A MITEL
PRODUCT
GUIDE

Unify OpenScape Accounting

OpenScape Accounting V5

Installation and Configuration, Installation Guide
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Mitel

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1 Introduction

OpenScape Accounting meets the challenge of integrating flexibly into different program landscapes and work processes. The adaptation itself is performed - whenever possible - by using a configuration wizard (Configuration Wizard). The installing technician should nonetheless be aware of which dependencies and processes exist in OpenScape Accounting. This documentation therefore describes installation scenarios as well as all installation-related files, processes and services.

1.1 Definitions

This document uses some terms, which may have a different connotation in other systems. These terms are therefore defined in the following:

CDR	Call Detail Record or Call Data Record, or just CDR The telecommunication system creates files with CDRs, which are intended for later processing in OpenScape.
PID	PABX Interface Description; file with the description of a specific CDR format.
VM	Virtual Machine

1.2 System Requirements

Software

The target platforms of licensed software are Windows Vista Business, Windows 7 Pro, Windows 2008 Server, and Windows 2012 Server. A Linux server may also be used on a project-specific basis. However, previous consultation with the vendor TCC is required for this purpose. In general, the relevant conditions imposed by the operating systems must be observed. For installations with more than 1000 extensions, the use of a server operating system is recommended.

INFO: To access the OpenScape Accounting server, port 443 MUST be unlocked for HTTP over SSL.

NOTICE: In the standard installation, the web application is installed with an Apache web server. A certificate is generated with the installation. Alternatively, an existing certificate can be integrated. The freeware Oracle 11g XE can be used for data volumes of up to 8.32 million records. For larger amounts of data, another Oracle Edition is required. The licensing terms of Oracle must be observed.

Hardware

Server side:

- Processor of 2x2 GHz or higher
- RAM: at least 8 GB
- Hard disk with at least 60 GB of available storage space (depending on data volume)

Client side:

- Processor of 2 GHz or higher
- RAM: at least 4 GB
- Hard disk with at least 5 GB of available storage space
- Firefox version greater than 12, Internet Explorer Version 9

1.3 If You are in a Hurry

What information is required for commissioning?

Information	Required ...
Type of telecommunication system to be connected and the output format for CDRs set there	if this telecommunication system is to process CDR files. Check whether an interface file exists for the format used.
Type of interface with the telecommunication system	if the data is to be retrieved from the telecommunication system (or its server) via the CDR Collector.
Directory and name of CDR files on the telecommunication system, the server or the front end data collector	if the data is to be retrieved via the CDR Collector
Directory and name of CDR files that are actively provided by other systems.	if the data is provided via other systems / procedures.
Tariff tables	if outgoing calls are to be evaluated via a time-based tariff. Please note that multiple carriers and possibly even multiple tariffs per carrier may have to be taken into account, depending on carrier rates. Check whether the appropriate rate tables are included in the delivery package.
Times at which the telecommunication system or OpenScape Accounting **server cannot be reached (e.g., due to maintenance, data backup, etc.)**	if scheduled jobs are to be created (e.g., to retrieve and process data from telecommunication systems, to execute print jobs, etc.)
Format and contents of master data records	if master data (subscriber, calling number, organizational units or cost centers) is to be retrieved from a different system once.

Information	Required ...
Number of native clients	if further native clients are to be installed on the OpenScape Accounting server. These clients should be running a current Windows operating system and be able to reach the OpenScape Accounting server via the LAN.
Expected number of simultaneously operating web clients	if the OpenScape Accounting Web server is to be put into operation

How are installation and commissioning done?

What	How	With what / Required
Installation of server	See the Service Manual	Installation CD
Database installation	Included with the server installation	Installation CD
Commissioning of the Server	See the Service Manual: Configuration Wizard	The configuration wizard from the OpenScape Accounting Start menu is automatically executed after the setup as well.
Installation of further native clients	See the Service Manual	Installation CD
Commissioning of further native clients	Not applicable	

Installation Prerequisites

Before running the OpenScape Accountingg Setup, make sure that the HiPath License Manager is installed and operational.

1.4 General Overview

System Landscape

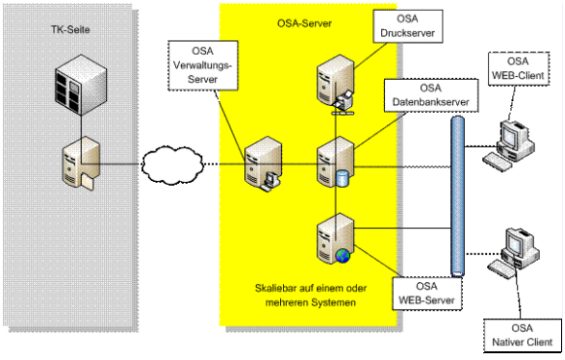


Figure 1: Overview of System Landscape

OpenScape Accounting consists of several logical servers, which may be distributed over one or more physical servers (including VMs). The standard installation is based on a physical server. While the database server and print server must be unique (except for any potential hot stand-by systems), all other servers may be present multiple times in order to achieve load balancing for large installations. The performance characteristics of the individual logical OpenScape Accountingg servers can be found in the following table:

