AVAYA

**OSPC Version 2.50
connected to
Avaya Communication Manager**
Service and Installation Manual

Service and Installation Manual
OSPC connected to Avaya Communication Manager

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Avaya GmbH & Co. KG
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About this document

Who are the instructions aimed at?	This manual is intended for people who install and configure the OSPC applications. Use this manual as you see fit, for reference purposes regarding individual topics or to learn how to install and configure the OSPC applications.
What information is provided here?	This manual contains information how how to install and configure the OSPC applications.
What kind of information is not provided?	This manual does not provide information on operating the OSPC application.
How is this manual organized?	The structure of this manual provides a step-by-step introductions. Usually, an introduction to the topic is provided first. Prerequisites or necessary skills are often described next, Instructions follow the prerequisites or necessary skills. An illustration or example further clarifies the topic.
Where can you find additional information?	Further information on OSPC and the installation of various components can be found in the documents specified in the references (→ p.90).

Overview of OSPC

Familiarize yourself with these components

List of components

Whether you serve as a switchboard for for many users or connect calls on a smaller scale, the **OSPC** operator position provides just the tools and functions you need to expertly forward calls to the correct party.

Before you can use an OSPC operator position, various components must be installed and operational.

Below is a list of all components. The following descriptions explain the functions of each of the components.

–   OSPC application
–   Database/JOnAS
–   Jerry
–   SCAPI, iClarity
–   conneCTIon
–   SVA-Manager (NBA)
–   Web server
–   WebLM
–   License server (Macrovision)
–   WebAccess
–   Absence Info Server

Component: OSPC application

The **OSPC** application is a client application you can use to access different servers and databases.

Component: Database/JOnAS

To use the **OSPC** application, you need a database. The database contains the configuration and phone book data. A database management system, **Sybase Adaptive Server Anywhere 6.0.3**, (ASA) and an application -server, **JOnAS**, are used for the database.

Jonas and **ASA** cannot be separated. Both servers must be installed on the same PC.

Component: SCAPI, iClarity

After you start OSPC, it loads SCAPI (Softconsole API) and starts iClarity. These processes are used for communication between OS-TAPI and ACM.

iClarity is used in Road Warrior mode for VoIP voice communication between OSPC (for example, using a headset) and ACM. iClarity is a component of Avaya Softconsole. OSPC uses this Softconsole component. It is installed automatically and does **not** have a separate setup.

Component: conneCTIon	The **conneCTIon** application establishes the connection between SVA-Manager and the PBX and AES server to ensure NBA functions. You must use conneCTIon Version 4.0x or higher. The most important components of conneCTIon are as follows: **CTI Server** CTI Server provides the basic features. **CTI admin tool** You use **CTI admin** to configure the CTI Server.
Component: Network-wide busy display	**NBA** stands for network-wide busy indicator. You need **conneCTIon** for the network-wide busy indicator. NBA is installed using SVA Manager.
Component: Web server	A Web server is needed for the out-of-office notice. The Web server must be installed on the same PC as the databases. OSPC uses the Web server Tomcat. You cannot use another Web server (such as Apache Web Server) for OSPC.
Component: WebAccess	WebAccess contains the HTML and Java Server pages for the Web server to be able to configure the out-of-office notice using AIS (see below) or a browser. Installing WebAccess installs the following components. – HTML pages – Java Server Pages – Web server activation
Component: WebAccess admin tool	This tool is used for resetting the user password for WebAccess.
Component: Absence Info Server (AIS)	AIS lets the **OSPC** application detect and use an out-of-office notice set in Microsoft Exchange Server. AIS is installed on a central PC in the network and uses MAPI to access Exchange Server.
Component: WebLM License Manager	WebLM License Manager must be available on the network. It manages licenses for OSPC and its components.
Component: License server (Macrovision)	WebLM License Manager must be available on the network, if NBA is to be used. It is required for conneCTIon to run.
Component: calendar information	You can use Outlook or Lotus Notes to query calendar information. However, you can only use one variant at a time. You need an appropriate active client on the OSPC client PC (and the calendar license).
Component: Jerry	Jerry is the link between the CTI server and SVA Manager. Jerry is installed with SVA Manager.

Valid component versions

For OSPC to work with all the other components, you must have the correct version of the components. Installing the components from the installation CD installs the correct versions. Install other versions – even newer versions – only after consulting with your system specialist.

Block diagram of OSPC in conjunction with all additional components

The following block diagram of the OSPC client and OSPC server shows the relationship between all the components and the application.

Block diagram OSPC V2.50 Client
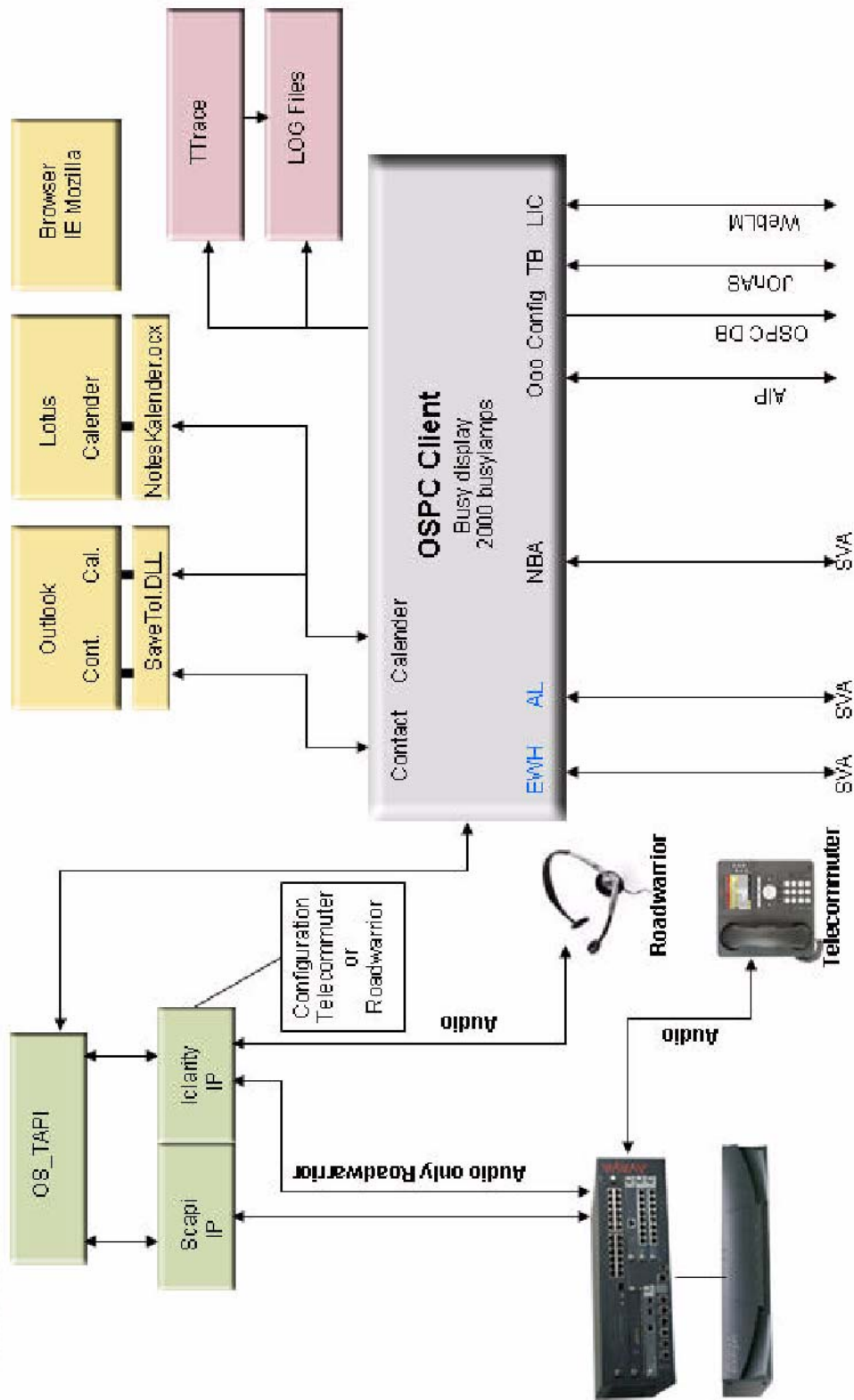
Block diagram OSPC V2.50 Server
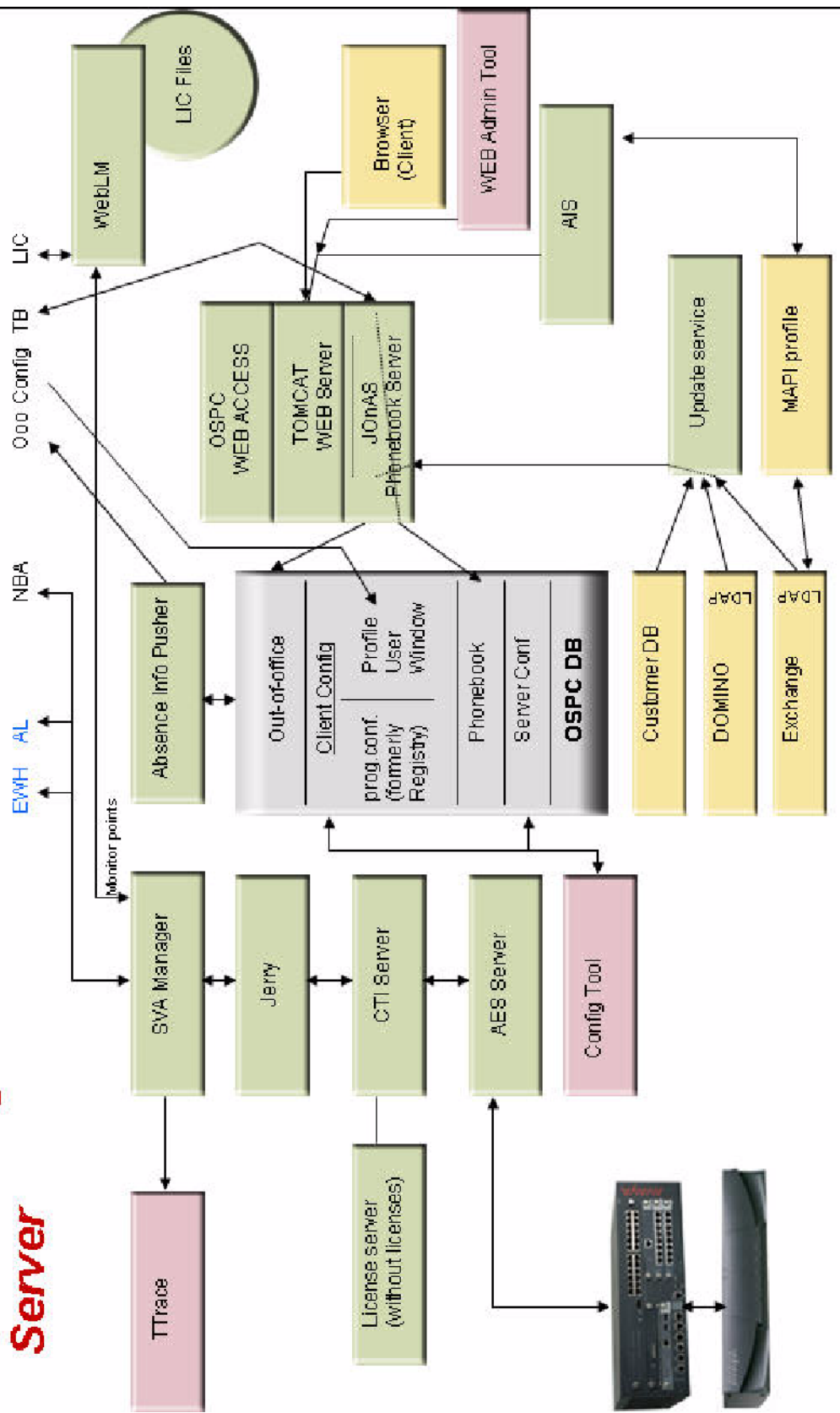
Connecting to Avaya Communication Manager

OSPC can connect to ACM in two different modes: Road Warrior mode and Telecommuter mode.

Road Warrior mode

The Road Warrior configuration contains only one IP connection between the PC and ACM. Control software and audio software must be installed on the PC.

In our case the control software is the OSPC application, which handles all call signaling and control functions.

VoIP communication is processed using Avaya iClarity IP Audio (an H.323-V2-compatible audio application). Avaya iClarity IP Audio runs in the background. This program is launched automatically as soon as you call up Avaya OSPC.

You need one of the following for communication:

– A headset connected to the PC
– A combination of PC speakers and a microphone
– A USB phone. We recommend a USB phone, since USB phones convert the analog audio data into digital signals themselves, relieving the PC of this task.

Note: Road Warrior mode is **not** supported in IP networks which use encryption.
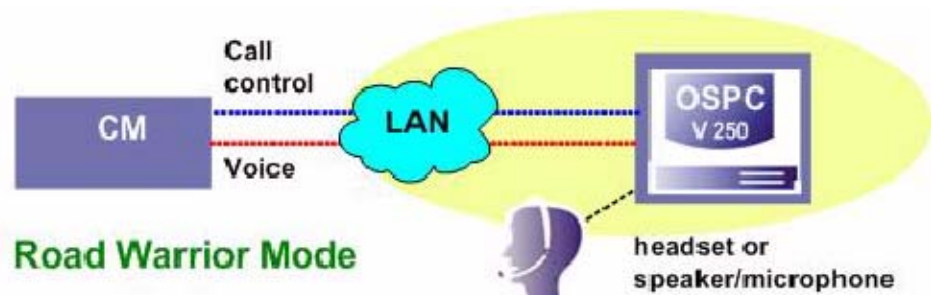
Telecommuter mode

In the Telecommuter (dual connection) configuration, the PC running OSPC and a phone are connected to ACM separately.

