8	110	Cyril	3 6	01 01	0%	En retrait	
4	101	Maire	23 6	02 04 04	0%	Travail complémentaire	
3	100	Alex	1 5 8	03	30%	Ocupé A.C.D	
4	150	Christophe	3 6	01 01	0%	En retrait	
2	105	Jean	23 6	02 01	0%	En retrait	
15	102	Alexia	678	01 01	0%	En acheminement	

	Groupe 1	Groupe 2	Groupe 3	Groupe 4	Groupe 5	Groupe 6	Groupe 7	Groupe 8
Appels servis	10	0	5	5				
Appels en acheminement	0	0	0	0				
Appels dont l'attente < T débord	2	0	6	6				
Appels dont l'attente > T débord	3	0	2	2				
Appels dont l'attente > S1	1	0	0	0				
Appels dont l'attente > S2	1	0	0	0				
Appels en dissuasion	1	0	4	4				
Appels en fermeture	0	0	5	5				
Etat du Groupe	Ouvert	Fermé	Ouvert	Ouvert				
Groupe Saturé								
Appel en attente								
Appel en dissuasion								

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### ACD groups

The window for the groups shows the following number of calls:

- Handled calls,
- Calls being routed,
- Dissuaded calls,
- Closed calls,
- Calls waiting <T overflow time: the number of calls that have been waiting for less than the overflow time-out (search for agent only within the requested group),
- Calls waiting > T overflow time: the number of calls that have been waiting for longer than the overflow time-out (search for agent within the requested group, and possibly within the overflow group if one has been specified),

- Calls waiting >S1,
- Calls waiting >S2

### Agent stations

The following is displayed:

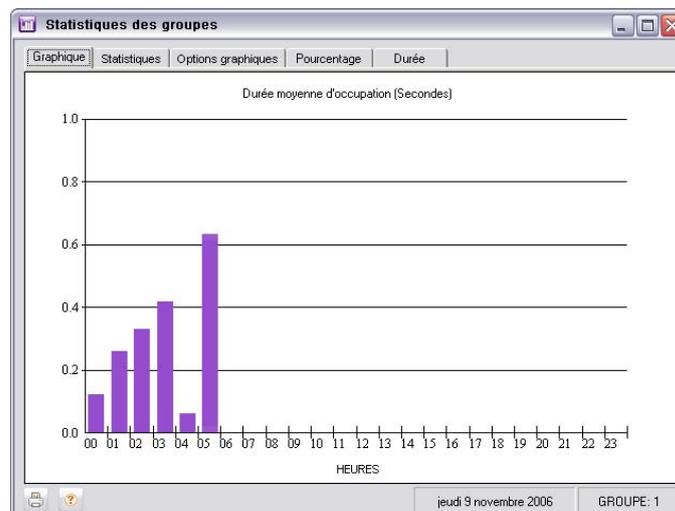
- Agent number,
- Extension,
- Name,
- Group list,
- Rank number,
- Activity rate,
- Status.



## Statistic Manager

Statistics can be displayed in tables or graph forms. The information is stored on-disk (one file per day). The supervisor can view statistics on groups or agents for the current day, or statistics from day files for a specific day, month and a period.

Combined information per group	Combined information per agent	
<ul style="list-style-type: none"> <li>- No. of "incoming" calls handled by the ACD.</li> <li>- No. of calls "answered",</li> <li>- No. of calls "dissuaded",</li> <li>- No. of calls placed in the queue,</li> <li>- No. of calls in queue less than S1, S2 seconds,</li> <li>- No. of calls abandoned,</li> <li>- No. of calls service closed,</li> <li>- No. of call overflow,</li> <li>- Average busy time, routing time, waiting time, ringing time, conversation time, abandoned time.</li> </ul>	<p><b>Amount:</b></p> <ul style="list-style-type: none"> <li>- Total number of ACD calls,</li> <li>- Total number of "other" calls,</li> <li>- Number of answered calls,</li> <li>- Number of changes to "temporary absence",</li> <li>- Number of changes to "performing other tasks",</li> <li>- Number of "placed of duty",</li> <li>- Number "placed into service".</li> </ul>	<p><b>Call duration:</b></p> <ul style="list-style-type: none"> <li>- ACD calls,</li> <li>- Other calls,</li> <li>- Average for ACD calls,</li> <li>- Total for "other" calls,</li> <li>- Average for "other" calls,</li> <li>- Average for ACD rings,</li> <li>- Total for temporary absences,</li> <li>- Total for "performing other tasks",</li> <li>- Total for "on duty".</li> </ul>



The Call Center manager has always the ability to print out all of the above information or to program an automatic pre-defined statistic printout. He defines his report models and the printing periodicity. Then, the statistical reports will be printed out automatically without any manual operation.

It is possible to export statistics in csv files for a given period. The files exported contain all information about the agents, the calls and the groups. They can be used by standard or proprietary applications (for e.g. Microsoft Excel) to generate customized reports.

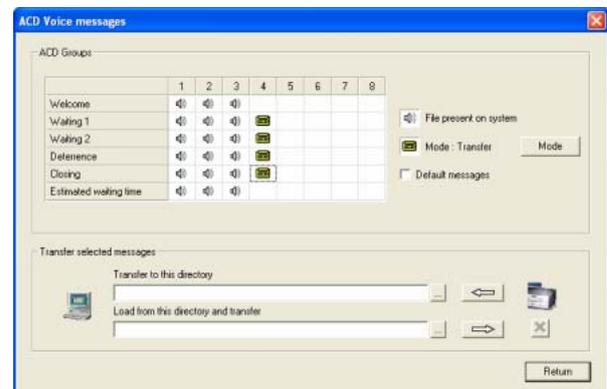
## Configuration

ACD configuration is accessible for the administrator and the Call Center manager through OMC Easy configuration tool. It is also available through the Alcatel-Lucent management platform, the A4760.

### *Voice prompts*

The voice prompts of the Call Center are managed through an ergonomic interface that summarizes all the current prompts. They can be downloaded in the system, deleted or retrieved from the system.

The download needs .wav file. But, the prompts can also be recorded from a phone set.

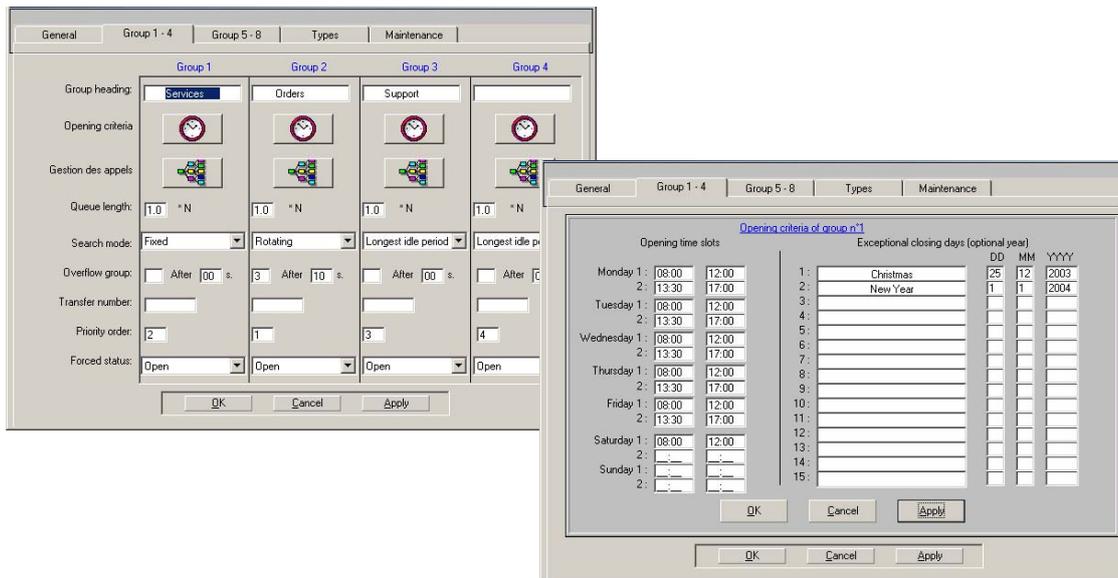


### *General parameters*

The following parameters are configurable for all groups:

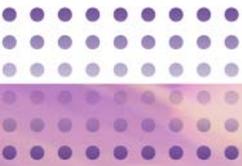
- S1 and S2 waiting threshold (used by the Supervisor Console and the Statistic Manager),
- Pause time for the agent after call processing,
- Maximum ringing duration.

## Group configuration

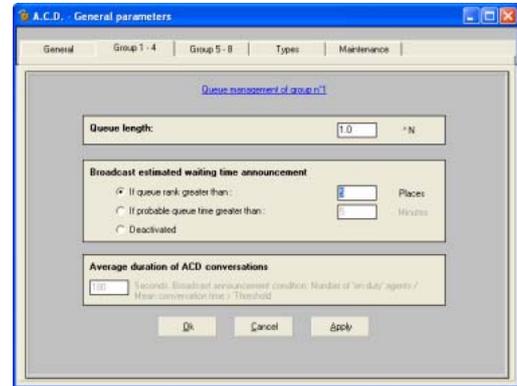


The configuration is done per group:

- Group name,
- Opening/closure parameters,
- Automatic control by time slots and days of the week (one or two time slots configurable per day of the week, closing days),
- Control by manual forced status,
- Action when the queue is full or on closing time (play dissuasion/closure message, forward to group voice mail or forward to an extension),
- Flag to escape from waiting queue,
- Queue Length (variable depending on active agents of the group),
- Search Mode (call distribution),
- Overflow Group (group number and the period of time after which this group will be allocated to handle overflows),
- Transfer Number (number used when an abnormal status is registered: group open and no agent on duty),
- Priority Order (one group can have a higher priority than another when agents belong to several groups for the handling of waiting calls).



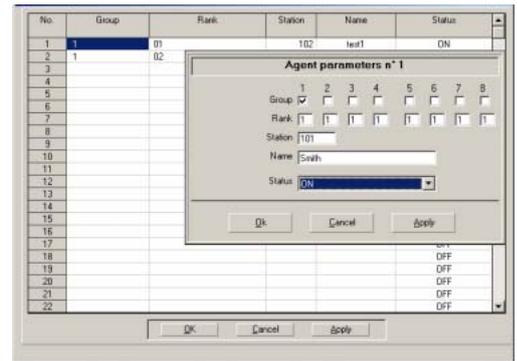
Configuration of the waiting time announcement: this pre-recorded announcement is played when the configured threshold is reached (estimated waiting time or number of calls).



### Agent configuration

Double-clicking on agent's list opens an editing box allowing to change:

- Agent's allocation to group(s),
- Rank of the agent in the group,
- Extension number,
- Name,
- Status.



## Global Limits

		EasyContact Office	Welcome Office	Welcome Office Pro	Up to 32 agents for WO Pro
<b>Compact Unit / Advanced Unit without Hard Disk</b>	Max active agents	5	10	NA	NA
	Supervisor Console	NA	option (max 1)	NA	NA
	Agent Assistant	NA	option (max 10)	NA	NA
	Statistic Manager	NA	NA	NA	NA
<b>Compact Unit / Advanced Unit with Hard Disk</b>	Max active agents	5	10	20	32
	Supervisor Console	NA	option (max 1)	option (max 1)	option (max 1)
	Agent Assistant	NA	option (max 10)	option (max 10)	option (max 10)
	Statistic Manager	NA	option (max 1)	1	1
<b>Premium Unit</b>	Max active agents	5	10	20	32
	Supervisor Console	NA	option (max 4)	option (max 4)	option (max 4)
	Agent Assistant	NA	option (max 10)	option (max 20)	option (max 32)
	Statistic Manager	NA	option (max 1)	1	1

Note: Be careful to have enough trunks for the Compact Edition and OXO Unit1 for example !!!

### Client PC requirements

Agent Assistant	Supervisor Console	Statistic Manager
<b>CPU:</b> Pentium 500 MHz <b>RAM:</b> 64 MB <b>Disk space:</b> 50 MB  <b>OS:</b> Windows NT4 SP6, Windows 2000 SP4 or Windows XP, Vista Ethernet board	<b>CPU:</b> Pentium 500 MHz <b>RAM:</b> 64 MB <b>Disk space:</b> 50 MB  <b>OS:</b> Windows NT4 SP6, Windows 2000 SP4 or Windows XP, Vista Ethernet board	<b>CPU:</b> Pentium 500 MHz <b>RAM:</b> 64 MB <b>Disk space:</b> 50 MB and 500 MB for one year statistics <b>OS:</b> Windows NT4 SP6, Windows 2000 SP4 or Windows XP, Vista Ethernet board

# Chapter 8a: Alcatel-Lucent PIMphony Softphone

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# Overview

Alcatel-Lucent PIMphony Softphone is a Personal Communication Manager software that allows to control inbound and outbound calls from a PC. PIMphony is a CTI application fully integrated within the Alcatel-Lucent OmniPCX Office: it utilizes telephony information coming from the Alcatel-Lucent system to deliver a high level of phone services fully integrated in the end user PC and her/his application environment.

The Alcatel-Lucent PIMphony Softphone portfolio offers several packs with specific level of services, adapted to different employees profile:

- **PIMphony Basic** (free of charge) which aims at integrating basic phone tasks management in PC environment.
- **PIMphony Pro** (license based) that is dedicated to users, such as sales people, who manage daily an important volume of calls and look for advanced computer integration.
- **PIMphony Team** (license based), which targets users that often deal with workgroups communications or manage multiple lines.
- **PIMphony Attendant** (license based), which is a complete solution for operator in small company or for assistant in larger ones. It is a cost-efficient solution for a PC based operator console.

	PIMphony Basic	PIMphony Pro	PIMphony Team	PIMphony Attendant
Telephony services	✓	✓	✓	✓
Centralized call log	✓	✓	✓	✓
Automatic update	✓	✓	✓	✓
IP telephony	✓	✓	✓	✓
Contact manager integration		✓	✓	✓
Visual mailbox		✓	✓	✓
Unified messaging		✓	✓	✓
Conversation recording		✓	✓	✓
Dial by name with LDAP directory		✓	✓	✓
Dial by name with local PBX phone book		✓	✓	✓
Assistant mode			✓	✓
Monosite Supervision			✓	✓
Multisite Supervision				✓
Phone book programming				✓*
User information programming				✓

\* Only for phones on a PBX where PIMphony is connected.

# Section 1: PIMphony Basic to Team

## Introduction

PIMphony softphone is a powerful and user-friendly PC softphone. A Basic version of it is delivered with all Alcatel-Lucent OmniPCX Office solutions, but there are three more versions designed for specific users profiles.

## “Basic” Profile

PIMphony Basic is aimed at all employees that want to start integrating phone tasks management in their PC environment. It offers the following features free of charge:

### Telephony Services

PIMphony provides a complete set of phone services (dial by name, transfer, conference...).

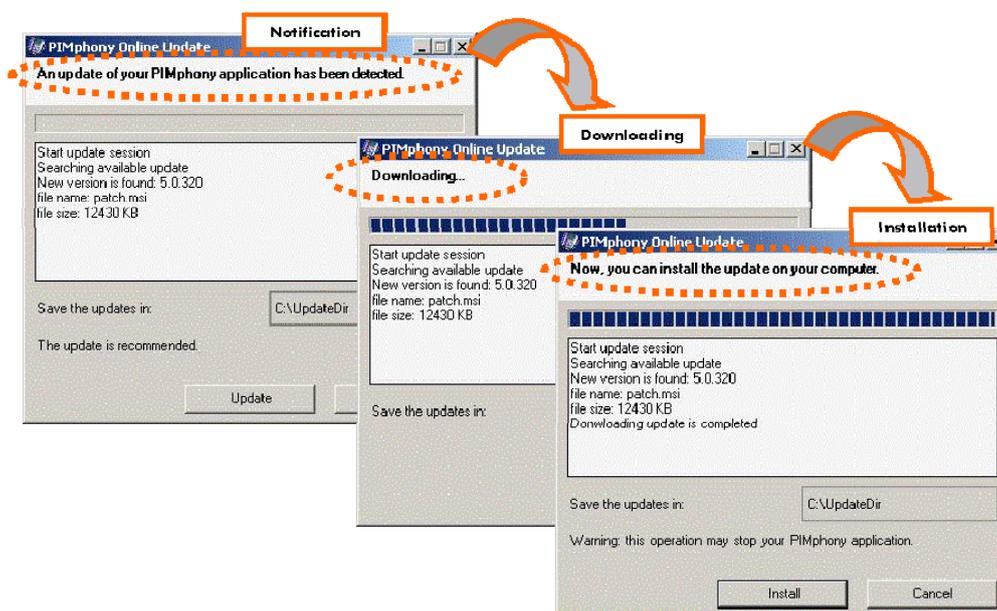
They are permanently available from the user's PC, whatever application may be running and regardless the associated Alcatel-Lucent set (as there is no physical connection between the set and the PC).

### Call Log

This feature enables users to register and keep track of all users calls (contact identification, date, time, duration etc.).

### Automated Online Update

- Automatic check and installation of new version (patches and new release),
- Frequency can be managed directly by the user.



### Color based icons

Icons have colors depending on the state of the user and one concept implies the same icon in the phone mode, in the supervision and in the traybar.

 PIMphony can not connect to the system

 User in ringing state

74

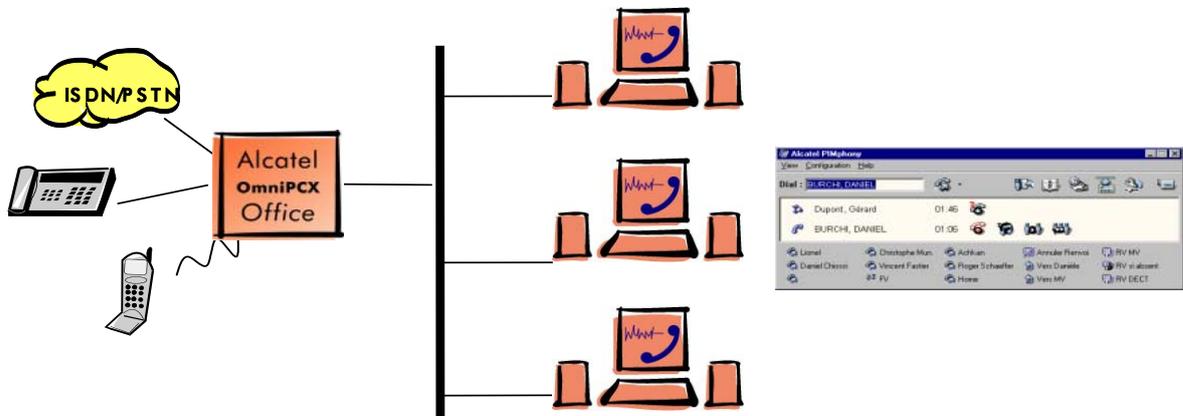
 The user is free

 User in conversation

 The user is forwarded

### IP telephony

Alcatel-Lucent PIMphony Softphone can function without a phone if it is used in IP mode. In this mode, it turns a multimedia PC equipped with a handset or headset into an IP set. This is a cost-efficient option for remote users and for mobile workers who connect to the network over a secure private connection (such as an IP VPN tunnel).



To use PIMphony in IP mode, the customer must buy a IP-PIMphony media software license. The VoIP protocol stacks include G711, G723.1 and G729A for voice compression.

Level 3 QoS is provided: Microsoft Windows use TOS and will perform the tagging of IP Voice & Voice signaling packets in the PC. Those packets will have priority when sent by the PC.

Note: Because of the difficulties to manage the Quality of Service and to guarantee the best voice quality, PIMphony in IP mode is not supported on WLAN solution.

Voice can then be delivered through the PC microphone and loudspeaker. Alternatively, users can use the phone handset. An optional USB headset is available in the catalog to provide users with the option of increased confidentiality and comfort.

**Features also available on PIMphony:**

BASIC	PRO	TEAM	ATTENDANT
			

**“Pro” Profile**

PIMphony Pro is dedicated to users who manage daily an important volume of calls such as sales people. Therefore in addition of the basic features, it provides the following enhanced functions (requires PIMphony Pro software license):

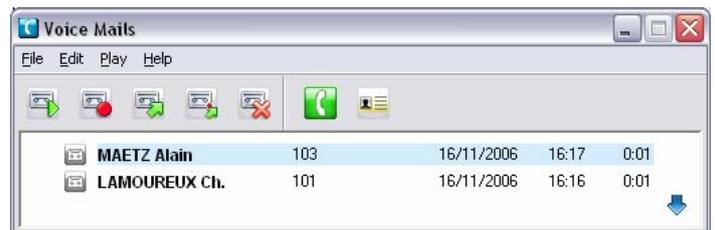
**Contact manager integration**

PIMphony integrates with Contact Manager software such as Lotus Note™, Microsoft® Outlook™, Microsoft® Business Contact Manager™, Microsoft® Access™, Act!®, GoldMine®. It can synchronize with their databases in order to provide services such as automatic screen pop of contact cards for detailed information on the caller or the called person, dial by name, ...

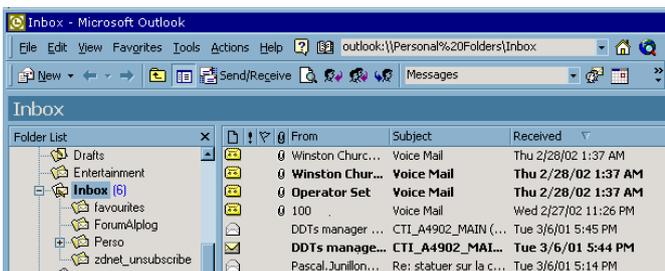
**Visual mailbox**

It is a full set of mailbox management features for your voice messages from your PC:

- Read / Delete voice messages,
- Skip to previous / next voice messages,
- Forward voice message (with comment) to one or many people,
- Associated contact card screen popup,
- Store messages on PC,
- Retrieve recorded conversation as voice message.



**Unified Messaging**



- Integration into email client of E-mails + voice mails + faxes (depending on ISP's level of service),
- Voice messages are handled as e-mails, with wav attachments,
- Same level of information displayed: date & time, Caller's name or phone number.

### Conversation recording

The user can record a conversation from PIMphony. Recorded messages are stored as voice mail messages, but can be downloaded to a PC.

#### Features also available on PIMphony:

BASIC	PRO	TEAM	ATTENDANT
			

### “Team” Profile

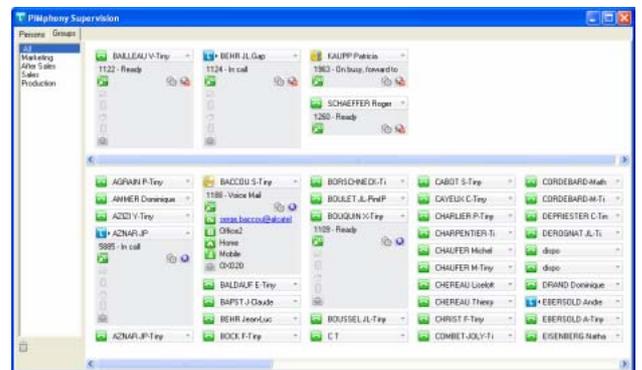
PIMphony Team targets users that often deal with workgroups communications or that manage a lot of calls (like assistant). Therefore in addition of the enhanced functions of the “Pro” version, it provides collaborative features (requires PIMphony Team software license):

### Supervision Functions

PIMphony makes teamwork easier thanks to a supervision window that permits to:

- Define workgroups or services in the company,
- Get a call / forward status of each person in the Workgroup,
- Used with the Assistant window, optimize call reception (one step transfer, supervision of Groups in one blink, ...)

PIMphony Team provides only a monosite supervision (also called BLF for Busy Lamp Field).

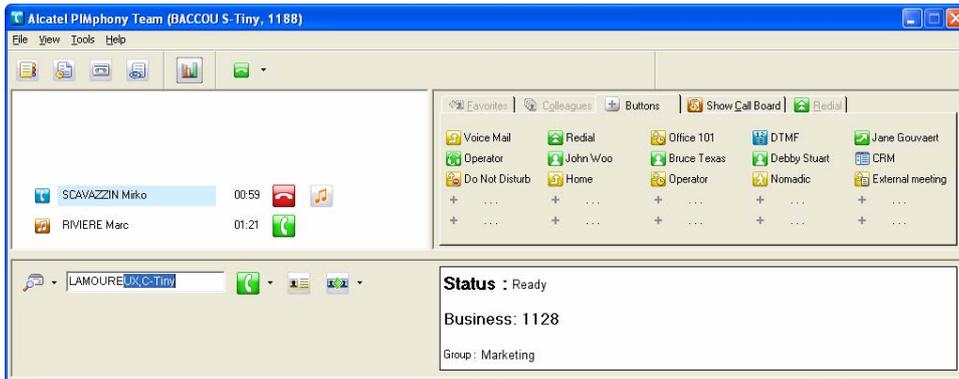


### Assistant mode

In addition to the dialing area, assistant mode can:

- Display up to 8 incoming calls (or 16 with small icons) with possible alarms on waiting time,
- Display of a list of preferred correspondents of the current calling party, or a list of colleagues of the selected person, with the display of the person’s status,
- Access to the call board or the redial list,
- One step transfer possible with preferred correspondents, people from supervision groups, ...

- Ability to build statistics on calls: number of answered calls, non-answered calls, transferred calls, delay average in ringing state before answer, before transfer.



Features also available on PIMphony:

BASIC	PRO	TEAM	ATTENDANT
			

## Section 2: PIMphony Attendant

### Introduction

PIMphony Attendant is a complete solution for operator in a small company or for assistant in larger ones. It is a cost-efficient PC based operator console that provides all the features described in the previous sections, and supports multi-site supervision.

