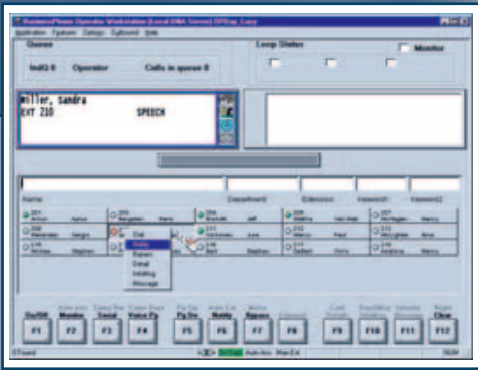


## ERICSSON BUSINESSPHONE OPERATOR SUITE

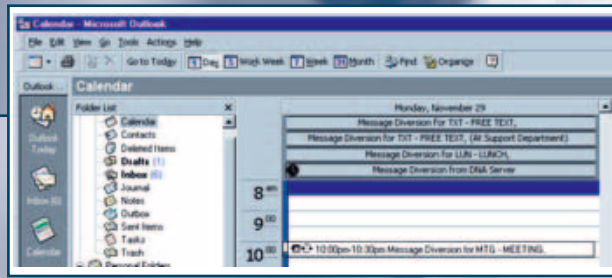


Ericsson BusinessPhone Operator Suite is business software that provides a unified working environment for telephone operators, integrating powerful call handling, directory management, messaging, absence information, and administration functions on a single PC.

It works with the BusinessPhone telephone system through a computer-telephony (CT) link to enhance personal and business productivity. The operator can make more effective use of time and provide a higher level of service to callers and extension users — helping to build a positive reputation and image for the organization.



Operator Workstation — Main Window



MS Outlook™ — Calendar Integration

## Overview

Ericsson BusinessPhone Operator Suite is a software package running under Microsoft Windows NT, Windows 2000 or Windows XP and featuring a built-in SQL-compatible database management system. In a single, cost-effective package it contains everything needed to provide advanced call handling, messaging and support functions:

- Operator Workstation (OWS) is the call-handling application for the operator's PC.
- Directory Manager (DMG) is LDAP V3 compliant to perform searches on 3rd party LDAP directories and can be read/accessed by external applications (e.g. Directory Browser or BMS).
- Dynamic Network Administration (D.N.A.) Server acts as the common data storage medium and communications interface for Operator Workstation and Directory Manager.
- D.N.A. Director Browser (DDB) is an optional, web-based module that allows corporate intranet users to access the company phone book.
- D.N.A. Mobile Executive (DME), another optional module, gives the mobile worker access to the corporate directory, D.N.A. messages and message diversions from his/her WAP-enabled handheld device.

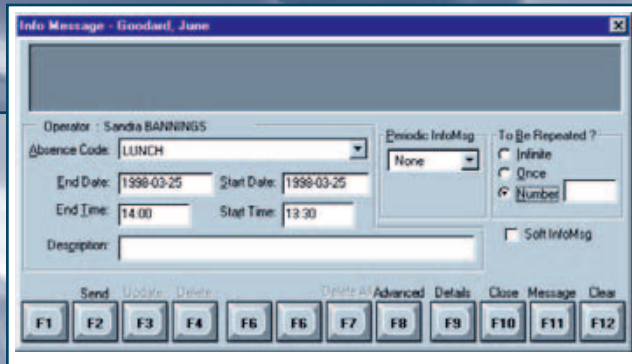
BusinessPhone system users may install up to three Operator Workstations, and these may be located at any telephone extension, on any PC. Only one Directory Manager and D.N.A. Server are needed.

BusinessPhone Operator Suite has been developed from the D.N.A. suite for Ericsson's MD110 business telephone system, and has a similar look and feel. The system can be used by organizations with a standalone BusinessPhone system, in a BusinessPhone network, or in a network containing a mixture of BusinessPhone 250, BusinessPhone 128i, BusinessPhone 50 and MD110 nodes.

BusinessPhone Operator Suite has been tailored to the needs of small and medium-sized companies. For instance, a programmable Busy Lamp Field (BLF) shows at a glance the status of trunks and extensions, and where the operator also fulfills other tasks, the PC can be used simultaneously for applications such as word processing.

The package is also scalable. It has Microsoft Data Engine (MSDE), a royalty free, de-featured version of SQL Server 7, built in, which makes it cost effective. Migration to Microsoft SQL Server 7 is possible without the need to update databases, or copy tables, indexes and so on.

