

ALCATEL 4400



The voice communication system Alcatel 4400 is designed to meet all your communication needs and rise to tomorrow's business challenges with its native capability to integrate future technology.

The Alcatel 4400 provides a comprehensive range of services and solutions embracing in four application fields:

- ▶ Workplace
- ▶ Mobility
- ▶ Applications
- ▶ Infrastructure



► Workplace

The Alcatel 4400 is designed around the user, individually and as part of a team. The user-friendliness of its Reflexes™ digital subset range, boosts personal and group productivity.

► Mobility

The Alcatel 4400 effectively combines the benefits of wired mobility features, cellular cordless solutions based on DECT, wired and wireless sets co-operation, and GSM integration in the global communication process.

► Applications

General, individual greeting and messaging solutions are based on telephone voice prompts, automated attendant, personal assistant voice mail, first party and directory applications. Efficient and personalised call centre solutions capitalise on client-server configuration thanks to native Ethernet connection. They combine Alcatel 4400 Automatic Call Distribution (CCD), Interactive Voice Response (IVR) and company IT platforms and software linked by the standard protocol CSTA.

► Infrastructure

Alcatel 4400's networking solutions, built upon Alcatel Business Communication (ABC) the fail-safe protocol, are adapted to all topologies and transport infrastructures, and provide complete feature transparency. Heterogeneous configurations are performed by Q-SIG, the standard multi-vendor protocol and legacy DPNSS as well. In addition, corporate network or stand alone configurations can be managed by state-of-the-art network management solutions based on PC/Window or SUN/Unix platforms.

■ Architecture

The Alcatel 4400 is based on innovative Unix client-server architecture which caters the IP-PCX. Its decentralised architecture based on the "Voice Hub" concept allows a smooth integration with company data communication infrastructure, by using a consolidated cabling plant gathering both voice and data flows.

► Workplace

■ Reflexes™ Terminals

The Reflexes™ concept incorporates both intuitive comprehension and natural communication. As each user has individual needs, we provide a comprehensive range of digital terminals. They are connected by the Alcatel UA high speed digital interface at 256 kbit/s (3B+D) using standard 2-wire telephone cabling.

- Alcatel 4035 Advanced
- Alcatel 4020 Premium
- Alcatel 4010 Easy
- Alcatel 4004 First

■ Add-on Key Modules

- Alcatel 4090 M: 20 keys
- Alcatel 4090 L: 40 keys

■ Reflexes plugware (TSC)

- Alcatel 4095 AP device Z
- Alcatel 4093 ASY
Asynchronous V.24/CTI
 - Communication protocols: V.25 bis, Hayes
 - Rate adaptation: V.110/V.14 E
- Alcatel 4097 CBL cable-less device DECT/CTI
- Alcatel 4094 ISW device S0 (2B+D) CTI
- Alcatel 4091 CTI Interface for PC-based telephony

■ Data adaptor

- Alcatel 4093 ASP/SYX
Sync./Async. V.24/CTI
 - Communication protocols: V.25 bis, Hayes
 - Rate adaptation: V.110/V.120/V.14 E
- Alcatel 4083 Synchronous X21/CTI device
 - Rate adaptation: V.120
- Alcatel 4084 IS/ISW S0/CTI

■ Data Services

- Asynchronous/Synchronous communications
- Auto adaptation for speed and flow control
- Automatic passwords or sequences
- Data server call barring
- Internal/external menu data session
- V.24 inter-working with S0 terminal
- Modem pool
- Packet communication in ISDN/D-channel
- Permanent links from 64 Kb/s to n x 64 Kb/s

■ CTI Software (3rd party)

- Alcatel 4980 Voice client
 - Full access to Reflexes™ services via PC

■ Reflexes™: specific services

- Absence message
- Adjustable handset volume
- Call-by-name: internal or external user
- Centralised directory, spelling and syntax corrector
- Call-by-name can be used in all communication contexts (direct call, enquiry etc.)
- Caller name display
- Charging pulse or cost display
- Conditional/Unconditional differentiated forwarding of multiple DN
- Contextual voice prompts
- Fixed function keys
- Hands free
- Headset capability
- Help key
- Individual customisation
- Informative icons
- Info center services:
 - absence message activation/editing
 - multiple absentee messages by user
- Interactive guidance with soft keys