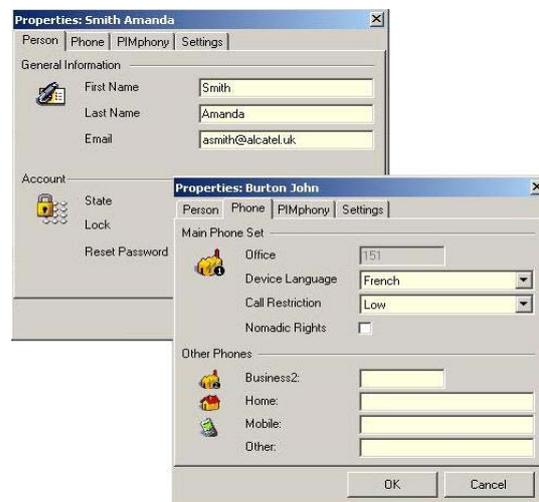
### Multisite Supervision

This feature allows users to display and monitor the phones of several Alcatel-Lucent OmniPCX Office systems (multi-site topology) on a PC screen. Combined with the multi-site capabilities of Alcatel-Lucent OmniPCX Office, the operator can see the phone and forward status of all users and optimize call treatment for callers.

### Users information access and programming

With PIMphony Attendant, a user can manage the parameters and configuration of employee phones:

- Change first name and last name of a phone number (only for the local PBX);
- Lock and unlock the phone;
- Reset password;
- Give nomadic right;
- Change forward state;
- Modify telephony rights;
- Manage PIMphony profile;
- Manage user phone numbers (home, mobile, business2, other) and e-mail addresses.



All of these operations, except modification of the first and last name, are available in a multi-site environment.

### Centralized directory on a multisite topology

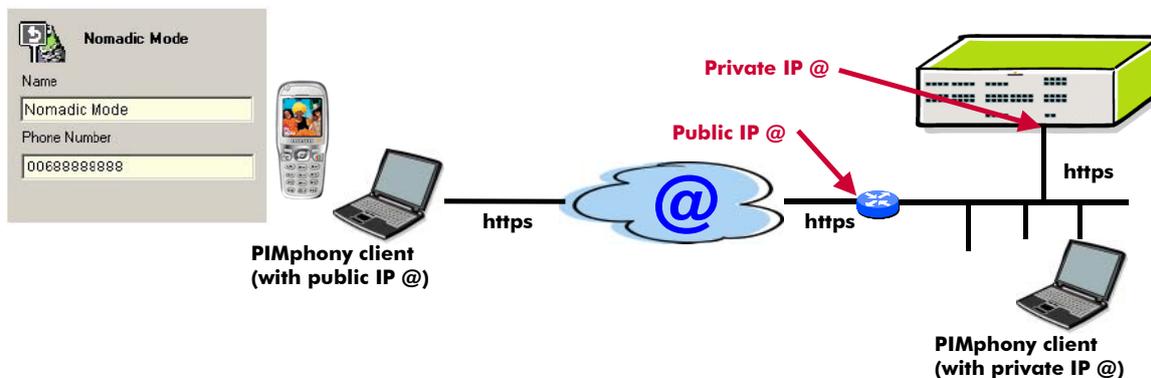
PIMphony attendant accesses to the centralized phone book in a multisite topology.

#### Features available ONLY on PIMphony Attendant:

BASIC	PRO	TEAM	ATTENDANT
			

## Section 3: PIMphony for Remote Workers

Remote and mobile workers can also benefit from the full set of PIMphony features while away from their office: they can connect with PIMphony to the OmniPCX Office solution of their company in an easy way using anywhere a standard Internet access; in addition the connection is secure because it uses the https protocol and an SSL/TLS layer.



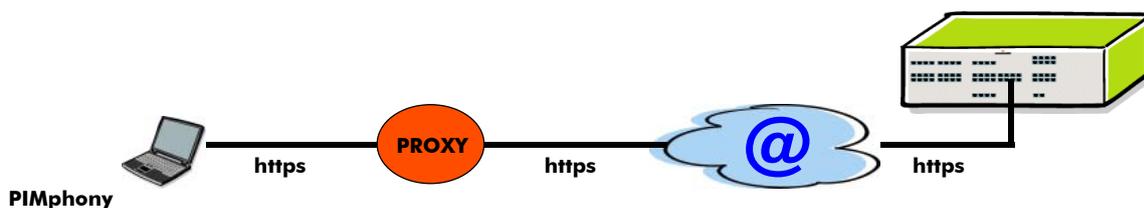
Note: the voice media (using PIMphony IP) is not supported in this configuration. Instead it is possible to use a mobile phone (or any other phone) configured in One Number Service mode to make and receive the voice calls.

**It is possible to support up to 10 simultaneous PIMphony HTTPS connections.**

Setting up a PIMphony remote connection is very easy, because it does not require a VPN. The solution is also compliant with security rules that may have been set up by the company to protect against external attacks, and fits with proxy, router and firewall restrictions.

Proxy traversal:

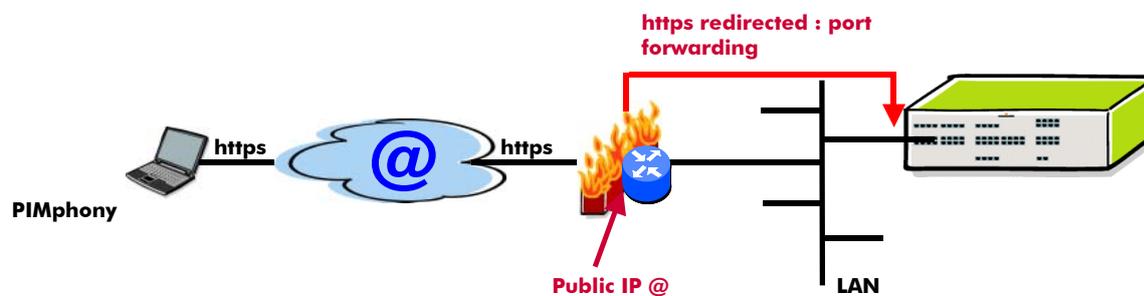
If the remote access to Alcatel-Lucent OmniPCX Office passes through a proxy server, the PIMphony client must be configured to use the proxy (the IP address of the proxy server is configured in PIMphony).



#### Router and firewall traversal:

If remote access to Alcatel-Lucent OmniPCX Office is hosted on the company's LAN and passes through a router or firewall:

- The router or firewall must be configured to redirect the HTTPS traffic to the Alcatel-Lucent OmniPCX Office CS IP address (port forwarding setting).
- The PIMphony Softphone must be configured with the company's public IP address or domain name.



Setting up a remote HTTPS connection of PIMphony does not require any specific software licenses, apart from the PIMphony client licenses.

## Section 4: Technical Specifications

### Pre-requisites

PIMphony	IP PIMphony
<b>Alcatel-Lucent OmniPCX Office System</b>	
Release 5.0 or higher Maximum 25 users without hard disk, 75 users with hard disk, including all PIMphony users for Compact/Advanced Unit and maximum 200 for Premium Unit.	Release 5.0 or higher Maximum 25 users without hard disk, 75 users with hard disk, including regular PIMphony users for Compact/Advanced Unit and maximum 200 for Premium Unit.
<b>Desktop phones</b>	
Alcatel-Lucent IP Touch or 9 Series phones Alcatel-Lucent wireless DECT or GAP handsets IP Touch 310/610 WLAN Handsets 300/400 DECT Handsets Analog phones	No phone required with PC Headset or PC Handset
<b>PC</b>	
Pentium® 300 MHz or higher 64 MB RAM 140 MB free disk space CDROM driver  Ethernet board  SVGA graphic board (1024x768 pixels) Internet Explorer 6.0 or higher	Pentium® II 300 MHz or higher 80MB RAM 140MB free disk space CDROM driver Standard compatible SoundBlaster PC board Ethernet board or modem V90 Windows compatible with full duplex driver SVGA graphic board (1024x768 pixels) Internet Explorer 6.0 or higher

## Features List

Feature description	PIMphony			
	Basic	Pro	Team	Attendant
<b>Telephony features</b>				
• Make / Answer call				
• Call pick-up				
• Enquiry call				
• Place on hold				
• Transfer / One step transfer				
• Conference				
• Call forwarding				
• Call deflection				
• Call back				
• Quick dial with drag & drop or copy & paste				
• Dial by name using the local PBX directory				
• Dial by name using a LDAP directory server				
• Direct transfer to voice mail of a user				
• Programming text forwarding				
• Forward status in supervision				
• Nomadic mode				
<b>Detailed call log</b>				
• Incoming/outgoing calls				
• Answered / non answered calls				
• Detailed call ticket (name, number, date, call duration)				
• Call pick-up status				
• Call forwarded status if forward performed				
• Embedded call log (when PIMphony is running)				
• Centralized call log (embedded in the call server)				
• Easy call back				
• Exportable call log file				
<b>Voice Mail features</b>				
• Voice Mail notification				
• Voice Mail access				
• Read/Delete voice messages				
• Listen messages from phone set or from PC (with multimedia PC)				
• Download Voice messages on the PC				
• Unified Messaging				
• Conversation recording to Voice Mailbox				

Feature description	PIMphony			
	Basic	Pro	Team	Attendant
<b>Other features</b>				
• Supervision feature				
• Multisite supervision				
• Assistant module (synchronization with the internal phone book)				
• Phone set password management in PIMphony				
• Management of user information in multisite environment				
• Display of ACD group name or called name				
<b>Languages available</b>				
• French				
• German				
• English UK and US				
• Spanish				
• Dutch				
• Polish				
• Italian				
• Hungarian				
• Czech				
• Portuguese				
• Romanian				
• Slovak				
• Slovenian				
• Russian				
• Finnish				
• Greek				
• Chinese (traditional + Hong-Kong + Taiwan)				
<b>Graphical User Interface</b>				
• Phone icon in the Microsoft Windows task bar: call status, dialer				
• Phone bar: call status, call management, call log, contact card access <sup>(1)</sup> , voice mail <sup>(1)</sup> , pop up configuration <sup>(1)</sup> , auto hide				
• Phone window: call management with multiline context, call log, contact card access <sup>(1)</sup> , Voice Mail <sup>(1)</sup> , pop up configuration <sup>(1)</sup> , programmable phone soft keys (up to 50), call board				
• Voice Mail two state icon				
• Supervision window				
• Assistant view				

<sup>(1)</sup> Depending on the PIMphony profile (see before in feature list).



Feature description	PIMphony			
	Basic	Pro	Team	Attendant
Microsoft Outlook integration				
• Call from an Microsoft Outlook contact card <sup>(2)</sup>				
• Dial-by-name				
• Automatic screen pop of contact card				
• Manual screen pop				
• Screen pop setup wizard				
• Journal entry				
• Email sending				
• Microsoft Outlook 2000				
• Microsoft Outlook 2002				
• Microsoft Outlook 2003 with Business Contact Manager				
• Microsoft Outlook 2007				
• Public and multiple folder support				
ACT! 6.0, 8.0 and 9.0 (Sage Group)				
• Call from an ACT! Card <sup>(2)</sup>				
• Dial-by-name				
• Automatic screen pop of contact card				
• Manual screen pop				
• Journal entry				
• E-mail sending				
GoldMine 5.7, 6.5 and 6.7 (FrontRange Solutions Corp.)				
• Dial-by-name				
• Automatic screen pop of contact card				
• Manual screen pop				
Microsoft Access integration				
• Dial-by-name				
• Automatic screen pop of contact card				
• Manual screen pop				
• Access 2000				
• Access 2002/2003				
• Access 2007				
IBM Lotus Notes				
• Dial-by-name				
• Automatic screen pop of contact card				
• Manual screen pop				
• Journal entry				
• Lotus Notes 5.02 to 6.5				

<sup>(2)</sup> For this feature, the Telephony Service Provider must be installed separately (provided in the Applications CD-ROM).

Feature description	PIMphony			
	Basic	Pro	Team	Attendant
<b>Voice element</b>				
<ul style="list-style-type: none"> <li>PIMphony with physical phones (IP Touch and 9 series phones, analog phones, 300/400 DECT Handsets and GAP Handsets, IP Touch 310/610 WLAN Handsets)</li> </ul>				
<ul style="list-style-type: none"> <li>PIMphony with multimedia PC (VoIP)</li> </ul>	(3)	(3)	(3)	
<ul style="list-style-type: none"> <li>G711 codec</li> </ul>				
<ul style="list-style-type: none"> <li>G723.1 codec</li> </ul>				
<ul style="list-style-type: none"> <li>G729A codec</li> </ul>	(4)	(4)	(4)	
<ul style="list-style-type: none"> <li>Quality of Service management (QoS)</li> </ul>	(5)	(5)	(5)	
<b>Other</b>				
<ul style="list-style-type: none"> <li>Launch a program from PIMphony with parameters</li> </ul>				
<ul style="list-style-type: none"> <li>Online update service</li> </ul>	(6)			
<b>CTI 3<sup>rd</sup> party architecture supported</b>				
<ul style="list-style-type: none"> <li>Embedded CTI server</li> </ul>	(7)	(7)	(7)	(7)
<b>Windows Terminal Server Edition supported</b>				
<ul style="list-style-type: none"> <li>Microsoft Windows 2000 Terminal Server</li> </ul>				
<ul style="list-style-type: none"> <li>Microsoft Windows 2003 Terminal Server</li> </ul>				
<b>Windows version supported</b>				
<ul style="list-style-type: none"> <li>Microsoft Windows 2000 Professional SP4</li> </ul>				
<ul style="list-style-type: none"> <li>Microsoft Windows 2000 Server</li> </ul>				
<ul style="list-style-type: none"> <li>Microsoft Windows XP Home and Professional (SP1 + SP2), x64 Edition</li> </ul>				
<ul style="list-style-type: none"> <li>Microsoft Windows 2003 Server</li> </ul>				
<ul style="list-style-type: none"> <li>Microsoft Windows 2003 Server R2</li> </ul>				
<ul style="list-style-type: none"> <li>Microsoft Windows Vista (all edition 32 and 64 bits)</li> </ul>	(8)			

- (3) Maximum 25 PIMphony clients without hard disk, 75 PIMphony clients with hard disk for Compact / Advanced Unit and 200 for Premium Unit.
- (4) Minimum PIMphony 5.0 and OmniPCX Office R4.0.
- (5) Configuration to be done on the PC.
- (6) Minimum one PIMphony Pro or Team is required.
- (7) Maximum 25 PIMphony clients without hard disk, 75 PIMphony clients with hard disk for Compact / Advanced Unit and 200 for Premium Unit.
- (8) PIMphony R5.1 does not support IP media on VISTA

## Compatibility rules

PIMphony R5.1	Alcatel-Lucent OmniPCX Office R4.1 and lower
PIMphony R6.3	Alcatel-Lucent OmniPCX Office R5.x, R6.x and R7.0

# Benefits

## Benefits:

- Complete set of telephony features
- Intuitive graphical user interface
- Initiate calls from any desktop application: “Copy and dial” and “drag and dial”
- Detailed inbound and outbound call log
- Voice mail management
- Integration with Contact Manager software
- Screen pop of contact card and dial by name using contact database
- Multi-line management (up to 8 communications or 16 with Assistant view)
- Multi-site supervision
- Multi-site attendant features

# Chapter 8b: My Teamwork Office Edition

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# Overview

## OmniTouch My Teamwork Office Edition

Packaged and priced for the small business with ad hoc and scheduled audio conferencing; application and desktop sharing; file sharing; and Windows Mobile 5 Pocket PC client access. Bundles include both audio and data ports with the IP trunk software licensing required for OmniPCX Office.

## OmniTouch My Teamwork

My Teamwork is a software-based multimedia, multiparty business communications solution running on commonly available computer hardware. Use OmniTouch My Teamwork from any telephone, any location, and any browser for secure conferencing with anyone inside or outside the company—no specialized software or virtual private network (VPN) required. The presence-aware, easy-to-use interface supports a full feature set including meet-me, ad-hoc, and scheduled events with click-to-conference, IM chat, application and desktop sharing, document management, and more.

- Deployed on-site with no proprietary hardware or user downloads required
- Audio, Web, and Presence-based IM
- Dial in or dial out conferencing with internal and external colleagues
- Scheduled, recurring, meet me, and ad hoc conferencing modes
- Supports internal and external par
- Application, document, and desktop sharing; and document management
- Extended features—audio recording, IM archiving, customized branding, and multilingual support

## OmniTouch My Teamwork for the Small-Medium Business Segment

The solution grows with the small business owner, easily scaling via software-based licensing from 8 to 120 ports. For businesses with high monthly audio or web conferencing usage for example professional services businesses and consulting organizations, OmniTouch My Teamwork can provide a quick ROI. OmniTouch My Teamwork streamlines communication with presence-based IM for ad-hoc chat to minimize delays associated with asynchronous communication tools like voice mail and email. For small businesses, this means doing more with less and the added support for a low cost single processor hardware platform makes the solution ideal for smaller businesses. Companies and employees benefit from implementing green technologies that help reduce travel costs and support telecommuting—saving many workers up to hours a day in travel time, which could be spent on the job or enjoying a higher quality of life.

## Section 1: Benefits

- Full-featured multimedia, multiparty conferencing and collaboration running on a single computer
- Works with Alcatel-Lucent OmniPCX Office, including business telephony and connects directly to public TDM and IP networks (SIP)
- Software-based application requires no proprietary hardware for low cost deployment and total cost of ownership (TCO)
- Secure and accessible via any telephone, any PC, any browser, and any location
- Easily scales up or down via software licensing for simple administration and low TCO
- Browser-based tool for both users and administrators with no client downloads for easy deployment and minimal help desk support
- Easy-to-use buddy window with single-click action and response for plug and play eliminates user barriers and promotes high adoption rates
- Simple administrative interface with robust reporting capabilities
- Standards-based SIP and XML APIs for fast and efficient integration with existing business applications and portal solutions
- Customizable with full branding and language support by user or region

### End User Benefits

The single-click interface is easy to use with multiple ways to initiate actions so that end users are up and running in minutes. With no large software client to download and maintain, common use barriers are removed and workers quickly appreciate the anywhere, anytime access from the home or office. The presence-driven ad hoc communication and click-to-conference capability with both internal and external contacts saves valuable time by minimizing voice mail and email. All of these factors lead to high user adoption rates with additional savings benefits for companies.

### System Administrator Benefits

For system administrators, the intuitive user interface and thin client reduces help desk calls and IT overhead. Equipped with easy-to-use management tools like auto provisioning with Microsoft® Active Directory and secure LDAP authentication, OmniTouch My Teamwork is simple to administer. The browser-based administrative interface provides feature configuration, software and licensing upgrades, call detail reports (CDR), language and brand customization, remote SNMP and SMTP monitoring for alerts and alarms, and IM logging with SMTP retrieval.

## Section 2: Selling My Teamwork Office Edition

Customer can hold as many meetings as needed for any length of time and never pay an extra seat or overage charge again. Premises-based deployments of OmniTouch My Teamwork offer a measurable ROI when compared with service provider offerings, and because it is software-based adding users and features is easy—no cumbersome and expensive proprietary hardware to purchase and install. High user adoption rates accelerate the return on investment because the plug and play interface requires minimal training with all conference controls visible and accessible in a single click. Presence-based collaboration eliminates the delays associated with email and voice mail, encouraging real-time, results-driven communication for faster response times.

Key Differentiators	
<b>Full feature access at low costs</b>	Integrates function of IM/Presence, audio and Web conferencing servers onto a single server running on common computer hardware
<b>Easy and flexible deployment</b>	Browser based interface—no client download for users and participants Increase capacity and features via software license—no hardware upgrades
<b>Unrivaled feature set in a single software pack on a single server</b>	Web and audio conferencing Presence-driven IM Mobility client for Windows Mobile 5 Pocket PC

### Detailed Selling Points

#### Cost savings

- Software-based solution requires no proprietary hardware
- Installs on a single server using commonly available computer hardware
- Simple installation and ease of use means no additional IT overhead
- Eliminate service provider conferencing with an on-premises application
- Decrease travel expenditures

### Employee productivity

- Presence-driven interaction reduces wasted voice calls and increases real-time online communication for savings
- Single-click interface is easy to use with no client download and minimal training for high adoption rates
- Better communication among teams due to increased conferencing utilization
- High adoption rates guarantees cost savings and increased productivity results

### Security

- All data sessions are encrypted, logged, and archived
- End-to-end security using TLS and SSL protocols for encryption
- Password protected with strong password policy management
- Information resides on the network behind the firewall

### Flexible deployment options

- Any desktop (PC/MAC/Linux/UNIX)
- Browser-based with access from any telephone, browser, or location
- Geographically distributed server architecture for redundancy and toll calling arbitrage

### Easy to use and administer

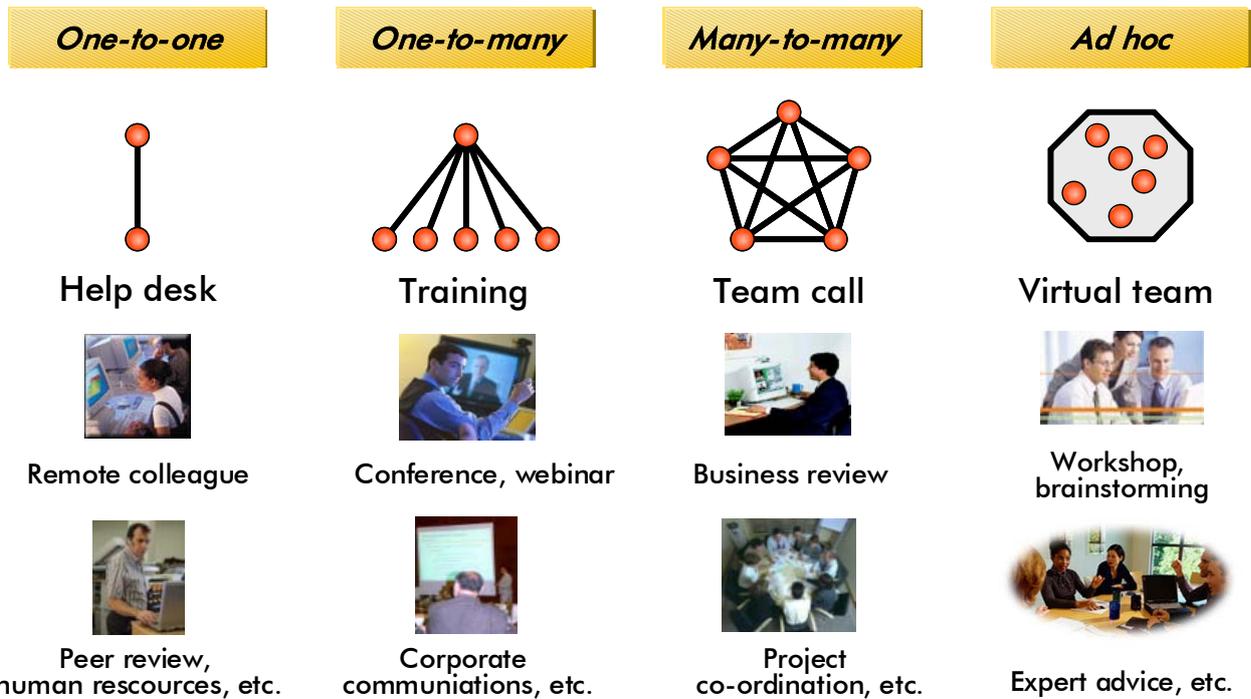
- Browser-based with no client to install makes this easy to use and install
- Add users by purchasing additional software licenses (no forklift upgrades)
- Simple SIP and XML APIs for application development to enable calling & conferencing from existing business applications

### Target Customer

My Teamwork Office Edition is recommended for businesses with audio conferencing needs exceeding 6-party calling or organizations with web conferencing and IM demands. The solution packages and pricing with the OmniPCX Office PBX are ideal for a range of 10 to 200 users. The OmniPCX Office is deployed with common hardware (GD or GA) is recommended. A SIP Proxy is not needed.

### Use Cases

Users across the business or organization have different communication needs according to their job description and who they interact with in terms of internal or external colleagues or a mix of both. The following shows the types of communication formats supported by OmniTouch My Teamwork



### Qualifying Questions

- 
- Would you like to reduce travel costs and expenses?
- Do you have a growing population of telecommuters?
- Is your business geographically dispersed across multiple sites or branches?
- Are you using web conferencing for trainings and sales events?
- Are employees burdened with a heavy face-to-face meeting schedule?
- Are you looking for a corporate IM solution?

### Packages

Packaged and priced specifically for the small business with 8, 12, 16, 24, and 48 port packages. Packages include:

- My Teamwork users, voice and data ports
- 
- OXO IP licenses included at no charge
- Options available: add Voice/Data ports

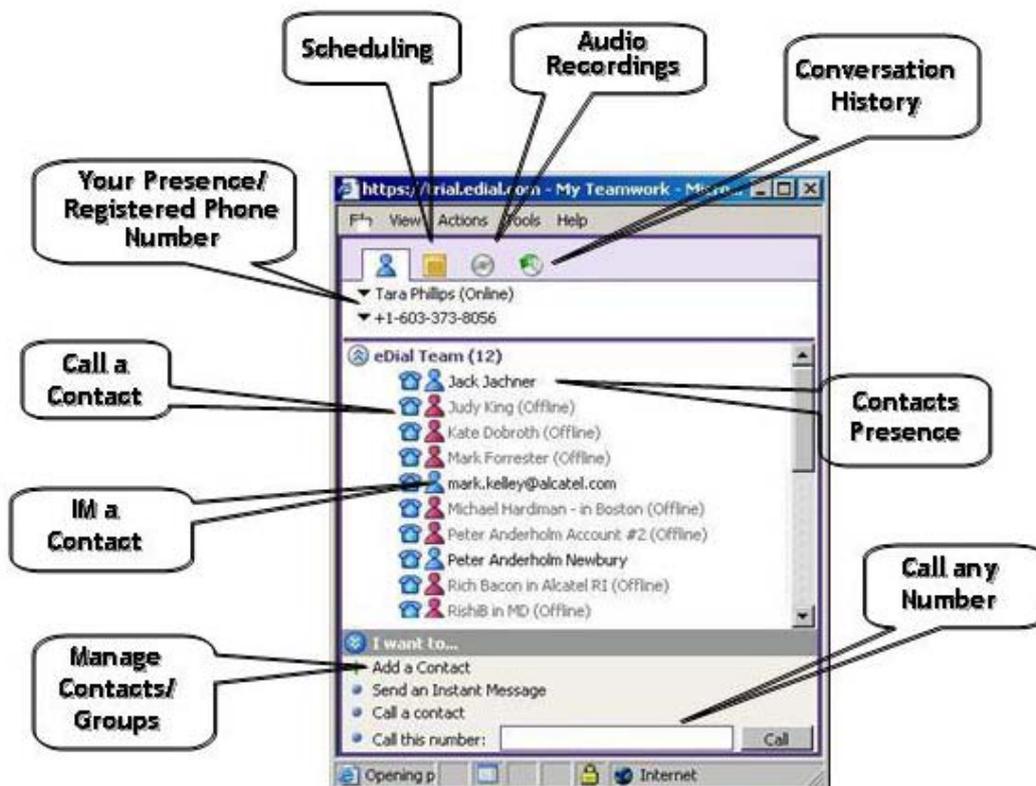
Also available is **OmniTouch My Teamwork for Window Mobile 5<sup>®</sup> Pocket PC**, allowing OmniTouch My Teamwork enterprise customers with Windows Mobile 5<sup>®</sup> devices to access conferencing and collaboration features including contacts' presence with click-to-conference; view and join conferences; view and control Web presentations; conference call control; and dialing contacts from Windows Mobile 5<sup>®</sup> Outlook contacts list.