The PC is connected to ACM over an IP network (LAN). All calls are signaled and controlled via this connection.

Voice communication takes place using any telephone connected anywhere to your PBX (ISDN, analog, VoIP). The actual conversations are conducted with the usual level of quality and convenience.
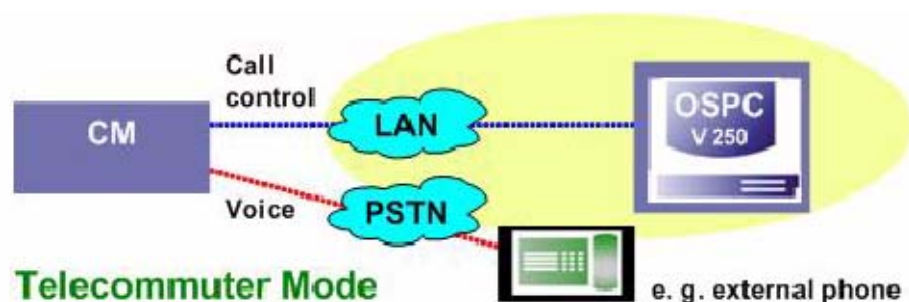
Installing the software

OSPC system requirements

System requirements: server	The PC running the server-components must meet the following minimum requirements:

OSPC Server only:

– PC with 2 GHz

– 1 GByte RAM

– Windows XP, Windows 2003 Server or Windows 2003 Server R2 operating system

OSPC Server with other server-components:

– PC with 2 GHz

– 2 GByte RAM

– Windows XP, Windows 2003 Server or Windows 2003 Server R2 operating system

System requirements: client	The PC running the **OSPC** application must meet the following minimum requirements:

– PC with 2 GHz

– 512 MByte RAM
depending on the configuration and installation of other components (for example MS-Outlook, MS-Word)

– 350 MByte available disk space (depending on data)

– 17"-TFT-monitor with 1280x1024 pixels.
(or a 21"-TFT-monitor for visually–impaired users)

– 1 free COM-interface if a Braille-line is connected.

– Graphics–compatible printer for printing out charges- and reports data.

– *In Road Warrior mode:* Sound card with headset (or speakers and microphone) or
USB-phone.

– *In Telecommuter mode:* Any telephone that can be reached from the ACM.

– Windows XP Professional SP1 operating system

– **Soft console and OSPC running in parallel**
The soft console and OSPC cannot be run in parallel on the same PC. However, parallel running on the same ACM on various PCs is an option.

System requirements: single‑user

PCs with a single‑user solution must meet the following hardware and software requirements.

–   PC with 2 GHz

–   1 GByte RAM
    depending on the configuration and installation of other components
    (for example MS-Outlook, MS-Word)

–   Windows XP, Windows 2003 Server or Windows 2003 Server R2
    operating system

–   350 MByte available disk space (depending on data)

–   17”-TFT-monitor with 1280x1024 pixels
    (or a 19”-TFT-monitor for visually‑impaired users)

–   1 free COM-interface if a Braille-line is connected.

–   *In Road Warrior mode:* Sound card with headset (or speakers and
    microphone) or
    USB-phone.

–   *In Telecommuter mode:* any telephone connected to your-PBX.

–   To print call charge data and statistics, you need a graphics‑capable
    printer.

–   **Soft console and OSPC running in parallel**

    The soft console and OSPC cannot be run in parallel on the same PC.
    However, parallel running on the same ACM on various PCs is an
    option.

Client‑server LAN-connection

Client and server must be connected via a LAN offering sufficient bandwidth.

Avaya Communication Manager system requirements

Version

The **ACM** which is connected to the OSPC, must be at least version 3.1.

If you want to use NBA, you must also connect an **AES** with at least version 3.0.

Licenses

The **ACM** licenses below must exist (Material Code 174.066):

"Value_IP_ATTD_CO" (IP Attendant Consoles),
"VALUE_PORT" (Maximum Ports),
"REGISTRATION" (IP Endpoint Registration) and
"FEAT_IP_ATTN" (IP Attendant Consoles).

These licenses are always delivered together with the OSPC licenses. Without these licenses OSPC is not working.

For using **AES** the AES licenses below must exist for all subscribers (Material Code 217.340):

"VALUE_TSAPI_USERS_T1" (TSAPI Simultaneous User).

Configuration

For the OSPC to work on the ACM, you must configure an attendant. Some of these settings affect OSPC directly. These settings are loaded in the OSPC each time the OSPC logs on to the -PBX.

Note:

Changing these settings in OSPC does not affect the ACM settings.

Example configurations for the ACM can be found in the appendix
(→ p. 69).

Installations (setups)

Possible installations

To use all the **OSPC** functions, you must set up the following. There is one installation file for each installation.

1. Avaya WebLM server
    Installing WebLM installs the Avaya license management program for OSPC. The server is an absolute requirement and must be installed before OSPC (→ p. 20).

2. CTI-components (conneCTIon)-
    The PBX is connected to the OSPC application using CTI-server. The CTI-server must be installed if you wish to install the SVA-manager (network–wide busy display).
    You need special licenses for the NBA.
    ConneCTIon must be installed before the OSPC (→ p. 22).

3. OSPC
    There are four different types-of setup. For a detailed description, see below (→ p. 24).

4. Absence Info Server (AIS)
    The AIS evaluates the out–of–office information from Exchange. You need special licenses for the AIS.

    You can install the AIS after the OSPC (→ p.36).

5. TTrace
    TTrace is a tool which generates and administers logfiles- The application needs only be installed for service purposes or if maintenance work is required (→ p. 63).

Licensing the components installed

After installation, all the OSPC-components must be licensed through WebLM before you can work with them (→ p. 20).

General startup information

You must have administrator-rights to install all OSPC-components.

–   The setup user interface language is the language of your operating system. If a language other than German or English is set, the display is in English.

–   All settings are preconfigured with default-values.

–   After installation, all NT services are started automatically.

Install WebLM License Manager

OSPC v2.50 is licensed based on the Avaya license manager **WebLM**, which checks licenses according to remote feature activation (RFA).

Installations

First, you need to install the WebLM server.

It is recommended that you install it from the OSPC CD, even if there is another WebLM server running on the network already. It may be that OSPC and other applications cannot be served by the license manager at the same time.

More detailed information on installation and configuration can be found in /1/ and /9/ (→ p.90).

1. Insert the OSPC installation-CD in your CD-drive. The Overview start page opens in your standard-browser.
2. Click **Avaya WebLM Server**.
3. Follow the directions given by the installation wizard. Use the default setting.
4. After installation is complete: Set the start mode for the "Apache Tomcat" service to automatic and start it (**Workstation > Manage > Services**).
5. *Only if WebLM is running on the same PC as OSPC Client:* Delete the entry **c:\opt\coreservice\WebLM_jvm\bin** in the environment variable PATH. To do so, follow these steps:

    a) Go to the **My Computer** icon on the desktop.

    b) Right click and select **Properties**,
       Select the **Advanced** tab.

    c) Click on the **Environment variables** button.

    d) Select the system variable **PATH**.

    e) Click on the **Edit** button.

    f) In the **Variable value** input field,
       find and delete the text **c:\opt\coreservice\WebLM_jvm\bin**.

    g) Confirm your change by pressing **OK**.

Request license

The licenses for the OSPC are are tied to the PC hardware of the WebLM Server (MAC-address). If the WebLM is installed on a new PC, a new license must be requested.

Note: For a new installation, you must always order the license OSPC RFA ACTIVATION CODE NEW INSTALL (Material Code 214.623) as well. This license serves as the basis for RFA licensing.

Import licenses

In order to import the license for the OSPC, enter the following address in your browser:

https://hostname:8443/WebLM
(hostname = PC name/IP-address of WebLM server)

An login window opens. You are automatically guided through the necessary steps.

Overview of licenses

The table below shows which OSPC licenses you need for using the different features.

Material Code	Name of license	Name of license- in *.lic	Effect on OSPC
214.372	OSPC new user lic	VALUE_OSPC_CLIENT	Basic licenses for new customers; required for the OSPC-client to start *Value range*: integer ≥ 1
214.373	OSPC upg user lic	VALUE_OSPC_CLIENT	Basic licenses for an upgrade from „Softconsole"; required for the OSPC-client to start *Value range*: integer ≥ 1
214.374	OSPC connect extl database 5user lic	FEAT_OSPC_EXTERNAL_DB	Required for connecting external data sources. One license per 5 clients is required.
214.375	OSPC calendar absence 5user lic	FEAT_OSPC_CAL_ ABSENCE_OUTLOOK_ NOTES	Required for the absence notice from Outlook or Notes function. One license per 5 clients is required.
214.377	OSPC absence web tool 5user lic	FEAT_OSPC_ABSENCE_ WEB_TOOL	Required for WebServer (basis for AIS and Web browser) to function. One license per 5 clients is required.
214.376	OSPC absence assist exch 5user lic	FEAT_OSPC_ABSENCE_ ASSIST_EXCHANGE	Required for the absence notice from calendar function. One license per 5 clients is required.
214.378	OSPC 3rd party blamp general lic	FEAT_OSPC_NBA_GENERAL	Required for the NBA menu entry and function. Only one license is required per system. Can only be used in combination with VALUE_OSPC_NBA_STATIONS license.
214.379 214.621	OSPC 3rd party blamp 200sta lic OSPC 3rd party blamp 500sta lic	VALUE_OSPC_NBA_ STATIONS	Monitor points for PUM/NBA. Can only be used in conjunction with a FEAT_OSPC_NBA_GENERAL license. *Value range*: 200, 500

Installing conneCTIon

The PBX- is connected to the OSPC application using CTI-Server. The CTI-server must be installed if you wish to install the SVA-manager (network–wide busy display).
You need special licenses for the NBA.
ConneCTIon must be installed before the OSPC.

Where can you find additional information?

For information on installing and setting up conneCTIon, see the relevant manuals /4/ (→ p. 90). This section does not cover those topics.

It only contains information on which settings you must use for **OSPC** and how to start the installation.

Requirements

The license-server (Macrovision) is also required for conneCTIon to establish a connection to the PBX-. No license is required for conneCTIon.

If there is no license-server running on your network, you can install it from the OSPC CD (→ p. 41).

Installation

To install conneCTIon, follow these steps. Installing the conneCTIon component on the OSPC-server is not essential. Clients must be able to reach the CTI-server over the network.

1.   Insert the OSPC installation-CD in your CD-drive. The Overview start page opens in your standard-browser.

2.   Click **CTI-components**. There is a program to guide you through the installation process.

3.   You are offered various setup options on the setup-page. Install the following components for conneCTIon one after the other:
Base components
Naming service
ConneCTIon
ACM PBX driver
Always select the installation option "complete". Accept the default-settings. Use the settings listed below when installing the components.

OSPC-specific settings

The following settings are only the settings that are important for OSPC.

Installation ConneCTIon

– *Setup Type*: select „CTI Server without connection to database"

Installation ACM PBX driver

– *AES Server List*: IP address of the AES server
– *AES Link Pool*: select the link to the OSPC set up in AES

Settings in CTI-admin

Dialog **PABX settings**:

– *PABX Name:* choose any name
– *CSTA Protocol:* select „CORBA Taskserver CSTA API"
– *PABX access name* and *access password:* ID and password of the CTI user configured in AES

Dialog **User settings**:

– Set users with *Name* „SVA" and „admin" and appropriate *Passwords*
– Mark *Features* „Full CTI control", „Multi PABX" und „Administrator"

Dialog **Device**:

– Extension of the attendant and all other extensions, which shall be monitored in the NBA.

Installing OSPC

Setup-types

When you install OSPC, a distinction is made between the following setup-types. You must install the correct setup-type based on the application.

–   **User–defined**
     This setup-type is only for advanced users. You can select the required components.

     You must select this type if you want to install **SVA-Manager** (Network–wide busy display) but do not have a single–user solution.

     In this setup-type, you also need to install **Web Access** (display of absence information) together with the server components.

–   **Client**
     Installs OSPC without a database. Use this setup-type for a client––server-solution. Before you can install OSPC Client, you must install OSPC Server (database) on a suitable PC. You need the host name or TCP/IP-address of the OSPC servers and the name of the OSPC-database for OSPC Client.

     The following components are installed:

     –   All Client-components

     –   JRE (Java Runtime Engine)

     –   iClarity IP Audio

–   **Server**
     Use this setup-type for a client––server-solution. The OSPC server needs to be installed before the clients.

     The following components are installed:

     –   OSPC (server) application

     –   Database (ASA 6)

     –   Phone book server (JOnAS)

     –   Update service

     –   JDK (Java Development Kit)

–   **Complete (single–user)**
     Installs OSPC with a local database. Use this setup-type for a single–user solution.

Prepare for installation

Close other Windows-programs (such as MS-Word). **Make sure that no Adaptive Server Anywhere (ASA) database is running.** If an ASA (service) is running, close it. If you use a screen saver in Windows, switch it off before installing **OSPC**. Once the installation is complete, you can use the screen saver as you normally would.

Starting the installation

To start the installation, follow these steps.

1.   Insert the OSPC installation-CD in your CD-drive. The Overview start page opens in your standard-browser.

2.   Click **OSPC**. An InstallShield Wizard is prepared. The InstallShield Wizard dialogs are in the same language as your operating system. The **Welcome** dialog opens.

3.   Click **Next**. The **License Agreement** dialog opens. Read and comply with the copyrights.

4.   You must agree to the license terms to install the program. Select the correct option and click **Next**. The **Setup-Type** dialog opens.

5.   Select the required setup-type and click **Next**. Follow the instructions on screen to continue.

Installing User-defined setup-type

You have begun the installation and selected User-defined as the setup-type.