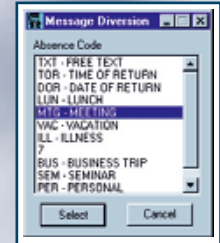
Information such as directory data can be shared with other similar BusinessPhone solutions, including those for call centers, ensuring interoperability, minimizing set-up time and reducing administration costs in larger telephone networks. The BusinessPhone Operator Suite supports the open LDAP directory protocol, and allows integration with a wide range of external applications, such as Microsoft® Outlook™, and enables a web-based Directory Browser.



Operator Workstation — Absence Information Dialog



Lamp Field — Drop Down Menu



Operator Workstation  
– Directory Assistant Screen MS Outlook™  
– Absence Information

## Operator Workstation features

BusinessPhone Operator Workstation is the main application in the suite, integrating call management, directory assistance and message handling. All functions are handled from the PC. For instance, the operator can answer an incoming call, see at a glance that the requested extension user is out at lunch, enter a text message and forward it to the user's PC via the company email system with just a few keystrokes or, if preferred, mouse clicks.

### Administration

The operator can log on to the system, with a username and password, from any PC in the company's network. All operator-configured options, including the appearance of the desktop, system settings and function key assignment, are saved with the password, so each individual operator has a personalized version of the system. The operator can switch between "on duty" and "off duty" settings or put the system into "night" mode.

A user-configurable "pop-up" function enables the Operator Workstation screen to appear automatically when a call arrives, so the operator can carry out other work on the PC when the switchboard is not busy.

### Busy Lamp Field

The main screen simulates the appearance of a regular operator telephone console. It includes a "Busy Lamp Field" (BLF) that gives the operator a familiar way of viewing the status of the telephone system, and provides a simple to use interface between individual extensions and the functions of the BusinessPhone system.

The BLF can include all extensions, accessed by scrolling up or down the screen, or selected extensions, arranged in any order. The operator can program the BLF to display information on specific extensions, for instance name and number, colorcoded status details, and any absence information left by the user. A double mouse click on any extension window dials that extension, and a right button click brings up a menu of call-handling options.

When the operator needs to search the directory database, the Busy Lamp Field automatically switches to display directory search fields.

The main screen also displays the incoming call queue and call status information.

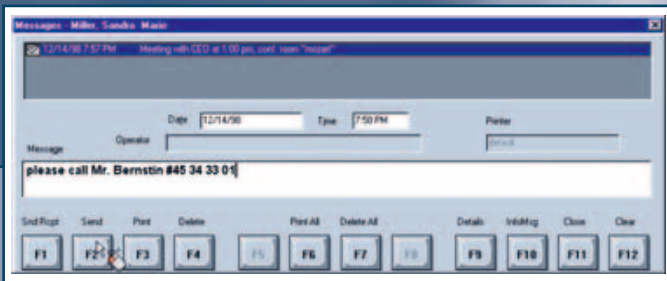
### Integration with external applications

BusinessPhone Operator Suite integrates with Microsoft® Outlook™ and Lotus Notes to improve the level of information within a company. Absence information entered in a user's Outlook™ or Lotus Notes Calendar is forwarded to the BusinessPhone D.N.A. Server and broadcast to the Operator Workstation application.

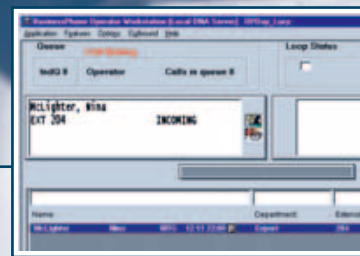
Absence information recorded in Operator Workstation is forwarded to the Outlook™ Calendar of relevant users.

BusinessPhone Operator Suite is also LDAP V3-compliant, enabling many other software applications to be integrated with and accessed from Operator Workstation. LDAP (Lightweight Directory Access Protocol) is an industry-standard, vendor-neutral protocol that allows multiple applications to access central directories. An LDAP client can query and update an LDAP server. An LDAP server responds to client requests, performs replication with other LDAP servers and refers requests to other LDAP servers.

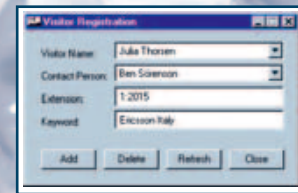
BusinessPhone Operator Workstation can read external directories with an LDAP interface and can search third-party directories as well as the D.N.A. Server directory.