## Section 3: User Interface

### The Contacts Window

The OmniTouch My Teamwork contacts window is the main interface for managing presence, initiating conferences and managing other OmniTouch My Teamwork functions conference scheduling, replay of recording, and accessing the conversation history. These are addressed in other sections of this document.

- Browser-based interface for plug and play user experience
- No user downloads eliminates help desk calls
- Single-click action and response interface requires minimal if any training



## Presence and IM

The OmniTouch My Teamwork “contacts window” is presence-enabled with each media represented as a separate icon— telephone and online presence.

- Telephony with on the phone or off-hook indicator for OmniTouch My Teamwork calls
- Online/offline with user-configured presence options—busy, away, out to lunch, do not disturb, and custom settings and name display

Presence indication means that with a single glance at the contacts window, a user can see their colleague’s availability to determine the most efficient way to reach them. This presence capability eliminates wasted emails and voicemails. Presence-awareness coupled with IM chat and contacts management is critical to enabling instant collaboration for results-driven communication—transforming the enterprise and empowering users with user-centric communication tools. My Teamwork supports both canned and customized presence settings allowing users to choose how they want their presence represented.

## Registered Phone Number

Users can store multiple phone numbers in the database—home, office, mobile etc. This enables them to quickly set their registered phone number according to their current location so all calls from My Teamwork are connected using that number. Additional numbers can be entered if they are traveling on business.

## Scheduling

Scheduled conferencing is used for meetings requiring a set time or guaranteed audio port availability and may be set as one-time or recurring. The My Teamwork scheduling interface is used for both scheduled and reservationless events. Scheduled conferences require port reservations to be entered and additional event options are available including the ability to pre-upload attachments and set advanced event management options discussed later.

When events are scheduled the system generates leader and participant access URL’s and dial-in numbers to be distributed via invitations and calendar appointments choosing either Microsoft Outlook or Lotus Notes. In My Teamwork leaders have more privileges than participants.

The scheduling interface provides a list of all scheduled events and reservationless conferences with easy access to schedule a new conference, change event details for an existing conference and upload attachments to a meeting or invite additional participants.

## Audio Recordings

OmniTouch My Teamwork incorporates its own fully integrated recording and playback system. Audio conferences are recorded with a single-click from the conversation window and playback is accessible via the recordings list.

### **Conversation History**

OmniTouch My Teamwork's conversation history provides a comprehensive means to retrieve any conversation conducted by the user. Displaying a conversation history brings up a non-interactive conversation window listing all IM sessions with event details including date, participants, and media and activities used like document sharing or recording. By selecting an entry, further call content detail is provided including a list of every initiated action during the event chronologically with a record of the IM text.

### **Contacts Management**

Users can search the database supporting active directory lookup for internal contacts and add them to user-defined contact groups. External colleagues can also be added as speed dial numbers.

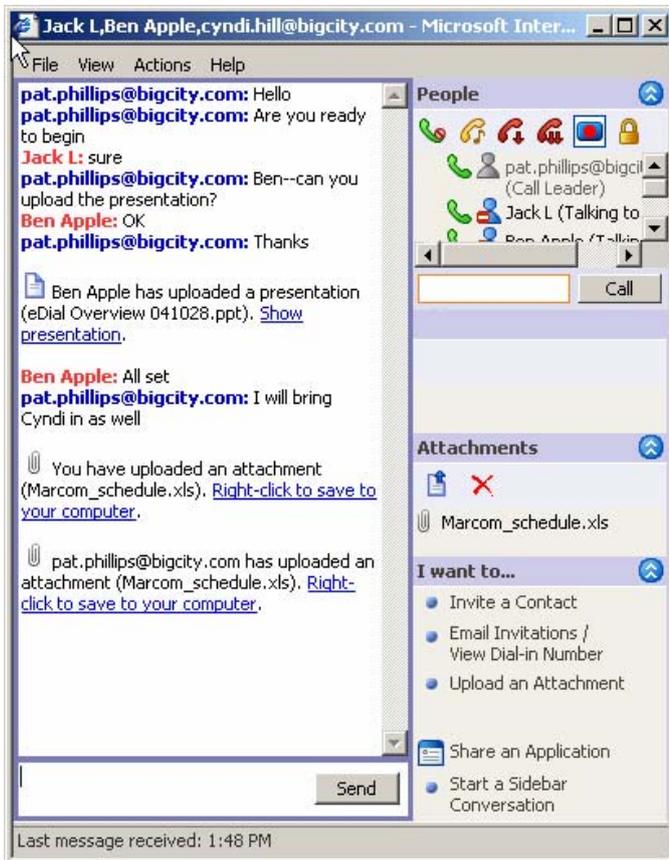
### **The Active Conversation Window**

Whenever a conference room is entered by any participant, an active conversation window opens on the participant and conference owner's screen, if they are logged in. This notifies the owner that the conference is in use, preventing abuse and permitting the owner to work uninterrupted until their first attendee arrives.

This window contains all the information and controls needed to participate in the conference. Users can also customize the window by closing the presentation pane or "I want to" pane and extend the "people" pane to view all participants in the case of a larger event.

Several conferences can be in progress simultaneously, and each will display its own conversation window on the screen. When in conference the conversation window becomes the main control window and essentially takes over from the contacts window.

The conversation window shows presence for all participants, eliminating the need for roll calls and "who just joined?" queries. It indicates the "active speaker" if the conference includes audio, and also has one-click controls for common functions such as record, lock (deny access to any new participants), mute, drop, or hold. It supports single-click escalation to initiate application sharing or upload attachments and allows private sidebar IM sessions which is valuable when conducting business with external parties e.g., customers, clients, business partners, and suppliers. Both internal and external colleagues can fully participate in a conference.



- Call controls
- Participants list with presence
- Dial out to participants
- Document Management
- Actions menu

## Application Sharing



Application sharing allows leaders and/or participants in an audio or IM conference to collaboratively view and share any application in real-time, including their entire desktop. Participants in the sharing session do not need to have the shared application installed on their computer. All features of the shared application are available including animations in a PowerPoint, for example, a team may collaboratively update a presentation by passing control back and forth in the editing process.

The leader has a flexible set of controls, including the ability to “pause” the share (i.e., stop sharing while answering a quick email), and change applications within the same sharing session. The person initiating and viewing the share must ActiveX controls installed and My Teamwork will automatically prompt the user to download the controls.

### **ActiveX Installer Package**

This package pre-downloads all ActiveX components required to initiate and view application sharing. This link is embedded within meeting invitations. Eliminates application sharing use barriers by making it easier to prepare for events in advance

### **Document Management**

Any document may be uploaded to the server as an “attachment,” available to any participant for download to their local device. The document is not opened or modified by the server. Web presentations are not automatically available for download. It is necessary to upload the presentation if you would like to make it available to participants to use later on. The document management feature is useful for transferring large files that exceed email limits. Many users store pertinent documents related to current projects in their reservationless conference room and distribute the URL to relevant parties as a means to disseminate information to personal groups.

### **Advanced Event Management Features**

The following event management options are supported in My Teamwork when scheduling an event or participating in a live event.

#### **Webinar Mode**

Conference leaders can see and IM all meeting attendees—co-leaders and participants, while participants can only see and IM leaders. Useful for conferences with business partners, training, and other instances where participant privacy is desired.

#### **Lecture Mode**

Useful for large meetings is “lecture mode,” where all participants automatically join muted so as not to disturb an in-progress call or to prevent intrusive chat or background noise during presentations.

#### **Dial out with prompt and Confirm Call Back**

These settings prevent voice mailboxes and other inappropriate legs from being joined into conference when the system calls back to join participants. The dial out with prompt is used during a live event when dialing out to add a caller and the confirm call back feature is set when scheduling an event. In both scenarios callers are required to enter a key pres before being connected to a live event.

### **Leader Call Controls**

During an event leaders have access to all call controls to mute/unmute and drop all or selected participants. Leaders can also hang up or lock the conference to prevent disruptions.

### **Touchtone Commands**

Participants can use touchtone commands to mute and unmute themselves and leaders can add callers and record conferences using DTMF signals.

### **Other Scheduling Settings**

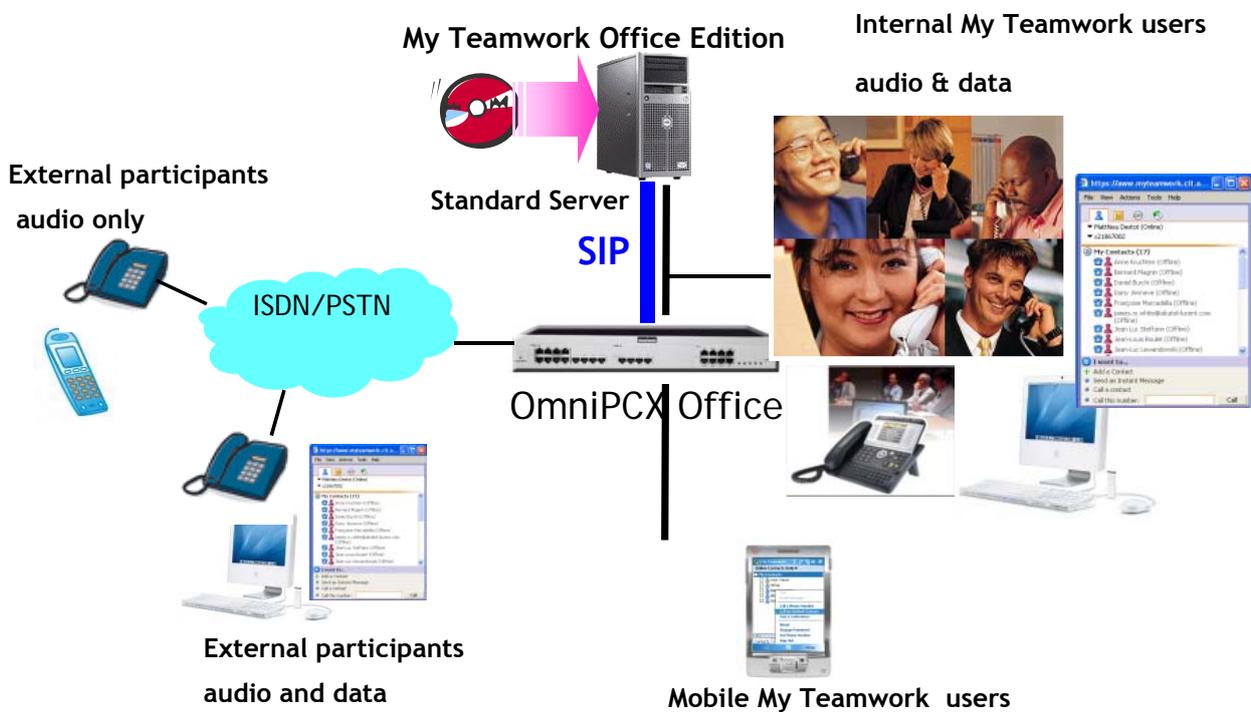
Other useful options available in the event scheduling wizard include elimination of join tones, enabling or disabling roll call, conference locking, auto extending an event if ports are available, and setting an event as "leader required."

### **Operator Console**

This browser-based operator control interface is used for larger events where operator assistance is needed to support the event. Assigned operators can view a list of callers in queue, connect to the next caller in the queue, transfer callers into ongoing conferences and see a list of all active conferences to search for specific events.

## Section 4: Design

My Teamwork Office Edition is available with OmniPCX Office Version 6.1(OXO) via a SIP connection. For detailed information on configuration and installation please consult the My Teamwork Admin, Installation and Site Preparation Guides.



## Section 5: Features

### Presence and Instant Messaging

- Presence and IM access from any location, PC, and browser
- Customized and pre-configured presence settings (Away, Busy, Offline, Online, Out to Lunch,)
- Configure presence status when inactive
- Open standards-based instant messaging with encryption
- Multiparty chat and multiple concurrent IM sessions per user
- Add contacts to existing chat sessions
- Choose to block or receive IM when "busy"
- Personal, annotated, and time stamped IM logs
- Create and manage multiple contacts groups per user
- Database directory lookup for contacts search from LDAP or server
- Block select contacts and manage block lists
- Add external contacts as speed dial numbers for click-to-conference

### Voice Conferencing

- Ad hoc, scheduled and meet me modes
- Click-to-conference and group call
- Dial out to add participants
- System call back feature to join conferences
- Call control via interface and IVR prompts
- Conference locking and hold
- Mute/unmute all participants
- Active talker indication
- Recording via interface and IVR with on demand playback
- Confirm call back number and dial out with prompt settings prevent misdials and voice mail pick ups from joining the call
- Multiple language voice prompts

### Web Conferencing

- Ad hoc, scheduled, and meet me modes
- Multiple ways to schedule and start sessions
- Join via Web conferencing login page
- Application and/or desktop sharing
- Co-browsing and collaborative document editing with remote control sharing
- Document storage and sharing (upload/download attachments)
- Invite/add a contact(s) to a session
- Public and private IM chat sessions

### Conference Scheduling

- Scheduling interface for scheduled and reservationless events
- Outlook® and Lotus® Notes email invites and calendar appointments with embedded URLs to join events
- Pre-upload presentations and attachments
- Voice port reservations

- Lecture and Web conferencing mode settings
- Customize conference access codes
- Auto extend sessions and conference ending reminders

### **Event Management**

- Leader and participant rights
- Non-provisioned user access to events
- Upload materials in advance or on the fly
- Supports multiple attachments and presentations
- Host leader-required or leaderless events
- Call control via interface or IVR (mute, add, drop, hold callers)
- Mute/unmute all participants
- Roll call/number of participants
- Conference locking and hold
- Click to add contacts/media
- Dial out/invite a contact to add participants
- Single-click recording
- Confirm call back and dial out with prompt settings prevents misdials and voicemail pickups from joining the call
- Participants may mute/unmute their lines
- Hide inactive participants
- Call detail reports for every event
- Conversation history with complete event record—IM log, media used, participants, and more
- Multiple language options for voice prompts and user interface

### **Recording**

- Single click audio recording with on demand playback
- Email playback instructions with recording links
- Non-provisioned users can access recordings via URL
- Stored securely on server or download locally
- Play recordings into conferences or listen over the telephone
- Password protection option for recording

### **Customization**

- Full rebranding for service provider deployments
- XML APIs for presence and audio integration into portals and legacy business applications
- Multiple languages including Chinese, French, German, Italian, Japanese, Korean, Portuguese, and Spanish
- User-specific and configurable interface language

## Section 6: Technical Specifications

### Capacity

- Maximum users/server: 3000
- Maximum audio conferencing ports/server: 96
- Maximum data conferencing ports/server 120

### Computer Requirements

- Intel-based computer that supports Red Hat Enterprise Server Release 4.0

Minimum Requirements	Small-Medium Business
Processor	Single processor, dual core
Memory	2 GB
Hard drive	(2) 70 GB or greater
RAID	Software RAID 1
Media drive	DVD reader
Capacity	120 concurrent audio and data conferencing ports and 3,000 IM users

### Interfaces and Protocols

- DTMF, HTTP, HTTPS, MGCP, SDP, SIP, SMTP, SNMP, XML
- SIP Standards: RFCs 2327, 2833, 2848, 2976, 3261, 3263, 3265, 3428, 3515, 3891, and 3892
- VoIP Transport: RTP
- Audio codec: G.711 a-law and mu-law, G.729A, and G.726-32
- Supported browsers: Internet Explorer, Firefox, Mozilla, Netscape, and Safari

### Network Infrastructure

- Any desktop—PC, Mac, Unix
- Any network (PSTN and IP) or phone (PBX, softphone, mobile)

### Reporting

- All reports available via browser, XML or comma delimited format
- Pre-defined administrative reports
- Call detail reports (CDR) by user, tenant, or server for billing
- Real-time monitoring via browser or SNMP
- Traffic and network statistics
- Alarm and event logs

## Security

- Secure account authentication (locally, via LDAP, LDAPS, or third party single-sign-on system)
- End-to-end security using TLS (Transport Layer Security) and SSL (Secure Sockets Layer) protocols
- Separate leader and participant access codes
- Ability to lock conference and drop callers from session
- IM auditing and archiving to email format
- Password policy management with mandatory change intervals
- Inter-organization access may be open or limited for security

## System Administration

- Browser-based administration interface
- Multi-tenanted administration views and provisioning domains
- Flexible allotment of scheduled and ad hoc ports
- Disk quota allotment and management
- Authenticated SSL/HTTPS interface
- Flexible user provisioning (locally or via LDAP and LDAPS)
- Bulk provisioning of users, groups, and tenants via URL
- Real-time SNMP and web monitoring of system status and conference activity
- Alerts/alarms—SNMP v2 & v3 and SMTP (email)
- Configurable nightly system backups and fast cold-spares restore
- Global date and time zone support
- Network protocol segmentation
- Licensable features by server, by user or organization
- Up to 16 phone numbers per tenanted organization each with its own language prompt set
- Toll free phone number support

# Chapter 9: Alcatel-Lucent Extended Communication Server

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## Overview

Today's SMBs want to increase employee productivity and effectiveness by providing communications and collaboration services they can use on the move. Each employee must be able to benefit from his or her professional environment for sharing information and communicating, whether they are in the office or traveling. The Alcatel-Lucent Extended Communication Server is a complete mobile communications and collaboration solution for SMBs. It allows employees to access e-mail, manage calendars, share contacts, consult files and use business communications services, wherever they are.



With the Alcatel-Lucent Extended Communication Server, SMB employees benefit from:

### **Collaboration:**

- Shared and secured Internet access, shared calendar, personal, group and company contacts management and file sharing

### **Unified communications:**

- Enriched e-mail with voice mail notification, click-to-call from contacts, manage telephone services (voice mail, call forwarding, personal assistant)

### **Mobility:**

- Access business-critical data using mobile devices supporting GPRS, Edge, UMTS or Wi-Fi

### **Simplicity:**

- Easy-to-deploy and install
- Easily integrated into an existing environment
- Automatic online updates

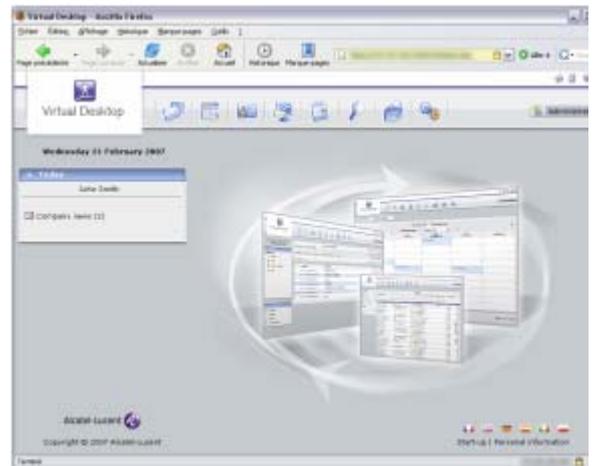
## Section 1: Collaboration

The collaboration feature of the Alcatel-Lucent Extended Communication Server provides features for sharing corporate information, including e-mail, contacts, calendars, files and Internet bookmarks. The shared data can be organized at different levels, including users, groups and companies. The collaboration services can be accessed via interfaces adapted to individual requirements.

### Virtual desktop

The virtual desktop is the main user interface through which users access all services provided on the Alcatel-Lucent Extended Communication Server. The full web-based interface is very easy to use and can be accessed from anywhere at any time via desktop PC, laptop, PDA, smartphone and all other devices connected to the Web using any web browser.

The virtual desktop is available for all users of the directory and is provided in addition to the standard Microsoft Windows usage tools, such as Microsoft Outlook.



### ***Main characteristics and features:***

- Secured and authenticated access (SSL)
- User selectable work language (English, French, German, Spanish, Italian)
- Web mail and fax messaging system (unified messaging)
- Call logs and voice mails on the same web mail interface
- Mail and groupware synchronization over the air on PDAs and smartphones
- Personal and shared calendar management
- Personal, group or company contact lists
- Bookmarks
- Calendar and contacts synchronization (with Microsoft Outlook Connector)
- Access to company information, such as news
- Personal, group or company file sharing
- Search engine
- Access to telephony functions, including forward management and nomadic mode

## Web mail

Web mail enables users to access e-mail from any Internet device that is connected to the Web using any web browser. All e-mail features are available. The web-based e-mail interface allows users to do everything they need on their e-mail without any additional software or specific device. Internet access is required for use and for adding new user accounts.

Using the e-mail interface, users can also send and receive faxes with the integrated software fax server. Office voice mails and call logs can be accessed using the same e-mail interface.

### Features

- Mail filtering
- Folder management
- Mail forwarding and out of office management
- Synchronization with other external mailboxes
- Fax, voice mail and call logs

## Calendar

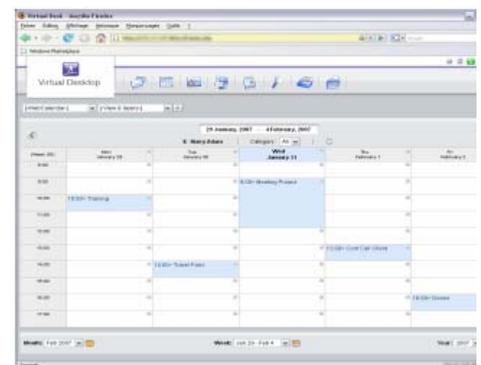
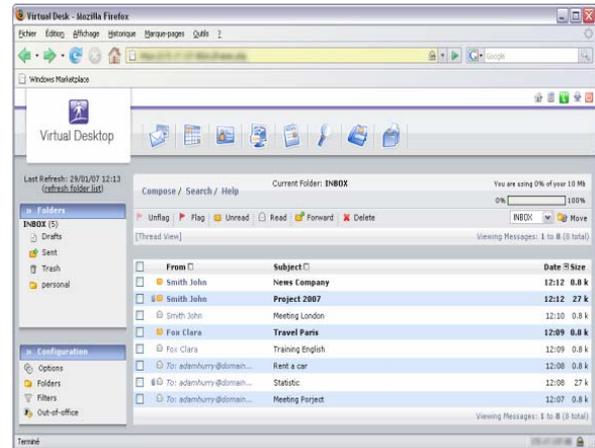
The shared calendar allows users to create events, such as meetings and appointments, and share them with colleagues, or delegate them to assistants. Users can access their calendar, add and remove any event, anytime, from anywhere with the web-based interface.

### Event creation

Using their calendar application, users can create private or public appointments and invite other contacts. Invited guests are notified by e-mail and by tentatively-scheduled meetings in their own calendar. Invitees can accept or reject the invitation.

### Visibility

Calendars can be shared with other users who can see availability. Views and colors can be customized.



## Layers

Layers can be used to display a colleague's calendar. Different colors are assigned for all users.

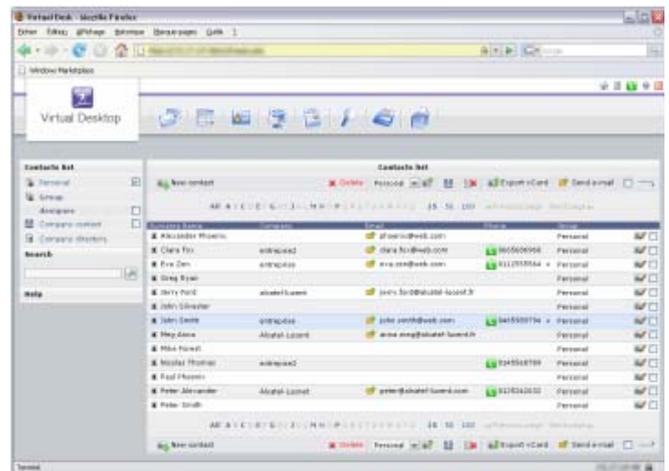
## Outlook synchronization

With Microsoft Outlook® Connector, the virtual desktop calendar can be synchronized with a Microsoft Outlook calendar. This allows users to keep their calendar up-to-date, whether they use Microsoft Outlook or the virtual desktop calendar.

## Contacts

Different contact lists are available through a virtual desktop that includes personal contact lists, group contact lists and company contact lists. The company directory is also available via the contact interface.

The web-based interface is very useful for mobile employees who need to keep in touch with their contacts.



## Outlook synchronization

With Microsoft Outlook® Connector, virtual desktop contact lists can be synchronized with Microsoft Outlook contact lists. This gives users access to contact lists in connected or disconnected mode and keeps all data up-to-date.