1. The **Select features** dialog opens. Select the required components. *Note:* The following procedure describes how to install all components.

2. Click **Next**. The **Edit data** dialog requests the URL for the WebLM server (license server). The address is entered by default if is set up on your PC. Use the default setting.

3. Click **Next**. The **Select destination** dialog appears. Select the folder where you want to copy the client data. Use the default setting.

4. Click **Next**. The second **Select destination** dialog appears. Select the folder where you want to copy the different server components. Use the default setting. (The path must **not** contain any spaces.)

5. Click **Next**. The **Edit data** dialog opens. You must specify the following information for the phone book server.
   Host
   Shows the host name of the phone book server. In this case, the host is the name or TCP/IP-number if no DNS server is installed on the network. The default setting is the name of this PC.
   Port
   Indicates the port for database-access to the phone book server (JOnAS). Use the default.

6. Click **Next**. A new **Edit data** dialog opens**.** This dialog lets you set up the database connection.

   Server name
   Shows the name of the database (engine-name in the ODBC-settings). Use the default. The name of the database must be unique within the network.
   Port
   Shows the port for the database-server. Use the default.

7. Click **Next**. The **Password** dialog opens**.** The password is used to access the database. If you change the password, you must enter it twice to confirm it.

8. Click **Next**. The **Edit data** dialog for **SVA-Manager** opens. If you want to use NBA you must specify the following information:
   Host
   Enter the host name of the PC running SVA-Manager.
   Port
   Enter the port for accessing SVA-Manager.

9. Click **Next**. The **Edit data** dialog for the Web server port opens.
   Port
   Enter the port used to access the Web server.

10. Click **Next**. The **Select additional languages** dialog opens. The default setting is to install all languages currently offered by OSPC. You can deselect languages you do not want to install. To do so, clear the check boxes for the languages you do not want to install.

11. Click **Next**. The **Ready to install the program** dialog opens.

12. Click **Install**. The installation starts. This process takes a few minutes. The **Setup-status** dialog indicates the progress of the installation.

13. Once installation is complete, the configuration dialog for SVA Manager **SVA-Manager configuration** opens.

    In this dialog you must add the **host name** of the CTI-server and **password** of the CTI user. Settings in the dialog area **Mode Selection** are *not* needed for OSPC connected to ACM.

    You can accept the remaining default settings.

    All input and option boxes of this dialog are described in the **Configuration of SVA manager** chapter (→ p. 34).

14. Click **Save**. You will be asked if you want to restart SVA-Manager. Click **No** as it will be restarted later.

15. Click **Exit**. The SVA-Manager installation is complete.

    Next, the InstallShield Wizard starts the following services:

    Avaya Phonebook Server,
    Avaya Phonebook Server – Absence Info Pusher,
    Avaya Phonebook Server – Update Service,
    Avaya Phonebook Server – WebAccess.

16. The **OSPC Configuration Tool Collection** starts.

    Log on as the default user ”Avaya” with the password ”000000”.

    Save your values for the address parser and test them.

    All settings are described in the OSPC Configuration Tool Collection section (→ p. 45).

17. Close the application. The last installation dialog, **InstallShield Wizard Complete**, opens. To end the installation, click **Finish**.

Installing OSPC client setup-type

You have begun the installation and selected client as the setup-type.

1. Click **Next**. The **Edit data** dialog requests the URL for the WebLM server (license server). The address is entered by default if is set up on your PC with standard paths. Use the default setting.

2. Click **Next**. The **Select destination** dialog appears. Select the folder where you want to copy the client data. Use the default setting.

3. Click **Next**. The **Edit data** dialog opens. You must specify the following information for the phone book server.
   Host
   Shows the host name of the phone book server. In this case, the host is the name or TCP/IP-number if no DNS server is installed on the network. The default setting is the name of this PC.
   Port
   Indicates the port for database-access to the phone book server (JOnAS). Use the default.

4. Click **Next**. A new **Edit data** dialog opens**.** This dialog lets you set up the database connection.

   Server name
   Shows the name of the database (engine-name in the ODBC-settings). Use the default. The name of the database must be unique within the network.
   Port
   Shows the port for the database-server. Use the default.

5. Click **Next**. The **Password** dialog opens. Enter the password for accessing the OSPC-database you set when you installed-the server.

6. Click **Next**. The **Setup-Type** dialog opens. If you want to use NBA you must establish a connection to an SVA-Manager. To do this, select the "Yes" option.

7. Click **Next**. The **Edit data** dialog for **SVA-Manager** opens if you selected Yes in the previous dialog. You must enter the following settings:

   Host
   Enter the host name of the PC running SVA-Manager.

   Port
   Enter the port for accessing SVA-Manager.

8. Click **Next**. The **Select additional languages** dialog opens. The default setting is to install all languages currently offered by OSPC. You can deselect languages you do not want to install. To do so, clear the check boxes for the languages you do not want to install.

9. Click **Next**. The **Ready to install the program** dialog opens.

10. Click **Install**. The installation starts. This process takes a few minutes. The **Setup-status** dialog indicates the progress of the installation.

11. The last installation dialog, **InstallShield Wizard Complete**, opens. To end the installation, click **Finish**.

Note

If the client-installation finds Lotus Notes (various versions) on the PC, the database name is checked on the server where the calendar function is set up. The Lotus Notes COM-interface is registered.

Installing single–user setup-type

You have begun the installation and selected single–user as the setup-type. The installation is identical to the User–defined installation in which all components were selected.

Installing OSPC Server setup-type

You have begun the installation and selected "Server" as the setup-type. This installs all the server components.

If you want to install WebAccess or the SVA-Manager at the same time, select the "User–defined" setup mode.

1. Click **Next**. The **Edit data** dialog requests the URL for the WebLM server (license server). The address is entered by default if is set up on your PC with standard paths. Use the default setting.

2. Click **Next**. The **Select destination** dialog appears. Select the folder where you want to copy the different server components. Use the default setting. (The path must **not** contain any spaces.)

3. Click **Next**. The **Edit data** dialog opens. You must specify the following information for the phone book server.
    Host
    Shows the host name of the phone book server. In this case, the host is the name or TCP/IP-number if no DNS server is installed on the network. The default setting is the name of this PC.
    Port
    Indicates the port for database-access to the phone book server (JOnAS). Use the default.

4. Click **Next**. A new **Edit data** dialog opens**.** This dialog lets you set up the database connection.

    Server name
    Shows the name of the database (engine-name in the ODBC-settings). Use the default. The name of the database must be unique within the network.
    Port
    Shows the port for the database-server. Use the default.

5. Click **Next**. The **Password** dialog opens**.** The password is used to access the database. If you change the password, you must enter it twice to confirm it.

6. Click **Next**. The **Ready to install the program** dialog opens.

7. Click **Install**. The installation starts. This process takes a few minutes. The **Setup-status** dialog indicates the progress of the installation.

8. The **OSPC Configuration Tool Collection** starts.

    Log on as the default user "Avaya" with the password "000000".

    Save your values for the address parser and test them.

    All settings are described in the OSPC Configuration Tool Collection section (→ p. 45).

9. Close the application. The last installation dialog, **InstallShield Wizard Complete**, opens. To end the installation, click **Finish**.

Installing components later

If you open the setup again, you can change, repair or uninstall the program.

If you select Change, the user–defined-setup is opened.

Uninstalling

You can uninstall the **OSPC** components at any time. To uninstall **all** components, follow these steps.

1.   In the **Control Panel**, click **Software**.

2.   Select **Avaya OSPC**.

3.   Click **Remove**.

4.   Select **Remove** and then click **Next**. Following a prompt, OSPC is uninstalled from your PC.

Note: It is not possible to uninstall individual OSPC-components.

Additional components

Network–wide busy display (SVA-Manager)

Information about SVA-Manager

SVA-Manager is a standalone server for NBA. The server uses conneCTIon and is connected to OSPC by a TCP/IP-interface.

You only need to install SVA Manager once in the network.

The server is a windowless application and can only be seen in the Task-Manager. It is shut down at the end of the Windows session. You can view program outputs using TTrace-Monitor.

Prerequisites for installation

conneCTIon must be running in the network.

You must have licenses to use the NBA.

Installation

The system can also be installed at the same time as OSPC server (→ p. 30).

The following describes subsequent installation, which involves using a separate setup, which you can open from the User–defined setup.

The setup includes the installation of SVA-Manager as an NT service, Jerry and Jerry clientlib.

You have begun the installation and selected User–defined as the setup-type.

1. The **Select features** dialog opens. Select the SVA-Manager check box. Clear all other check boxes.

2. Click **Next**. The **Edit data** dialog requests the URL for the WebLM server (license server). The address is entered by default if is set up on your PC with standard paths. Use the default setting.

3. Click **Next**. The **Select destination** dialog appears. Select the folder where you want to copy the different server components. Use the default setting. (The path must **not** contain any spaces.)

4. Click **Next**. The **Ready to install the program** dialog opens.

5. Click **Install**. The installation starts. The **Setup-status** dialog indicates the progress of the installation.

6. Once the installation is complete, the configuration dialog for SVA-Manager **SVA Manager configuration** opens. Note the overview table (→ p. 34).

7. Click **Save**. You will be asked if you want to restart SVA-Manager. Click **No** since it will be restarted later.

8. Click **Exit**. The SVA-Manager installation is complete.

Once the installation is complete, the system tests whether you can establish a connection to CTI-Server.

Configuration: SVAManagerConfig

When you start SVA-Manager, the configuration is imported from the ini-file **SVAManager.ini**.

The file is in the SVA-Manager directory.

To make editing configuration parameters in the ini-file easier, a configuration tool is installed along with SVA-Manager. You can start the tool from
Start > Program Files > Avaya > SVAManagerConfig

All SVA-Manager settings are configured in a dialog window. For changes to take effect, you must restart the service.

All input and option boxes of this dialog are described in the table below.

Note:
If you want to change the URL for accessing WebLM, you cannot do so using this tool. You can change it directly in the ini-file if necessary.

If NBA does not correctly distinguish between internal- and external calls, this may be due to an incorrect EXT_NUMBER_DIGITS setting.

Name in the ini-file	Name in SVAManagerConfig	Default	Meaning
Mode selection			
Settings in this area are not needed for OSPC connected to ACM.			
CTI Server			
CONNECTION_TYPE	connection type	Rpc	Type of connection, only Rpc possible
CTI_SERVER_HOST	host name	localhost	Host running Connection
CTI_SERVER_PORT	port number	5005	Port where Connection listens
CTI User			
OSPC_PASSWORD	password		Password for the CTI-user
OSPC_USER	user	SVA	CTI-user set up for SVA-Manager
SVA Manager			
SVA_SERVER_PORT	port number	6006	Port where SVA-Manager listens for OSPC queries
SVA_DATA_FILE	data file	SVAMana–ger.dat	File where SVA-Manager saves data

TTrace			
TT_SERVER_HOST	host name	localhost	Host running the TTrace server
TT_SERVER_PORT	port number	10300	Port where the TTrace server listens

Notes on operation

SVA-Manager should be finished with its startup routine when you start OSPC. It can be started afterwards.

If SVA-Manager is not operational during logon, an error button opens. When it is logged on, an icon labeled SVA is displayed:

– If the icon is red, OSPC is not connected to SVA-Manager

– If the icon is yellow, SVA-Manager is not operational

NBA functions correctly only once SVA-Manager is operational, not just when it is running. In other words, all monitor points must be licensed and initialized.

Absence Info Server (AIS)

OSPC Absence Info Server is a separate program for monitoring the out–of–office (OOF)-status of all exchange server mailboxes (the out–of–office reply in Microsoft Outlook must be enabled).

The absence display for **OSPC** is updated regularly (using the Web server).

Requirements

Prerequisite: The **WebAccess** component must be installed.

You must have licenses to use the absence notice.

Preparations on Exchange

A user is identified between OSPC and Exchange by the email-address. This email-address can be available to OSPC in its own database or in a connected customer database. Each record used must contain both the email-address **and** the number.

1. **General preparations on Exchange**

   Absence Info-Server (AIS) generates its own Mapi-profile and establishes a Mapi-connection if one has not been established (for example, on PCs that are not part of a domain). The rights of the local user running the service apply to the Mapi-connection. This user must be set up on Exchange Server. Notes on setting up Exchange can be found in /5/ (→ p.90)

2. **Preparing Exchange 5.5 Server**

   A user (for example "OOFReply") (with a mailbox and Windows-account) must be set up on Exchange-Server with user defined rights: "Modify Admin Attributes"-rights at the organizational level (so the user has read rights for all mailboxes).

   or

   Preparations for Exchange Server 2000 (Exchange 2003 Server)

   A user (for example "OOFReply") (with a mailbox and Windows-account) must be set up on Exchange-Server. Use "Delegate Control..." at the top Exchange-Server-level ("First Organization (Exchange)") to assign the user the following function: "Exchange-View Only Administrator" at the organizational level (so the user has has read rights for all mailboxes). The rights must then be inherited to the lower levels.

   To view the individual rights, go to "Administrative Groups/First Administrative Group/Servers/<Your Exchange-Server> -Properties" and go to the Security tab.

3. **Setting up local users**

   On the PC where you want to install Absence Info-Server, you must set up a local user (for example, with the name "OOFReply"). The user must have the the mailbox set up on Exchange-Server (for example "OOFReply"). In other words, the user must have the same name and password. The user must have the local right to start services (Administrative Tools > Local Security Settings > Local Policies > User Rights Assignment > Log on as a service).

   The user does not need administrator rights for the system. The user only needs to be a member of the users group.

   For AIS to function, an Outlook-client must be installed on this PC and configured for this user with a connection to Exchange.