Operator Workstation — Message Dialog



Operator Workstation — Incoming Call Busy



Visitor Registration

## Operator Workstation Functions

### Call management

All call-management functions supported by the BusinessPhone system can be accessed from the PC screen and a standard digital telephone. Functions include:

- Dialing — via PC keypad, Busy Lamp Field, Outbound Dialer function, Directory Assistance
- Outbound Dialer — operator "clip-board" for telephone numbers
- Extend — put call through with or without announcement
- Answer — automatic or manual
- Call splitting — operator can speak to either or both of two connected parties
- Intrusion — in an emergency, operator can intrude into a call on a specified extension. Intrusion is announced with a warning tone
- Hold — up to three calls in a loop
- Notify — a busy extension will be automatically connected to the operator on completion of a call
- Monitor — while handling other traffic, operator can continue to listen to a caller who is on hold, giving more help if necessary
- Serial call — put callers through to more than one person sequentially
- Voice paging — the operator can access the BusinessPhone voice paging function
- DTMF signaling — for access to various auto-attendant services
- Identify — the operator can identify either party on a connected call
- Tracing malicious calls — to identify source of unwanted incoming calls (in co-operation with the public network operator)
- Conference call set-up
- Call metering

### Information and messaging

The operator can set up, view or delete any information provided by the BusinessPhone Information System. Individual extension users or whole departments can leave details of their whereabouts, using pre-defined or custom messages.

This information can be automatically programmed to repeat each day, or for a future date and time. The information appears in the Busy Lamp Field and also pops up when calls are put through, so the operator can give accurate information to incoming callers.

The operator can also take messages from callers and forward these to an extension user in a number of ways. Pressing a function key enables the operator to key in a message and forward it to the user's telephone display. The system automatically recognizes if the telephone doesn't have a display, and lights the phone's "call operator" lamp instead. Text messages can be sent to the user via email, using the Windows MAPI interface or SMTP, and can also be printed out. In addition the operator can send SMS messages to internal DECT SMS cordless phones.

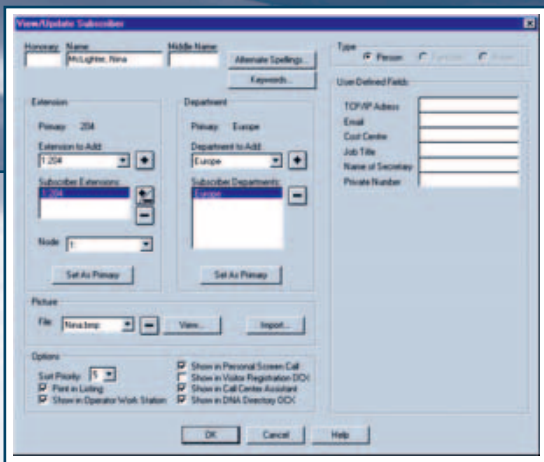
Absence information can also be managed and viewed from within the Directory Browser application.

If a key customer calls, the information that has been entered in the external database is presented by using CLIP.

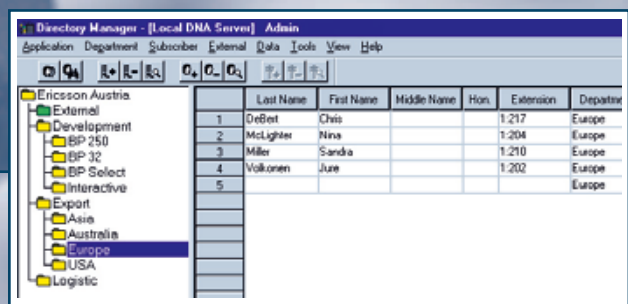
### Directory assistance

The directory assistance screen of Operator Workstation gives access to internal and external directories, and allows many call-handling functions to be performed:

- Identify and dial an internal or external number
- Search by name — progressive search by first or last names. Users may be given up to four first names and four last names, for instance, to include phonetic or alternative spellings
- Search by department — progressive search. Individual extension users can be assigned to more than one department



Directory Manager — Subscriber Configuration



Directory Manager — Main Window

- Search by keyword — an unlimited number of keywords can be assigned to individual users and the result can be displayed alphabetically by user OR by keyword
- Search by information or message waiting fields
- Search by user-definable fields — any additional fields defined in the directory
- Multiple name search on external directories
- Remote search function key to search quicker in a remote database
- Retrieve user information — last name, first name, alternative names, department(s), extension, keywords, photograph, projects, skills, confidential information etc.
- Take messages
- Set absence information.