## Click-to-mail

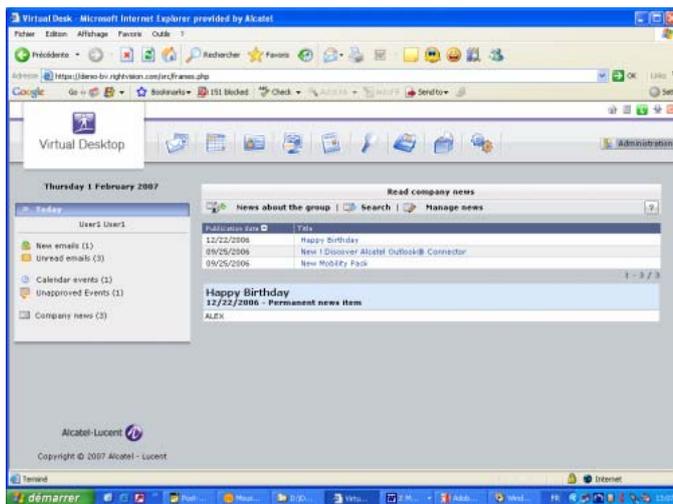
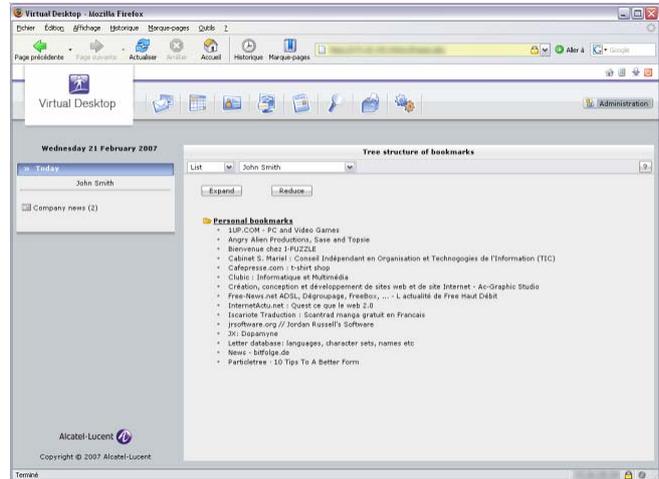
One or several contacts can be selected from a contact list to call up an e-mail window.

## Click-to-call

If a contact's phone is not listed as busy, a direct call can be initiated with the click-to-call window. The call is then completed through the Alcatel-Lucent OmniPCX Office .

## Bookmarks

This service allows users to bookmark their favorite sites and access them from anywhere because the bookmark information is stored on the server and not on the PC. Bookmarks are organized by category and users can create personal bookmarks, as well as group bookmarks.



## News

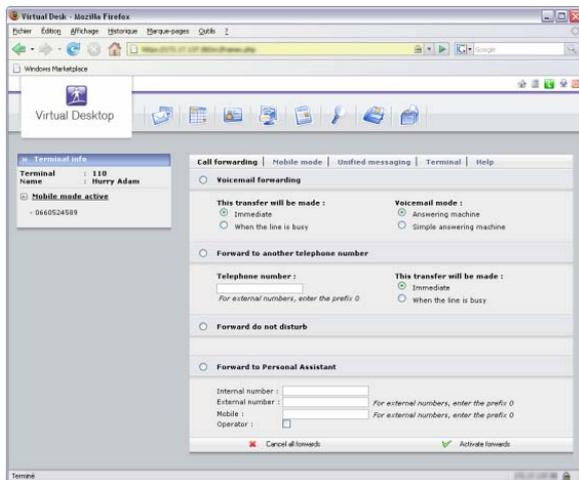
This feature enables access to news and information published by a news administrator. Information can be provided only for a group or for the whole company.

## File sharing

The file sharing feature allows users to exchange files through the virtual desktop. This is a very powerful collaboration tool that can be deployed on any browser connected to the Internet. It enables management of personal, group and company files, and includes a progress bar to alert the user about the amount of disk space used.



## Telephony



The telephony feature provides access and remote management of office phones for:

- Calls forwarding
- Nomadic mode configuration
- Unified messaging (voice mail notification)

The modification of these options is immediately taken into account by the Alcatel-Lucent OmniPCX Office.

## Alcatel-Lucent Microsoft Outlook® Connector

The Alcatel-Lucent Outlook® Connector is the ideal complementary solution to the Alcatel-Lucent Extended Communication Server virtual desktop. It is designed for users who prefer to use Microsoft Outlook®, or when an Internet connection to the Alcatel-Lucent Extended Communication Server is not available.

Alcatel-Lucent Outlook Connector enables collaboration between the Alcatel-Lucent Extended Communication Server virtual desktop and Microsoft Outlook. It is an add-on module for Microsoft Outlook that allows Microsoft Outlook to easily access and share contacts and calendars stored on the Alcatel-Lucent Extended Communication Server.

The connector adds another toolbar to the desktop that gives users access to e-mail, and allows them to easily share calendars and address books, and schedule meetings.

A synchronization function allows employees to use Microsoft Outlook when they are away from their desks and re-synchronize their work with the Alcatel-Lucent Extended Communication Server when they return to their desk.

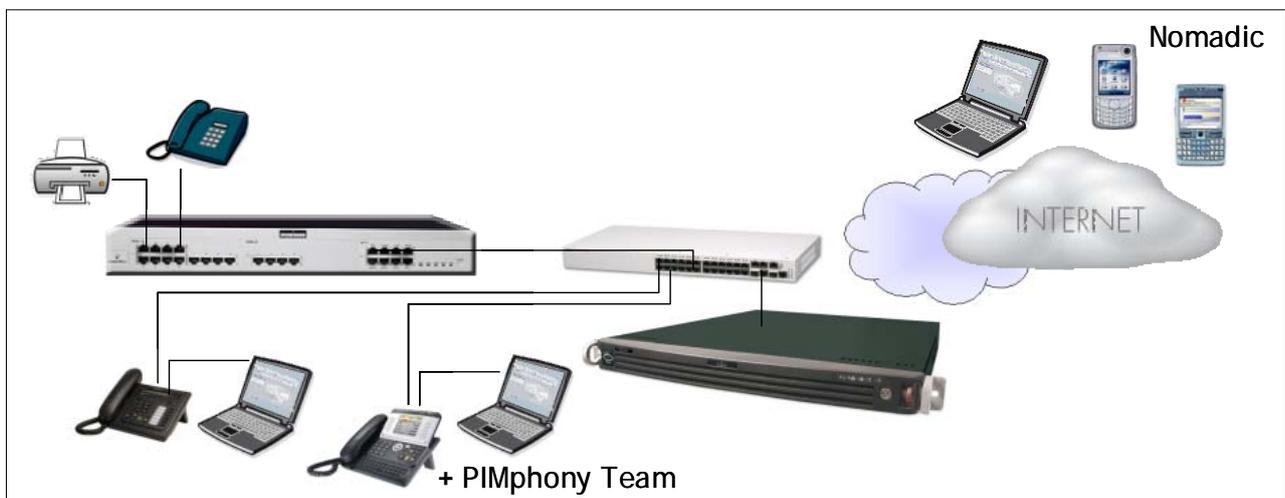


## Section 2: Unified Communications

Unified communications is a unique voice and data convergence solution for SMBs. It is based on the transparent integration of the Alcatel-Lucent Extended Communication Server and the Alcatel-Lucent OmniPCX Office.

Unified communications provides integration of the communications services for extended office users, including unified messaging with voice mail, e-mail, one click calling from the Alcatel-Lucent Extended Communication Server contacts, remote management of the Alcatel-Lucent OmniPCX Office telephone, or mobile mode options from the virtual desktop or mobile virtual desktop.

In addition, by integrating the Alcatel-Lucent PIMphony Softphone for Alcatel-Lucent OmniPCX Office in native mode and facilitating its deployment over a corporate LAN, the unified communications service offers all the benefits of computer and telephone interaction to improve and increase corporate performance.



## Services available with unified communications

The unified communications service allows the Alcatel-Lucent Extended Communication Server to automatically detect and transparently communicate with Alcatel-Lucent OmniPCX Office on the same LAN.

By associating an internal extension number on the Alcatel-Lucent OmniPCX Office with a user on the Alcatel-Lucent Extended Communication Server, the user can also access additional services from the virtual desktop:

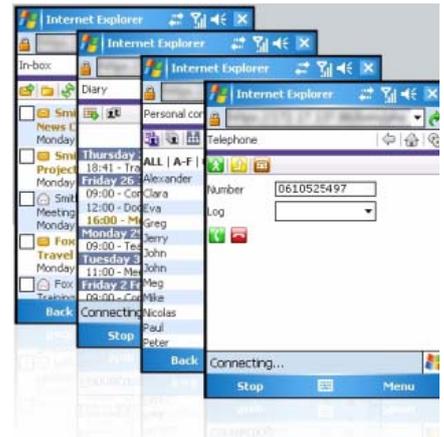
- Unified messaging with notification of incoming voice mails and possible transfer of the message to an e-mail application as a WAV attachment
- Transfer of calls to voice mail, another extension number or a personal assistant
- Change the extension's password
- Re-configure to mobile mode to replace the office extension number with an external or mobile number
- Place calls using the Alcatel-Lucent OmniPCX Office from outside the business network and answer calls from a mobile device
- The click-to-call function can be used to make or close calls from the virtual desktop
- Download Alcatel-Lucent PIMphony Softphone Team application

## Section 3: Mobility

### Mobile virtual desktop

The mobile virtual desktop provides a complete office environment on mobile devices like smartphones and PDAs. This feature enables mobile workers to keep in touch with their office and their daily working environment. Specific software is not required to deploy the solution because it is web-based and accessed through a secured connection (SSL 128 bits).

**Connection modes:** GPRS, UMTS, Wi-Fi  
**Supported mobile phone:** WAP 2.9



### Full features available on the road

- E-mail
- Calendar
- Contacts
- Telephony
  - Business phone forwarding
  - Nomadic mode activation and use

### E-mail

Web mail capability provided on mobile devices is very efficient and useful when employees are on the road. It allows them keep in touch with their business and access and manage e-mail any time.

### Calendar

The calendar feature allows users to access their shared calendar from anywhere. They can modify or delete events, configure the display of their events and accept or reject events. (Scheme 2)



Scheme 1



Scheme 2

## Contacts

With the contacts feature, users can keep their contact lists available and up-to-date on their mobile device. They can create new contacts and delete or modify existing contacts. The click-to-mail option allows users to send an e-mail to a contact from the contacts window, and the click-to-call option allows users to call a contact from the contacts window. (*Scheme 3*)

## Telephony

The mobile virtual desktop is a very powerful tool for all of a user's collaboration needs. It also provides the ability to configure office device options remotely. (*Scheme 4*)

-  Access the nomadic configuration and activation
-  Access office phone forwarding options like forward to voice mail, to external or internal number, or to personal assistant.
-  Access voice mail notification options
-  Initiate a call using click-to-call
-  End a call initiated by click-to-call



*Scheme 3*



*Scheme 4*

## Minimum requirements for mobile devices

Cover a large range of mobile devices from entry level feature smartphones to full-featured Pocket PC devices.

- Browser WAP 2.9 compatible
- Mid to large display
- Typical smartphone screen size: 176 x 189 pixels
- Typical Pocket PC screen size: 249 x 329 pixels
- Audio capability to play WAV (\*) files for unified messaging



## Section 4: Fax Server

Despite the convenience of e-mail, faxing still remains the major legally binding and essential means of electronic messaging for many industry sectors. The Alcatel-Lucent Extended Communication Server addresses fax needs in IP networks with the most advanced T.38 FoIP integration. The Alcatel-Lucent Extended Communication Server fax solution is a full software, fax over IP (FoIP) solution that scales to a company's evolving needs. It offers mail-to-fax and fax-to-mail capabilities and it is ready for mobility and faxing anywhere, any time, without any additional hardware.

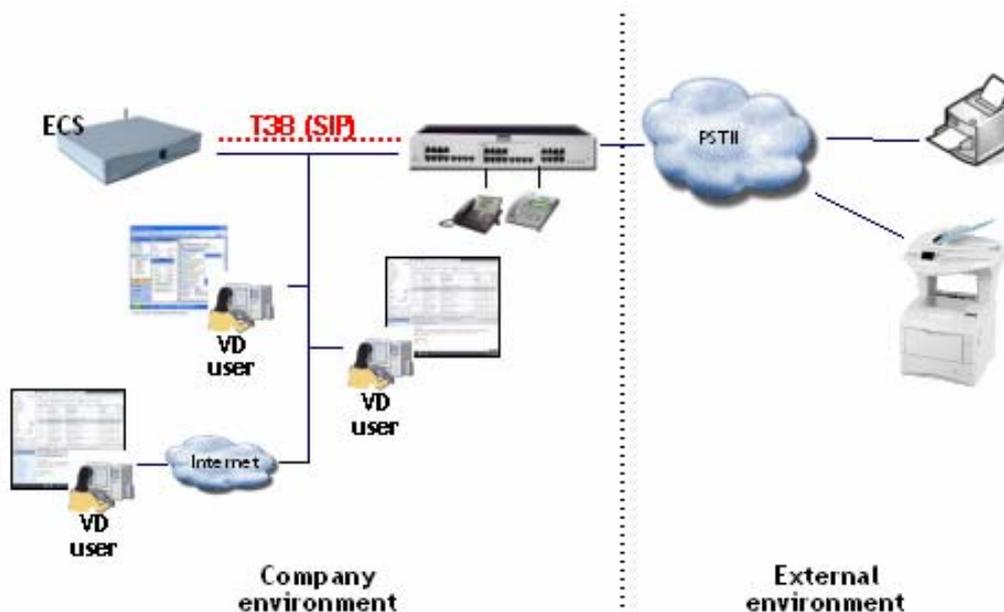
Access to fax features is through the Alcatel-Lucent Extended Communication Server virtual desktop and e-mail interface. Faxes are managed the same way as e-mail. To differentiate an e-mail from a fax, a specific flag is displayed and a filter can be added for specific fax views.

### Positioning

The Alcatel-Lucent Extended Communication Server fax server offers huge advantages compared to analog fax servers:

- It boosts employee productivity by 99% through desktop with e-mail-based faxing by eliminating the need to walk back and forth to fax machines.
- It provides speedy and efficient fax delivery, including a dramatically more efficient means of fax broadcasting.
- It is completely in line with unified messaging (faxes share a common inbox with e-mail and voice mail), which delivers additional productivity per employee per day.
- It streamlines paper workflow and fax workflow management (storage/archiving/tracking), creates an audit trail compatible with all security and regulatory requirements.
- It reduces costs:
  - Hardware costs, maintenance costs and the number of possible points of failure because of full software FoIP integration
  - Equipment costs because it eliminates the need for dedicated analog fax lines, as well as specialized fax equipment, maintenance and supplies
  - Communications costs associated with centralization of communication, phones and their administration
  - Consumables costs because it reduces paper fax requirements
- It meets the requirements of mobile workers who need to send or receive faxes while outside the office with faxing facilities from web browser.
- It supports high image-quality faxes, with up to 499 x 499 resolution.

## Architecture



### Fax sending

- The user connects to his Alcatel-Lucent Extended Communication Server e-mail interface, writes a basic e-mail and attaches files if needed. Before sending, the user specifies that it is a fax and not an e-mail by checking an option. If the recipient is in the user's contact database, the recipient information is automatically entered. If the recipient is not in the user's contact database, the recipient's fax number is entered directly using the format "94XXXXXX@fax.domain.loc".
- The Alcatel-Lucent Extended Communication Server SMTP service receives sent e-mail, determines if the message is an e-mail or a fax and, if it is a fax, sends the contents to the Alcatel-Lucent OmniPCX Office using T38 protocol.
- When a fax is sent, it is stored in the "Sent" view of the e-mail interface.
- A fax can be "Saved as Draft" to be sent later.
- The user is notified when the fax has been sent or alerted in case of failure.

### Fax receiving

- When a fax is received by the Alcatel-Lucent Extended Communication Server SMTP service coming from the Alcatel-Lucent OmniPCX Office T38 link, the system makes a query to the Alcatel-Lucent Extended Communication Server LDAP to determine if the recipient is known (check of SDA number). If the recipient is found, the fax is sent to the recipient's e-mail mailbox as a basic e-mail. A flag indicates that it is a fax and not an e-mail.

- If the recipient is not known the fax is sent to a default user. This is usually the Alcatel-Lucent Extended Communication Server administrator, but it can be changed to any other Alcatel-Lucent Extended Communication Server user.
- The fax switching mechanism allows an Alcatel-Lucent Extended Communication Server user to have one unique number for telephone calls and faxes. The system determined whether it is a phone call or a fax.

## User directory

The Alcatel-Lucent Extended Communication Server fax server has the same directory as all other Alcatel-Lucent Extended Communication Server services. There is no need to manage any additional databases. Every user account created on the Alcatel-Lucent Extended Communication Server automatically gets the fax server feature.

## Print-to-fax (print-to-mail)

The Alcatel-Lucent Extended Communication Server fax server enables users to send faxes using the print-to-fax capability. The solution is delivered with a printer driver that can be installed on a PC and can be applied from major applications. This feature launches the default e-mail interface with the formatted content. The recipient's fax address and fax number have to be specified manually using the format "94XXXXXXX@fax.domain.loc".

## File attachments

The Alcatel-Lucent Extended Communication Server fax server enables users to attach a file to their e-mail when composing a fax. The fax server transforms these attachments into images and sends them as a fax to the recipient using rasterization technologies.

### **Supported formats for file attachments:**

- PDF;PS;EPS;EPI;DOC;DOT;HTM;HTML;ODP;ODS;ODT;OTP;OTS;OTT;PM;PPT;RTF;STC;STI;STW;SXC;SXI;SXW;TXT;URL;WBK;WK1;WK3;WK4;WPD;WRI;WTX;XLB;XLS;XLT;XLSX;XLTX;DOCX;DOTX;PPTX;BMP;GIF;JPE;JPEG;JPG;PCX;PNG;TIF;TIFF

## Administration

The fax server is connected to a PBX using SIP protocol. It is part of the Alcatel-Lucent Extended Communication Server service so the administration interface is completely integrated into the Alcatel-Lucent Extended Communication Server administration console. Only a few parameters have to be defined to operate the service:

- The default administrator e-mail
- Alcatel-Lucent OmniPCX Office IP address
- SIP port
- Fax ID

## Licence management

The fax server is activated using a fax license that will be available on the Alcatel-Lucent Business Partner web site. The license does not activate a limited number of users but opens a number of ports (i.e., 2,3,4,5 etc.). For each fax server port an Alcatel-Lucent OmniPCX Office SIP trunk has to be opened. The number of ports is defined by the number of simultaneous faxes that can be sent or received. The number of ports purchased will have to be distributed between outgoing and incoming fax flows based on the company's network traffic.

## Features

The fax feature is available in a try-and-buy mode. Faxes sent in this mode are flagged with "For Evaluation Only". To activate the service and remove this flag, the fax license has to be purchased.

Other features include:

- Web administration
- Fax feature using e-mail interface
- Send fax
- Choose a coversheet
- Specify a subject and add comments that will appear on the first page of the fax
- Attach files that will be transformed to printable format (TIFF, PDF)
- Use generic or customized sender information (personal, billing, company)
- Choose fax options

## Section 5: IT Services

The Alcatel-Lucent Extended Communication Server includes all IT components required to deploy an SMB network and set up a secured and reliable working environment that provides shared resources to increase productivity. IT services are included on each platform and provide a system base, easy remote management, backup, update and management of the company's network (LAN, WAN, DHCP server, VPN). It also includes shared and secured Internet access with firewall, authenticated proxy and web hosting.

### Network functions

For a quick and easy deployment of a network with shared Internet access, the Alcatel-Lucent Extended Communication Server provides:

- Set up of wired and wireless LAN
- DHCP server allowing dynamic and static address allocation
- DNS server: primary and secondary zone management

### Security functions

For a secure network, virtual network deployment and remote worker connections, the Alcatel-Lucent Extended Communication Server provides:

- Firewall (IP-tables) with an easy-to-use configuration interface
- Advanced firewall configuration
- Network address translation (NAT)
- Authenticated proxy by user
- IPSEC and PPTP VPN server

### File and print server

Sharing enterprise resources is a simple and effective means of cutting costs. To share files and printers on a network the Extended Communication Server provides:

- Sharing based on Samba
- Work group or primary domain controller (PDC)
- File sharing per user, group and company
- Access rights management

### Mail server

The Alcatel-Lucent Extended Communication Server includes a powerful mail server, which meets SMB e-mail communication needs. The main messaging protocols supported are SMTP, POP3 and IMAP4. It is possible to manage mail size and quotas per user, and use aliases and distribution lists. A statistic module is also available to monitor messaging activity through useful statistical reports.

To increase security for inbound and outbound messaging the Alcatel-Lucent Extended Communication Server provides solutions for mail content filtering:

- ClamAV™ checks e-mail, attached files and files in user directories for viruses
- SpamAssassin anti-spam uses customized rules to check e-mail for spam
- Grey lists management (anti-spam)
- TLS support for IMAP, POP and SMTP
- Relay authorization with authentication and IP filtering

### **XML openness**

The Alcatel-Lucent Extended Communication Server includes the XML API framework, which enables Alcatel-Lucent Office Communication Solutions to benefit from a large array of third-party communications solutions (*See Chapter 11*)

### **Third-party applications**

#### ***Anti-virus***

Kaspersky Labs® anti-virus software is included to protect incoming and outgoing e-mail and documents stored in the Alcatel-Lucent Extended Communication Server.

Centralized protection is provided in addition to workstation protection. This protects users against viruses before they reach their workstation.

#### ***Internet access filtering***

Optenet® filtering software is provided to control Internet access use.

This software helps optimize bandwidth usage, guarantee business-centric use of the Internet and ensures your company is legally protected.

## Section 6: Serviceability

### Backup

To increase data security and integrity, the Alcatel-Lucent Extended Communication Server includes data backup and restore options.

Three backup modes are available:

1. **Total backup**, which copies, encrypts and archives the contents of the system hard disk (ghosting)
2. **Differential backup**, which is a delta backup between current status and the last backup operation (an initial total backup is required before differential backup)
3. **Configuration backup**, which saves only the system configuration and not the content of a hard disk to allow easy restoration of system configurations after a crash

### Backup methods

It is possible to backup data on:

- Samba shared file server
- Third internal hard disk (Premium edition)
- External USB hard disk
- Online FTP SSH (remote)

### Backup profiles

It is possible to create backup profiles to define backup options including:

- Backup type (total/differential)
- Scheduled (start date/recurrence) or immediate activation
- Encrypted (yes/no)
- Backup means (internal or external hard-disk/file server/online)

### Security

- Archive encryption is made using a key before content transfer (key to be defined in the administration interface)
- The archive can be stored on different servers simultaneously
- FTP SSH is used for online backup (administration login and password)

### Restore

If a restore is needed, it is very easy to start a restore process and return the system to a previous configuration. It is also possible to choose to restore the archive.

## Auto update

The Alcatel-Lucent Extended Communication Server includes a powerful auto-update mechanism, which ensures the server is always up-to-date. This feature connects the server to the central support server to download the latest patches or new features. To apply this feature the Alcatel-Lucent Extended Communication Server has to be registered with the central support information system.

Some updates are automatic, others are manual. The system can be configured to choose the update mode.

## Hosting and database options

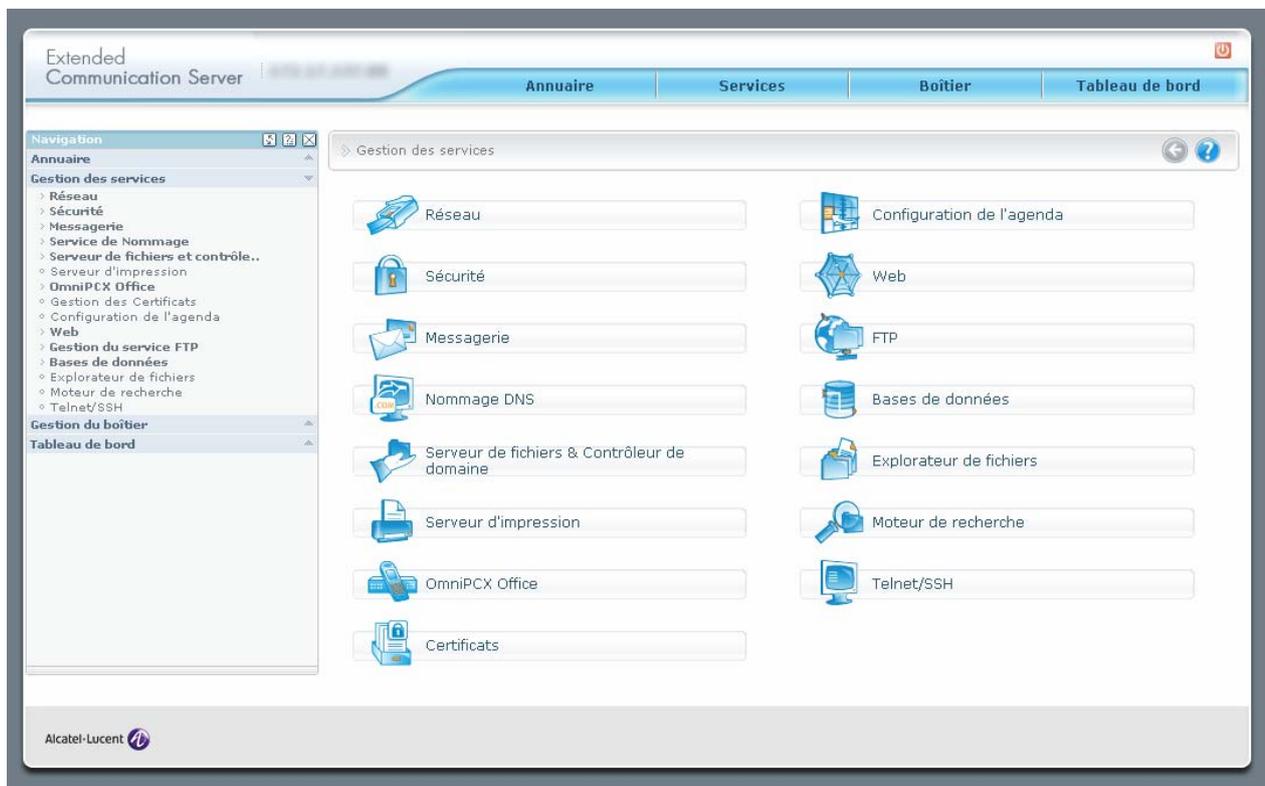
The hosting and database option of the Alcatel-Lucent Extended Communication Server allows SMBs to enjoy all the benefits of the Internet at a reduced cost. This option allows SMBs to create and host their own web site and perform updates quickly and easily. Web pages must be created with web site creation software. Intranets, extranets and dynamic web sites can be hosted with PHP pages and associated databases.