Server	Performance characteristics
Database server	Oracle database server for all native clients and all further OpenScape Accounting servers
Administration server	Retrieval of CDR files, if applicable; reading of CDR files; execution of master data reconciliation; database cleanup (deletion of old data); scheduled provision of export files
Print server	Scheduled execution of reports and exports
WEB server	Web application server

Server Processes

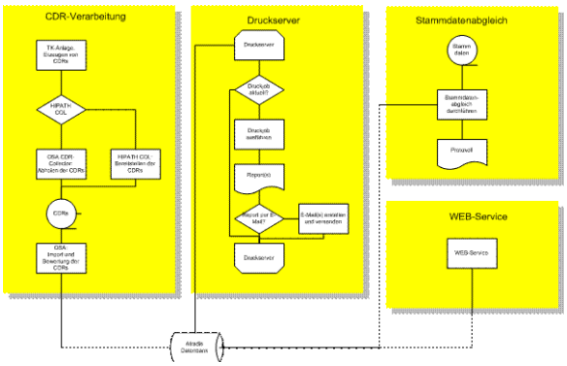


Figure 2: Server Processes

The four most important server processes are CDR processing, the WEB service, master data reconciliation and the Print server. The following table shows the performance characteristics of the server processes:

Server process	Performance characteristics
CDR processing	Retrieval of CDRs (Call Detail Records), if applicable; reformatting of CDRs, if applicable; merging of files; importing CDRs into the database; evaluation of CDRs based on tariff model; assigning CDRs to call numbers, subscribers, cost centers and organizational units; backup of raw data

Server process	Performance characteristics
Print server	Monitoring of the schedule entries for reports; creating reports and storing them as pdf file; sending reports by e-mail; creating print logs
Master Data Alignment	Cyclical execution of master data synchronization; master data retrieval; incorporating master data into the OpenScape Accounting data repository; logging changes made
WEB service	Web services for providing the OpenScape Accounting WEB application

1.5 CDR Processing in Detail

General Workflow

CDRs are created by the telecommunication system (switch). This data can be made available via vendor-specific procedures. It is important that the format created by the telecommunication system matches that defined in OpenScape Accounting.

Some telecommunication system or their servers are able to autonomously provide CDR files. For others, the data must be retrieved by OpenScape Accounting. This function is performed on the OpenScape Accounting side by the CDR Collector. These receive the access data for the respective systems and the related transport job controls in which the time points and the data to be transported are defined.

The actual processing of the CDRs is performed in OpenScape Accounting either immediately after the execution of a job or via the system *task scheduler* or *scheduled tasks*. To do this, OpenScape Accounting is provided with a (system-related) description of the CDR format, called the PID file, during the commissioning. On import, the individual records are checked for syntax and then loaded into the database. At the same time, the CDRs are priced according to a tariff model and assigned to the OpenScape Accounting objects (call numbers subscribers cost centers, organizational unit, …). The raw data (CDR files) are archived.

Telecommunication System: Creating CDRs

The generation of CDRs is part of each telecommunication system being used and is therefore not part of this document. Ask the administrator of the telecommunication system if you have any detailed questions.

CDR Collector: Retrieving Data

The CDR Collector provides methods to collect data from the telecommunication systems or their front-end storage (e.g., IP-RoLANd) via different protocols and to provide them for the import. It also allows for reformatting of the records. See the "CDR Collector" manual for details of the operation. The definition of a CDR node and a transport job can be done through the Configuration Wizard.

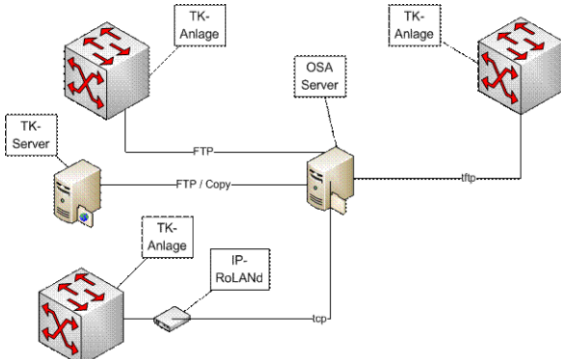


Figure 3: Retrieving Data

Access Method (CDR Node)

The CDR collector allows a connection to the communication system or its server or front-end via *ftp*, *tcp*, *scp*, *https*, and *tftp*. Furthermore, it is also possible to retrieve a file via the file system (including network drives) by using the*copy* setting. The *telnet* protocol, which is also selectable, cannot be used for the collection of CDR files.