Installation

The installation program installs AIS as an NT-service. You are prompted to enter all necessary parameters. Before the installation is complete, AIS starts in configuration mode. This lets you change or set the parameters you entered and other parameters.

You can start the AIS service from the **AIS Config UI** (**u**ser **i**nterface). Or you must start the service using Computer Management/Services or by restarting the PC. The installation does not start the service.

Parameters that are required during installation:

1. Installation path

Use the default path or specify a path.

2. Local User

These parameters define the local Windows user under which you want the service to run. You can change these settings later using Computer Management/Services/Log on.

3. Configuration parameters for Exchange Server

These parameters define the mailbox and you want to use to authenticate Exchange Server.
You can change these parameters using the AIS Config UI.

Example:
Server: exchange2003; User: OOFReply; Domain: AVAYA; Password: *****

4. Connection parameters for OSPC Web server

These parameters define the connection to the OSPC Web server.

Example:
host: OSPC_Server; port: 21080

5. Connection parameters for the TTrace server

These parameters define the connection to the TTrace server.
You can change these parameters using the AIS Config UI.

Example:
host: localhost; port 10300

The AIS Config UI is started automatically at the end of the installation.

AIS Config UI

You can use the **AIS Config UI** to set all connection parameters, set additional options, select mailboxes, and start and stop the service.

Start the AIS Config UI using a shortcut in the Start menu or on the desktop.

Main dialog:

Button	Function
Connection	Opens Dialog Connection
Options	Opens Dialog Options
Selection	Opens Dialog Selection
Stop	Stops the service
Start	Starts the service
Refresh (icon)	Determines the current status of the service
Quit	Ends the AIS Config UI

Connection:

Group	Function
Exchange Server	You can adjust the connection parameters for Exchange Server.
	The **Check** button tests the connection to the server. The result is displayed in a dialogue window and output via TTrace.
	You must restart the service and Config UI for the settings to take effect.
Web server	You can adjust the connection parameters to the Web Server.
	The **Check** button tests the connection to the web server. The result is displayed in a dialogue window and output via TTrace.
	You must restart the service and Config UI for the settings to take effect.
TTrace	The level defines the outputs in addition to general information. The options are: *Error*: Informational messages and errors. *Warning*: Informational messages, errors and warnings. *Debug*: Informational messages, errors, warnings and detailed troubleshooting messages. The default setting is Warning.
	These settings take effect as soon as you click OK.

Options:

Option	Effect
Poll interval	Determines the minimum time that must have passed before the next polling cycle can start. Default: 5 minutes. If a cycle lasts longer than the set polling time, the next cycle starts 30 seconds after the previous cycle.
Delay	Waiting time in milliseconds after an individual mailbox has been processed. Default: 0.

Selection:	Button	Function
	Select	Selects the selected mailboxes for processing using AIS. The selection is saved in the **AbsenceInfoServer.sel** file. The file is located in the same director as **AbsenceInfoServer.exe**.
		Clear a selection
	Deselect	Selects the selected mailboxes for processing using AIS.
	Select all	Clears the selection for all mailboxes
	Deselect all	If you set this option, all mailboxes are processed automatically. The list of mailboxes to be processed is recreated in each cycle.
	Select all (dynamic)	If you do not set this option, only the selected mailboxes are processed.

Entries in the Windows Registry

Various entries are written to the Registry during installation.

TTrace entries are located using the key
HKEY_LOCAL_MACHINE\Software\avaya\AIS

The other entries are located using the key
HKEY_LOCAL_MACHINE\System\CurrentContolSet\Services\AbsenceInfoServer\Parameters

Note on absence display

In the OSPC, an absence notice is only displayed for a subscriber if he has also entered himself as absent in Outlook.

Calendar information

You can use Outlook or Lotus Notes to query calendar information (Although you can only use one or other of them at a time).

OSPC's busy display or network–wide busy display then displays the relevant information for all subscribers.

Requirements

The user of the client-machine must have access rights to the calendar data of all subscribers.

You must have licenses to use the calendar information notice.

Installation

No installation is required. The calendar information is automatically available with the client-installation.

License-server (Macrovision)

The license-server (Macrovision) licenses the CTI-Server installed with conneCTIon. All you need is access to a license-server already running on the network.

During the installation of conneCTIon, the hostname and port of the license-server are queried.

No license is needed for conneCTIon.

Installing

If you do not have access to a license-server, you can install one from the OSPC CD.

1. Search on the OSPC CD for the directory
    Software\CTI-Components\License-Server

2. Start the **Setup.exe file.**
    An install-wizard guides you through installation.

More information on installation of the license-server can be found in /6/ (→ p.90)

WebAccess admin tool

Installing

This tool is used for resetting the user-password for WebAccess.

To use the WebAccess admin tool, you must set up a new link. To do so, in Windows-Explorer go to the OSPC directory (c:\Program Files\Avaya\Avaya Integral OSPC).

1.   Select the **StartAbsenceAdmin.bat** file. Create a link.

2.   Open **StartAbsenceAdmin.bat** in the editor. Copy the line.

3.   Edit the link. Delete the destination and insert the copied line.

      You may need to adjust the port number in this line according to the server installation.

Connecting to external databases

Tool

The **OSPC configuration tool collection (OSPC config tool)** is used to connect external databases to **OSPC**. It provides the phone book tool especially for this task ($\rightarrow$ p. 57).

Rules

You **must** follow these rules when working with this tool.

– You need good good knowledge of-databases. You must be able to create SQL-queries and you also need knowledge of ODBC-data source-configuration.

– When you configure settings, no OSPC-clients should be running. Close all OSPC-client-applications. The OSPC-database must be running.

– Use only one data source at a time (**one** worksheet in the tree view of the OSPC configuration tool collection).

Industry–specific solutions

Industry databases are connected in the same way as any other database using the OSPC configuration tools collection.

Import ACM subscriber data into OSPC-database

It is very simple to export the subscriber data of name, number and room from the Communication Manager into the OSPC phone book.

The following requirements must be met:

– The telephone book data must have been exported using the Avaya Site Administration (ASA) configuration tool through GEDI.

– The export-format must be "Default CM format".

Proceed as follows:

1. Select **Import** from under **Phone book** in the **Edit**. The ITB-data import file dialog opens.

2. You can choose whether existing records are replaced or whether the new records should be appended. Select an option.

3. Check the "Default CM Format" box.

4. Click the "....-button" and select the exported file.

5. Click Start. Please note that depending on the volume of your data the import may take a few minutes. There is a bar shows the progress of the import.

Configuring the software

OSPC v2.50
Version: 07/08

Overview of OSPC configuration tools collection

OSPC configuration tools collection

The **OSPC configuration tools collection (OSPC ConfigTool)** is a collection of different tools you can use to configure OSPC. It is installed automatically when you install OSPC Server.

The collection contains the following tools:

– AbsenceInfoPusher

– Address parser

– JOnAS Server (phone book server)

– Central OSPC-configuration data

– Phone book

– Update service

– WebAccess

Starting and logging in

Start the program from
**Start > Program Files > Avaya>
OSPC configuration tools collection**.

All system engineers saved in the OSPC-database are authorized to use the tool collection. The user name and password are the same as for OSPC.

Note when editing configuration data for the first time: After installing OSPC-, you cannot edit the central OSPC-configuration data until you have started OSPC once.

Reason: The database cannot be accessed during setup. The OSPC-configuration data are stored in the Registry first (key: Setup). OSPC then transfers this data to the database when it is started for the first time.

User interface

Menu bar

The menu bar contains the **File** menu, which provides the menu entries *Properties, Sign–on/Logout* and *Exit*.

The **Help** menu contains the entry *About...* to open an info box on the tool.

Work area

The work area is divided into the tree view on the left and the opened worksheets on the right.

The Toolbar

Opens the *Properties* of the
OSPC configuration tools collection

Starts a test of all components

Opens the info box

Tree view
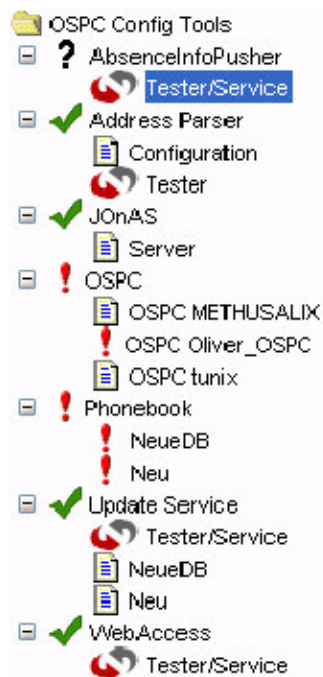
Tree view contains all the tools. The tool currently shown in the work area is highlighted in blue.

A **green check mark** indicates that the tool test was successful. A **red exclamation mark** indicates a problem with the tool. A **black question mark** indicates that the tool cannot be tested.

Click a tool to load it to the work area.

Properties

Properties opens a dialog you can use to edit the program settings (OSPC config tool, properties).

The drivers listed in the table below are available for selection when you define a data source. When you make a selection, the corresponding default URL is entered.

Key	Value	Note
DBPwd	sql	Password for the OSPC-database
DNS	OSPC	ODBC connection to the OSPC-database
Language	DE	Language of the OSPC configuration tools collection
jdbc.driver.class.1	sun.jdbc.odbc.JdbcOdbcDriver	Driver 1 for accessing ODBC-data sources
jdbc.driver.class.2	com.sybase.jdbc2.jdbc.SybDriver	Driver 2 for direct access to Sybase databases (ASA and ASE) without ODBC
jdbc.driver.class.3	com.octetstring.jdbcLdap.sql.JdbcLdapDriver	Driver 3 for accessing LDAP-data sources
jdbc.driver.default_url.1	jdbc \:odbc \:<Enter DSN here>	Default provider URL for driver 1
jdbc.driver.default_url.2	jdbc \:sybase \:Tds \:<server>\:<port>	Default provider URL for driver 2
jdbc.driver.default_url.3	jdbc \:ldap \://<server>\:389/[BASE_DN]? SEARCH_SCOPE \:\=subTreeScope [&pageSize \:\=n]	Default provider URL for driver 3
phonebookhost	localhost	Host running the phone book server (JonAS)
phonebookport	21099	Port on which the TTrace server listens

Tools: AbsenceInfoPusher

Settings

cycle (sec)	-	AIP query interval
Host	-	AIP host name
Test Port	-	AIP port

Buttons

The **Save** button saves changes in the database.

The **Check connection** button checks whether AIP can connect to the JOnAS server using the URL. The result is displayed in the gray text box.

The **Start** button starts AbsenceInfo Pusher.

The **Stop** button stops AbsenceInfo Pusher.

Testing

To check the connection, proceed as follows:

1. Enter a new free **Test Port**.

2. Save the new setting by pressing the **Save** button**.**

3. Stop AIP by pressing the **Stop** button.

4. Restart AIP by pressing the **Start** button.

5. Check the connection by pressing the **Check connection** button.

Tools: address parser

Application

The address parser is used to convert all numbers sent by a PBX-, read from a database or entered by a user to a common, consistent format.

The converted numbers are saved to a shadow database, which is not visible to the user.

To perform this conversion, the address parser requires information on its own-PBX-number. You must enter the information on the Code Number tab.

–   The address parser is used solely to uniquely identify a record from the phone book entries.

–   The address parser must be configured so that a record can be uniquely identified and the corresponding features in the **OSPC** application (for example, subscriber properties) work correctly.

Overview

The *Code numbers* sheet lets you enter different address parser parameters. The sheet layout changes depending on the option box-mode selected.

The *Tester* sheet lets you check the settings on the *Configuration* sheet:

1. In the Number combination box, enter the number or dial a saved number from the list.

2. In the Source combination box, select whether the number is an internal, external or unknown number.

3. Click the Execute button.
Shadow numbers and dialable numbers are displayed.

The **Save** button saves the data in the database.

The **Apply** button applies the new configuration to all numbers in the database. The progress is indicated by a progress bar in place of the button.

Check lets you check the address parser configuration for the selected mode. The result of the check is displayed in the gray text box.

PBXs in a networked system

If multiple PBXs are connected, you also need the **Call Number Replacement** tab. **OSPC** uses this information to identify a subscriber of a networked system even if the subscriber places a call as if it were an external call.

Call number replacement does not change the value of the number of a call. You must also specify the digits used in the search and what replaces them.

Open the number scheme and on the Call Number Replacement tab assign the-PBX-numbers to the node numbers. This replaces the-PBX-number of the external location with the-PBX-number of its own location and the node number of the external location.

If the numbering scheme is closed, you only need to specify the-PBX-number of the locations. This replaces the-PBX-number of the external location with the-PBX-number of its own location.

Settings: code numbers

When you enter an internal subscriber in the phone book, the address parser adds the number and corresponding code number.

The user cannot see the converted number. The number is saved in a shadow database. The user always sees the number in the phone book in the form he or she entered it. Standard, France, Spain, Russia and USA modes are possible.

Name	Explanation	Example
Country Code	Indicates the international country code.	49 for Germany.
International	Indicates the international prefix.	00
National	Indicates the national prefix.	0
Local network	Shows the area code.	711 for Stuttgart
Local PBX	Shows the PBX number.	13586

Example

If you enter an internal subscriber with the number 1234, the converted shadow number looks like this:

+49	711	13586	1234
Country code	Local network	Local PBX	Extension

Settings: Call Number Replacement

OSPC the settings on the Call Number Replacement tab to identify a subscriber of a networked system even if the subscriber places a call as if it were an external call.

The PBX-handles subscribers in a networked system like internal subscribers. The address parser always creates a shadow number with its own code numbers for this purpose. PBXs-must therefore change the value of the numbers of external locations using its own code numbers and if necessary the node numbers.

Note the following regarding call number replacement

You must always enter numbers with the country code and area code, for example +49711135.