Many of these functions can also be accessed using Directory Browser.

### Other features

Other Operator Workstation features and functions include:

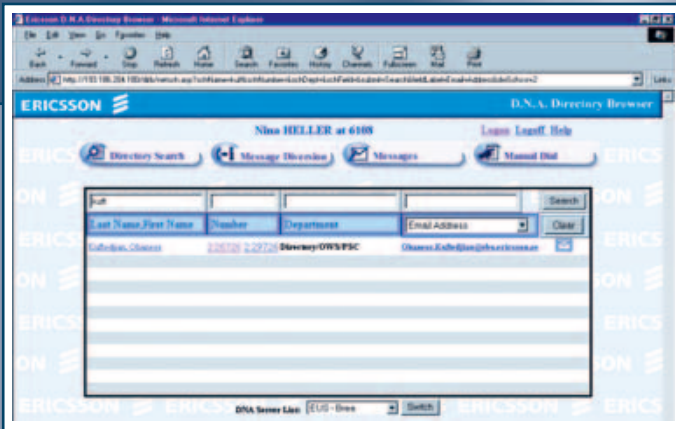
- Context-sensitive help
- Programmable function keys to dial secretary or selected number even with calls waiting
- A function key for redialing the last external number
- Single-key access to other Windows applications
- Customizable user interface with preferences retained wherever operator logs on
- Security via operator "permissions"
- Support for open and closed numbering plans for networked systems
- Visitor registration for assigning a contact person within a company

## Directory Manager

The Directory Manager application provides a graphical user interface and tools for administering information in internal and external directories. The operator can add, delete, view and amend all directory information.

Features and functions include:

- Tree format — for display of departmental hierarchies
- Spreadsheet format — for display of internal and external directories, with sort by column
- Password log on
- Context-sensitive help
- Up to 100,000 directory entries
- Names with up to 60 characters (for function and room type)
- User-defined fields — for additional information such as home numbers
- Add subscriber by using previous subscriber's data
- Multiple user types
- Display users by priority
- Choose subscribers to be displayed/hidden in DDB and OWS
- Unlimited keywords
- Photographs of users
- Search and find/replace
- Search in D.N.A. external directory
- Direct import of data — from BusinessPhone directory book or other files
- Drag-and-drop — to move users to other extensions or locations
- Multiple select/change and find/replace
- User-defined directory structures for Operator Workstation directory assistance
- Variable security levels — for specific data fields
- Database repair — built-in utility
- External database can be used by other CTI applications
- Enhanced visitor registration utility: ability to print ID badges.



Directory Browser

## Dynamic Network Administration (D.N.A.) Server

The D.N.A. Server provides systemwide services for security, log-on, database access and set-up. It provides support for multiple BusinessPhone PBXs if required. D.N.A. directory information can also be accessed by external applications using the Lightweight Directory Access Protocol (LDAP).

The D.N.A. application suite installation program will support two types of installation – Customizable or Pre-configured. The Customizable version works the same way as previous versions.

## Directory Browser

D.N.A. Directory Browser is an optional Operator Suite module. This LDAP application, based on HTML, extends access to the real-time corporate directory to users of a corporate intranet. For instance, Directory Browser enables a company phone book to be published on the intranet so that users can search and dial numbers directly from a familiar Web-browser interface. Absence information can also be viewed and managed within Directory Browser.

## D.N.A. Mobile Executive (DME)

D.N.A. Mobile Executive, another optional module, gives the mobile worker access to the corporate directory, D.N.A. messages, and message diversions, all from WAP enabled handheld devices. DME extends the operability of three (3) key D.N.A./BusinessPhone features to the mobile WAP enabled device:

- Allows the user to access and search the D.N.A. directory to retrieve user information such as a phone number
- Allows the user to initiate, set reason for the diversion, or cancel a message diversion. This initiation of a message diversion will immediately divert the extension and update the database thus allowing the operator, or DDB user, to notify the caller why the user is not available

- Allows the user to view and delete D.N.A. messages sent from the operator

Using the D.N.A. Mobile Executive, the user will have easy access to key communication features while away from the office, thus enabling optimum efficiency for the mobile workforce.