- Language synchronisation: display, voice prompts and voice mail
- Last call and total calls pulse or cost charging display
- Loudspeaker announcement
- Multiline: multi-appearance and multi-numbers
- Multilingual (user choice)
- Macro commands
- Message waiting indication
- Mini-messaging
- Personal password for consultation of non reply call repertory
- Programmable function key
- Supervision of user/trunk/bundle

■ ISDN services

- Calling Line Identification Presentation/Restriction (CLIP/CLIR)
- Digit by digit dialing mode
- End block dialing (user choice) digit correction
- ISDN identification (CLIP) converted into name
- ISDN mini-messaging (transmit/receive and storage)
- Malicious call identification
- Storage of unanswered calls with date, time and call-back
- Sub-addressing

■ Manager-Secretary Team

- Access to manager's voice messages header from secretary's set
- Filtering scenario allocation to particular assistant
- Multiple configuration
- Forwarding of private line
- Immediate forwarding of manager set to secretary activated by manager or secretary
- Manager-secretary specific on-line text-messaging
- Manager discreet listening (on filtered lines only)



- Overflow secretary
- Private lines
- Secretary absence notification
- Selective filtering (scenarios)

■ *Teamwork Configuration*

- Common/Exclusive hold
- Group call pick-up
- Hunting groups
- Log-on, log-off
- Manageable ring indicator
- Manageable waiting queue
- User/trunk/bundle Supervision

■ *Standard Telephone Features*

- Abbreviated dialling
- Account code charging
- Appointment reminder
- Associate, definition, modification by user
- Automatic call-back on busy trunk/bundle/network link
- Automatic call-back on free/busy extension
- Broker's call
- Call forwarding Inconditional on busy/no reply to extension hunting group, voice mail, operator, paging, etc.
- Call pick-up
- Call waiting indication
- Calling line identification restriction for internal calls
- Camp on busy set/hunting group/voice mail
- Conditional external forwarding (busy or no reply)
- Consult waiting call
- Controlled private call by Pin code and password (optional)
- Distinctive ringing according to hierarchical levels
- Do not disturb
- General night service
- Hunting group:
 - Fix head, Cyclic, Longest idle time, Parallel
- Immediate forwarding
- Individual hold
- Individual directory
- Internal/external music on hold

- Internal/external enquiry call
- Intrusion
- Last internal/external number redial
- Local and external call
- Moving service
- Multi-line selective forwarding
- Multiple conference call
- Multiple call protection
- Multitenant services:
 - Abbreviated number per entity
 - Calling line identification
 - Integrated auto attendant services per entity
 - Presentation (CLIP) per entity
 - Greeting message per entity
 - Music on hold per entity
 - Night service per entity
- Over dialling
- Personal code modification
- Priority call
- Store and redial external number
- Substitution
- Three-party conference
- Transfer in conversation on free/busy set
- Twenty-nine party meet me conference
- Voice prompts on/off per set
- Voice message deposit on forwarded set
- Waiting call consultation

▶ *Mobility*

■ *Wireless Reflexes™ DECT services*

- Alarms messages display
- Alarms acknowledgement
- Caller's name display
- Dial by name
- GAP service
- Hand-over
- ISDN services
- Mini-messaging
- Multi-line
- Multi PARI
- Programmable keys
- Range of gain antenne
- Roaming
- Supervision of wired sets



- Service DECT integrated in Alcatel 4400
- Twinset service
- Voice mail notification/consultation

■ *Advanced Radio base station*

- High traffic capacity: 12 simultaneous communications
- Indoor/outdoor/explosion proof

■ *Optimised radio base station*

- 6 simultaneous communications
- Connectivity 2 x UA interfaces

■ *Paging*

- Connections handled by the Alcatel 4400: ESPA 3 protocol
- External caller waiting on voice prompt
- Internal and external calls transferred to pager:
 - On selection,
 - Immediate forward,
 - No reply or busy
- Paging by prefix or suffix