Example for call number replacement with a closed numbering scheme

PBX 1 in Stuttgart

Number: +4971113586

PBX 2 in Frankfurt

Number: +49697505

We are at PBX 1 in Stuttgart.

If you want to enter a subscriber from Frankfurt with internal number 1234 in the phone book, the address parser generates the following shadow number:

+49	711	13586	1234
Country code	Local network	Local PBX	Extension

Settings in call number replacement

You must enter the following information for the example.

From	To
+49697505	+4971113586
PBX-number-of the external location	PBX-number-of own location

Example for call number replacement with an open numbering scheme

PBX 1 in Stuttgart

Number: +4971113586

Node number: 88

PBX 2 in Frankfurt

Number: +49697505

Node number: 99

We are at PBX 1 in Stuttgart.

If you want to enter a subscriber from Frankfurt with internal number 991234 in the phone book (99 is the node number for Frankfurt), the address parser generates the following shadow number:

+49	711	13586	991234
Country code	Local network	Local PBX	Extension

Settings in call number replacement

You must enter the following information for the example.

From	To
+49697505	+497111358699
PBX-number-of the external location	PBX-number-of own location and node number of the external location

Country settings

If you select France, Spain, Russia or USA from the mode-option fields, you can modify other country=specific configuration fields.

Settings: code numbers for France

Name	Explanation	Example
Country Code	Indicates the international country code.	33 for France
International	Indicates the international prefix.	00
Provider	Provider code.	0 for France Telecom
Local network	Shows the regional code.	1 for the Paris region
Range:		
First Subs.	First subscriber number in the number block	000
Last Subs.	Last subscriber number in the number block	500
Head number	Shows the fixed digits of a PBX number block.	12345

Example

If you enter an internal subscriber with the number 222, the converted shadow number looks like this:

+33	0 1	12345	222
Country code	Provider+Local network	Head number	Subscriber number

Settings: code numbers for Spain

The explanation of code numbers for France also applies for Spain. Only the Country Code, International and range fields are available.

Settings: code numbers for the US

Name	Explanation	Example
Country Code	Indicates the international country code.	1 for the US
International	Indicates the international prefix for international dialing from the US. Example: 01149 for US –> Germany	011
Local network	Shows the regional code.	585 for part of New York
Local PBX	Shows the PBX number.	13586

Example

If you enter an internal subscriber with the number 1234, the converted shadow number looks like this:

+1	585	13586	1234
Country code	Area code	Local PBX	Extension

Settings: code numbers for Russia

Name	Explanation	Example
Country Code	Indicates the international country code.	7 for Russia
International	Indicates the international prefix for international dialing from the Russia. Example: 81049 for Russia –> Germany	810
Local network	Shows the regional code.	495 for Moscow
Local PBX	Shows the PBX number.	13586

Example

If you enter an internal subscriber with the number 1234, the converted shadow number looks like this:

+7	495	13586	1234
Country code	Area code	Local PBX	Extension

Tools: OSPC

A separate sheet is displayed in tree view for each OSPC client that has connected to the database at least once.

The selected sheet consists of two table columns. The Property Name and Property Value columns let you edit the properties.

Buttons / Check

The **Save** button saves changes in the database.

The **Check** button checks only the *EJBSrvHostName* and *EJBSrvPortNo* parameters.

If a check fails, the entry responsible is highlighted in red. Once the entry is corrected, it is displayed in black again.

Note on usage of SVAM parameters

If *no* SVA-manager was installed during the client-installation, then there is a "0" (otherwise a "1"). If a SVA-manager is installed later, the value "1" has to be entered manually on all clients.

The following table indicates the meaning of the parameters and the value range:

3rdPartymodeWithBCC	3rd party connection to BCC/CIE (0 = OFF (default), 1 = ON)
AnswerOnVKADD	+ key for querying in the standard phone-window (0 = OFF (default), 1 = ON)
CalendarInterval	Interval for refreshing data from the Lotus-Notes/Outlook-calendar (min, default = 10)
CallTransfDelayTime	Delay time for Dial & Assign-operations (msec, default = 1000)
ClearSearchOnNewCall	Clears the search screen in the phone book when a new call comes in 0 = OFF (default), 1 = ON
EJBSrvHostName	EJB-server PC name (phone book server) (Default = localhost)
EJBSrvPortNo	EJB-server port number (phone book server) (Default = 21099)
GlbSearchFilterField	Prefilter for topic calls (all phone book field listed; default = company)
NbaPumDefault	Default size configuration for PUM and NBA (Default = 200)
NoCallIdentification	Switches off number identification (0 = OFF (default), 1 = ON)
OSType	OS-hardware (OS33, a (OS13 a), b (OS13 b))
OSSoftwareVersion	OS-software version "02.01" (Default), "02.00", "01.51", "01.61")
PUMLOgginTimeout	Wait time for the PBX-answer for PUM-user logon (sec, default: 5)
SearchDelayTimeCC	Search delay time for calling card (msec, default = 400)

SearchDelayTimeST	Search delay time for the lookup table in the phone book (msec, default = 400)
SearchNumberHead	Head number search (0 = OFF, 1 = ON (default))
ShowSubstituteRemark	Display substitute text as the topic (0 = OFF (default), 1 = ON)
SVAMHostName	SVA-Manager PC name (Default = localhost)
SVAMPortNo	SVA-Manager port number (Default = 6006)
SVAMUsage	Operating with or without SVA-Manager (0 = OFF, 1 = ON)
SystemLanguage	System language (Default = system language, e.g. en)
Top100Support	Collect call-information for the Top100-display (1 = ON (default), 0 = OFF)
TransferOnBusy	Can be assigned to busy subscriber; no effect if OSPC is activated on ACM (1 = on (default), 0 = OFF)
TTracePortNo	TTrace-server port number (Default = 10300)
TTraceHostName	TTrace-server PC name (Default = localhost)

Tools: JOnAS (phone book server)

Buttons

The **Save** button saves the changes and configures all available clients accordingly.

The **Restart JOnAS** button stops the service and restarts it with the modified settings. The following table explains the text boxes and check boxes.

Note

When you have restarted JOnAS, you also need to restart all related services, such as AIS, WebAccess and Update Service.

	Server
Registry Port	Port on which the TTrace server listens. Default = 21099
Remote Object Port	Port you want to use to transport the search results to OSPC. Define a port if a firewall is installed between OSPC and the phone book server. (Default=0, i.e. dynamic)
Transaction timeout	Timeout in seconds for processing a search query. Default = 120
	Cache
cache active	Select if you want to cache the search results. This can speed up a new search.
Limit	Select if you want to restrict the memory for the cache.
max. size	The size you enter will not be exceeded. The oldest entries in the cache are deleted when more recent entries are written to the cache. The recommended max. size is 10,000 records.
	Search result
Search result Size	Number of records transferred from the server to OSPC when a search returns more results. Default = 50
Search result Timeout	Timeout in seconds a search result remains valid on the server. Records that are not queried are discarded after the timeout. Default = 120

Settings for large databases

If you run OSPC with a large database (> 5000 records) or if it is linked to large databases, you must assign JOnAS more memory. You can do this when you configure the JOnAS-service (Avaya Phonebook Server) in the **Jonas.conf** file.

1. Open the **Jonas.conf** file in a text editor. It is located in:

   c:\Avaya\Servers\serviceconf

2. Find the line "wrapper.java.maxmemory" in the wrapper properties.

3. Change the default-value from 64 (which means 64 MB) as required. 136 MB are sufficient for 15,000 records.

4. You may also need to change the default-transaction-timeout time. You can do so using the OSPC config tool on the JOnAS tab. We recommend increasing the time to 300 seconds.

Tools: Telephone book

A separate sheet is created for each data source. You can define data sources and configure the field assignment using an index definition on the sheet.

For examples for connecting to different data sources, see LDAP-connection (→ p. 70).

Connection tab

The **Reload** button discards the last changes, reloads the settings from the OSPC-database and runs the SQL-statement. However, *no* data is loaded into the OSPC-database!

The **New** button creates a new data source and populates the fields with default values.

The **Save** button checks the settings and saves the configuration data in the OSPC-database.

The **Delete** button deletes the active data source. If you delete a data source, all records of this source are also automatically deleted.

The **Delete** button deletes all records of the selected data source from the database.

Name and Description	The *Name* and *Description* fields describe the data source. The name is needed to uniquely identify a data stream. The name appears in the combination box of the OSPC-phone book.
Driver	The *Drivers* field contains a list of available JDBC-drivers. The driver displayed is loaded. You can add drivers to the list using the OSPCConfigTool.properties file. If you select a driver from the list, the *Provider URL* box is populated with the corresponding URL schema by default.
	The name of the JDBC-database driver can be found in the database documentation or the driver documentation (e.g. for a JDBC--ODBC-bridge it is sun.jdbc.odbc.JdbcOdbcDriver).
Provider URL	The *Provider URL* field contains the connection parameters. The URL points to the database to be connected, and has the format:
	jdbc:<subprotocol>:<subname>
	subprotocol refers to the JDBC-class with which you are working (e.g. for a JDBC--ODBC-bridge, this is odbc).
	subname provides information that is needed to locate the database (e.g. for a JDBC--ODBC-bridge, this is a DSN from the ODBC-sources). The syntax of subname is dependent on the driver and can be found in the documentation for the database or the driver.
	For SYBASE, this information is in the SYBASE-manual.
User	Shows the *user* for the database.

Password	Shows the *password* for the database.
SQL Statement	The *SQL-Statement* field contains the SQL-query used to retrieve the data from the data source.
Transaction Timeout	The *Transaction Timeout* contains the time in seconds after which a hanging transaction is ended if necessary. This information is important for updates.
Result (gray display window)	The *Result* field contains all messages that provide information on a possible error.

Register assignment

Index	The *Index* column selects the database fields that make a record unique (primary key).
	OSPC requires a primary key to work with customer data. This primary key can be the primary key of the customer database. You can also use several fields as a primary key. This is referred to as a composite primary key. OSPC uses this primary key for the shadow database. **Attention**: None of the elements of the primary key can be blank for any of the records!
Source field	The *Source field* column contains all fields output from the database.
Target Field	The *Target Field* column contains the assigned OSPC phone book destination fields.
	All fields defined in the OSPC-phone book are possible!
	The fields are displayed in the language of the OSPC configuration tool collection.
	The source value for the Gender field must be m or M for male and f or F for female. All other values will be interpreted as undefined.

Tools: Update service

The update service connects the external data sources (Exchange, Domino) with the phone book server (JOnAS). A separate sheet is created for each data source that was created in the phone book. Click the sheet to open the settings for that sheet in the work area.

Data sources that do not have an enabled update service are not listed in OSPC as data sources. Records from these data sources are nevertheless found when you search for all data sources!

Buttons

The **Save** button saves configuration data in the OSPC-database. This data is only active when the update service is stopped and then restarted.

The **Check connection** button checks whether the data sources were reached by the update service.

The **Start** button starts the update service.

The **Stop** button stops the update service.

Test connection

To check the connection, proceed as follows:

1. Enter a new free **Test Port**.
2. Save the new setting by pressing the **Save** button**.**
3. Stop the update service by pressing **Stop**.
4. Stop the update service by pressing **Stop**.
5. Check the connection by pressing the **Check connection** button.

If necessary, you can read the results of the test in the **updateservice.log** logfile in the server directory **Avaya\Server**.

Tester/Services

Host	Name of the host running the update service.
Test Port	TCP server port of the update service.

Input for each database

Earliest running period (date, time)	The *Earliest running period* (*date, time)* fields define the earliest time when you want the update service to start.
Interval	The *Interval* fields define the how often you want the update service to run (value and unit).
Activated	The *activated* checkbox must be selected for every update database if it is to be included in the update service.

Tools: WebAccess

Buttons / Test connection

Lets you test whether the Web server (Tomcat) connects correctly to the phone book server (JOnAS).

The **Check connection** button checks whether the Web server connects correctly to the phone book server (JOnAS).

The **Save** button saves configuration data in the OSPC-database. This data is only active when the WebAccess is stopped and then restarted.

The **Start** button starts WebAccess.

The **Stop** button stops WebAccess.

Host	Name of the host running WebAccess.
Web server port	Port on which the WebAccess is listening

Note

– You need to specify the Web Server Port entered here if you are using AIS or applying the absence display via a browser.

Configuration of the OSPC application.

OSPC application

Once you have configured the software, the following configurations are either required or sensible for the OSPC **Application** the first time you start the program.

- – Log on to the ACM as an operator position.
    - – Define the working mode you want (Telecommuter, Road Warrior).
    - – Configure the Network- and acoustic settings.
- – Set up a new user with a password.
- – Define the work profiles by assigning the-hotkeys-on the keypad.
- – Set up integrated telephone directory
- – Configure the (network–wide) busy display

These configuration settings do not form part of this manual. A detailed description can be found in the help or in the user guide to OSPC /10/ (→ p.90).

Maintenance, Problem–Solving

Troubleshooting

TTrace	TTrace allows you to generate and administer logfiles. Specifically, it can be used to record the message traffic between the OSPC client and OS_Tapi.
	More detailed information on installation and operation can be found in /7/ and /8/ ($\rightarrow$ p.90).

TTrace installation

To install TTrace, follow these steps:

1. Insert the OSPC installation CD in your CD drive. The Overview start page opens in your standard browser.

2. Click on **TTrace (logging tool)**. The TTrace window opens.

3. Click on **TTrace (logging tool)**. There is a program to guide you through the installation process.

4. Click on **TTrace Update**. This runs a batch file which replaces a few program files.

OSPC /SVA Manager connection

In order to log messages from the OSPC, SVA manager, AIS, etc. as well, you need to enter the hostname and port number of the TTrace server correctly in the **SVA Manager configuration**, **OSPC configuration tools collection** and **AISConfig**.