Depending on the available protocol, you will need the following information:

Protocol	Required Information
ftp	• Address of the server or switch (IP address or host name) • ftp port (default: 21) • User name and password for a valid ftp account • Directory containing the data to be retrieved • File name, which may include wildcards (*)
tftp	• Address of the server or switch (IP address or host name) • tftp-port (default: 63)
tcp	• Address of IP-RoLANd light (IP address or host name) • Network port of the IP-RoLANd light • TEA key (encryption setting) of IP-RoLANd light, if applicable
copy	No further information required

Protocol	Required Information
scp	• Address of the server or telecommunication system • scp/ssh port • User name and password for a valid connection • Directory containing the files to be retrieved • File name; may contain wildcards (*)
https	• Address is not used • http(s) ist not used • User name and password to be referenced within the URL (user name as <1s>, password as <2s>) • The directory and remote file entries will be concatenated and used as URL. <1s> and <2s> will be expanded with the user name and password

Transfer of CDR Data

The transfer of CDR data is controlled via the transport jobs in the CDR Collector. Depending on type of transport, the directory and the file name of the data to be retrieved, as well as the target directory and the file name of the local file, are specified here. The retrieved data is always appended to the target file. The target file is imported into the OpenScape Accounting database later. In addition, the times and frequency of CDR data transport can also be set here. Furthermore, the format of the raw data can be optionally transformed or supplemented as well.

The following use case illustrates this:

CDR files are transferred from several systems. However, the records contain no switch ID, which would be necessary for determining both the tariff rates and the unique assignment to the extension. Since CDR Collector collects the data per system, the switch ID can be added to the output format in this case.

Delivered Format (Example):

Date	Time	Duration	Extension	Called Party	Further Fields ...

Output Format (Example for Switch 47 and 91):

Date	Time	Duration	47	Extension	Called Party	Further Fields ...
Date	Time	Duration	91	Extension	Called Party	Further Fields ...

Standard File Structure of the CDR Collector:

The topmost directory level of the CDR Collector is the subdirectory `CDRCollector` in the OpenScape Accounting installation directory. In the following, this path is represented by the variable `%root%`

%root%\config	File directory with configuration files
	IMPORTANT: Only use the Setup tool of the CDR Collector to change settings in these files!
%root%\docs	Documentation directory
%root%\format	Format definitions
%root%\image	Working directory for Setup and Scheduler
%root%\logging	Log file and communication file between the Setup tool and Scheduler service
%root%\pabx	Directory recommended for storage of CDR files

Importing and Processing CDRs

During import, the CDRs are syntactically checked, priced and assigned to the OpenScape Accounting master data (extension, subscriber, etc.). The execution of the import can be automated in the following ways:

- Immediately after retrieval of the data by the CDR Collector
- Scheduled via the Windows system functions **Task Scheduler** or **Scheduled Tasks**.

Before the import can be carried out, some configurations need to be performed. This is best done by using the Configuration Wizard (see the Configuration Guide).

PID File

A so called PID file (PID=PBX Interface Description) is assigned to every switch in OpenScape Accounting. It defines the possible CDR formats of the specific system. The most common standard formats of several manufacturers are included with the installation CD. Depending on the scope of evaluation, format types can be removed from the file. This would be the case if no internal calls should be imported to the database, for example.

Tariff Model

To price outgoing calls, a tariff model must be assigned to every switch in OpenScape Accounting. Generally, pricing can be based on pulse or duration (a pulse rate can, of course, only be used if the carrier provides this information). The DTAG tariff BC701 is loaded into the database by default. Further tariff models are included with the installation media.

The already loaded tariff models as well as the tariff files on the CD comprise a price group that is used for business calls. Further pricing groups for private calls, patient calls, etc., can be created. The easiest way to do this is by using the configuration wizard.

Batch file to Start the Import of Charges

The batch file is automatically created by the configuration wizard. This file is named `importGebuehren.bat` and can be found in the subdirectory `image` of the installation directory. In this file, the current directory is first changed to the path where the subdirectory `image` is located. This is followed by the actual call to the import program. The call consists of 6 parts, which are separated by spaces:

{path}\visual.exe	Start of the import engine
-noherald	Suppresses the startup banner
{path}\cableserver.im	Calling the OpenScape Accounting server
impgeb	Command for loading of CDRs
{switch-name}	Name of the switch for the import (see below)
{import-file}	Path and name of the file to be imported

Example:

```
C:
CD "C:\Program Files\OpenScape Accounting\image"
"C:\Program Files\OpenScape Accounting\bin\visual.exe"
 –noherald "C:\Program Files\OpenScape Accounting\image
\cableserver.im" impgeb ANL81 "D:\OpenScape Accounting\PABX
\cdr81.dat"
```

The name of the switch in the command line is used if no switch name can be found in the CDR. A switch with this name must exist in OpenScape Accounting. The switch (from the file or the program call) is used:

- to assign a new extension to this switch
- to assign the tariff based on the trunk ID of the switch, if applicable
- to link the switch with the record in the database for pricing

CDR data records which were not processed are written to an error file in the Image subdirectory of the OpenScape Accounting installation. The file name is `{switch_name}.err`, where the switch parameter switch_name is taken from the batch file.