### *Main characteristics:*

- Based on Apache server
- Intranet, extranet and web site hosting
- Secure SSL site hosting
- Web sites updates via FTP and network sharing
- Web site access control
- PHP4 support
- MySQL, PostGreSQL support (databases dedicated to web hosting)
- Anonymous and authenticated FTP server management
- Statistics

## Section 7: Administration Interface

The Alcatel-Lucent Extended Communication Server provides a web-based, secure and easy-to-use administration interface through which SMBs can manage all Alcatel-Lucent Extended Communication Server services. The interface is available by connecting a keyboard and console directly to the hardware (Mozilla), over a local network, and over the Internet using a standard web browser (Microsoft Internet Explorer, Mozilla Firefox). This feature includes an online help menu.



## Section 8: Features

COLLABORATION	
<b>Mail server</b>	<ul style="list-style-type: none"> <li>&gt; E-mail protocols: SMTP, POP and IMAP</li> <li>- Inbox quotas, message size limits, absence messages</li> <li>- Secure connection: TLS support</li> <li>- Address aliases and distribution lists</li> <li>- POP/IMAP remote account synchronization</li> <li>- Relay authorization and authentication</li> <li>- Statistics (incoming and outgoing traffic, viruses, spam)</li> <li>&gt; Filtering of message content:               <ul style="list-style-type: none"> <li>- Anti-spam, message filtering, advanced rules, quarantine spam</li> </ul> </li> </ul>
<b>Virtual desktop: a secure web interface</b>	<ul style="list-style-type: none"> <li>&gt; Authenticated and secure access from a browser (AES-256 bit SSL)</li> <li>&gt; User can select language (English, French, German, Spanish, Italian and Polish)</li> <li>&gt; E-mail               <ul style="list-style-type: none"> <li>- Send and receive, compose, transfer, answer, spell-check, draft, automatic address completion</li> <li>- Parameter setting, filtering rules, absence message</li> <li>- Dossier management</li> </ul> </li> <li>&gt; Shared contacts:               <ul style="list-style-type: none"> <li>- Personal, groups, business directory</li> <li>- Import and export</li> <li>- Phone call or e-mail composition</li> </ul> </li> <li>&gt; Shared calendars:               <ul style="list-style-type: none"> <li>- Personal, group</li> <li>- Participant notification</li> <li>- Multiple diary view</li> <li>- Time zone management</li> <li>- Import and export</li> </ul> </li> <li>&gt; Shared files:               <ul style="list-style-type: none"> <li>- Personal, groups, company</li> <li>- Transfer and downloading</li> <li>- Dossier management</li> </ul> </li> <li>&gt; Internet bookmarks management:               <ul style="list-style-type: none"> <li>- Personal, groups</li> <li>- Import</li> </ul> </li> <li>&gt; New:               <ul style="list-style-type: none"> <li>- Groups, company</li> </ul> </li> <li>&gt; Search engine               <ul style="list-style-type: none"> <li>- Document indexing, e-mail, contacts, calendar, files</li> </ul> </li> <li>&gt; Advanced communication services: see unified communications</li> </ul>
<b>Alcatel-Lucent Connector for Microsoft Outlook® *</b>	<ul style="list-style-type: none"> <li>&gt; Alcatel-Lucent Extended Communication Server shared contacts and diary, synchronized with MS Outlook® *</li> <li>&gt; Selection of contacts and diaries to synchronize</li> <li>&gt; Use in connected and disconnected mode</li> <li>&gt; Automatic or manual synchronization</li> <li>&gt; Remote synchronization (secure connection)</li> <li>* Microsoft Outlook® 2993 or later</li> </ul>

**UNIFIED COMMUNICATIONS**

<p><b>User features</b></p>	<ul style="list-style-type: none"> <li>&gt; Set phone parameters</li> <li>&gt; Call forward management             <ul style="list-style-type: none"> <li>- To voice mail</li> <li>- To a number</li> <li>- To a personal assistant</li> </ul> </li> <li>&gt; Unified message system (e-mail, voice mail)             <ul style="list-style-type: none"> <li>- Voice mail notification</li> <li>- Transfer of voice mail to e-mail</li> <li>- Voice mail access</li> </ul> </li> <li>&gt; Activation of nomadic mode</li> <li>&gt; Direct call from a contact card             <ul style="list-style-type: none"> <li>- From the virtual desktop</li> <li>- From the mobile virtual desktop</li> </ul> </li> <li>&gt; Up to 75 Alcatel-Lucent PIMphony Softphone Team             <ul style="list-style-type: none"> <li>- Direct downloading of Alcatel-Lucent PIMphony Softphone Team from the virtual desktop</li> </ul> </li> </ul>
<p><b>Administration</b></p>	<ul style="list-style-type: none"> <li>&gt; Automatic detection of Alcatel-Lucent OmniPCX Office on the same network</li> <li>&gt; Assignment of an Alcatel-Lucent Extended Communication Server user to a phone set number</li> <li>&gt; Management of user name displayed on the phone</li> <li>&gt; Synchronization of modifications between Alcatel-Lucent Extended Communication Server and Alcatel-Lucent OmniPCX Office</li> <li>&gt; The Alcatel-Lucent Extended Communication Server directory controls the unified communications service</li> <li>&gt; Authorization of the mobility service from the directory</li> </ul>

\* Requires Alcatel-Lucent OmniPCX Office Release 4.1 or later

**MOBILITY**

<p><b>Mobile virtual desktop</b></p>	<ul style="list-style-type: none"> <li>&gt; Secured access from mobile devices (PDA, smartphones and mobile phones)             <ul style="list-style-type: none"> <li>- WAP 2.9</li> <li>- AES-256 bit SSL</li> </ul> </li> <li>&gt; User can select language (English, French, German, Spanish, Italian and Polish)</li> <li>&gt; E-mail (send/receive, compose, transfer, answer)</li> <li>&gt; Shared contacts:             <ul style="list-style-type: none"> <li>- Personal, groups</li> <li>- Import/export</li> <li>- Phone call or e-mail composition</li> </ul> </li> <li>&gt; Shared calendars:             <ul style="list-style-type: none"> <li>- Personal</li> <li>- Group</li> </ul> </li> <li>&gt; Advanced communications services: see the unified communications</li> </ul>
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IT SERVICES	
<b>Administration interface via secure web access</b>	<ul style="list-style-type: none"> <li>&gt; Authenticated and secure access from a browser (AES-256 bit SSL)</li> <li>&gt; User can select language (English, French and German)</li> <li>&gt; Default initial parameter settings for simple, fast start-up</li> <li>&gt; Delegated administration</li> </ul>
<b>Security and network</b>	<ul style="list-style-type: none"> <li>&gt; Integrated router:               <ul style="list-style-type: none"> <li>- DHCP server</li> <li>- Shared Internet access; external router supported</li> <li>- QoS Management</li> </ul> </li> <li>&gt; DNS Server, DynDNS client</li> <li>&gt; Firewall               <ul style="list-style-type: none"> <li>- Protocol analysis, packet filtering NAT, DMZ</li> <li>- Advanced security rules</li> </ul> </li> <li>&gt; Authenticated proxy cache</li> <li>&gt; VPN IPsec               <ul style="list-style-type: none"> <li>- Gateway to gateway, nomadic mode</li> <li>- Authentication server X.599, RSA, PSK keys 3DES encryption, IKE, MD5 - SHA1</li> </ul> </li> <li>&gt; VPN PPTP</li> <li>&gt; Certificate, private key management (authorities, users, services)</li> </ul>
<b>System</b>	<ul style="list-style-type: none"> <li>&gt; Base directory on LDAP V3               <ul style="list-style-type: none"> <li>- Support for LDAP remote access</li> <li>- Import/export</li> </ul> </li> <li>&gt; Control panel               <ul style="list-style-type: none"> <li>- Statistics, performance (web sites, FTP, e-mail, network, proxy cache, system)</li> <li>- System alerts (disk error, detection of new component, etc.)</li> <li>- Log file recovery (e-mail, proxy, sites web, system, firewall)</li> </ul> </li> <li>&gt; Backup and restore               <ul style="list-style-type: none"> <li>- On network sharing a USB disk or the third disk*</li> <li>- Programmed backups</li> </ul> </li> <li>&gt; Update; automatic or manual, by Internet, DVD-ROM*</li> </ul>
<b>Sharing of files and printers</b>	<ul style="list-style-type: none"> <li>&gt; Sharing of Samba file (user, group and company)</li> <li>&gt; Management of management domain controller, or member of a domain or work group               <ul style="list-style-type: none"> <li>- NetLogon Scripts and user profile management</li> </ul> </li> <li>&gt; Sharing of printers and driver pre-loading</li> </ul>
<b>Web server and FTP</b>	<ul style="list-style-type: none"> <li>&gt; Hosting of Internet, intranet and extranet sites and management of secure SSL sites</li> <li>&gt; Languages supported: PHP5, PERL, Java</li> <li>&gt; Management of FTP sites in anonymous or guest mode</li> </ul>

\* Available only with Alcatel-Lucent Extended Communication Server Premium Edition

Note: The Alcatel-Lucent Extended Communication Server can be sold separately to provide efficient ICT solutions to SMBs.

# Chapter 10: OmniPCX Office' Internet Services

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## Overview

The Alcatel-Lucent Office Communication Solutions, based on Premium Unit, offers Internet solution including Internet Access & Firewall, Proxy and Cache server and Intranet & file server.

Furthermore, the Extended Communication Server provides a feature rich & professional Internet solution. Refer to the chapter Extended Communication Server.

This chapter explains the Internet solution with an OmniPCX Office in a standalone mode.

### *Internet Access*

- **Shared Internet access** for all users on the LAN: the built-in Internet access router allows all employees to access simultaneously the Internet by sharing a single connection.
- **Security mechanisms** for internet access and network /data protection: OmniPCX Office embeds a certified firewall to protect company information and it supports also standard internet authentication protocols.

### *Proxy/Cache*

- **Access and usage control** thanks to its embedded proxy server which defines user access rights and provides detailed statistics on internet and application usage.
- **High speed optimized internet access** using ISDN connection, ADSL or Leased Line and web cache service which reduces information access and optimizes connection time.

### *Intranet Services*

- **Information sharing** among employees with Intranet hosting capabilities.

### *Internet VPN Services*

- **Virtual Private Networking** which allows remote access for home workers and for multi site networking using the internet network with secured standard protocols.

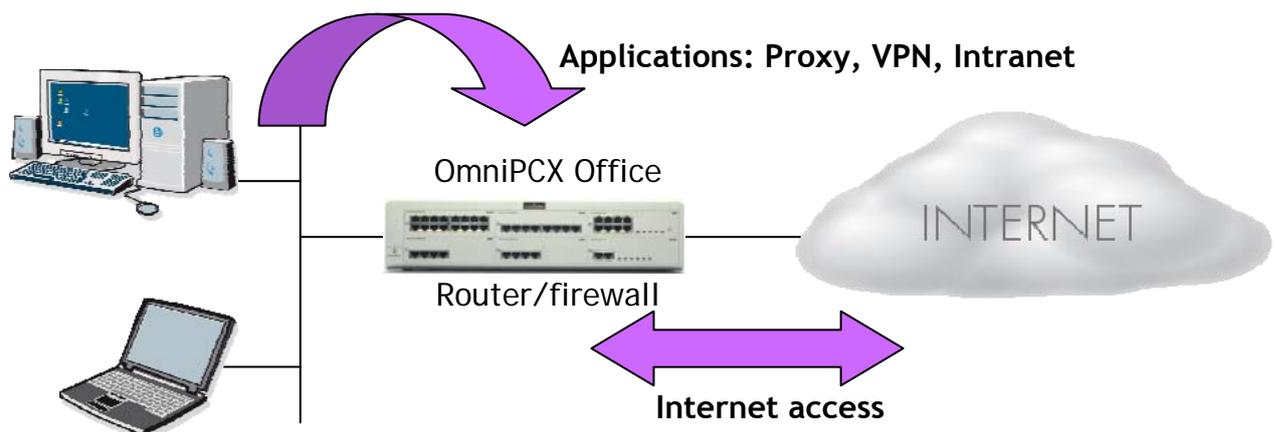
The e-mail server and the Web communication Services has been phase out with the OmniPCX Office release 6.0 - H1 2007.

# Section 1: Internet Access and Security

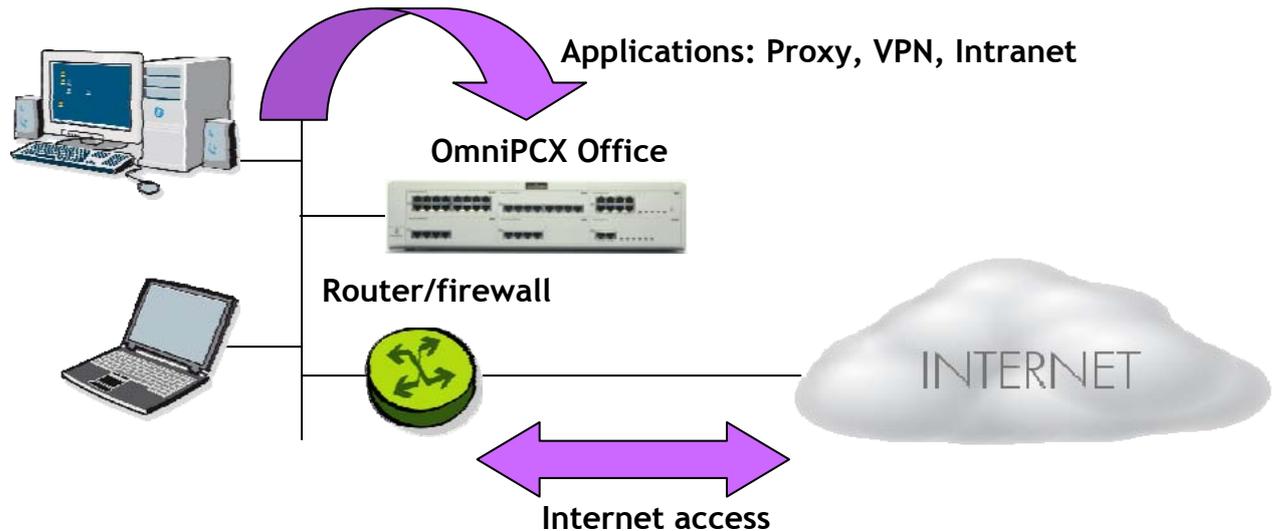
## Introduction

To benefit from value-added Internet services (such as Shared Access, Proxy-Cache, E-mail server, VPN, Intranet hosting) on the OmniPCX Office, two configurations are possible:

- The OmniPCX Office can be an **Internet Access Router** and support various type of Internet access (ISDN, DSL, Leased lines...from 64 Kbps up to 10 Mbps). Security is guaranteed by a built-in stateful firewall. See the sections below.



- If the company already owns a secure Internet access, the OmniPCX Office can be configured just as a **LAN server**.

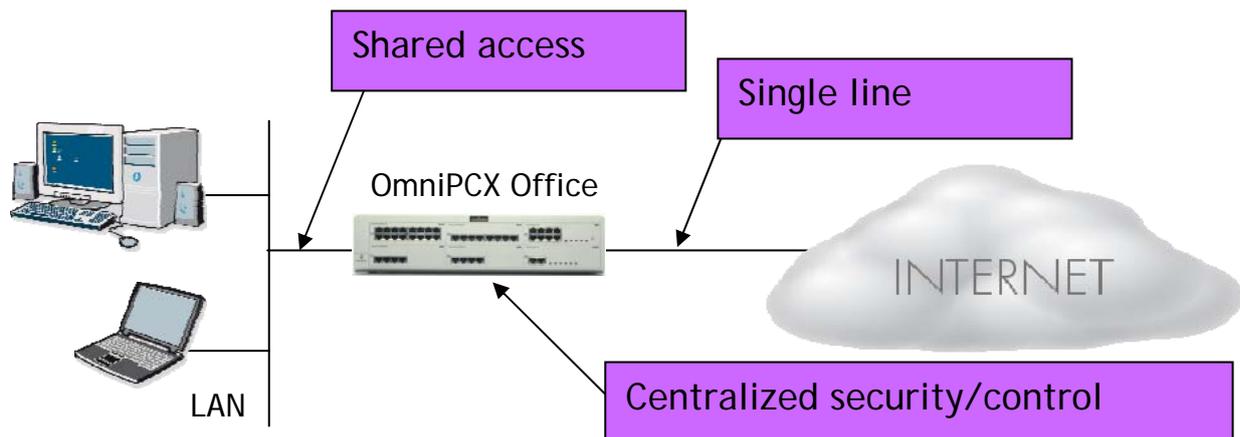


### Shared Internet Access

The OmniPCX Office built-in Internet access router allows **multiple users** to access the Internet **using one single access and connection**. Employees have access to Internet services and applications such as Web, E-mail or E-commerce via a single ISDN line, ADSL modem or a leased line providing high-speed access with a single IP address.

Internet access type	OmniPCX Office WAN interface	Max WAN bandwidth
ISDN	WAN T0/T2 ISDN access	128Kbps
DSL modem	WAN Ethernet 10/100 BaseT port to DSL modem	10Mbps
Leased lines (FR, ATM, DSL, ...)	WAN Ethernet 10/100 BaseT port to router	10Mbps

Using one single connection for many users, optimizes the resources and the traffic, while increasing security.



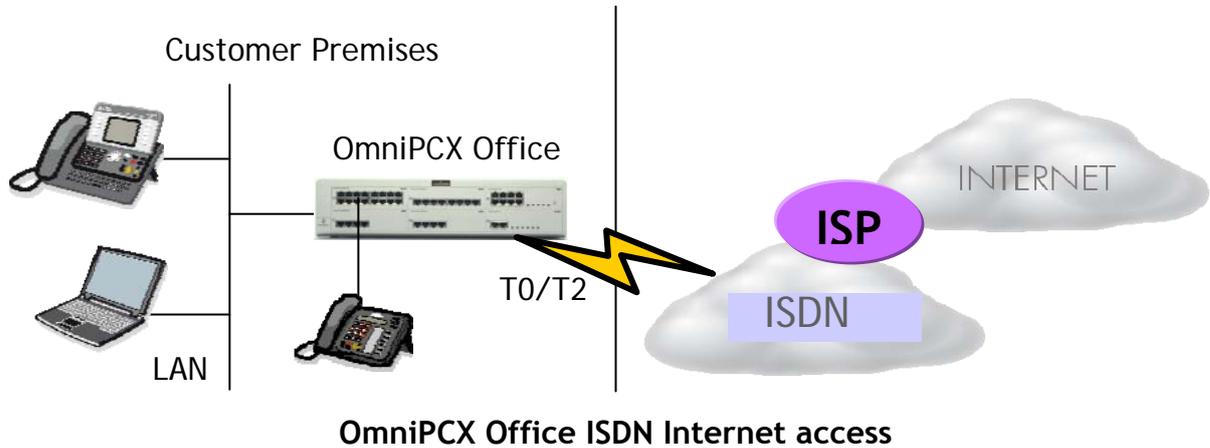
### **Configuration 1: ISDN Internet access**

The OmniPCX Office uses the shared B-channels resources on the ISDN PBX trunks to access the Internet which means that no specific ISDN access have to be dedicated for the Internet access. It supports multiple interface protocols according to the traffic level needed.

- **Static 64 Kbps:** delivering static bandwidth on 1B channel. (PPP: Point-to-Point-Protocol).
- **Static 128 Kbps:** delivering static bandwidth on 2B channels. B-Channels are aggregated providing high speed internet access. (MPPP: Multi-link Point-to-Point-Protocol).
- **Bandwidth on demand from 64 up to 128 Kbps:** bandwidth allocation is performed dynamically according to the traffic analysis (monitoring the inbound and outbound stream) and the second B channel is added or removed. It is based on a Multi-link PPP (MPPP) protocol.

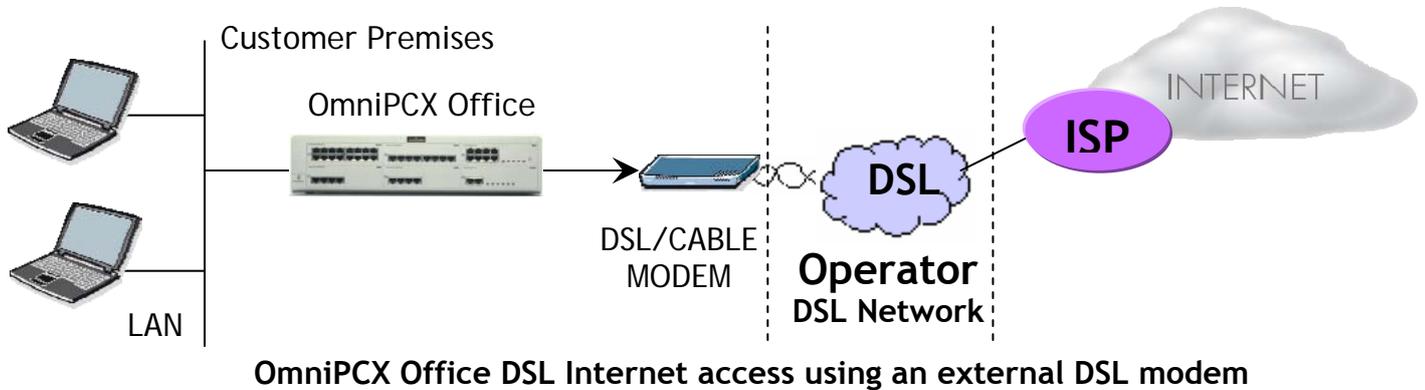
The OmniPCX Office supports multiple access modes.

- **Dial-up with demand dial:** The link is only established when needed and is automatically released if there is no traffic. For example, the line is established when a user on the LAN wants to access an Internet service (browsing the Web) or when a application server wants to reach another server over the Internet (sending e-mail). After a pre-defined period of time without traffic the connection is closed.
- **Permanent connection:** the link between the OmniPCX Office and the ISP is permanently established avoiding the establishment of the line before access. This mode is only suitable when using ISDN connection with flat rate fees.



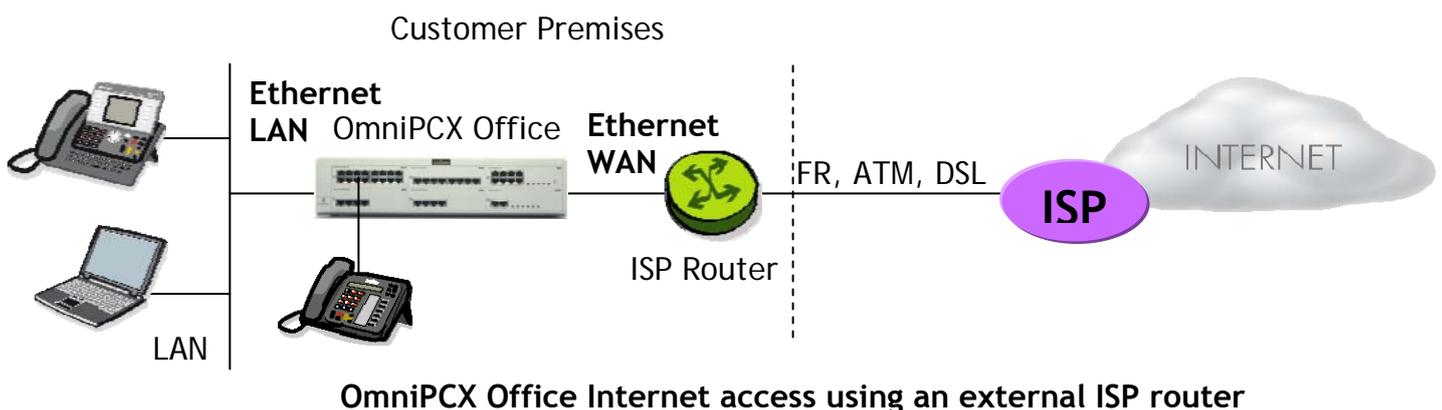
**Configuration 2: DSL modem Internet access**

The OmniPCX Office provides DSL Internet access using an external DSL modem or a cable modem connected on the OmniPCX Office WAN Ethernet port. The OmniPCX Office implements the PPPoE or WAN DHCP connection protocol. The maximum bandwidth on the WAN link is 10 Mbps.



### Configuration 3: Leased Lines and other types of Internet access

In addition to ISDN and DSL modem, the OmniPCX Office WAN Ethernet can be connected to an access router supporting various types of physical links and protocols: leased lines, FR, ATM, DSL ... In this configuration, the access router provides the physical access to the Internet Service Provider (ISP) while the OmniPCX Office can be used to deliver additional added value services (firewall, proxy/cache, mail server/unified messaging). Generally the access router is delivered and managed by the Internet Service Provider (ISP) as part of the Internet access subscription. The maximum bandwidth on the WAN link is 10 Mbps.



The Alcatel-Lucent OmniPCX Office supports the following standard protocols to enable a voice solution to be deployed efficiently over a data network.

#### Benefits:

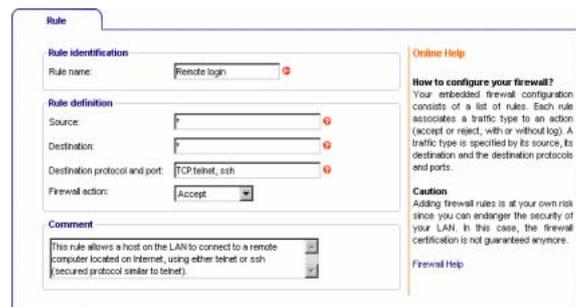
- A **cost effective** solution allowing multiple computers to share simultaneously a single internet connection and a single communication,
- **Eliminates the need of additional trunk** and modems to provide individual connection,
- Offers **flexible** internet access in term of interface (ISDN, ADSL, Leased Lines, access mode (dial up, permanent) and bandwidth (from 64kbps to 10Mbps),
- Integration of shared WAN resource for voice, data and internet,
- **Easy to configure**, set up and administrate with a single user friendly web based management tool.

## Firewall, Back up and Antivirus

### *Built-in Certified firewall*

**Built-in stateful firewall:** The OmniPCX Office firewall supports IP packet filtering and implements connection tracking (stateful firewall). The firewall blocks unwanted traffic at IP level. According to the overall service configuration (E-mail, VPN, proxy,...) the system automatically sets up IP packet filters that inspect network datagrams (IP packets) and decides whether these packets are allowed to pass the filter or not. The decision to let a filter block certain packets is based on several criteria, being checked against the contents of the IP packet and environmental parameters such as source and destination IP addresses, protocols like TCP, UDP, source and destination port numbers associated with TCP or UDP services, ... This allows the private network to be protected against Internet attacks such as: intrusion, denial of services (e.g.: flooding), Port scanning, .... In addition the firewall logs attacks and port scans.