OSPCInfo

If you have problems with the OSPC, you can go to

Start > Program Files > Avaya > OSPC service

where you can record all your computer statuses and pass them over to the service department, who can then use this information to check your settings and applications.

The program creates a file (**OSPCInflog.txt**) containing the relevant information in the root directory. You can send this file to your service technician.

Backing up and restoring the database

Application

Once you have created all users and work profiles, you can back up the database and all entries. You can revert to this data at any time and restore the data. These functions help you set up an operator position with the usual work profiles and users fast and easily if you reinstall the operating system, for example.

The file **ospcdb.db** contains the entire OSPC database. You can use tools to back up the database while it is running and restore it when it is switched off. The tools are installed when you install OSPC.

Backing up the database

You can back up the database during operation. Proceed as follows:

1. Click **Start**.

2. Click **Programs**.

3. Click **Avaya**.

4. Click on **Backup OSPC**.

5. If no **backup** folder exists, the following prompt appears: **Directory does not exist. Create it.** Acknowledge this prompt with **Y** (yes). The **backup** folder is created, and the **ospcdb.db** database and Jonas and Serviceconf directories are copied to the folder. If the **ospcdb.db** file already exists, a prompt is displayed asking whether you want to replace the file.

6. You can back up the **ospcdb.db** file and both directories on a single drive (for example, tape drive). We recommend changing the file names after backing up the files and adding the OSPC version and date, for example **ospcdb_2v20_030702.db** or moving all files to a folder named according to the version and date.

Restoring the database

Before you restore the database, you must make sure that the backed up database file **ospc.db** is located in the **backup** folder.
You **cannot** restore a database when it is running. Proceed as follows:

1. Close all OSPC clients.

2. Click **Start**.

3. Click **Programs**.

4. Click **Avaya**.

5. Click **Restore OSPC**. This copies the database and the Jonas and Serviceconf folders.

6. Press any key.

OSPC Update

Carry out update

If you wish to install a newer version of OSPC, follow these steps:

1. Back up the OSPC database ($\rightarrow$ p. 64).

2. Uninstall OSPC ($\rightarrow$ p. 64).

3. Install the new version of OSPC ($\rightarrow$ p. 24).

4. Restore the OSPC database ($\rightarrow$ p. 64).

Note

An update **cannot** be installed over an existing version.

Tips and tricks

Starting OSPC without OS

You can, however, use the log into **OSPC** without an ACM connection for service purposes. This lets you, for example, set up users and create work profiles.

To start the **OSPC** application without an ACM connection, follow these steps:

1.   Start the OSPC application with the following extension:
      OSPC.exe -o (space, hyphen, letter o)

Note

If you start OSPC with a **working** ACM connection and the extension "–o", then it works as if it was started without "–o".

Checking the connection to Web server when Outlook out–of–office is activated

To use an activated out–of–office notice in Microsoft Outlook, you must install Absence Info Server (AIS). You must create a connection to the OSPC Web server (Tomcat). The operating system Internet options are used to establish the connection. If you are using a proxy server, the OSPC Web server must be able to find it.

To check the connection, follow these steps.

1.   Open a browser, such as Microsoft Internet Explorer.

2.   Enter the following address.
      http://Name of the Web server PC:21080
      (Port in accordance with the setting the WebAccess tool).

3.   The browser must display the corresponding page.

Information for service or hotline

Select **START > PROGRAM FILES > Avaya > OSPC Service**
This creates the file **OSPCInfoLog.txt** on the **C:** drive. This log file contains all OSPC– and PC–related data.
You must do this on the client and server PCs.

This file contains the following information:

1.OSPC complete version

2. Software version of the optional software (WEB, NBA, etc.)

3. Operating system and version, if required, service pack

4. Version of the program libraries used (DLL, VBX, OCX or others)

5. Associated Registry entries (OSPC, License Server, all modules etc.)

6. Network settings (IP, subnet mask, default gateway, DHCP server, routes)

7. Errors detected and logged at runtime are written to the event log (separate logs)

8. Some settings in the OSPC Configuration Tool Collection

9. Description of the OSPC environment, names of e.g.: Exchange Server, OSPC server, OSPC clients

10. ODBC Administration settings (System DSN)

11. HOST file entries

Registry

Advanced users can modify the settings in the Registry.

All registry entries are located in:
HKEY_LOCAL_MACHINE\SOFTWARE\Avaya

Unknown host name

You have to enter the host name when you enter the name of a server.

This is how you find out the host name:

1. In order to find out the hostname, open a command prompt (DOS box) on the relevant PC.

2. Enter **ipconfig**/**all**.

3. Press **ENTER**. This displays the hostname and other IP settings.

Sybase database in the network with the same name

If there is a Sybase database with the same name (OSPC) in the network, a message to this effect is displayed.

Note: You can only specify the name of the OSPC database during installation. You cannot change the name of the OSPC database once it is installed.

Distinction between external and internal numbers is not working

Sometimes, the distinction between external and internal numbers in the OSPC phone book does not work.

Make sure that all external numbers are entered with a prefix, even if they are in your own local network. This is the only way to save numbers under a unique number.

OSPC does not start at all

Problem: Only the Splash Screen appears briefly after starting OSPC.

There is a problem with the Java installation! The Java plugin under system control must be set to standard and there must be no path to a JRE under the PATH system variable.

OSPC does not start after restart

Please note that OSPC will not start while the iClarity process is running. This can happen if OSPC did not close properly.

End the iClarity process and restart OSPC.

OSPC will not dial

If OSPC seems to be working correctly but still will not dial, this can be due to incorrect configuration of the bandwidth settings.

Access the system configuration and correct any incorrect settings in the TEL tab.

Configuring recommendations for Function keys

You should only use the presetted functions for the function keys (see appendix) or such functions, which are initiated by a selection code. These functions are characterised by the possibility to dial the selection codes direct from OSPC (e. g. selection code for Exchange seizure, After Call Work, Speed dialing buttons, ...)

Other functions can generate feedback from ACM to OSPC which could be displayed incorrect and may cause malfunction.

Connection problem between CTI server and ACM

If the connection between the CTI server and ACM has been broken, then, for example, NBA will not work.

Before the CTI server can be restarted, you need to end the "SVA Manager" service and the "Jerry Server" process manually. Then, first start the CTI server and then the SVA Manager. The connection to the ACM is then established automatically.

High system load because of different ACM and CTI configuration

High system load is generated when subscribers are entered in the CTI but do not exist in the ACM system. The CTI is constantly trying to obtain information about these (nonexistent) subscribers from the ACM.

Keeping the data in the CTI up–to–date with respect to the ACM prevents this.

Name reconciliation on OSPC / ACM database

When a number is redialed, deflected or diverted, ACM transfers only the *name* of the person being called as entered in the ACM database to OSPC, not the internal number.

For normal calls, the *number* is transferred from ACM to OSPC. The number is identified and name displayed using the OSPC database.

To ensure that the name displayed for a person is always the same in OSPC, the records in the ACM and OSPC database must be identical. You can achieve this by importing the records from the ACM into the OSPC database (→ p.43).

Additional tips

For more tips and tricks, see Avaya Enterprise Portal
https://enterpriseportal.avaya.com/

Look in Technik Center under application "OSPC".

Appendix

Example LDAP-connection (LDAP-browser)

LDAP-connection (LDAP-browser)

Before configuring an LDAP-connection you should first check the connection using the **LDAP browser\editor** tool.

To do so, copy the LDAPBrowser directory to a local drive (with write access rights).
To start the tool, double–click **lbe.jar** or if the system does not detect Java-Runtime (basic OSPC-installation), double–click the OSPC-**lbe.bat**.
The **Connect**-window opens. The **Session list** tab contains a few sample-connections.
Use the **Edit** button to view and modify the settings. If you change the name (**Name** tab), a new connection configuration (session) is created.
The **Connection** tab displays the connection parameters.
In Exchange, enter the PC which is running Active Directory. This is not necessary the Exchange-Server.
Next click **Fetch DNs** to obtain a list of **Base DN**s (Domino shows an empty list). Select the shortest entry.
First, select an anonymous connection (**Anonymous bind**), click **Save** and in the -Connect window click **Connect**.
You should be able to see at least the BaseDN-entry.
Enter a user and the user's password. You may be required to enter the user keying in the complete path (see examples Exchange2k_Lab–-Login and Exchange2003_Lab--Login). To do so, you will need the support of your system administrator who will advise you where to find the user in the given structure.
Once you have successfully set up the connection, you can transfer the parameters to the phone book tool.
The Select-statement in the phone book tool must contain any field you may want to retrieve. After you have selected a user the field names will display in the **LDAP browser\editor** under attributes. Accept the names. Note that names are case-sensitive.

Example 1 for data source using a JDBC-ODBC-bridge

The table below shows an example of the parameters on the Connection tab if you connect to a database using a JDBC--ODBC-bridge.

Parameters	Setting
Name	JDBC–ODBC bridge
Description	
Driver	sun.jdbc.odbc.JdbcOdbcDriver
Provider URL	jdbc:odbc:SampleDSN
User	admin
Password	
SQL Statement	SELECT * FROM SampleTable

Example 2 for data source directly via JDBC

The table below shows an example of the parameters on the Connection tab if you connect to a database directly using a JDBC-driver. The DBN database is a Sybase ASA database and is running on port 4321 on the PC with the host name dbserver.

Parameters	Setting
Name	AdaptiveServerAnywhere
Driver	com.sybase.jdbc2.jdbc.SybDriver
Provider URL	jdbc:sybase:Tds:dbserver:4321 [?ServiceName=DBN]
User	dba
Password	sql
SQL Statement	SELECT * FROM SampleTable

Example 3 for MEDCOM-data source using a JDBC--ODBC-bridge

The table below shows an example of the parameters on the Connections tab if you connect to a MEDCOM-database. You have to configure a-DSN system for the MEDCOM-database. The data source name for this example is Medcom_W2k.

On the OSPC Tool Collection, you generally data streams in the phone book tool which both point to the data source Medcom_W2k (in this example). The data streams could be called Staff and Patients, for example. You must configure the corresponding SQL-query for each data stream.

Parameters	Setting
Name	JDBC–ODBC bridge
Driver	sun.jdbc.odbc.JdbcOdbcDriver
Provider URL	jdbc:odbc:Medcom_W2k *or*
	jdbc:odbc:; Driver={Adaptive Server Anywhere 6.0}; SRVR=Medcom_W2k
User	dba
password	sql
SQL Statement	SELECT * FROM mcuser

Example 4 for an LDAP-data source using a JDBC-LDAP-bridge with general settings

The table below shows an example of the parameters on the Connections tab if you connect to an LDAP-database.

Parameters	Setting
Name	Exchange 5.5
Driver	com.octetstring.jdbcLdap.sql.JdbcLdapDriver
Provider URL	jdbc:ldap://<server>:389/[BASE_DN]?SEARCH_SCOPE:=subTreeScope[&pageSize:=n] Note: The URL must not contain spaces (except for immediately in front of the ”?”).
User	<Domain>\<User ID> or <Distinguished Name of the user (DN)> *Examples*: – Domain\User ID: tnbk1\bek2fr – distinguishedName: CN=BEK2FR,OU=Users,OU=Fr, OU=Germany, DC=Avaya,DC=corp,DC=lan

Parameters	Setting
Password	SamplePassword
SQL Statement	select DN,givenName,sn,cn,title,mail,telephoneNumber, mobile,homePhone,otherHomePhone,ipPhone,pager,facsimileTelephoneNumber,description,info, physicalDeliveryOfficeName,streetAddress,postOfficeBox,postalCode,l,st,co,company,department, extensionAttribute5,wWWHomePage,url from ou=OrgUnit
	"select from ou=OrgUnit" also works but is not recommended.

Example 5 for Exchange5.5-data source using a JDBC--LDAP-bridge

The table below shows an example of the parameters on the Connections tab if you connect to an Exchange5.5-database.

Parameters	Setting
Name	Your database
Driver	com.octetstring.jdbcLdap.sql.JdbcLdapDriver
Provider URL	jdbc:ldap://fr108033:389/o=AP4?SEARCH_SCOPE:=subTreeScope&pageSize:=90
User	cn=AbwOspc
Password	SamplePassword
SQL Statement	select DN,sn,cn,mail,telephoneNumber from ou=defr1009 where sn=*

Example 6 for Exchange-data source using a JDBC--LDAP-bridge

The table below shows an example of the parameters on the Connections tab if you connect to an Exchange 2000/2003-database.

Parameters	Setting
Name	ADS 2000/2003
Driver	com.octetstring.jdbcLdap.sql.JdbcLdapDriver
Provider URL	jdbc:ldap://FR135120:389/DC=iccdomain,DC=com ?SEARCH_SCOPE:=subTreeScope&pageSize:=90
User	cn=Administrator,cn=users,dc= iccdomain,dc=com
Password	SamplePassword
SQL Statement	select DN,sn,givenName,cn,mail,telephoneNumber,department from ou=cdm--test where sn=*

Example 7 for Domino 6-data source using a JDBC‑‑LDAP-bridge

The table below shows an example of the parameters on the Connections tab if you connect to a Domino 6-database.

Parameters	Setting
Name	Domino 6
Driver	com.octetstring.jdbcLdap.sql.JdbcLdapDriver
Provider URL	jdbc:ldap://FR146025:389?SEARCH_SCOPE:= subTreeScope
User	Avaya
Password	SamplePassword
SQL Statement	select givenname,sn,cn,mail,telephonenumber from o=OSPc_Org

Example 8 for Domino 5-data source using a JDBC‑‑LDAP-bridge

The table below shows an example of the parameters on the Connections tab if you connect to a Domino 5-database. The pagesize attribute in the url is not mandatory.