1.6 Fields and Data Model

Phone Number Fields:

Extension for history object creation

Field name	Field contents
anlage (switch)	Switch of the phone number
endgeraet (device)	Device

Field name	Field contents
werk (place)	Place
gebaeude (building)	Building
etage (floor)	Floor
raum (room)	Room
persi	Display text
zahlTeilnehmer (paying subscriber)	Subscriber charged for the costs incurred at this extension
isSonderTeilnehmer	Flags a subscriber as a premium subscriber

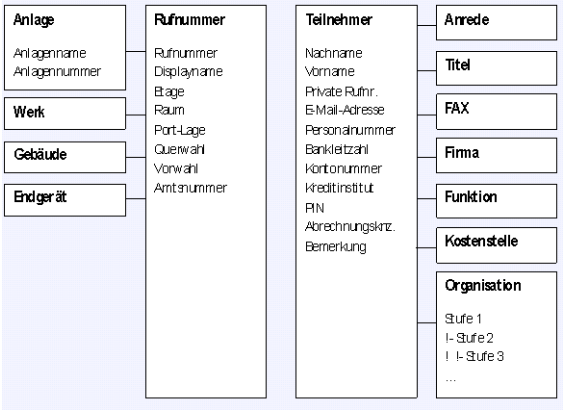
Subscriber Fields:

Subscriber used for history object creation

Field name	Field contents
anrede (salutation)	Salutation
titel (title)	Title
vorname (first name)	First Name
name (last name)	Last Name
mail	E-mail address
personalNummer (personnel number)	Personnel number
bankLeitzahl (bank identification code)	Bank identification code
kontoNummer (account number)	Account number
kreditInstitut (bank)	Bank
firma (company)	Company
kostentraeger (cost center)	Cost Unit/Cost Center association
manualPin	manual PIN
buCodePin	Authorization change PIN
idCardPin	PIN of the ID card
funktion (function)	Role

Data Model:

Data Model



1.7 Frequently Asked Questions (FAQs)

No PID file exists for my switch or its CDR format

Contact your OpenScape Accounting supplier, who will provide you with a suitable PID file. You can facilitate the provision of this file significantly if you can provide master data records with a description of the contents for all existing formats, as well as a list of the formats to be processed by OpenScape Accounting.

A special tariff for the switch was agreed on with a carrier

Contact the OpenScape Accounting supplier. The supplier can also create loadable tariff models for special charges.

My switch can output CDRs directly only through an interface.

You require a data storage, which receives the CDRs from the interface and saves them until they can be fetched by the CDR Collector. We recommend using IP-RoLANd or IP-RoLANd light.

There is a PID file for my switch, but the generated CDRs have a different format

Please contact the administrator of your switch to modify its settings such that the required format is generated.

Several switches need to be connected

The configuration wizard is intended for connecting one switch. However, it can be run several times. The items **Import License**, **Base Settings**, **Import Master Data**, as well as **Configure WEB Server** should only be executed for the first switch. If the configuration of any of these items is performed more than once, the settings of the last run apply.

Which services have to run on the OpenScape Accounting server?

The following Windows system services must be running to ensure that the full functionality of OpenScape Accountingg is available:

1) `OpenScape Accounting Frontend Web Server`
2) `OpenScape Accounting Web Worker1(-n)`
3) `OpenScape Accounting Print Service for Web`

4) OpenScape Accounting Scheduler Service
5) OracleServiceXE
6) OracleXETNSListener
7) OpenScape Accounting Print Service
8) OpenScape Accounting Cleanup Service
9) OpenScape Accounting Scheduler Web Interface
10) OpenScape Accounting SNMP Agent
11) OpenScape Accounting SoapServer
12) OpenScape Accouning License Service

When logging in with a remote client (native client) the message "Cannot find container named USER…" is displayed.

The database server cannot be accessed. Check the connectivity by entering the command `TNSPING <SERVER>` in the windows command line.

What is the Oracle "environment"?

If client and server use the OracleXE version of the database, the environment XE can be used on the server, and the client can use the IP address of the server as an environment string. Alternatively, an additional environment can be added to the `tnsnames.ora` file.

Where do I find the error log of the call charges import?