■ Ubiquity services

- Integration of public cellular phone
- One number concept, forward call on caller choice
 - Voice mail
 - Cellular phone
 - Attendant
- Remote access secured by CLIP, access to:
 - Call by name
 - Office set management
 - Alcatel 4400 regular telephone services

► Applications

■ Attendant station

- Abbreviated dialling
- Activation/desactivation of DND
- Add-on module
- Alarm indication
- Attendant groups
- Automatic answer
- Attendant specialisation possibilities (individually or group)
- Busy lamp field
- Call-by-name in all communication situations
- Call charge request
- Centralised or distributed attendant in Network
- Call queuing with indication
- Call routing depending on class of traffic, DID, company or called service (entity)
- Call waiting with indication
- Called party resources
- Call pick-up
- Charging recall service
- Chained call
- Choice of system status
- Conference
- Creation, cancellation and modification of abbreviated number with name
- Creation, cancellation and modification of subscribers (name, rights etc.)
- Discreet call offer
- Discreet call offer by mini-messaging on busy/free Reflexes™ set

- DTMF over dialling
- External large busy lamp field
- Flexible attendant routing time out overflow based on caller waiting time
- Headset capability
- Hold individual or multiple
- Integration of directory services
- Create/delete of directory items
- Screen pop up on selected call type (attendant choice)
- Internal call name/number displayed
- ISDN VIP monitoring
- Last number redial
- Line reservation
- Malicious call identification
- Manual reservation mode
- Mini-messaging
- Multitenant services
- Override on directory number
- Paging
- Password
- Personal call
- Priority call (internal/external)
- Receipt and read charging units and costs
- Record on line on associated entity
- Status of calls routed to operator
- Store and number redial
- Synchronised multi node routing (entity)
- Time and date displayed
- Transfer with/without announcement
 - Trunk allotting with barring
 - VIP set monitoring

■ Alcatel 4000 Directory

- Compliant with Alcatel 4300 L and Alcatel Office
- Data base updated in real time with Alcatel 4400
- Directory clients:
 - PC Windows 3.1x/95 and Win NT4 client
 - VT 100
- Directory server:
 - Unix platform Alcatel 4000
 - Integrated in Alcatel 4755 management

- Info centre services for users and attendants
- Screen pop up for predefined type of calls
- Directory services
 - Automatic dialling after directory search
 - Absentee marking
 - Create, delete, modify directory entries
 - Direct access from Alcatel 4730/4740/4755 for configuration
 - Entry data coming from Alcatel 4400 and data template
 - Export ASCII files to spreadsheet (Excel etc...)
 - Export/import from service
 - Import administrative parameter with time schedule
 - Multi-criteria search
 - Pop-up function
 - Printing of directory booklets
 - Quick dial by name
 - User profile (access rights)
- Info centre services
 - Absence message activation/editing from Reflexes™ set
 - E-mail message sending from client PC (MAPI)
 - Integration with access control systems
 - Multiple absence message per user



■ *Integrated Greeting*

- Integrated automated attendant
- Personal automated assistant with context-sensitive greeting
- Synchronised greeting message

■ *Voice and Fax Mail*

- Audiotex services
- Automated attendant
- Call transfer to ACD
- Centralised distributed or Internal shared voice server
- Direct reply on receipt message
- Extended recording and playback control function
- Fax broadcast, on demand, overflow, store and forward
- General distribution lists
- Greeting message according to user status
- Immediate or supervised transfers
- Message acknowledgment
- Message attributes: urgent, normal, private
- Message notification via light, display, dialling tone, voice prompt, outgoing
- Multi-language
- Multi-user password
- Networking protocols: Octelnet and Amis
- Private distribution lists
- Record on line
- Shared mail box: home, guest and secretary mailbox
- User-friendly interface on Reflexes™ sets via soft keys or via PC-client visual messenger
- Voice message attached to a fax
- Voice and DTMF forms

■ *Automatic Call Distribution (ACD)/Alcatel 4400 CCx*

- Generic features
 - Integrated application
 - Integrated GUI based management and supervision
 - CTI supported platforms: IBM, DEC, Novell, Tandem, SUN
 - Virtual CCD in network