Parameters	Setting
Name	Domino 5
Driver	com.octetstring.jdbcLdap.sql.JdbcLdapDriver
Provider URL	jdbc:ldap://FR146025:389?SEARCH_SCOPE: =subTreeScope&pageSize:=90
User	Avaya
Password	SamplePassword
SQL Statement	select givenname,sn,cn,mail,telephonenumber from o=OSPc_Org

Avaya Communication Manager configuration examples

Configuration examples

The following screenshots show sample settings. You must customize these settings based on your system configuration. More detailed instructions on this can be found in /2/ and /3/ (→ p. 90).

Night service-extension:

You must set up an extension as a night service for OSPC for the trunk group that accepts external calls (2000190 in this example). Calls are routed to this destination when the OSPC status is set to "Night service." The destination can be an extension, an extension with a recorded message, a vector directory number or an extension number of a hunt group.

```
change trunk-group 2                                    Page   1 of  21
                              TRUNK GROUP

Group Number: 2                 Group Type: isdn         CDR Reports: y
  Group Name: S8300                    COR: 1     TN: 1       TAC: *03
   Direction: two-way        Outgoing Display? y    Carrier Medium: PRI/BRI
 Dial Access? y              Busy Threshold: 255    Night Service: 2000190
Queue Length: 0
Service Type: tie                 Auth Code? n          TestCall ITC: rest
                         Far End Test Line No:

TestCall BCC: 4
```

Operator key

You must define a digit in the dial plan for OSPC to use internally to call a terminal. You can use any digit that does not conflict with other settings in the dial plan (9 in this example).

```
change dialplan analysis                               Page   1 of  12
                          DIAL PLAN ANALYSIS TABLE
                                               Percent Full:    1

    Dialed  Total  Call     Dialed  Total  Call    Dialed  Total  Call
    String  Length Type     String  Length Type    String  Length Type
      1       7    ext       *91      3    dac
      2       7    ext
      3       7    ext
      9       1    attd
     *1       2    dac
     *3       2    dac
```

OSPC

Set up OSPC as the attendant console.

Define the number range you want to be displayed in the internal busy indicator. Entries made using HUNDREDS SELECT BUTTON ASSIGNMENTS must always be in the format 200xx. Ones-and tens places are not entered since ranges always begin with 00 and end with 99.

You must begin with 1:, and you cannot skip digits. In other words, entering three number ranges under 1:, 2: and 4: would be incorrect (skipping 3:).

Example: For the range 2000100 to 2000199 enter 20001. For the range 2001900 to 2001999 enter 20019.

```
add attendant 1                                      Page   1 of   4
                       ATTENDANT CONSOLE 1

           Type: 302           Name: Attendant 1
      Extension: 2000190        Group: 1              Auto Answer: none
   Console Type: principal        TN: 1              Data Module? n
           Port: S00051          COR: 1        Disp Client Redir? n
  Security Code: 0910002         COS: 1          Display Language: english
                                            H.320 Conversion? n

DIRECT TRUNK GROUP SELECT BUTTON ASSIGNMENTS (Trunk Access Codes)
     Local Remote          Local Remote              Local Remote
  1:                   5:                      9:
  2:                   6:                     10:
  3:                   7:                     11:
  4:                   8:                     12:

HUNDREDS SELECT BUTTON ASSIGNMENTS
  1: 20001      5:           9:          13:          17:
  2: 20000      6:          10:          14:          18:
  3:            7:          11:          15:          19:
  4:            8:          12:          16:          20:
```

```
 1 | 2 | 3 | 4 |
                      ATTENDANT CONSOLE

VIS FEATURE OPTIONS

            Auto Start? y
     Echo Digits Dialed? y

IP FEATURE OPTIONS

Remote Softphone Emergency Calls: as-on-local  Direct IP-IP Audio Connections? y
Emergency Location Ext: 16811          Always Use? n   IP Audio Hairpinning? n
```

Function keys on the keypad

FEATURE BUTTON ASSIGNMENTS lists up to 24 functions you can assign to the keypad and hotkeys in OSPC. You can call each of these functions using the corresponding key (1–24). You can create user–defined labels for the function keys assigned functions 1–24.

For an overview of all available functions, see the section on ACM /3/ service manuals (→ p.90).

The following keys are preset for OSPC v2.50:

Name	Function
atd–qcalls	Indicated the status of the queue. The queue contains all calls in the exchange group that have not yet been assigned to an operator station.
**crss–alert	Indicates whether the pending call is an emergency call.
night-serv	Indicates the night service status of the entire exchange group.

*override	For this feature, a call must have been made from your operator set but not yet answered. When you initiate a new call with this key, the previous call is deleted and replaced by a new call.
**priority	Initiates a prioritized call or prioritizes the current call.
*pos–busy	Switches your operator position to Pause.
*serial–cal	Changes the status of the current call to serial call.
*Split	Initiates a conference between the current party and a waiting party.
hold	Used to let the current connection wait. The waiting caller appears as hold call in the preview.

Note:

The functions split, hold, forced release, night-serv and pos-busy are coded permanently in CM. If you delete the assignment, you can no longer use these functions on an Avaya Softconsole at this CM.

```
add attendant 1                                        Page   3 of   4
                              ATTENDANT CONSOLE

FEATURE BUTTON ASSIGNMENTS

 1: split                          13: class-rstr
 2: don't-split                    14: intrusion
 3: goto-cover                     15:
 4: override                       16:
 5: priorit                        17: serial-cal
 6: hold                           18: em-acc-att
 7: atd-qcalls                     19: forced-rel
 8: trk-id                         20: cw-ringoff
 9: cdr1-alrm                      21: in-ringoff
10: last-numb                      22: re-ringoff
11:                                23: night-serv
12:                                24: pos-busy
```

Console settings

Enter the values for COS, COR and Calls in Queue Warning. Or use the default settings for the values except Backup alerting, which must be set to n.

```
change console-parameters                              Page   1 of   4
                              CONSOLE PARAMETERS

          Attendant Group Name: OPERATOR
                          COS: 1                              COR: 1
      Calls in Queue Warning: 5            Attendant Lockout? y
        Ext Alert Port (TAAS):
                          CAS: none
                                          Night Service Act. Ext.:
               IAS (Branch)? n            IAS Tie Trunk Group No.:
       IAS Att. Access Code:                  Alternate FRL Station:
           Backup Alerting? n     DID-LDN Only to LDN Night Ext? n
```

You can set reminder timeouts and reminders based on your customized OSPC installation. If you use abbreviated dialing, you can enter names for the lists under abbreviated dialing. If you use common shared extensions for parking calls, enter the first extension number and the number of following numbers.

```
change console-parameters                              Page   2 of   4
                            CONSOLE PARAMETERS

TIMING
   Time Reminder on Hold (sec): 30        Return Call Timeout (sec): 30
   Time in Queue Warning (sec):

   INCOMING CALL REMINDERS
      No Answer Timeout (sec):                       Alerting (sec):
                         Secondary Alert on Held Reminder Calls? y

ABBREVIATED DIALING
      List1:                  List2:                 List3:
            SAC Notification? y

                      COMMON SHARED EXTENSIONS
            Starting Extension:                Count:
Busy Indicator for Call Parked on Analog Station Without Hardware? n
```

Tab 3 lets you change priorities assigned to different call types.

```
1 | 2 | 3 | 4 |
                            CONSOLE PARAMETERS

QUEUE PRIORITIES

                  Emergency Access: [1]
                  Assistance Call: [6]
                          CO Call: [6]
                 DID to Attendant: [6]
                         Tie Call: [6]
               Redirected DID Call: [6]
                  Redirected Call: [6]
                      Return Call: [6]
                      Serial Call: [6]
         Individual Attendant Access: [6]
                   Interpositional: [6]
           VIP Wakeup Reminder Call: [6]
               Miscellaneous Call: [6]

Call-Type Ordering Within Priority Levels? [n]
```

Tab 4 of console parameters (not shown) displays all attendants set up.

Checking system-parameter user-settings

The bold entries on the following screenshots are the values for minimum system requirements. For more information, contact your system specialist.

Choose a Maximum Concurrently Registered IP Stations-parameter setting that is large enough to meet the requirements of the IP stations.

Choose a Maximum Concurrently Registered IP eCons (electronic consoles)-parameter setting that is large enough for the number of connected OSPCs.

```
display system-parameters customer-options                  Page    2 of  10
                         OPTIONAL FEATURES

IP PORT CAPACITIES                                              USED
                    Maximum Administered H.323 Trunks: 50       44
             Maximum Concurrently Registered IP Stations: 40    6
              Maximum Administered Remote Office Trunks: 800     0
    Maximum Concurrently Registered Remote Office Stations: 2400 0
             Maximum Concurrently Registered IP eCons: 5        0
     Max Concur Registered Unauthenticated H.323 Stations: 0    0
                    Maximum Video Capable H.323 Stations: 0     0
                 Maximum Video Capable IP Softphones: 0         0
                    Maximum Administered SIP Trunks: 20         1


     Maximum Number of DS1 Boards with Echo Cancellation: 0     0
                         Maximum TN2501 VAL Boards: 1           0
                 Maximum G250/G350/G700 VAL Sources: 0          0
          Maximum TN2602 Boards with 80 VoIP Channels: 0        0
          Maximum TN2602 Boards with 320 VoIP Channels: 0       0
     Maximum Number of Expanded Meet-me Conference Ports: 0     0
```

Set IP Stations, IP Attendant Console and ISDN-PRI to y. Set the ISDN–PRI setting to y only if you are using a PSTN link.

```
display system-parameters customer-options                  Page    4 of  10
                         OPTIONAL FEATURES

         Emergency Access to Attendant? y                    IP Stations? y
                Enable 'dadmin' Login? y       Internet Protocol (IP) PNC? n
                Enhanced Conferencing? y                ISDN Feature Plus? n
                    Enhanced EC500? y      ISDN Network Call Redirection? y
       Enterprise Survivable Server? n                 ISDN-BRI Trunks? y
          Enterprise Wide Licensing? n                      ISDN-PRI? y
                 ESS Administration? n       Local Survivable Processor? n
              Extended Cvg/Fwd Admin? y              Malicious Call Trace? n
          External Device Alarm Admin? n         Media Encryption Over IP? n
      Five Port Networks Max Per MCC? n  Mode Code for Centralized Voice Mail? n
                   Flexible Billing? n
       Forced Entry of Account Codes? n           Multifrequency Signaling? y
           Global Call Classification? n Multimedia Appl. Server Interface (MASI)? n
                 Hospitality (Basic)? y       Multimedia Call Handling (Basic)? n
     Hospitality (G3V3 Enhancements)? n   Multimedia Call Handling (Enhanced)? n
                        IP Trunks? y
               IP Attendant Consoles? y
```

Choose a eCons-parameter setting that is large enough for the number of connected OSPCs.

```
display system-parameters customer-options                  Page    9 of  10
                  MAXIMUM IP REGISTRATIONS BY PRODUCT ID

Product ID  Rel. Limit        Used
IP_API_A      : 0              0
IP_API_B      : 0              0
IP_API_C      : 0              0
IP_Agent      : 1              0
IP_IR_A       : 0              0
IP_Phone      : 2400           6
IP_ROMax      : 2400           0
IP_Soft       : 2              0
IP_eCons      : 10             0
              : 0              0
```

System-parameter features

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |

```
                    FEATURE-RELATED SYSTEM PARAMETERS
                     Self Station Display Enabled? n
                          Trunk-to-Trunk Transfer: none
    Automatic Callback - No Answer Timeout Interval (rings): 3
                    Call Park Timeout Interval (minutes): 10
       Off-Premises Tone Detect Timeout Interval (seconds): 20
                       AAR/ARS Dial Tone Required? y

           Music (or Silence) on Transferred Trunk Calls? all
                DID/Tie/ISDN/SIP Intercept Treatment: attd
  Internal Auto-Answer of Attd-Extended/Transferred Calls: transferred
              Automatic Circuit Assurance (ACA) Enabled? n




          Abbreviated Dial Programming by Assigned Lists? n
     Auto Abbreviated/Delayed Transition Interval (rings): 2
                 Protocol for Caller ID Analog Terminals: Bellcore
  Display Calling Number for Room to Room Caller ID Calls? n
```

The following screenshot shows typical settings for these parameters. Settings in bold are the values for minimum system requirements. You must set Auto Hold? to y for OSPC to be able to use auto hold.

```
change system-parameters features                              Page   6 of  17
                    FEATURE-RELATED SYSTEM PARAMETERS
          Public Network Trunks on Conference Call: 5           Auto Start? n
          Conference Parties with Public Network Trunks: 6       Auto Hold? y
       Conference Parties without Public Network Trunks: 6   Attendant Tone? y
            Night Service Disconnect Timer (seconds): 180     Bridging Tone? n
                  Short Interdigit Timer (seconds): 3      Conference Tone? n
              Unanswered DID Call Timer (seconds):          Intrusion Tone? n
             Line Intercept Tone Timer (seconds): 30    Mode Code Interface? n
                Long Hold Recall Timer (seconds): 0
                     Reset Shift Timer (seconds): 0
       Station Call Transfer Recall Timer (seconds): 0
                              DID Busy Treatment: tone

            Allow AAR/ARS Access from DID/DIOD? n
            Allow ANI Restriction on AAR/ARS? n
     Use Trunk COR for Outgoing Trunk Disconnect? n
                 7405ND Numeric Terminal Display? n                  7434ND? n
 DISTINCTIVE AUDIBLE ALERTING
             Internal: 1   External: 2   Priority: 3
                    Attendant Originated Calls: external
```

You must also set Transfer Upon Hang-up to y to prevent having to press the transfer-key twice to transfer a call.