`<imagedirectory>\<switchname>.err`

This file lists all failed imports, that is, all lines that could not be imported due to missing information.

Where do I find the error log of the web server?

`<webdirectory>\error.log`

This file contains the information that is otherwise stored in the log file found in the %APPDATA% directory.

Where do I find debug output?

Some outputs are stored in the system log file. The `image` directory of the native application as well as of the web application contains headless-transcript.log-files. These files may contain important information.

How can I do a manual data export?

Database export is implemented with the following command:

```
exp system/<password>@<connectionstring> file=atradis.dmp
 owner=atradis log=atradis.log
exp system/<password>@<connectionstring> file=finance.dmp
 owner=finance log=finance.log
```

The password of the system user that was assigned during installation is specified by the parameter `<password>`. The parameter `<connectionstring>` is the Oracle connection string for accessing the database. If the database is installed on the same computer, this part including the @ character can be omitted. The data is stored in the dmp files. The logs can be used to verify that the export was carried out correctly.

How can I do a manual data import?

Database import is implemented with the following command:

```
imp system/<password>@<connectionstring> file=atradis.dmp
 fromuser=atradis touser=atradis log=atradis.logimp system/
<password>@<connectionstring> file=finance.dmp fromuser=
 finance touser=finance log=finance.log
```

The parameters <password> and <connectionstring> are used in the same way as for the export. The parameter `fromuser` is the database user that was specified in the export by the parameter `owner`. The parameter `touser` is the new user. Ideally, both should be the same. If the name of the old Finance user is already recorded as a user in the new database as well, the table of constants must be adjusted manually. Otherwise, the program offers the option of specifying the database user at startup. The SQL command for changing the finance user is:

```
UPDATE atradis.constant SET value='<yournewfinanceuser>'
 WHERE name='BalanceSchemaUser'; COMMIT;
```

If there are different syscable users (different password) in the export and import databases, the syscable password should be reset as well.

IMPORTANT: Make sure that you only import data into a database with a newly created database user!

Where do I find the error log for the native client?

The file can be found in the path `%INSTALLDIRECTORY%\logs` and is named `error-YYYMM.log`. YYYYMM represents a month mark.

Name of the default database user

Four database users are created:

- *syscableini*: This user is required for the two-stage login.

- *syscable*: This user is the *main user* and administrator for OpenScape Accounting.

The password of the OpenScape Accounting user *syscable* is synchronized with the password of this user, but not with that from the user database (in the native client!).

- *atradis*: This user includes, among other things, tables for administration.

- *finance*: This user includes all the tables relevant for accounting.

Only the users *syscableini* and *syscable* may connect to the database. The other two are users who only serve as data holders.

User authentication failed in the second

This problem may be due to several causes. Does the *syscable* user have the same password as the database user? The password has to be reset/changed if required.

Printing of reports fails

Windows Service Pack 3 is the minimum prerequisite for the correct functioning of the Print manager. How to proceed: Install *Visual C++ 2005 Redistributable 8.0*. *Microsoft* offers it for download free of charge.

2 Initial Installation

Standard Installation

The OpenScape Accounting CD includes all the tools and programs that are needed to install and operate a solution for processing call charge data. The first step for this is to run the Setup program *setup.exe*. After this, the Configuration Wizard must be run. The steps involved in this process are described below.

Before the installation of OpenScape Accounting, a data collector and a license manager must be installed.

Manual Installation

- The initial installation is performed in the following steps:
- Install OpenScape Accounting
- Install the Oracle database, if applicable
- Generate the tablespaces and users in the Oracle Database
- Load base data (Schema)

Installing OpenScape Accounting

IMPORTANT:

Insert the Installation CD into the CD-ROM drive. If the installation routine does not start automatically, please start the "SETUP.EXE" directly from the CD.

The installation must be performed with administrator rights. Consequently, with newer Windows operating systems, a warning from the User Account Control (UAC) may appear. Confirm this warning with "Yes".

Selecting a Language

In the first step, you can choose which language is to be used for the installation.

IMPORTANT: If a warning appears on your screen that Port 443 is in use, you will need to first change the program configuration for that relevant program, since these ports are used by OpenScape Accounting.

After selecting your language, you will be taken to the Welcome screen of the Setup.

Software Licence Agreement

IMPORTANT: After the Welcome window, the License Agreement appears. You should read this carefully. You can then accept the license agreement and click 'Next' or cancel the installation

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Selecting the Installation Path

IMPORTANT: If the folder exists, then all existing files in it will also be overwritten.

Selecting the Installation Mode

General

The basic OpenScape Accounting files are always installed. These include not only the program files, but also some SQL scripts and an empty database dump.

In the case of a server installation, the required additional programs are installed, and the services are configured. If you select the option "Web", the web application for OpenScape Accounting will also be installed. This installation option includes the Apache web server.