**Firewall editor:** If further filtering customization are needed, the OmniPCX Office firewall can be configured thanks to a rule editor. This feature allows an administrator to customize the firewall configuration to match customer specific needs. For instance defining dedicated filtering rules based on specific protocols/applications or hosts. The firewall rule editor allows to specify outgoing as well as incoming traffic rules.



**Network Address Translation (NAT):** NAT hides Internal IP addresses from the outside world and allows the sharing of a single static or dynamic IP address. This ensures security since each outgoing or incoming request must go through a translation process that offers the opportunity to qualify or authenticate the request or match it to a previous request. NAT also conserves the number of global IP addresses that a company needs and it lets the company use a single IP address in its communication with the world.

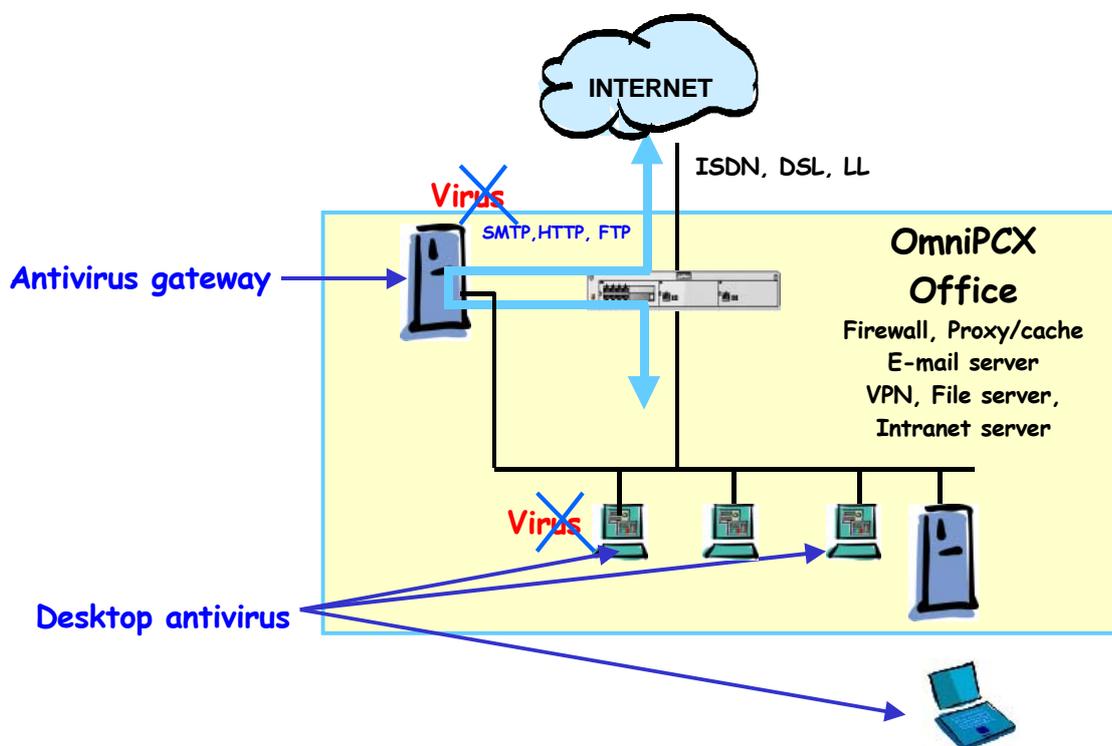
### **Backup**

The Alcatel-Lucent OmniPCX Office backup procedure contributes to a comprehensive secure solution allowing to restore company critical data including all OmniPCX Office Voice and Internet information. The OmniPCX Office backup can be easily implemented using any standard Microsoft Windows<sup>®</sup> or Linux server. The OmniPCX Office backup/restore procedure features:

- Network based (CIFS - Microsoft<sup>®</sup> Network) backup/restore to/from external server,
- Full system backup/restore:
  - \* Voice/Internet,
  - \* Configuration data,
  - \* User data (voice mail, e-mail, files ...).
- History management,
- Time based or manual.

## Anti-virus solutions

The OmniPCX Office is fully compliant with leading edge anti-virus solutions from leading suppliers such as Network Associates Mc Afee ® or Trend Micro ® protecting hosts as well as Internet traffic such as e-mail, Web and file transfer. These solutions support anti-virus automated signature updates.



### Benefits:

- Efficient and secured protection for the company private network,
- Centralized secured access,
- Cost effective solution providing integrated security components,
- Certified firewall,
- Easy management with a common web based management administration tool.

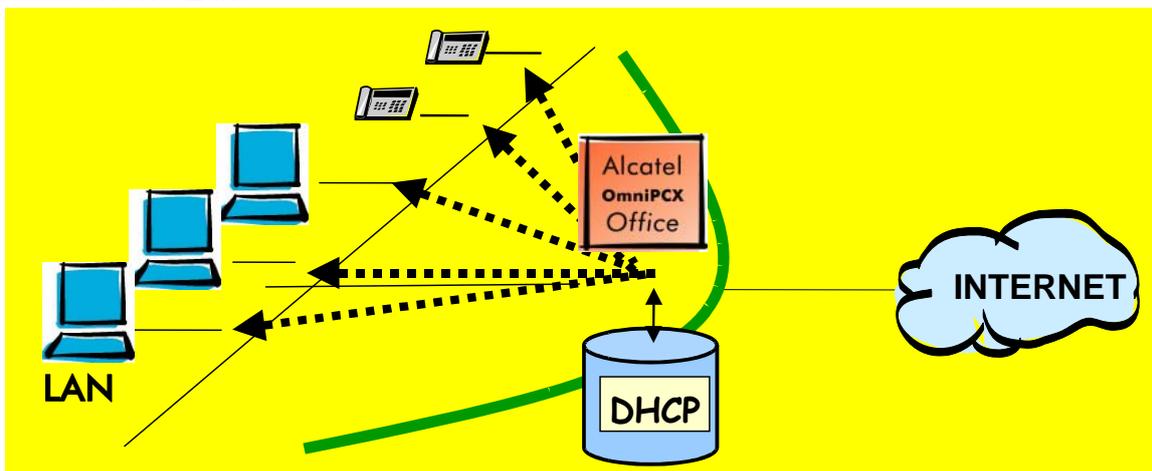
### **Domain Name System (DNS)**

OmniPCX Office provides a DNS:

- to translate URL names into IP addresses:  
www.alcatel.com --> 192.1.2.2
- and to give local names for devices on the LAN (printers for example).

### **Dynamic Host Configuration Protocol (DHCP)**

OmniPCX Office embeds a DHCP server that automatically and dynamically allocates IP addresses on the LAN.



OmniPCX Office DHCP manages dynamic addresses. Some devices can need a permanent address in the LAN. OmniPCX Office allows to defined IP Addresses ranges for these devices:

- Printers
- Application servers
- E-mail servers

The installation and configuration are fast and easy.

#### **Benefits:**

- **DNS:** Facilitates PC management on the LAN defining symbolic names and accelerates Web access by Internet name resolution at the OmniPCX Office level.
- **DHCP:** Easy and fast installation by automatic IP address configuration for PCs and IP phones on the LAN

## Section 2: Proxy/Cache

### Embedded Proxy Server

#### *Group based control policy*

The OmniPCX Office allows to create group profiles. Each profile defines a consistent set of common rights and control attributes for a complete range of users. There can be as many group profiles as needed. Thus, it is very easy to create a company group-based control policy, specifying who has access to applications like Internet, mail or VPN remote access, on what time, and according to which filtering criteria.

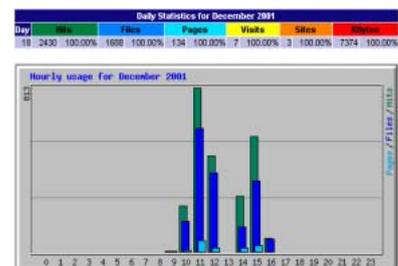
#### *Controlling access*

Group-based control policy provides a comprehensive Internet access control using an embedded **proxy server**. Access controls include:

- User authentication;
- Acting as an intermediary between users and the Internet, the proxy server guarantees that only authorized users can access to the Internet providing their password/login authentication;
- Time ranges;
- For each group of users the administrator can define date and time access restrictions to limit traffic and control internet access for each day of the week (Monday to Sunday). In addition to group based time ranges, the administrator can define global time ranges that apply to all users;
- WEB URL filtering;
- For each group of users, it is possible to specify URL lists defining which WEB sites are authorized or forbidden for the group. The lists combine explicit URL address and regular expression. URL lists can be automatically downloaded and updated from a WEB site.

#### *Comprehensive statistics on Web usage*

The system generates statistics about the use of the Web to monitor the activity. Statistics are defined by user, destination, applications, configurable periodicity.



### Benefits:

- Improve security by controlling internet access by protocol, user access rights, URL restriction, authorized applications,
- Control internet usage with comprehensive statistics,
- Centralized user friendly administration interface,
- Detailed statistics to improve resource management and usage control.

### Built-in Cache Server

The OmniPCX Office embeds a **cache server** which improves performance in web site access and file downloading. Object caching consists of storing internet objects requested by a user as a web page including image, file, text, etc and delivers it immediately to another user without a new internet connection. The information requested is immediately available and then delivered.

The cache management is performed automatically by replacing the oldest information with the most recent one. OmniPCX Office cache server capacity is 1.5 GB.

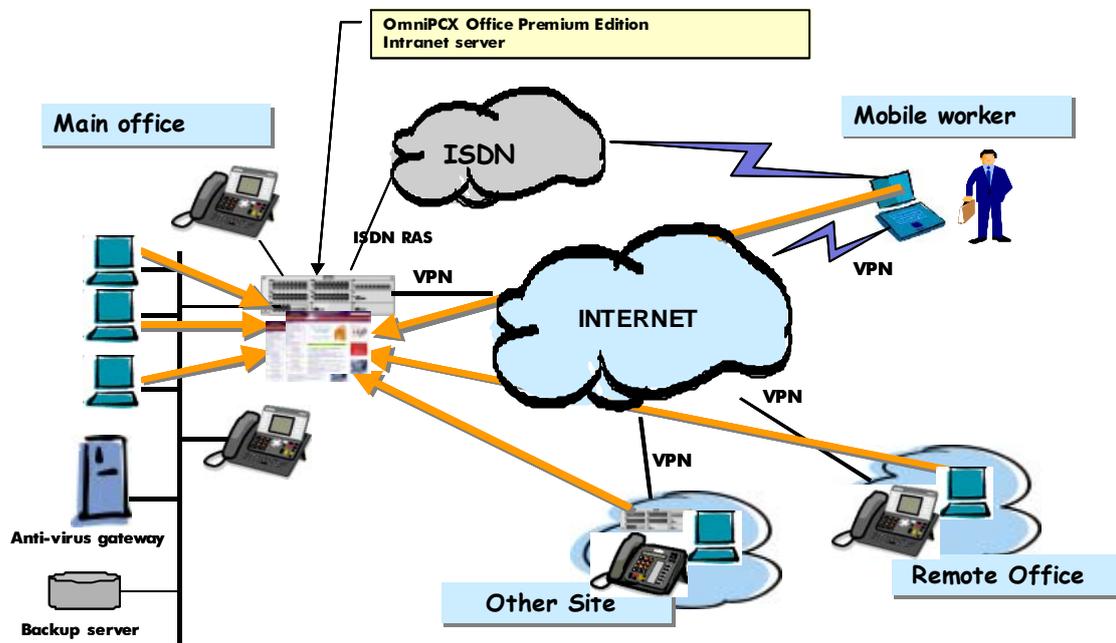
### Customer benefits:

- Improve information access performances,
- Accelerate information access by immediately delivering information already stored,
- Optimize traffic on the WAN link. If stored in the cache the information is delivered without external connection and at no cost,
- Reduce the costs by reducing connection time.

## Section 3: Intranet Services

### Introduction

The OmniPCX Office can host an Intranet site: to share easily information among local or remote employees. Only authorized users have the right to publish on the Intranet Web site.



### Features

- Intranet Web server hosting compatible with standard Web publishing methods such as FTP, Microsoft Network and Web DAV. Static page hosting only.
- File server with individual and common folders, access rights.
- Accessible locally on the LAN, or, remotely using VPN or ISDN RAS. Network backup.
- Intranet hosting capacity: 200 Mbytes,

### Benefits:

- Easy way to share information among employees,
- Available through Web browser interface,
- Easy maintenance allowing information to be updated as frequently as needed



## Configuration 1: Remote access (client-to-site VPN)

The Alcatel-Lucent OmniPCX Office VPN solution allows secured remote activities over the Internet. At home or in a hotel, remote workers can dial up the nearest Internet Point of Presence (POP) to establish a remote and secure connection to the OmniPCX Office via Internet, using a VPN tunneling. The user can access all the applications he usually uses on the LAN.

Supported VPN clients: MS Windows 98/NT/2000/XP PPTP clients, MS Windows XP IPsec client.

Capacity: **Up to 50 simultaneous client-to-site IPsec or PPTP VPN tunnels.**

## Configuration 2: LAN-to-LAN Networking (site-to-site VPN)

The OmniPCX Office provides a secure LAN-to-LAN networking solution using Virtual Private Network tunneling over the Internet. Multiple sites (Branch offices or small remote offices) can be networked using the public internet as a WAN infrastructure for data and/or VoIP services.

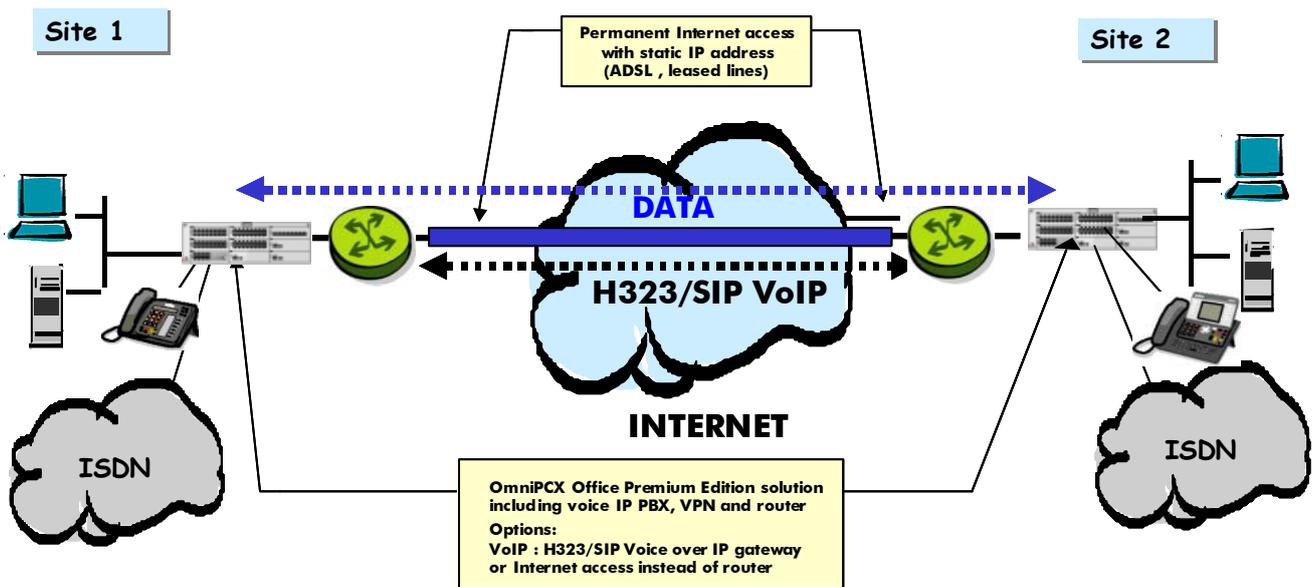
Capacity: **Up to 50 simultaneous site-to-site IPsec tunnels per OmniPCX Office node and 10 Mbits total WAN bandwidth per OmniPCX Office Node.**

Two types of site-to-site VPN networking:

- Multi-site networking for data and/or VoIP H323 trunking,
- Small remote office for data and/or remote IP telephony.

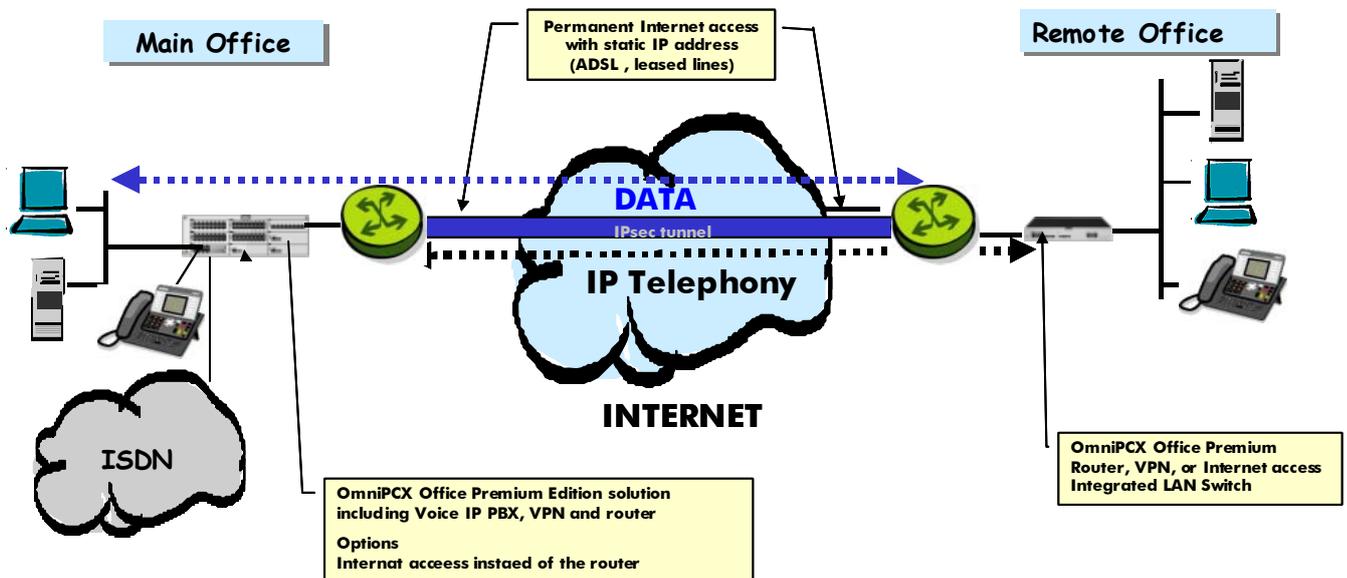
### Multi-site IPsec VPN networking

Multi-site IPsec VPN is used to network securely two or more sites over Internet for Data LAN and/or H323/SIP VoIP trunking.



### Small remote office IPsec VPN

In this configuration, it is possible to connect a small remote Office for Data LAN and/or remote IP telephony. The remote Office takes advantage of full telephony services transparency.



## Specifications Summary

### Client-to-site

Capacity	50 tunnels
Supported Protocols	PPTP, IPsec/PKI
Supported Clients	PPTP Windows 95/98/NT/Me/XP clients L2TP/IPsec Windows 98/Me/NT/XP clients

### Site-to-site

Capacity	50 tunnels
Supported Protocols	IPsec/PKI

### PPTP Protocol

Authentication	MS-CHAP-V2
Encryption	Microsoft Point-to-Point Encryption (MPPE 40 - 128 bits)

### IPsec Protocol

Key Management	IKE, Diffie Hellman (DH group 1,2,5)
Encryption	DES, 3DES, AES
Integrity	HMAC-MD5, HMAC-SHA1
Authentication	Shared Secret X509 certificate-based with RSA signature (PKI)
PKI	X509 certificates Offline enrollment (PKCS7 & PKCS10) Online enrollment (SCEP) Manual or automatic CRL retrieval (HTTP) Certification Authorities (PKI) support
Authentication	Built-in user database IKE-Xauth MS-CHAP (L2TP over IPsec connections)

### Customer benefits:

- Secure remote connection over the Internet,
- Support of standard VPN protocols: PPTP and IPsec,
- Cost effective remote connection,
- Alternative solution to Remote Access Server for remote connection.

# Chapter 11: Application Interfaces

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## Overview

Thanks to the application openness and the Alcatel-Lucent Application Partner Program, the Alcatel-Lucent Office Communication Solutions benefit from a large array of third party communication solutions design for voice-centric and data-centric networks for Small and Medium Enterprises.

### *XML interface*

Access to the added-value application on Alcatel-Lucent IP Touch 8 Series Phones EE as well as web-based telephony services on PC

### *Alcatel-Lucent CTI and CSTA*

Thanks to the TAPI and CSTA interfaces, Alcatel-Lucent Office Communication Solutions enable the management of a large portfolio of external applications.

# Section 1: XML

## Introduction

With the establishment of XML and related web service standards, the integration of communications is changing. It has become easier and cheaper to map business-centric application onto heterogeneous telecoms environment, using a simple, text-based programming language.

The Alcatel-Lucent Application Partner Program promotes XML-based applications that are compatible with Alcatel-Lucent Office Communication Solutions and especially with Alcatel-Lucent IP Touch phones.

Through XML Web services, key features of the Alcatel-Lucent Office Communication Solutions can be exported to external applications. Alcatel-Lucent XML Web services are structured in 2 families:

- Application phone XML services
- Communication web services

## Application phone XML services

### *My IP Touch XML services*

My IP Touch XML services enable users of the Office Communication server to benefit from specific applications through their Alcatel-Lucent IP Touch phones. Thanks to this openness, an application can take control of an Alcatel-Lucent IP Touch phone, for instance building screens and collecting user actions. Screen control is granted when a user activates an application on his terminal. If the user has not activated an application, My IP Touch XML services still allow the application to issue notifications to the phone.

### *Alcatel-Lucent IP Touch Web services examples*

The Alcatel-Lucent XML Developer Forum has led to the introduction of a large number of applications designed specifically for Alcatel-Lucent Office Communication Solutions. These applications have been successfully deployed at customer sites around the world.

The following applications are available and fully compatible with Alcatel-Lucent OmniPCX Office:

- **Alcatel-Lucent IP Touch caller display:** displays the calling/called person's photo
- **Alcatel-Lucent IP touch directory:** display of contact's information (phone number, address, email, photo...)
- **Alcatel-Lucent IP TouchDoorCam:** display of the image from the camera located at the door and open the door
- **Alcatel-Lucent IP Touch Instant Messenger:** send a SMS/e-mail from an Alcatel-Lucent IP Touch phone to an Alcatel-Lucent IP Touch/GSM/PC
- ...