If you do not want to end a conference immediately for all parties when the OSPC-party hangs up, you must set Abort Conference Upon Hang-Up to n.

```
change system-parameters features                        Page   7 of  17
                    FEATURE-RELATED SYSTEM PARAMETERS

CONFERENCE/TRANSFER

                Abort Transfer? n              No Dial Tone Conferencing? n
        Transfer Upon Hang-Up? y     Select Line Appearance Conferencing? n
Abort Conference Upon Hang-Up? n                              Unhold? n
   No Hold Conference Timeout: 60


ANALOG BUSY AUTO CALLBACK
                Without Flash? n




AUDIX ONE-STEP RECORDING
                     Recording Delay Timer (msec): 500
Apply Ready Indication Tone To Which Parties In The Call? all
   Interval For Applying Periodic Alerting Tone (seconds): 15
```

Class of Service settings

In the console parameters or attendant console parameters select only one COS-class with a y in the Console Permissions, Call Forwarding and Priority Calling (optional) field.

CLASS OF SERVICE

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Auto Callback	y	y	y	n	y	n	y	n	y	n	y	n	y	n	y	y
Call Fwd-All Calls	y	y	n	y	y	n	n	y	y	n	n	y	y	n	n	y
Data Privacy	y	y	n	n	n	y	y	y	y	n	n	n	n	y	y	y
Priority Calling	y	y	n	n	n	n	n	n	y	y	y	y	y	y	y	y
Console Permissions	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Off-hook Alert	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Client Room	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Restrict Call Fwd-Off Net	n	n	y	y	y	y	y	y	y	y	y	y	y	y	y	n
Call Forwarding Busy/DA	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	y
Personal Station Access (PSA)	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	y
Extended Forwarding All	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	y
Extended Forwarding B/DA	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	y
Trk-to-Trk Transfer Override	y	y	n	n	n	n	n	n	n	n	n	n	n	n	n	y
QSIG Call Offer Originations	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	y
Contact Closure Activation	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n

Class of Restriction settings

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |

```
                          CLASS OF RESTRICTION

                COR Number: 1
           COR Description: Weltweit

                      FRL: 0                               APLT? y
   Can Be Service Observed? n        Calling Party Restriction: none
 Can Be A Service Observer? n         Called Party Restriction: none
         Time of Day Chart: 1     Forced Entry of Account Codes? n
           Priority Queuing? n            Direct Agent Calling? n
      Restriction Override: all     Facility Access Trunk Test? n
       Restricted Call List? n            Can Change Coverage? n

             Access to MCT? y        Fully Restricted Service? n
 Group II Category For MFC: 7
         Send ANI for MFE? n
            MF ANI Prefix:          Automatic Charge Display? n
 Hear System Music on Hold? y   PASTE (Display PBX Data on Phone)? n
                    Can Be Picked Up By Directed Call Pickup? y
                           Can Use Directed Call Pickup? y
                           Group Controlled Restriction: inactive
```

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |

```
                          CLASS OF RESTRICTION

                    MF Incoming Call Trace? t
                Brazil Collect Call Blocking? n
                     Block Transfer Display? n
   Block Enhanced Conference/Transfer Displays? y
               Remote Logout of Agent? n


                          Station Lock COR: 1
    Outgoing Trunk Disconnect Timer (minutes):


         Block Enhanced Call Pickup Alerting? n
       Station-Button Display of UUI IE Data? n
       Service Observing by Recording Device? n
                    ERASE 24XX USER DATA UPON
        Dissociate or unmerge this phone: none
      EMU login or logoff at this phone: none
      Mask CPN/NAME for Internal Calls? n
```

Additional configuration instructions

You must select English as the system language for the attendant. This is the only setting that ensures OSPC is signaled correctly.

In ACM you must assign all connecting devices a name, or combination of letters, in the Name field. If the field contains a combination of numbers, such as the extension number, the device cannot be identified in OSPC.

The name in ACM can contain up to 23 letters. Only 16 letters are signaled to OSPC, however. Fifteen letters are evaluated from OSPC.

Port-OSPC overview and accessories

The table below gives an overview of all the port default-settings used by OSPC and accessory-components.

Application/Server	Port
WebLM	8443
License-server (Macrovision)	5108
Phone book server (JOnAS)	21099
Database-server	21638
SVA-Manager	6006
WebAccess (Web Server)	21080
CTI-Server	5005
TTrace	10030

Overview of features of OSPC on ACM

OSPC 2v50 on ACM (3rd party)	
Switchboard features / Switching calls	
	Switch internal>/external
	Switch external>/internal
	Key Block with Feature Buttons or Destination Keys
	Switching a Call
	Three–way Conference
	Switch an outside line for an internal subscriber
	Serial Call
	Switching on night service
	PRIO-call (CM)
	RUL interrupt (CM)
	Post Messages (CM)
CC-features	
	Logging in/out as an agent
	Logging into CC
	Starting the break function
	ACW
Call Types	
	Operator call
	Trunk line call
	Recall
	Emergency call
	Special call types (CM only)
	CFWD (all busy)
	CFWD (busy)
	RWL
	DND
	CFWD (after time)
	RecallGoToAttendant:
	DIV
	Return to operator
	Return to the night service station:

	Return after time:
	CFWD (SAC):
	General answer button for all call types
	Signaling call-queue in the PBX
Applications	
	OSPC internal
	Display time zones
	ITB List
	Calendar Functions
	Network–wide busy display
	Working with Containers
	Call List
	Dial with speed dialing
	Call repeat
	Extended redial
	Caller ID
	Emergency call
	Using the phone book
	Use subscriber properties
	Busy display (max 10 tabs)
	Signaling when subscriber busy on internal call
	Network wide busy display using SVA-Manager
	Internal/external busy status
	Use of 20 tabs
	Signaling of name and telephone number
	Signaling via call forwarding
	Signaling of connection data
	ABsences through AIS
	Absences through Outlook and Exchange
	Absences in the ITB-window
	Absences in the phone book
	Absences in the NBA
	Calendar function
	Calendar function through Outlook and Exchange
	Calendar function through Lotus Notes
	View subscribers' Outlook contacts
	Transfer presence-and absence from calendar (Lotus Notes and Outlook)

		External database connection
		Connection to external databases through JDBC, ODBC or LDAP
Editing the user		
		Starting User Administration
		Entering a user
		Insert, change, copy or delete
		Assigning work profiles
Work profiles		
		Using different work profiles
		Destinations
		Features
		Macros
		Editing Hotkeys
		Configuring the Key Block
		Configuring the Busy Display
		Network–wide busy display
		Configure VIP View
		Edit time zones
		Subscriber properties
		Assign users
Configuration		
		Setting the Acoustics
		Change Password
		Entering an Emergency Number
		Changing Fonts
		Telephone book
Statistics		
		Create Statistical Data
		Configure statistics
		Views
		Export statistics
		Delete Statistical Data
Service and Diagnostics		
		OSPC database
		Backing up the database
		Restoring the database
		address parser

	Standard, France, Spain
	USA, Russia
	Record messages
	Importing- and exporting users
	Importing- and exporting profiles
	Importing- and exporting targets
	Importing- and exporting phone book
	Importing CM-data into the OSPC
	Select CTI-Server-access
	OSPCInfo
	OSPC ConfigTool
	Wizard (diagnostics)

Abbreviations

A

A   Ampere
ACM   Avaya Communication Server
AE   Additional Equipment
AEI   Additional Equipment Interface
AES   Applications Enablement Services
API   Application Programming Interface
AC   External Line Code
ARVT   Anrufverteilung (routing)
ASA   Adaptive Server Anywhere
ASCII   American Standard Code for Information Interchange

B

BIOS   Basic Input Output System (operating system)
Bit   Binary digit (binary digit 0 or 1, smallest information unit)
BLS1   Base PCB with S0 interface
Byte   Information unit consisting of 8 bits (= 1 character or code)

C

CCITT   Comité Consultatif International Télégraphique et Téléphonique
CE   Communauté Européenne (CE marking)
CD   Compact Disc
COR   Class of Restriction
COS   Class of Service
CPU   Central Processing Unit
CSTA   Computer–Supported Telecommunication Applications
CTI   Computer–Telephone Integration

D

DC   Direct current
DOS   Disc Operating System
DSS   Direct Station Select
DUWA   Durchwahl (DID, direct inward dial)

E

EDS   Enterprise directory system (central electronic phone book)

EEPROM Electrically Erasable Programmable Read Only Memory
EMC   Electromagnetic capability
ETB   Electronic Telephone Book
ETSI   European Telecommunication Standards Institute

H

HSG   Hör- und Sprechgarnitur (handset and headset unit)

I

ISDN   Integrated Services Digital Network
ISO   International Organization of Standardization
ITB   Integrated Telephone Book

J

JDK   Java Development Kit
JOnAS   Java Open Application Server

L

LAN   Local Area Network
LCD   Liquid Crystal Display
LDAP   Lightweight Directory Access Protocol
LED   Light Emitting Diode

M

MAC   Media Access Control
DTMF   Dual–Tone Multi–Frequency Dialing
MS   Microsoft

N

NBA   Netzweite Besetztanzeige (network–wide busy signal)

O

ODBC   Open Database Connectivity
OS   Operator Set Standard
OSM   Operator Service Manager

OSPC   Operator Set PC

P

PC   Personal computer
PROM Programmable Read Only Memory
PSTN Public Switched Telephone Network
PUM   Private User Mobility

R

RAM   Random Access Memory
RFA   Remote Feature Activation
CN   Telephone Number
ROM   Read Only Memory

S

SQL   Structured Query Language
SRG   Speisebaugruppe (feed module)
SW   Software
SVA   Smart Vermittlungs Apparat (smart operating device)

T

TAPI   Telephone Application Programming Interface

TCP/IP Transmission Control Protocol/Internet Protocol
TE   Terminal
TFT   Thin-Film Transistor
PBX   Private branch exchange

U

UAE   Universal connection unit
UI   User Interface
URL   Uniform Resource Locator

V

V.24   Interface for data transmission according to ITU-T Recommendation V.24
OS   operator set
VGA   Video Graphics Adapter
VT   vermittlungstechnisch (switching–related)
V   Volt

W

W   Watt
WE   Western Electric

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Glossary

Terms

1st party call control	With 1st party call control, there is a clear relationship between the telephone and the PC at each workstation. Generally, both devices are connected with a cable for the purpose of exchanging information.
3rd party call control	A large range of features can be realized with what is known as 3rd party call control. Here, CTI software controls not just one single telephone, but a PBX. As all information about the telephones is saved in the PBX, a direct connection between the computer and the telephone is not necessary. Instead, the PBX must have a CTI interface. A CTI server is connected to this interface. The telephone software which controls the PBX can be divided into two parts: Firstly, there is control software on the CTI server which communicates directly with the PBX. A telephony program establishing the connection to the CTI application runs on every PC. Apart from the functions offered by 1st party call control applications, 3rd party call control provides a number of additional features, such as switching of incoming calls to certain extensions based on the caller's number or database inquiries. 3rd party call control is especially useful for call centers and telemarketing agencies. Incoming calls are routed to suitable agents according to different criteria, and an application on the PC is controlled. 3rd party call control is also useful for outgoing calls. For example, it can establish calls using a power or predictive dialer.
API	API stands for Application Programming Interface.
client	Client is a networking term. A client uses services, which is why a workstation connected to the server is called a client. The client sends user queries in a special protocol to the server and displays the server responses in readable form on the screen.
CSTA	CSTA stands for Computer Supported Telecommunications Application. This standard is an ECMA specification. For further information please refer to the manuals: Standard ECMA-179, Standard ECMA-180, Standard ECMA-217, Standard ECMA-218 More information is available online at: http://www.ecma.ch/ecma1/STAND/standard.htm
CTI	CTI means computer–telephone integration. In practice, the following CTI functions play a more important role. The option of initiating a call from various applications by mouse click is especially convenient for everyday use. If the connection is not made, the number is redialed automatically later. The scope and options available in CTI integration depends greatly on the type of implementation.
DLL	DLL stands for Dynamic Link Library.
ECMA	ECMA stands for European Computer Manufacturers Association.

ID	ID stands for identification number.
ISDN	ISDN stands for Integrated Services Digital Network.
IPX	IPX stands for Internet Packet Exchange.
JAVA	JAVA is a programming language developed by SUN.
JTAPI	JTAPI stands for Java Telephony Application Programming Interface. JTAPI is an interface definition specified by a consortium of well-known telecommunications manufacturers for connecting Java applications to PBXs.
JVM	JVM stands for Java Virtual Machine. Java Virtual Machine is required for running Java programs.
LAN	LAN stands for Local Area Network.
NETBEUI	NETBEUI stands for NETBIOS Extended User Interface.
NETBIOS	NETBIOS stands for Network Basic Input Output System.
RPC	RPC stands for Remote Procedure Call. Remote procedure call. An RPC is the call of a procedure in a module or task that might be located on a remote PC. Strictly speaking, a procedure is called on the local host and run on the remote host. Possible results and the end of the procedure are returned to the first PC (local host).
Server	The term server is derived from "to serve" (or "to provide service" to someone). A server is a central computer in a network that provides data, memory, and resources to the workstations/clients.
socket	A socket is a mechanism which makes possible a virtual connection between two processes. It is activated using a socket address. The socket address consists of a port number and a host address.
SPI	SPI stands for Service Provider Interface. This interface is created by the corresponding manufacturer.
TAPI	TAPI stands for Telephony Application Programming Interface. TAPI is a telephony software interface from Microsoft.

TCP/IP

TCP stands for Transmission Control Protocol. IP stands for Internet Protocol. TCP/IP meets the two most important requirements to be fulfilled in a network. First, it ensures secure transmission. Second, TCP/IP offers an address scheme so that each computer can be assigned an unambiguous address. Computers are numbered by the IP protocol.

TSAPI

TSAPI stands for Telephony Server Application Programmer Interface.

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