Finally, the selection of the database management system must be done. There is an Oracle Datatabase Management System available as well as a PostgreSQL Database Management System.

NOTICE: The database management system cannot be changed after the installation. The manufacturer may migrate and Oracle to a PostgreSQL database management system.

Oracle Database Management System

When using the Oracle Database Management System, a free of charge **Oracle-XE Server** installation can be done or a **Oracle-XE-** or **InstantClient**. When selecting the Oracle-XE-Server, a local database management system will be installed on the same machine. It is used to store all application information. The client installation is used for a plain application server scenario (i.e. the database management system is on another machine) or when using an administrative client.

NOTICE: The Oracle license terms must be agreed in any case.

PostgreSQL Database Management System

When using the PostgreSQL Database Management System, the client libraries will be installed in any case. They are required in order to access the database server (local as well as remote).

Optionally, a PostgreSQL Database Management System can be installed an configured in order to store the application information.

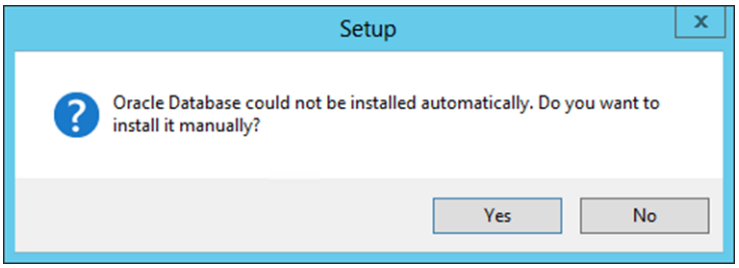
Start Menu Folder Selection

Additional Desktop and Quick Start Icons

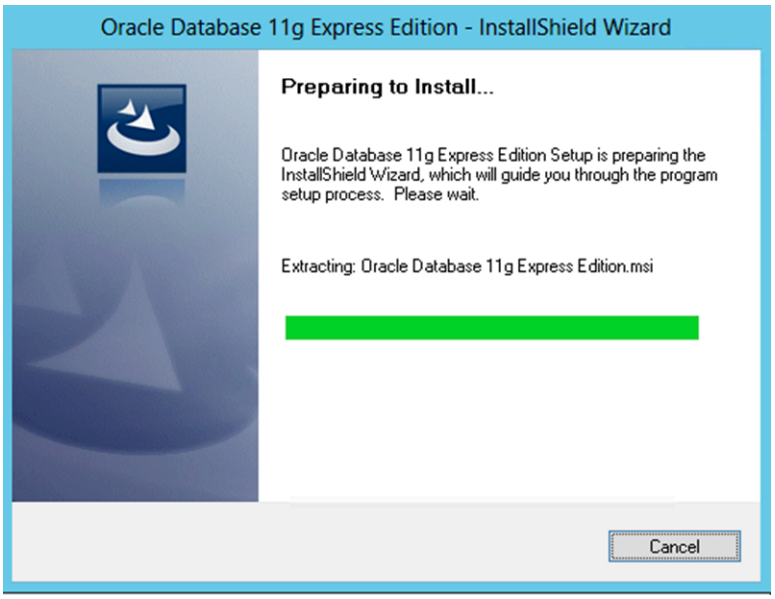
Please choose your selection and click on 'Next'

Summary and Start of Installation

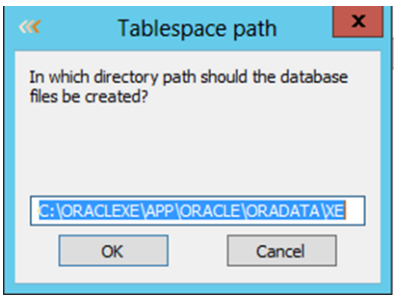
On clicking 'Install', all shown components will be installed.

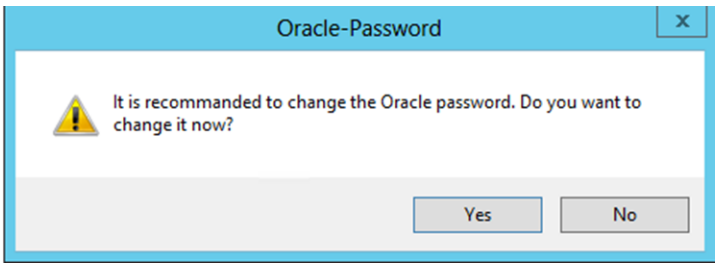


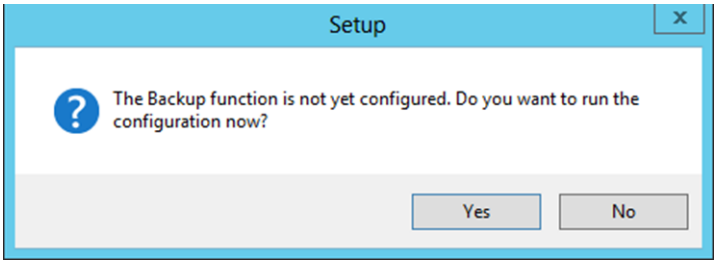
Please click on 'Yes' for Oracle instalation.