## Communication web services

### ***My Phone web services***

My Phone web services allow users to handle calls and configure a sub-menu of parameters that define the behavior of their phone from an external application. My phone web service provides also a Universal Directory Access. My Phone are now completed with My Messaging and My management services

### ***My Messaging web services***

It allows users to access and handle their voice mail:

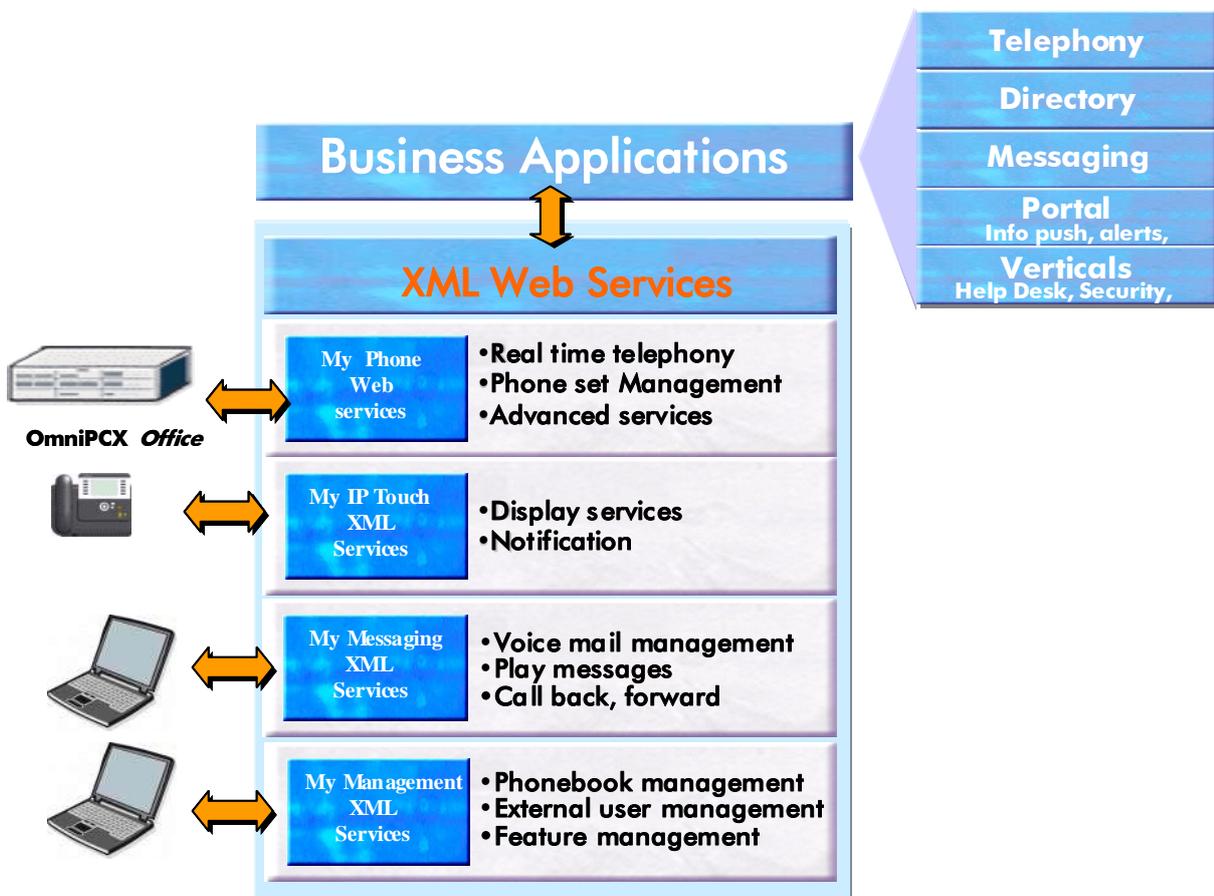
- play voice messages from a PC or another phones
- record voice messages for one or more person on an Alcatel-Lucent IP Touch
- call back on an Alcatel-Lucent IP Touch phone
- forward the message from a PC or another phones
- list of messages with filtering and sorting

### ***My Management web services***

These services allow users to easily manage a variety of business phones, including Alcatel-Lucent IP Touch 8 Series Phones EE, Alcatel-Lucent PIMphony Softphone, Alcatel-Lucent IP Touch mobile phones, and other business phones, from a PC equipped with a web application. My management provides the following services:

- Immediate forward or forward on busy
- Do not disturb
- Change password

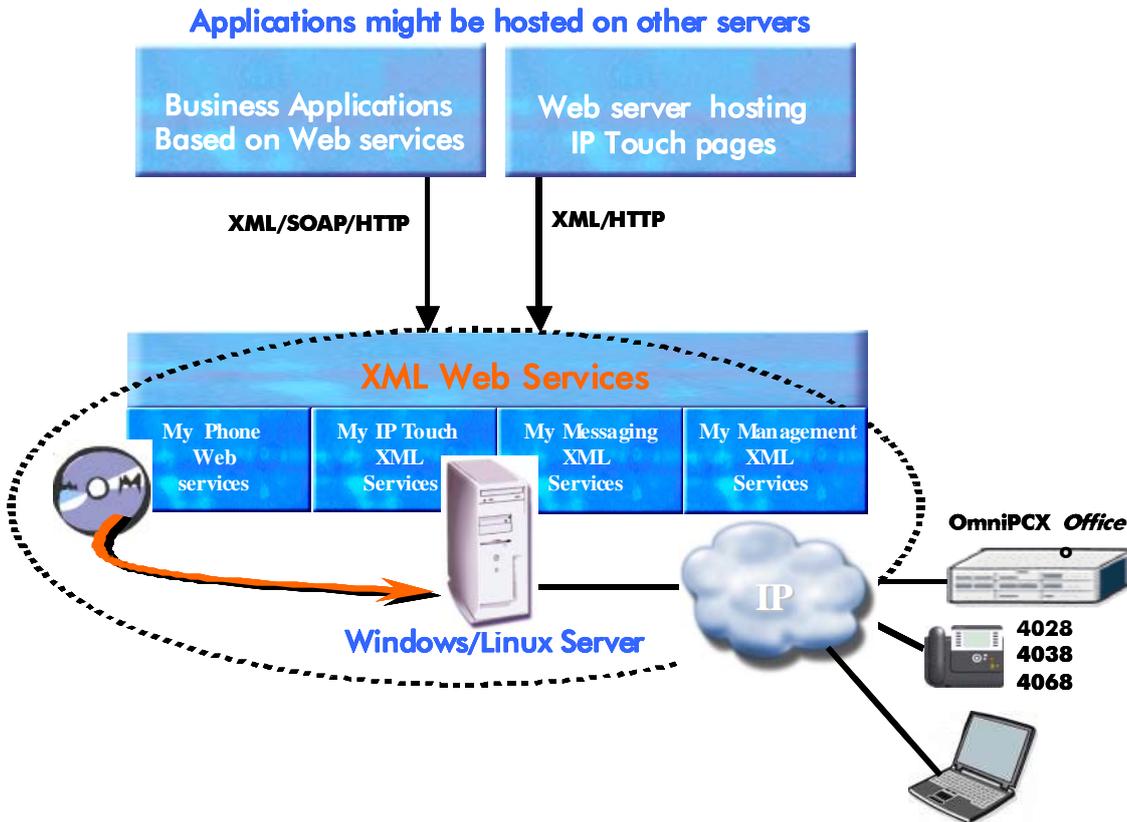
- Define the associated number
- Phone information
- Make a call
- Create, modify or delete speed dialing keys
- Create, modify or delete programmable keys



Alcatel-Lucent OmniTouch XML Web Services APIs are available to application developers with a complete range of tools, including development kits, documentation, support and tests provided through the Alcatel-Lucent Application Partner Program.

In the Application Partner Guide (available in the Business Partner Web Site), you will find all Partner application certified and compatible with Alcatel-Lucent OmniPCX Office.

## Architecture



The communication web services are also integrated in the Extended Communication Server.

The Extended Communication Server Compact Edition includes My IP Touch XML services and a subset of My Phone web services restricted to the make call function.

The Extended Communication Server Premium Edition includes My IP Touch XML services and all communication web services.

## Capacity and Provisioning level

Maximum number of My IP Touch XML	all connected IP Touch
Supported IP phones	4038/4068/4028

Maximum number of users	Server Premium Edition 400, Alcatel-Lucent OmniPCX Office Compact or Advanced Editions without hard drive, and other Alcatel-Lucent OmniPCX Office
For My Phone WS	25/75
For My Messaging	25/75
For My Management	25/75

## Section 2: CTI and CSTA

### Introduction

CTI (Computer Telephone Integration) is a concept that harnesses the features of two separate technologies (telephones and computers) and makes them work together.

This means:

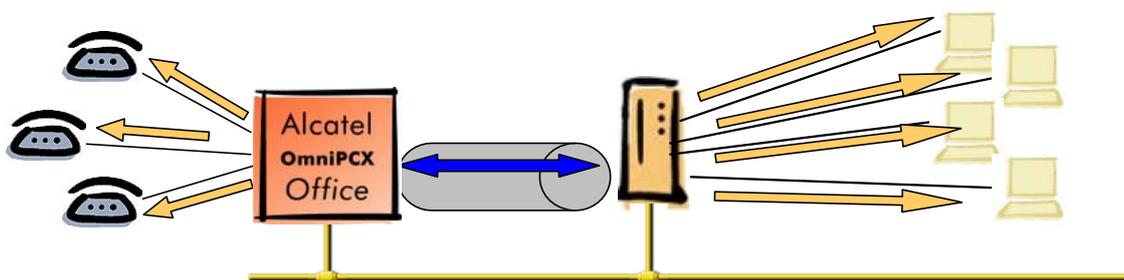
- Control a phone or phone system from a computer,
- Control a shared telephony resource across a local area network (LAN).

### Main features

The Alcatel-Lucent Office Communication Solutions supports **CTI third party only**. CTI first party is not supported. CTI 3rd party is the capability to control calls belonging to other people in your organization: from your desktop computer, you can control a shared telephony resource. Thus you are able to control calls belonging to your desktop and to other users within your company as well.

Examples of CTI application:

- Dialing and call handling using an on-screen interface,
- Screen popping of the caller's file activated automatically on telephone event,
- Data information transfer associated to the call transfer to an agent via a LAN.



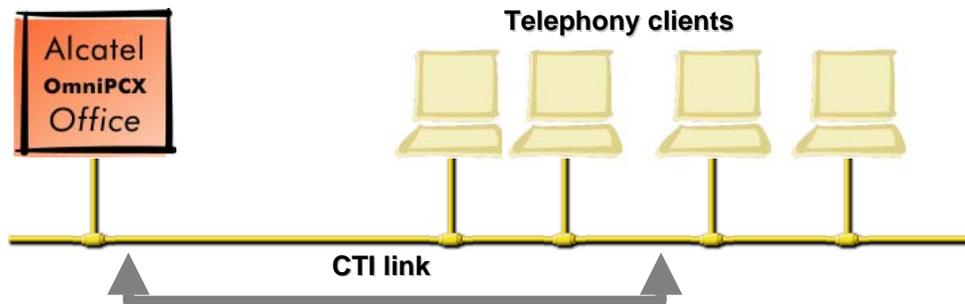
Alcatel-Lucent OmniPCX Office is fully compliant with major market standards. The standards used to enable applications are determined by the application or the application editor. Some applications use TAPI, others use CSTA. For example, Alcatel-Lucent PIMphony Softphone is based on TAPI.

## Architecture

There are two CTI architectures for Alcatel-Lucent OmniPCX Office CS. The architecture used is determined based on the number of users.

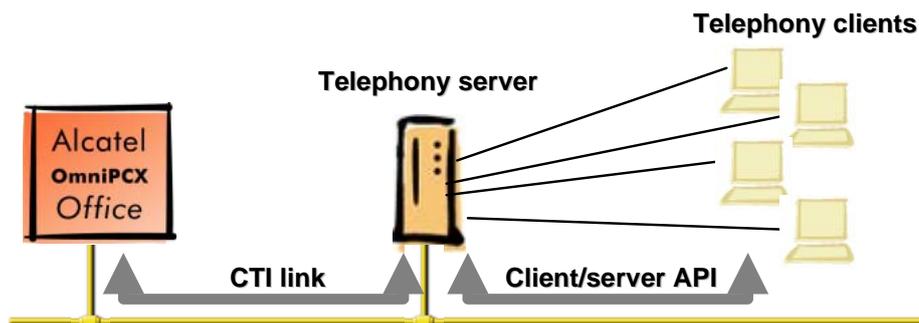
### *Integrated CTI server*

This is a simplified third-party CTI where the system and the telephony server are in one box, the Alcatel-Lucent OmniPCX Office.



### *Third-party CTI with external server*

This architecture is for server-based applications like call centers where there is a need for an external telephony server. One session, or more for some applications, is opened between the system and the server.



This is typically a client/server architecture. The telephony server manages the CTI link to the Alcatel-Lucent OmniPCX Office CS. It can be a CSTA-based server or a Microsoft TAPI 2.1 external server. The client/server API between the clients and the telephony server is proprietary.

This solution supports an unlimited number of clients – up to the system's capacity. It requires specific network knowledge and is mainly designed for server-based applications, like call centers.

## Section 3: Global Limits

This document give the maximum limit for each element.

Alcatel-Lucent <b>OmniPCX</b> Office Release 7.1									
Compact Unit	MAIN			EXPANSION			ABSOLUTE LIMITS		
	Rack Unit 1	Rack Unit 2	Rack Unit 3	Rack Unit 1	Rack Unit 2	Rack Unit 3	Compact & Advanced Edition	Premium Edition	
<b>XML Web Services</b>									
My IP Touch XML services	number of serie 8 IP Touchs								
My Phones Web services users	25/75 (*8)								
My Management	25/75 (*8)								
My Messaging	25/75 (*8)								
<b>Application Interfaces</b>									
CTI clients - TAPI 2.0 for AAPP								25	
TAPI 2.0 server monitorings for AAPP								50	
TAPI 2.1 server sessions				25					
TAPI 2.1 server monitorings				236					
CSTA server sessions				25					
CSTA server monitorings				236					
TAPI 2.0+ 2.1+CSTA server sessions								75	200
TAPI 2.0+ 2.1+CSTA server monitorings								250	500
CSTA client desktop sessions				25					
CSTA client desktop monitorings				25					

(8) 25/75 : first number is using a Compact or advanced Edition without harddisk,2nd is for others

# Chapter 12: Management

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## Overview

The management of an Alcatel-Lucent OmniPCX Office is an important issue both for the customer in order to ensure the smooth running of the system, anticipate the breakdown thanks to pro-active maintenance ... or the Business Partner to enhance the Service Level Agreement (SLA) and optimize their human resources.

To manage efficiently the OmniPCX Office, Alcatel-Lucent provides the Business Partner or the Customer directly different tools, from the simplest to more powerful management tool.

### ***Office Management Console (OMC) Easy, Easy + and Expert***

With the OmniPCX Office Management Console, responsiveness is enhanced during and after the installation phase (management and maintenance):  
Configuration is very fast thanks to OmniPCX Office "all-in-a-click" management tool described above  
Management and maintenance can be done locally or remotely therefore increasing flexibility  
New features can be implemented easily with a software key system  
Statistics provided by the system help to make decisions.

### ***Alcatel-Lucent OmniVista 4760 NMS***

Alcatel-Lucent OmniVista 4760 Network Management System (NMS) is an open management application suite that provides basic management features such as configuration, incident management, topology, accounting and Voice over IP Performance management.

### ***Alcatel-Lucent 4760 NMS MCS Edition***

Alcatel-Lucent 4760 NMS MCS Edition is a management platform adapted for the management of the whole Alcatel-Lucent OmniPCX installed base from a Business Partner in an outsourced service environment.  
More information are available in the Business Partner Web Site section our offer/Services/RSC.

# Section 1: OMC

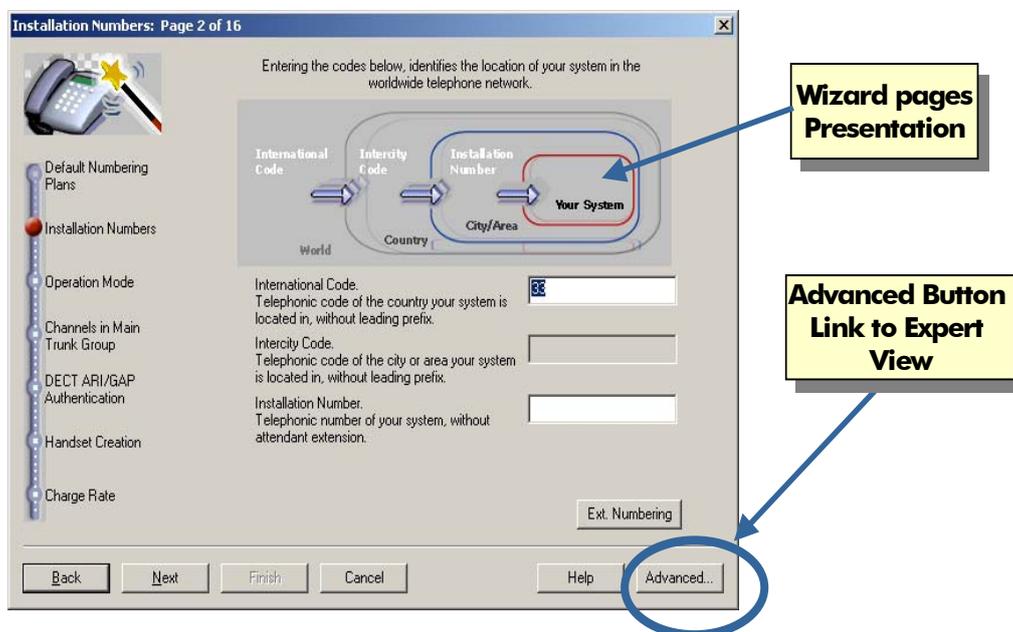
## Introduction

OMC allows the programming and the management of all Alcatel-Lucent OmniPCX Office Releases.

The OMC management provides a secure and simple remote access through an HTTPS connection.

## Easy to manage system

- The unified management tool allows one only entry for the installation for telephony, voice mail and Internet configuration.
- It is adapted to the different installation levels from guided and optimized Wizards to a high performance and powerful Expert tool.

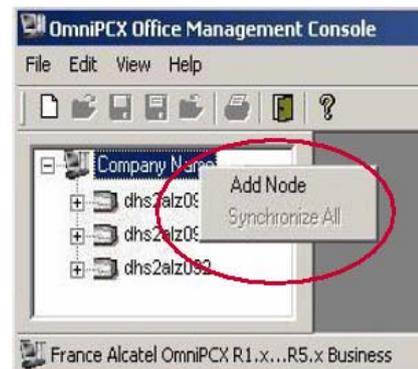


- Wizard migration of the customer data from Office (R3.0 & R.4) to Alcatel-Lucent OmniPCX Office R7.x.
- Automatic migration of the customer data from Alcatel-Lucent OmniPCX Office R5.x, R6.x to R7.x.

## Wizard for multi-site configuration

Those Wizards allow to share Alcatel-Lucent OmniPCX Office data and phonebook between the sites and to reduce the installation time.

- Creation of a reference node
- Add easily new nodes automatically connected to the reference site
- Upload the common data (Phonebook,...) as well as numbering plans and ARS tables
- automatically copy data in the secondary node
- Modification-adaptation of the specific data in the secondary node using the multi-site wizard
- At the end, a pop up suggests to synchronize the network



## Internet and data services management

- With Web based management for all related Internet and data features, there is no need for any specific installation on the PC. Just a browser is required. All the internet and data components are managed using a single multilingual user interfaces.

## Management topology

### For a quicker answer to customer needs:

- Locally:
  - Connecting to the CPU LAN access,
  - Connecting to the LAN,
  - Connecting to the V24 port of the CPU.
- Remotely:
  - Via a modem in direct mode or call back mode,
  - Via a secure access using a https connection

For the web based part, via the Internet (VPN tunneling or https connection).

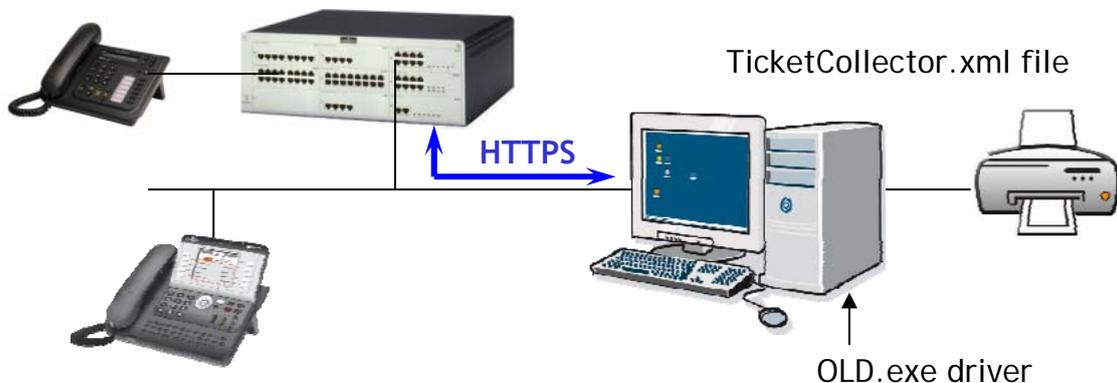
## Section 2: Call Accounting Over IP

Alcatel-Lucent OmniPCX Office generates call accounting information (time, duration, cost, calling number, called number, etc...) that can be used by external call accounting applications to issue traffic and cost reports (or simply printed on the fly on a printer or collected and stored on the fly on a PC).

This information is provided in 2 ways:

- Either, via V24, in a text format: in this case the printer or the PC is connected to Alcatel-Lucent OmniPCX Office through a V24 interface module (no software license is required in this case)
- or in an XML format: in this case the PC is connected on the LAN of the company (a specific "call accounting over IP" software license is necessary in this case).

When using the XML mode, it is necessary to install the OLD (Office Link Driver) driver on the PC that collects the call accounting information (the driver must be configured in "call accounting" mode). The driver will then collect on line the call records issued by Alcatel-Lucent OmniPCX Office, and store them in a specific xml file.



The XML file can then be reused or processed by a tier application, or simply consulted and operated through an Excel spreadsheet to sort or print call accounting information.

In both cases (V24 or XML format), call accounting records issued by Alcatel-Lucent OmniPCX Office can be collected in real time as soon as they are issued. They can also be collected and polled automatically at regular intervals in a differed mode: in this case the call records are stored temporarily in an Alcatel-Lucent OmniPCX Office internal buffer. The size of this buffer is limited to 1000 call records.

## Section 3: Alcatel-Lucent OmniVista 4760 NMS

### Introduction

The Alcatel-Lucent OmniVista 4760 is a client/server and web-based network management application suite, which provides a centralized management for Alcatel-Lucent OmniPCX networks.

Alcatel-Lucent OmniVista 4760 NMS features for Alcatel-Lucent OmniPCX Office include:

- A consolidated multi-carriers accounting,
- An animated topology,
- High quality alarms,
- Embedded configuration.
- Voice over IP performance management

### Provisioning level

Alcatel-Lucent OmniVista 4760 NMS provides a centralized management for:

- OmniPCX Enterprise,
- OmniPCX 4400 Release 3.0 or higher
- OmniPCX Office

Alcatel-Lucent OmniVista 4760 NMS scalable platform can manage from 10 to 50 000 subscribers and 1 to 1000 Alcatel-Lucent OmniPCX Office systems. The licenses are based on 10 or 100 extensions step.

The powerful database can handle 200 000 Call Details Record (CDR) per day with a maximum of 12 million CDR.

### Architecture

Alcatel-Lucent OmniVista 4760 NMS Server supports Windows 2000®, 2003® and XP®. The server is dedicated, except for stand-alone Alcatel-Lucent OmniPCX Office solutions and when used for call accounting only.

To get to the Server, the Alcatel-Lucent OmniVista 4760 NMS Client applications can share the resources of a standard PC. This non-dedicated PC can run on Windows 2000®, NT4® Workstation or Server, Millennium®, XP. The Server includes an embedded Client application.

The Alcatel-Lucent OmniVista 4760 NMS server can also be reached through a standard browser, such as Microsoft Internet Explorer® (Release 5.0 and higher) or Netscape Navigator® (Release 4.7).

All the administration applications can be reached through the Alcatel-Lucent OmniVista 4760 NMS web server, with full features.

There can be 35 simultaneous logins to the Alcatel-Lucent OmniVista 4760 NMS administration, via a client or a web client.

This flexibility allows the users to easily access to the tools and information they need, locally on their PC connected to the LAN/WAN or remotely via internet/intranet (web-based management).

Alcatel-Lucent OmniVista 4760 NMS is connected to Alcatel-Lucent OmniPCX Office via an IP link, through a LAN port if a LAN is connected to OmniPCX Office or directly on the Ethernet port of Alcatel-Lucent OmniPCX Office.

It can also connect remotely to Alcatel-Lucent OmniPCX Office through a PPP connection with an ISDN modem or an analog V34 modem.

## Configuration

Configuration of Alcatel-Lucent OmniPCX Office CS can be managed from Alcatel-Lucent OmniVista 4760 NMS with the following integrated configuration tools:

- OMC on line and off-line
- Internet access web-based management.

Configuration is possible locally or remotely, and it supports the following functions:

- Software downloading
- Batch mode for pre-programmed save and restore of configuration.

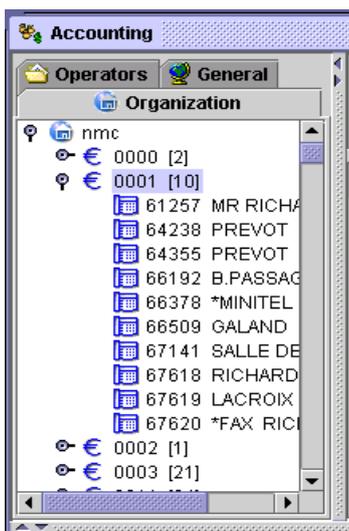
## Multi-currency, multi-carrier call accounting

Alcatel-Lucent OmniVista 4760 NMS includes an integrated call metering application. Companies use it to analyze telecom costs. One of the main functions of the accounting application is to produce reports on telecommunication costs, according to the information provided by Alcatel-Lucent OmniPCX Office. Information can be searched, sorted, analyzed and presented according to selected criteria.

All types of hit lists, summaries and detailed reports are possible.

The 3 main parts of the Alcatel-Lucent OmniVista 4760 NMS accounting are the following:

**Organizational map** The accounting tree displays the different selectable objects in the Alcatel-Lucent OmniPCX Office. Historical information allows the administrator to keep track of the changes within the company's organizational map. The accounting tree represents the past and present company accounting organization.



Number of elements into organization			
Type	Active	Isinactive	All
Meta company	1	0	1
Local level	0	1	1
Local level	0	0	0
Cost center	10	0	10
Directory unity	0	0	0
Person	0	0	0
All types of levels	11	1	12

Number of elements into organization			
Type	Active	Isinactive	All
Subscriber	163	0	163
Attendant	0	0	0
Attendant group	0	0	0
Station group	0	0	0
Voice mail	1	0	1
Data terminal	7	0	7
Project	0	0	0
Trunk group	1	0	1
Link	2	0	2
Ticket entity	0	596	596
All types of extensions	174	596	770
Tickets			25681

**Accounting management** This module allows the users as well as the administrators to manage the carrier tariffs, to apply specific costs, and to ensure confidentiality. Advanced features such as operators' comparison allow simulation of the billing according to different carriers.

**Monitoring and display of last accounting tickets** The monitoring shows a graphical view of thresholds on cost, duration or number of calls of subscribers, or any other level of the organization map. Actions can be generated when exceeding a threshold: sending an e-mail, generation of an alarm.

The last n tickets give an overview of activity of different accounting entities.

## Reporting tool

The reporting tool allows the user to generate accounting as well as past time performance reports, predefined or personalized, taking into account operator tariffs, special costs, masks, etc.

The Alcatel-Lucent OmniVista 4760 NMS can generate, print, export or send automatically by e-mail the reports on different format (TXT, PDF or HTML files) to the authorized users.

## Animated topology

Alcatel-Lucent OmniVista 4760 NMS provides features associated to a visual representation of a network of Alcatel-Lucent OmniPCX systems:

- Direct access to the configuration (OMC, Internet access web based management) from topology map or navigation tree,
- Topologic maps customization,
- Alarms access and notification with severity.

## Alarms

### *High quality alarms notification*

OSI standard format,  
Access to the Configuration (OMC, Internet access web based management) from the alarm list,  
Filtering of alarms,  
Launching of an action on reception of selected alarms: send e-mail, script activation,  
Predefined faults diagnosis.

### *Integration with hypervisor*

This integration with « industry standard » hypervisors helps to centralize alarms information and topology animation from a unique application.