- Voice guidance
 - External voices guides
 - Synchronised internal voices guides
 - Storage from audio station or Reflexes™ set
- Active matrix call distribution
 - Call flow based on pilot
 - Conditional pilot overflow on voice mail
 - Look ahead call routing
 - Manageable waiting queues
 - Pilot forwarding to other pilot
 - Pilot routing to waiting queue according to priority
 - Routing time schedule
 - Type of waiting queues: waiting, help, dissuasion
 - Virtual pilot
- Agents features
 - Administrative withdrawal
 - Agent break
 - Agent direct call with statistics
 - Agent can belong to different groups
 - Call recording
 - CCA applications: Reflexes™ set on toolbar, personal statistics
 - Group selection; fix head, cyclic, longest idle time
 - Free sitting agent position
 - Help supervisor
 - Home agent with analogue set or Reflexes™ set
 - Log-on/log-off
 - Open or close pilot from agent position
 - Personal call barring
 - Suspension of group waiting queues
 - Transaction code
 - Wrap-up (automatic or manual)
- Supervision and statistics
 - Alarms handling
 - Call level information
 - Customisable alarms
 - Customisable reports
 - Detailed communication reports
 - Reports based on communication events

- Discrete call listening for supervisor
- Excel based statistics & reporting
- Export of communication Reports (ASCII files)
- Free sitting supervisor position
- Full windows user interface
- Native windows look and feel management
- Predefined reports
- Real-time service level per pilot
- Real-time statistics and system management in graphical shape
- Statistics compilation and Archive (FTP)
- Wall display control

▶ **Infrastructure**

■ *Network Configuration*

- Analog and digital networking: ABC protocol based on Q-SIG
- Line, star, meshed, configuration
- Remote ACT
- Voice hub
- Multi vendor networking
 - DPNSS
 - Private DSS1
 - Q-SIG BC, GF and Supplementary Services (SS)

■ *Packet voice networking*

- Built-in compression engine
 - Compression algorithm G 723.1
 - Compression rate 6.4 Kbps
 - Fax G3 supported
 - End to end compression/decompression
 - Mutual help between compression resources
 - Multi direction per compression board
- Voice over IP data network
 - Compression algorithms: G 711, G723
 - Fax spoofing
 - Full ABC services supported

- Interface Internet 10 BT
- Netscape/Netmeeting compliant
- New call routing in case of QoS or network failure
- Voice over Frame relay data network
 - Compression algorithm: G723.1
 - Compression rate 6.4 Kbps
 - Fax G3 supported
 - Full ABC services supported
 - Interface Internet X24/v11 or V36
- Voice over ATM network
 - ATM adaptation layer AAL1
 - Compliant with integrated compression engine
 - Full ABC services supported
 - Interface ATM OC3 155 Mbs
 - 8 directions per interface
 - Segmentation and reassembly (SAR)
 - Unstructured mode service (CES 1.0)
 - UNI 3.1
- *Virtual Private Networks*
 - ABC VPN via public ISDN, QSIG, and digital R2 networks
 - Dissociating signalling
 - Analog leased line
 - Digital leased line
 - IP data networks
 - X.25 packet in D-channel
 - Full ABC services supported
 - ISVPN with signalling via ISDN carrier service UUS 1
- *ABC on demand*
 - ABC via public ISDN, QSIG, and digital R2 networks
 - Dynamic virtual leased line

- 6 voice communications and signalling in one B-channel
- Call barring for applications
- Full ABC services
- *Networking Features ABC (F)*
 - Automatic call-back on busy private link
 - Broker's call
 - Call-back on busy or free extensions
 - Call deflection
 - Call forwarding
 - Call intrusion
 - Call offer
 - Call waiting indication
 - Camp on
 - Centralised/distributed attendant groups
 - Data communication
 - DECT in networks:
 - Roaming
 - Guest services
 - Distinctive ringing
 - Do not disturb
 - DTMF
 - Enquiry call
 - Flexible numbering plan
 - Hold
 - Hunting groups
 - Intrusion
 - ISDN Services
 - Large busy lamp field
 - Mini text-messaging
 - Number and name identification
 - Associate set
 - Priority calls
 - Remote forwarding
 - Substitution
 - Supervision
 - Manager/secretary team
 - Three-party conference
 - Transfer (with route optimisation)