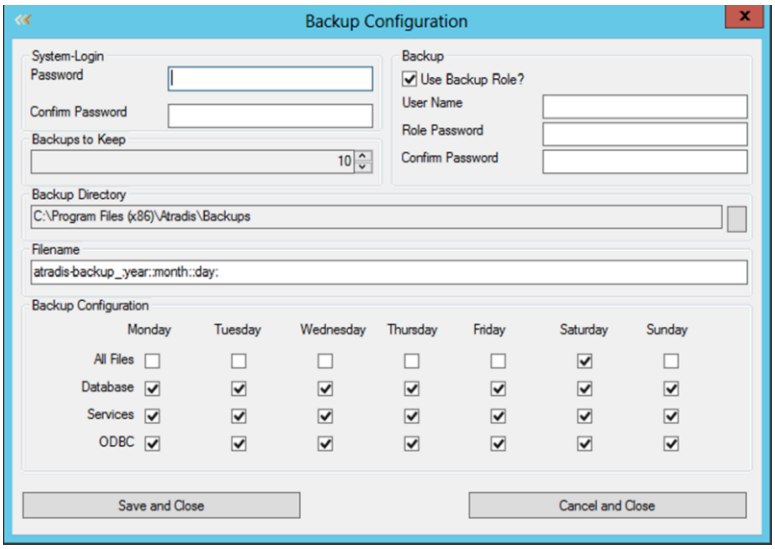


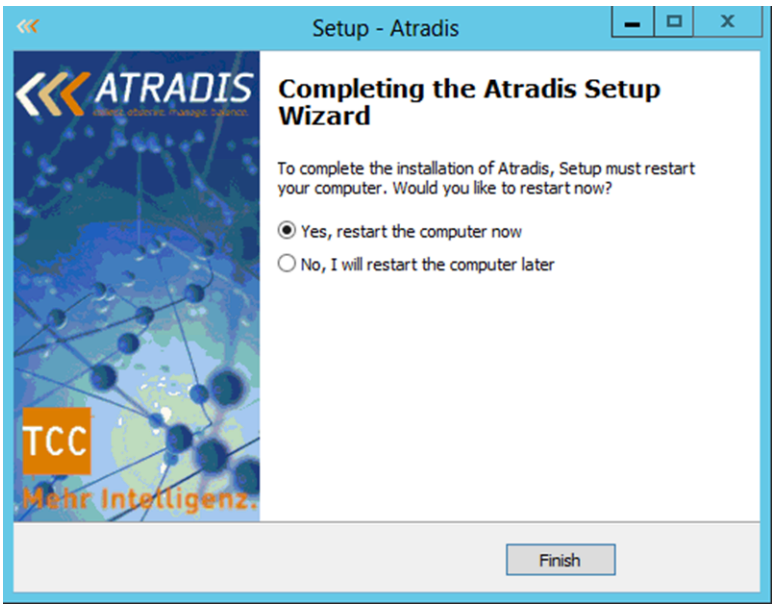
After an Oracle Server installation, the setup route presents you with an opportunity to change the password of the system user. During the installation, it is "oraclexe". We recommend using a strong password, which should then be saved in a secure location.











2.1 Completing the Installation

After the Installation

After rebooting your system, please start the OpenScape Accounting Configuration Wizard from the Windows Start menu.

INFO: For more information, see the Configuration Wizard chapter.

Loading Reports

Proceed as follows to make the standard reports available:

Start OpenScape Accounting and log in.

In the "Administration" tab, start the tool box.

Select the "Default Report Assignment" function and activate it.

Select the "Load reports" function from the "Report" tab. Select the file <PATH> \image\nsmreport.st from the installation directory.

If you intend to work with reports directly, select the "Reload reports" function from the "Report" tab. Otherwise, the reports are loaded at each program start.

Completing Work with OpenScape Accounting

Make sure that the OpenScape Accounting program has been closed on all clients. All servers (web, TC synchronization, etc.) and services (print server, CDR scheduler ...) must likewise be terminated.

Creating a Data Backup

In the standard installation, the backup wizard in the configuration wizard should be used to configure a data backup.

If the database is to be backed up directly, use the following command:

```
exp system/<password>@<database> file=<client>.dmp
 owner=<client>
```

where:

<password>: Oracle password of the system user

<database>: Database addressing (see the environment parameter in the atradis.ini file in the Image directory of OpenScape Accounting.