This integration has been made for both systems:

HP OpenView

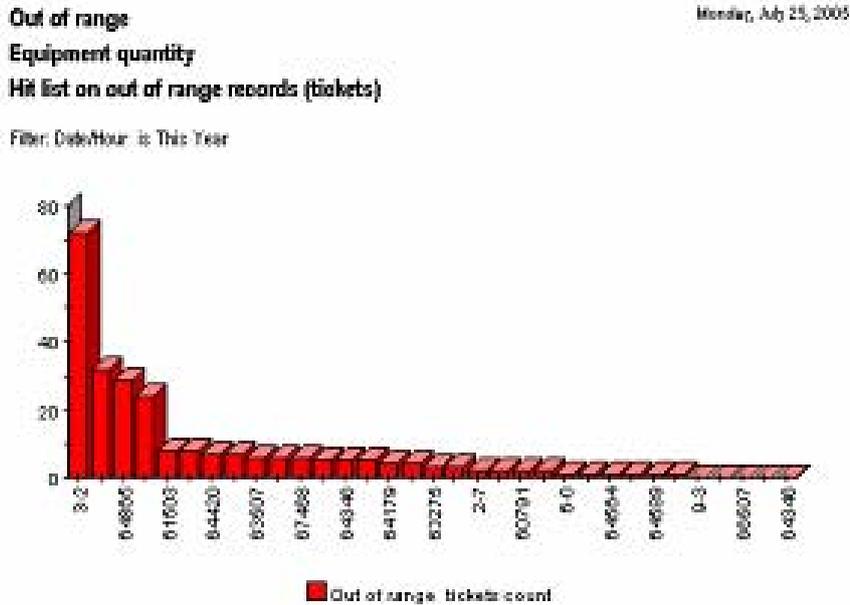
Computer Associates TNG Unicenter

Alcatel-Lucent OmniVista 4760 NMS can be launched from both of these environments

## Voice over IP performance

Alcatel-Lucent OmniVista 4760 NMS provides new application to measure the quality of Voice over IP with up to 22 pre-defined reports.

VoIP performance is an option of the accounting and NMC pack for a better follow up of the VoIP traffic and quality.



## Alcatel-Lucent OmniVista 4760 NMS MCS Edition

A key component of Managed Communication Solutions is the Alcatel-Lucent OmniVista 4760 NMS MCS Edition, which provides the Service Providers (Alcatel Business Partners, Carriers, etc.) with two key benefits:

- Increased recurring services revenue with an enlarged portfolio of remote services which are highly automated - such as alarm monitoring & resolution, backups, upgrades, user MAC (moves, adds, changes), performance & accounting reports, asset management, etc.
- Reduced cost of operations by centralizing management and visibility of the customers' equipment with the Remote Service Center, so that tasks are performed remotely instead of sending technicians on-site.

When a customer buys such services from the Service Provider, it means that they are out-tasking or outsourcing more of their management and operations. Thus, they have less staff in-house, and rely more on the service provider expertise and services. By building on this relationship, the service provider can increase customer loyalty, avoid commoditization and margin erosion.

The Alcatel-Lucent OmniVista 4760 NMS MCS Edition includes:

- The Alcatel-Lucent OmniVista 4760 management platform adapted for the management of the Alcatel-Lucent OmniPCX installed base in an outsourced service environment,
- A set of open interfaces to activate remotely user management services: My Management web services.

The 4760 MCS Edition provides Alcatel-Lucent OmniPCX installed base remote management through RTC or IP/VPN, including:

- OmniVista 4760 NMS with specific "RSC" (Remote Service Center) license,
- Configuration (MAC, bulk operations, ...),
- Maintenance (back up, software update),
- Alarm monitoring and topology,
- Accounting and monitoring,
- VoIP performance,
- Security

Following features are provided with the RSC license:

- Reports distribution to customers lists
- 10 new RSC accounting reports
- 1 new RSC alarm report for OmniPCX
- 2 new RSC reports on Alcatel-Lucent OmniPCX Enterprise and Office from 5.0 VoIP performance

## Section 4: Upgrade

### Introduction

It's important to upgrade the Alcatel-Lucent OmniPCX Office installed in order to benefit for the new terminals, new features, the product enhancement, ergonomics enhancement ... and provide the customer the Alcatel-Lucent Support Services:

- Software Maintenance Service - provides de support of the Alcatel-Lucent OmniPCX Office in line with the Alcatel-Lucent software life cycle (maximum 24 months after the launch of a new release)
- Software Evolution Service - provides during the contract the software evolution toward the new release

Just for information and according to the Alcatel-Lucent Software Life cycle policy, the Alcatel-Lucent OmniPCX Office Release 1.x, 2.x, 3.x, 4.x and 5.x have been phased-out. Therefore, those releases are no more supported by Alcatel-Lucent and we recommend to strongly upgrade those release to the latest release.

### Why upgrade the OmniPCX Office to the release 7.x ?

The upgrade to the release 7.x, will provide major evolutions:

- SIP evolutions with SIP peering and SIP networking
- Support of CPU-4

### How to upgrade Alcatel-Lucent OmniPCX Office to Release 7.x ?

To upgrade a former release of OmniPCX Office to release 7.x, the Software Upgrade kit R7 is mandatory.

A Hardware upgrade kit could be necessary:

#### **BUSINESS SOLUTION**

**Release 1**, the CPU should be change and replace by the CPU-4 and a Hard Disk

**Release 2, 3 or 4 with CPU-1 or CPU-3**, a Hard Disk is mandatory, if the system is already equipped with a Hard Disk then only the SW upgrade kit is necessary

**Release 2, 3 or 4 with CPU**, the CPU should be change and replace by the CPU-4 and a Hard Disk

Release 5.X or 6.x, a Hard Disk is mandatory, if the system is already equipped with a Hard Disk then only the SW upgrade kit is necessary

**e-BUSINESS SOLUTION**

Release 1, the CPUe and the rack should be change with the new corresponding Premium Unit

		<b>COMPACT EDITION R7.0</b>	<b>ADVANCED EDITION R7.0</b>	<b>PREMIUM EDITION R7.0</b>	<b>PREMIUM EDITION + INTERNET R7.0</b>
<b>From R1.x, 2.x, 3.x &amp; 4.x</b>					
<b>BUSINESS :</b> OXO 25, 50, 100 or 200	CPU	NR	CPU-4 <b>3EH04025AC</b> Hard Disk <b>3EH08090AA</b>	Premium Unit 1, 2 or 3 <b>3EH08437AA, 3EH08438xA, 3EH08439xA</b>	
			Software Upgrade kit <b>3EH03184AC</b>	Software Upgrade kit <b>3EH03184AC</b>	Software Upgrade kit + Internet <b>3EH03184AC + 3EH03249AA</b>
<b>BUSINESS :</b> OXO 25, 50, 100 or 200	CPU-1 **	NR	Hard Disk <b>3EH08090AA</b>	Premium Unit 1, 2 or 3 <b>3EH08437AA, 3EH08438xA, 3EH08439xA</b>	
			Software Upgrade kit <b>3EH03183AC</b>	Software Upgrade kit <b>3EH03184AC</b>	Software Upgrade kit + Internet <b>3EH03184AC + 3EH03249AA</b>
<b>BUSINESS :</b> Compact & OXO 25, 50, 100 or 200	CPU-2 <b>without</b> Hard Disk **	Hard Disk+power back-up <b>3EH07452AA</b>	Voice Hard Disk <b>3EH08090AA</b>	Premium Unit 1, 2, 3 <b>3EH08437AA, 3EH08438xA, 3EH08439xA *</b> or CPUe-2 + Data Hard Disk <b>3EH04023AA, 3EH04019AA</b>	
		Software Upgrade kit <b>3EH03183AC</b>	Software Upgrade kit <b>3EH03183AC</b>	Software Upgrade kit <b>3EH03184AC</b>	Software Upgrade kit + Internet <b>3EH03184AC + 3EH03249AA</b>
<b>BUSINESS :</b> OXO 25, 50, 100 or 200	CPU-1 or CPU-2 <b>with</b> Hard Disk **	No Hardware needed	No Hardware needed	Premium Unit 1, 2, 3 <b>3EH08321AA, 3EH08322xA, 3EH08323xA *</b> or CPUe-2 + Data Hard Disk <b>3EH04023AA, 3EH04019AA</b>	
		Software Upgrade kit <b>3EH03183AC</b>	Software Upgrade kit <b>3EH03183AC</b>	Software Upgrade kit <b>3EH03184AC</b>	Software Upgrade kit + Internet <b>3EH03184AC + 3EH03249AA</b>
<b>e-BUSINESS:</b> OXO e25, e50, e100, e200	CPUe	NR			Premium Unit 1, 2 or 3 <b>3EH08437AA, 3EH08438xA, 3EH08439xA *</b> Software Upgrade kit <b>3EH03184AC</b>
<b>e-BUSINESS:</b> OXO e25, e50, e100, e200	CPUe-1 or CPUe-2	NR			No Hardware needed Software Upgrade kit <b>3EH03183AC</b>
<b>From Release 5.x &amp; 6.x</b>					
<b>COMPACT or ADVANCED Unit</b>	CPU-3 or CPU-3m **	Hard Disk+power back-up <b>3EH07452AA</b>	Voice Hard Disk <b>3EH08090AA</b>	Premium Unit 1, 2, 3 <b>3EH08437AA, 3EH08438xA, 3EH08439xA *</b> or CPUe-2 + Data Hard Disk <b>3EH04023AA, 3EH04019AA</b>	
		Software Upgrade kit <b>3EH03183AC</b>	Software Upgrade kit <b>3EH03183AC</b>	Software Upgrade kit <b>3EH03184AC</b>	Software Upgrade kit + Internet <b>3EH03184AC + 3EH03249AA</b>
<b>PREMIUM Unit</b>	CPUe-2	NR		Software Upgrade kit <b>3EH03183AC</b>	Internet Access <b>3EH03249AA</b>
<b>From Release 7.0</b>					
<b>COMPACT or ADVANCED Unit</b>	CPU-4	NR		Add-on kit from Advanced to Premium R7 <b>3EH07472AC</b> included in Add-on kit Internet Access <b>3EH03249AA</b>	
<b>PREMIUM Unit</b>	CPUe-2	NR		No Software needed	Internet Access <b>3EH03249AA</b>

\* Cabinet 220V x = A      \* Cabinet 110V x = L

\*\* If OmniTouch Call Center Office & VolP board on main CPU then CPU-4 (3EH04025AC) and Software upgrade kit with rehosting (3EH03184AC) are mand

 HARDWARE  
 SOFTWARE

**Board table compatibility**

	Alcatel OmniPCX Office							
	R1.x	R2.0	R2.1	R3.x	R4.x	R5.x	R6.x	R7.x
CPU	x	x	x	x	x			
CPU-1	x	x	x	x	x	x	x	x
CPU-2				x	x	x	x	x
CPU-3m			x	x	x	x	x	x
CPU-3			x	x	x	x	x	x
CPU-4			x	x	x	x	x	x
CPUe	x							
CPUe-1		x	x	x	x	x	x	x
CPUe-2				x	x	x	x	x
CoCPU	x	x	x	x	x			
CoCPU-1	x	x	x	x	x	x	x	x
CoCPU-2				x	x	x	x	x
CoCPU-@	x							
MEX	x	x	x	x	x	x	x	x
Xmem64	x	x	x	x	x			
Xmem64-1	x	x	x	x	x			
Xmem128-1			x	x	x	x	x	x
AFU	x	x	x	x	x	x	x	x
AFU-1	x	x	x	x	x	x	x	x
Voice HD 10Gb	x	x	x					
Data HD 10Gb	x							
HD 20Gb		x	x	x	x	x	x	x
HD 40Gb			x	x	x	x	x	x
WAN	x	x	x	x	x	x	x	x
SLANX4	x	x	x	x	x	x	x	x
HSL1/HSL2	x	x	x	x	x	x	x	x
VOIP4/8/16	x	x	x	x	x	x	x	x
VOIP4-1/8-1/16-1	x	x	x	x	x	x	x	x
UA16-1	x	x	x	x	x	x	x	x
UA14/8/16	x	x	x	x	x	x	x	x
SLI4/8/16	x	x	x	x	x	x	x	x
SLI4-1/8-1/16-1			x	x	x	x	x	x
LANX1 6-1	x	x	x	x	x	x	x	x
LANXB / 16	x	x	x	x	x	x	x	x
LANXB-2 LANX16-2	x	x	x	x	x	x	x	x
MIXx/y/-1z	x	x	x	x	x	x	x	x
MIX2/4/8 MIX2/8/4				x	x	x	x	x
Mini Mix						x	x	x
AMIXx/y/-1z				x (*1)	x	x	x	x
APA4/8		x	x	x	x	x	x	x
ATA2/4	x	x	x	x	x	x	x	x
DDI2/4			x	x	x	x	x	x
MET	x	x	x	x	x	x	x	x
PRA/T2/T1/DASS2	x	x	x	x	x	x	x	x
PCM R2			x	x	x	x	x	x
BRA2/4/8	x	x	x	x	x	x	x	x

x Compatible  
 Not compatible  
 (\*1) version R3.1 only

## Section 5: Migration

### Migration of Alcatel Office to Alcatel-Lucent OmniPCX Office

How to migrate the Alcatel Office installed based towards Alcatel-Lucent OmniPCX Office?

The former SME market and Alcatel installed based: Alcatel Office range:

- Alcatel 4200 C,
- Alcatel 4200 D Small,
- Alcatel 4200 D,
- Alcatel 4200 E,
- Alcatel 4200 E Rack.

As Alcatel-Lucent OmniPCX Office uses a new rack form factor all the hardware of the system can't be re-used:

- all cabinets of the whole range,
- all boards (CPU, interfaces and trunks),
- all daughter boards,
- all power supplies.

The customer will recover the major part of its environment:

- The Alcatel Reflexes™ phones
- The 2G range: 4034, 4023, 4012, 4011, 4003 and 4001
- The 2G beta design
- The 3G range: Advanced (4035), Premium (4020), Easy (4010), First (4004)
- All associated options except the CTI plugware.
- The Alcatel IP Reflexes (Alcatel 4037, 4022 and IP enabler 4098)
- The Alcatel mobile range
- The Alcatel Intelligent Base Station 4070 IO / EO and gain antenna
- The 4073 GS, 4074 GB, GBEx, GH, GI and SGAP
- The Mobile 100 and Mobile 200
- The analog infrastructure (Analog phones, fax, modems, ...)

The elements that will not be recovered are:

- The Alcatel Reflexes 1st Generation range,
- Radio Base Station (RBS) Alcatel 4070 IA/ 4070 EA,
- Alcatel 4075,
- Alcatel 4074B, 4074BEx, 4074H,
- The Alcatel 160 and 4120 (900B) terminals range.

For the applications, Alcatel-Lucent OmniPCX Office Release 7.x will support:

- Cost control
- Elitecost
- Call center
- Alcatel Office Call Center (AOCC),
- CTI applications
- TAPI & CSTA server

External voice mail systems in VPS protocol.

Customer's data configuration can also be downloaded in the Alcatel-Lucent OmniPCX Office management tool for:

- Office installed base since the release 3.0

# Chapter 13: Verticals

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## Overview

The Alcatel-Lucent OmniPCX Office integrates a hospitality solution dedicated to hotel specific needs -but also clinics, retirement homes, student resident halls, and so on. This complete solution specifically designed for Hotel/Hospitality relies on the Office Hotel Link and the Office Link Driver (OLD). Thanks to OLD, the communication system is fully integrated within the hotel applications. With Alcatel-Lucent Office Communication Web services on the Alcatel-Lucent IP Touch sets, the hotel guests become VIP with advanced information and communication services from their phone in the room.

### Hotel/Hospitality solution for higher revenue opportunities

- > Greater **staff** productivity, optimized daily task and professional welcome for guests.
- > High quality of service and therefore higher spending per **customer** and/or more bookings.
- > More efficient hotel **management**.

### Alcatel-Lucent IP Touch, the new Hotel concierge

The Alcatel-Lucent IP Touch becomes an integrated part of the hotel guest data access point.

# Section 1: Hospitality Solution

## Introduction

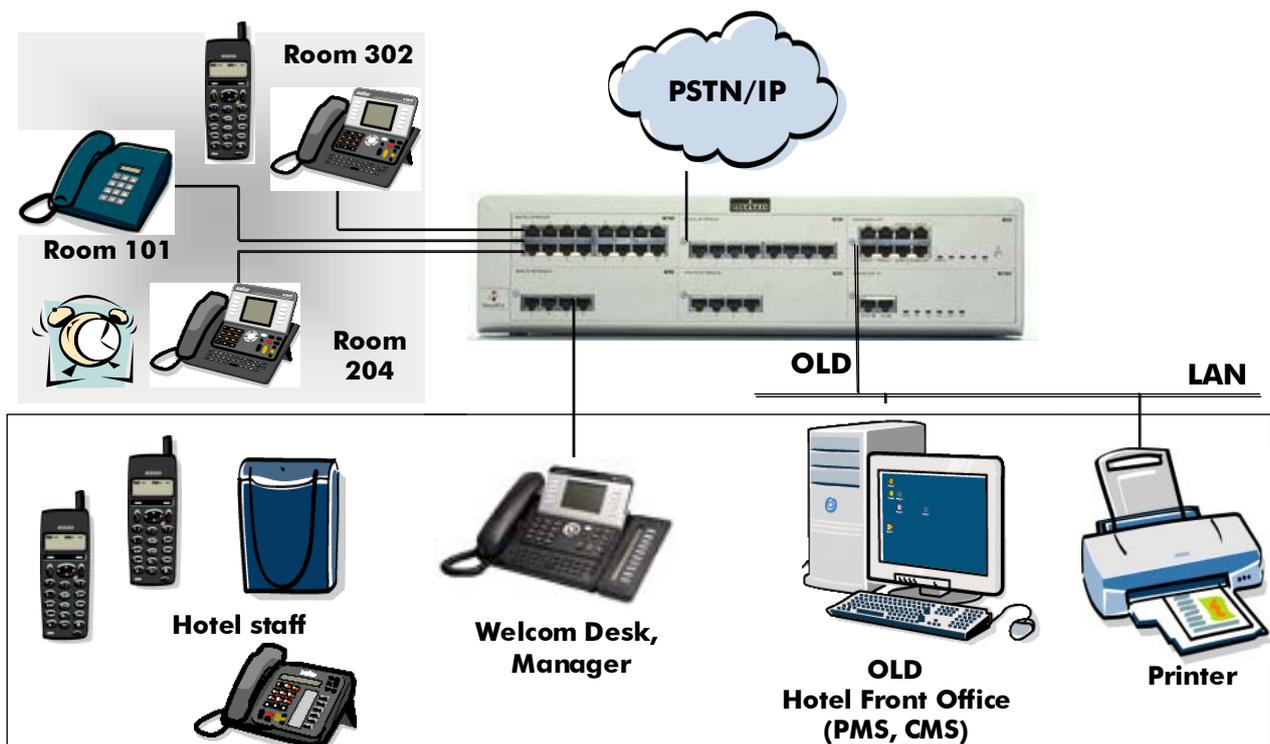
Because, in small or medium-sized hotel, the front office employee has to manage hotel duties (reservations, take guests' details, allocate them a room, provide tourist information...) and stay friendly, helpful, flexible and patient ...

There is no more doubt about the necessity for a Hotel manager to **integrate** the communication system within the HOTEL APPLICATION.

Thanks to the Alcatel-Lucent Office Communication Solutions, the integrated Hotel application and the OLD, Alcatel-Lucent has the perfect solution to target small to medium size hotels, guest houses, holiday centers, clinics, training centers...

The OmniPCX Office Hospitality Link is an Office Link Driver (OLD) and an adaptation of the current AHL protocol (Alcatel-Lucent Hospitality Link). With OLD and the Hotel application **all operations are directly handle** from the Front Office. Furthermore, the **room status is synchronized** between the Hotel application and the Alcatel-Lucent IP Touch and Digital sets and vice-versa.

## Hotel environment



## Hotel configuration

The Hotel configuration requires for the communication guest services and its own communication services:

- HOTEL APPLICATIONS (PMS or CMS):
  - PC based (Windows 2000 & 2000 server, Windows 2003 server ,Windows XP,Windows Vista),
  - Alcatel-Lucent has tested the end-to-end solution with major partners,
  - See the list of Hotel partners (BP Web Site Applications Partner menu or AAPP guide).
- COMMUNICATION SYSTEM:
  - Alcatel-Lucent OmniPCX *Office* in Hotel mode,
  - Alcatel-Lucent OmniPCX *Office* applications (Voice mail, Automated Attendant, Internet access, ...),
  - OLD driver - SDK available on [www.applicationspartner.alcatel.com](http://www.applicationspartner.alcatel.com),
  - LAN connected to OmniPCX *Office* or LANX board.
  - XML Web services
- A RELIABLE ACCOUNTING SYSTEM:
  - Retrieve metering tickets using the Accounting over IP license or the V24 interface module.
- STAFF TERMINALS WITH OR WITHOUT MOBILITY:
  - Alcatel-Lucent IP Touch WiFi handset
  - Alcatel-Lucent DECT handsets
  - Alcatel-Lucent IP Touch sets,
  - Alcatel-Lucent digital sets
  - Alcatel-Lucent Reflexes™ sets.
- GUESTS SETS:
  - Alcatel Alcatel-Lucent IP Touch sets
  - Alcatel-Lucent digital sets
  - Alcatel-Lucent DECT handsets
  - Alcatel-Lucent IP Touch WiFi handset
  - Alcatel-Lucent Reflexes™ sets,
  - Analog sets.

**Number of rooms:**

- Maximum number of rooms is 200 with the OLD but with a maximum of 120 analog sets.
- Office Communication Hotel solution can run without OLD therefore the number of rooms is limited to 120 rooms.

**Features description**

<b>Front Desk Services</b>	<ul style="list-style-type: none"> <li>• Integration of hotel features within the Hotel Application thanks to OLD</li> <li>• Specific keys, icons to access hotel application are possible</li> <li>• Direct guest calling by name or by room call keys</li> <li>• Global overview: rooms availability, rooms terminals, rooms status</li> <li>• Secured access to hotel features</li> <li>• Quick check-in: with limited information</li> <li>• Complete check-in: with additional information (name, language, DND, ...)</li> <li>• Check-out at guest's departure</li> <li>• Pre-check-out before guest's departure</li> </ul>
<b>Guest Services</b>	<ul style="list-style-type: none"> <li>• Memo ticket for the guests to remember parameters like: password, DDI number</li> <li>• Direct incoming calls to the room's terminal</li> <li>• Dynamic DDI (Direct Dialing In)</li> <li>• Manual DDI allocation (provide always the same DDI number to regular guests)</li> <li>• Automatic allocation during the check-in</li> <li>• Delayed automatic call set up</li> <li>• Direct access to hotel services (front desk, bar, restaurant, taxi) by predefined keys</li> <li>• « Do Not Disturb »: activation from the front desk terminal or from the room's terminal</li> </ul>
<b>Mailbox</b>	<ul style="list-style-type: none"> <li>• Message LED: call back request or voice message</li> <li>• Automated allocation at guest check-in</li> <li>• Simplified mailbox announcement</li> <li>• Simplified mailbox consultation</li> <li>• Call forwarding to the mailbox or to the front desk terminal on overflow</li> </ul>
<b>Wake Up</b>	<ul style="list-style-type: none"> <li>• Wake-up programming from the front desk terminal or from the room terminal Wake-up message is given when wake-up is performed. Also, while programming a wake up call, the guest receives a confirmation message of the wake up time.</li> <li>• Audible and visual signal indicating wake-up problems</li> <li>• Wake-up initiator identification (guest or receptionist)</li> </ul>

<b>Room Status</b>	<ul style="list-style-type: none"> <li>• From the desk terminal: overview of all the rooms, display of a room problem (3 coded digits), ticket printing on the fly</li> <li>• Status modification from the room terminal or from the hotel console</li> <li>• Possibility of programming an automatic daily status change</li> </ul>
<b>Mobility</b>	<ul style="list-style-type: none"> <li>• Phone booth: print-out of a metering ticket or assignment of the charges to a room</li> <li>• Password: used by the guest to lock his station</li> <li>• DECT: terminals allocated to rooms or administrative/service people</li> </ul>
<b>Prepayment Services</b>	<ul style="list-style-type: none"> <li>• Prepayment</li> <li>• Defined during check-in with the following options: default value, specific value, no prepayment at all</li> <li>• Multiple deposit allowed</li> <li>• Audible alarm to warn when the threshold is reached</li> <li>• Cut off calls or not</li> <li>• Emergency numbers still allowed when deposit becomes nil or negative</li> <li>• Bill printing customized with or without prepayment</li> </ul>
<b>Costs Control</b>	<ul style="list-style-type: none"> <li>• Cost computing: 2 thresholds, 3 costs values</li> <li>• Global invoicing</li> <li>• Detailed invoicing (option)</li> <li>• Cost display on the front desk terminal</li> <li>• Barring (ex: no direct call, local, national, international)</li> <li>• Telephone calls using personal code</li> </ul>

On arrival, a printed ticket for the guest is provided either by the Hotel application or the Office Communication Solutions integrated hotel application:

<b>Hotel Miraplaya</b>	
<i>Thursday December 16th 18:17</i>	
Name:	Dubois
Room:	214
Language:	French
Password:	1619
DDI number:	0390675250
External call:	No restriction
Deposit:	10 €
Balance account:	10 €
include VAT (19,6%):	1,96
Do not disturb:	Inactive
Message waiting:	None
Thanks for coming	

## Compatibility rules

	<b>OXO R3/R4</b>	<b>OXO R5/R6</b>	<b>OXO R7</b>
<b>OHL v1</b>	Ok with V24 devices for accounting	NOK	NOK
<b>OLD v2</b>	NOK	OK (no more needs of V24 sub devices)	

If the Application Partner doesn't use the Manual DDI and Wake-up initiator identification, then the CMS/PMS application is fully compatible with the Office Driver Link (OLD v2) and require no new development.

## Section 2: Hospitality Web services

### Introduction

Hotels are now obliged to meet a wide array of business needs. This includes offering the convenience of a phone that also works as an Internet appliance, enabling guests to get the right information at the right time.

With Alcatel-Lucent Application Partner, the Alcatel-Lucent IP Touch becomes an integrated part of the hotel guest data access point.



### Solution example

FCS System, Alcatel-Lucent Application Partner, has developed an application that can be customized to connect existing hotel databases, applications and/or other Web-based services.

With FCS I-Services, guests can access a wide range of multimedia and interactive services directly from the screen of their Alcatel-Lucent IP Touch:

- Guest room information
- Guest service
- Messaging & communication
- Guest folio information
- Web-based information kiosks.

The solution also helps hotel staff optimized their daily tasks:

- Hotel housekeeping and room services
- Hotel operator console and administration functions

## Benefits

Guests are provided with powerful, user-friendly communication services, boosting customer satisfaction.

Moreover, hotel staff can sharply reduce dependence on paper-based business processes and cut down on redundant, labor-intensive procedures.