- Transit
- Voice mail services
- *Network Routing ABC (R)*
 - Adaptive routing
 - Break-in/out
 - Break-in via secured DISA
 - Data re-routing
 - Forced on net
 - Automatic route selection (ARS)
 - ARS server centralised or distributed
 - ARS time dependant
 - Access to alternative route
 - Voice prompts
 - Multiple carrier access direct or indirect
 - Multitenant
 - Cost limit barring per user
 - Optimised break out
 - Overflow if failure or saturation according to user rights
 - Transfer, forwarding with route optimisation
 - Voice/data differentiation
- *Network Management ABC (M)*
 - Management from attendant
 - Multiple DDI translators
 - Multiple call barring translators
 - VT 100 local management
 - Centralised or distributed management from Alcatel 4730, 4740, 4755,
 - Topology MAP
 - Configuration
 - Alarms management
 - Accounting
 - Directory
 - Traffic analysis
 - Security
 - Graphical user interface
 - Remote management
 - Alarm domains and alarm centralisation
 - Audit mechanism
 - Broadcast of configuration data
 - Remote maintenance access
 - Remote SW downloading
 - Charging ticket with VPN and LCR services





■ Vertical applications

■ Hotel/Hospital services

- Check-in/Check-out individual or group
- Cyclic DDI
- Multi occupation room
- Room allocation from the set
- Do not disturb
- Guest/Patient personal code
- Internal call barring
- DDI call barring according to time schedule
- Wake-up service
- Rooms service
- Rooms status
- Multilanguage voice prompts
- Room directory
- Call by name
- Prepayment (deposit)
- Dynamic suites
- Alcatel Hotel/Hospital Link (AHL)

■ Security

- DISA access controlled by: password, CLIP, security application
- DISA bundle locked after many wrong attempts
- DISA alarms- Set lock
- Integration of "security dynamic" agent in Alcatel 4400
- LAN connection fully compliant with market fire walls
- Local and Remote management history files
- Management access controlled by: platform name, password, user name, IP address, services exchanged, Unix login

- Personal PIN code
- Remote maintenance access controlled by password, CLIP, call back
- Remote access alarms
- User password control

■ Architecture

■ Hardware

- Alcatel Crystal technology
- Distributed hardware
 - Processing
 - Switching
 - Power supply
 - Auxiliary
- Native Ethernet connectivity
- Main CPU duplication available in all capacities

■ Software

- Client-server
- Chorus MIX micro kernel operating system
- SQL/CQL database
- Unix System V compliant

■ Cabinets

- Voice Hub (Rack 19")
 - ACT 4 slots, expendable to 8
 - Integrated power supply
 - Integrated maintenance modem
 - Depth360 mm
 - Height160 mm
 - Width450 mm
 - Weight15 kg
- Alcatel 4400 WM1 (wall mounted)
 - ACT 9 slots, expendable to 18
 - Integrated power supply

- Depth255 mm
- Height710 mm
- Width458 mm
- Weight25 kg
- Alcatel 4400 M2 (cabinet)
 - 1 ACT 28 or 2 ACT 14
 - Depth255 mm
 - Height740 mm
 - Width570 mm
 - Weight70 kg
- Alcatel 4400 M3 (cabinet)
 - 2 ACT 28 or 2 ACT 14
 - Depth516 mm
 - Height1500 mm
 - Width570 mm
 - Weight110 kg
- Alcatel 4400 M1 (cabinet)
 - 1 ACT 28 or 2 ACT 14
 - Integrated power supply
 - Depth516 mm
 - Height1500 mm
 - Width570 mm
 - Weight90 kg

■ Standards and Norms

- Accoustic compliant CTR 8
- CSTA protocol ECMA 179/180...
- CMIP/CMISE
- QSIG BC, ETS 300 172/239/...
- DPNSS BTNR 188
- Electrical security:
 - EMC
 - EN 55022; EN 50082-X
 - EN 60950 (IEC950)
 - ETS 329 DECT