## Technical data

### System requirements

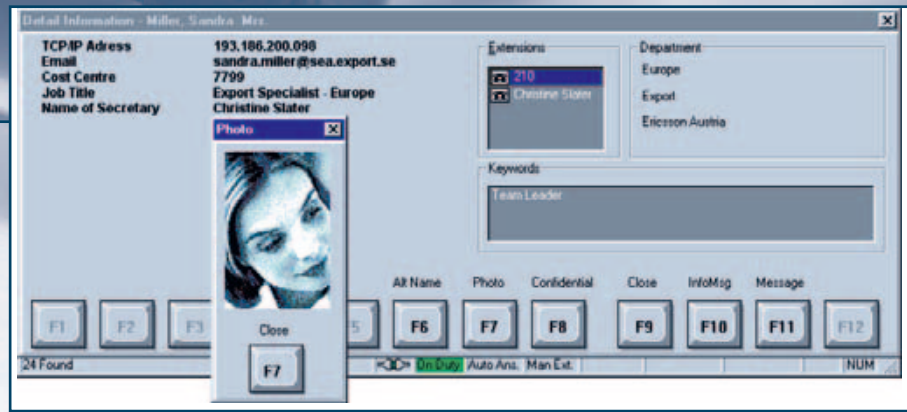
BusinessPhone 250, BusinessPhone 128i or BusinessPhone 50 4.0 or higher

Any Digital Telephone Set (except Dialog 3210 (Basic))

### Hardware requirements

Server IBM-compatible PC with:

- Processor: minimum Pentium III 266MHz or better
- Memory: 128MB for NT4/SQL7
- Monitor and graphics card: SVGA (1024x768), 256 colors
- CD-ROM drive: 24x (for installation)
- Floppy drive: 3.5in 1.44MB (for license upgrading)
- Network card: LAN network card (Ethernet)
- TCP/IP network protocol
- COM (serial) port: one required only if BusinessPhone BusinessLink NT server is installed on the BusinessPhone Operator Suite server
- LPT (parallel) port: one required for connection of the software protection device if BusinessPhone software licensing server service is installed on the BusinessPhone Operator Suite server
- Microsoft Windows NT 4.0 Server (SP6a) or Windows 2000 Server (SP1)
- Microsoft SQL Server 7.0 (SP 4), MSDE (SP 4), Microsoft SQL Server 2000 (SP 3a), MSDE 2000 (SP 3a)



Operator Workstation — Detailed User Information

### Client

IBM-compatible PC with:

- Processor: minimum Pentium 200MHz or better
- Memory: 64MB (128MB for Windows 2000 and Windows XP)
- Monitor and graphics card: SVGA (1024x768), 256 colors
- LAN network card (Ethernet) – not required for a standalone installation
- TCP/IP network protocol
- Floppy drive: 3.5in 1.44MB (for license upgrading)
- Microsoft Windows NT 4.0 (SP6a) or Windows 2000 (SP4) or Windows XP Professional (SP1)

### D.N.A. Directory Browser/IIS

IBM compatible PC with:

- Processor: Pentium III 450MHz or better
- Memory: 128MB (256MB recommended)\*
- Monitor and graphics card: SVGA (1024x768), 256 colors
- CD-ROM drive: 24x (for server PC only)
- Floppy drive: 3.5in 1.44MB (for license upgrading)
- Network card: Ethernet or Token Ring adapter (not required for standalone system)

\*If one PC is used for both D.N.A. Server and Microsoft Internet Information Server (IIS), more memory is needed.

### Software requirements

Operator Suite – Server/Client

- Microsoft Windows NT version 4.0, Service Pack 5
- Microsoft Windows NT network using TCP/IP for network communication
- BusinessPhone BusinessLink for Windows NT V2.1 or higher
- BusinessPhone Software licensing V1.1 or higher
- Microsoft SQL Server 7 (SP 3)/ MSDE or Microsoft SQL Server 2000/ Microsoft Desktop Engine

\*DDB requires an installed D.N.A. Server/Client installation.

D.N.A. Outlook™ Integration and Lotus Notes integration

- MS Outlook™ 98/2000
- Lotus Notes 4.6/5.0.2B

### Capacity

Maximum three operators per system. Each operator position can be

- Operator Telephone
- BusinessPhone PC Operator (with Operator Telephone), or
- BusinessPhone Operator Workstation (with any Dialog telephone except Dialog 3210, Cordless and IP phones/clients).

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The logo for Modern Communication Systems features the words "Modern" and "Communication" in a bold, italicized sans-serif font, with "Modern" stacked above "Communication". A blue swoosh underline is positioned beneath "Communication". Below this, the word "SYSTEMS" is written in a smaller, spaced-out, all-caps sans-serif font.

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