<client>: Selection option "Schema" when logging on.

If the "atradis" schema is not offered in the selection,

it must be additionally exported.

IMPORTANT: Please note that both the atradis and the finance schemas must be saved during the OpenScape Accounting installation.

Client Installation

The OpenScape Accounting setup should be used for client installation. Please run the file *setup.exe* from the installation CD and follow the instructions there.

Database Connectivity

If you want to install an Oracle Client, the setup routine will request you to enter the connection string for the Database connection. Please enter the string in the intended field. If you want to install the provided Oracle 10 XE-Client and you own the appropriate XE database, you must enter the IP address of the

database server. If OpenScape Accounting is being installed on the server, "XE" should be specified as the connection string.

If you want to use an existing Oracle Database, please contact your Database administrator and ask him for the connection string. For a complete installation (including Oracle 11g XE on the OpenScape Accounting Installation CD), the default values should be used as is.

If you later discover that you have made a mistake in your selection, you can change the generated settings by editing the file "atradis.ini" in the Image directory.

If you use Oracle Version 10 or later, you leave the option "Oracle Server Version 10 or later" enabled. It affects some performance settings which are only available in newer versions.

Performing a Data Backup

It is important that you also perform a data backup before the automatic update installation. Proceed exactly as described in the previous section.

3 Update der Software mit Migration der Datenbank auf postgreSQL

Update Installation

The OpenScape Accounting - installations DVD contains all the tools and programs to update the call accounting and put in in operation. To do this, you must first run the setup `OScACCSetup.exe`. The configuration wizard must then be executed. The steps required for this are described below.

Update of OpenScape Accounting

Wichtig:

Insert the installation DVD into the DVD drive. Start the program `OScACCSetup.exe` from the DVD, when it hasn't started yet.

The installation/update must be done with administrative rights, which means that a user account control warning may appear on newer Windows systems. This one has to be confirmed with “Yes”.

Language selection

The first step is to select the language to be used for the installation/update.

After selecting your language, you will be taken to the Welcome screen of the Setup.

Software Licence Agreement

Wichtig: After the Welcome window, the License Agreement appears. You should read this carefully. You can then accept the license agreement and click 'Next' or cancel the installation

---

Update notification

Wichtig: To be on the safe side, always make a backup of the old version!

Wichtig: This option can only be used in conjunction with a **locally installed Oracle XE database**. The database management system cannot be changed after the update.

The following message is displayed during a possible migration to OpenScape Accounting:

It was discovered that the older installed version works with a local Oracle XE database. With the update it is now possible to migrate the Oracle XE database to a postgreSQL database.

Only activate the checkbox if you want to migrate the Oracle XE database to a postgreSQL database.

If the checkbox is not activated, the Oracle XE database will continue to be used and only the tables will be adapted to the new software version.

Summary and start of the installation

Finally, a summary is displayed. Using the button **< back** the settings that have already been made can be corrected. If you want to apply the settings, click on the **Install** button to start the update.

4 Configuration Wizard

Introduction

Before OpenScape Accounting can be started after the installation, some basic settings have to be made first. The OpenScape Accounting Configuration Wizard is used for this purpose. The wizard steps you through the individual items and thus provides easy access to all the required options.

The Configuration Wizard can also be used to edit the individual options later.

The options in the wizard are used to make configuration entries within the database and in the configuration files. The wizard can likewise also be used to configure the various services associated with OpenScape Accounting.

IMPORTANT: The Configuration Wizard should only be run by experienced users. Careless usage can result in data loss. The wizard should only therefore only be run on the application server. Deleting the file `image/ConfigWizzard.im` deletes the application and thus ensures that it cannot be accidentally executed.

Navigating in the Config Wizard

The OpenScape Accounting Configuration Wizard guides you through the different areas of the application. The user can move to the next or previous page at any time by using the **Next >>** and **<< Back** buttons. The **Cancel** button can be used to exit the Configuration Wizard immediately.

4.1 Starting the Configuration Wizard

Connecting to the Database

Most of the configuration is stored in the database and thus applies to all clients that are connected to the database. Consequently, the connection to the database has to be configured first. During the installation, a database scheme called **atradis** is set up by default in the database. This scheme is selected in the first step. All configuration settings are then made in this database scheme.

For starting the configuration, the password of an administrative user, i.e. **syscable** (or **syscable_en** if present in the system) must be provided. By that, it is prevented that unauthorized users modify the system using the Configuration Wizard.

Clicking the **Next** button establishes the connection to the database. In this step, even the patches that are stored in the database for the Configuration Wizard also loaded.

INFO: The Configuration Wizard must be run with administrative privileges because, among other things, it also installs other services. Consequently, if the User Account Control of Windows is enabled on the system, a corresponding dialog box appears when the application starts. The dialog box notifies the user that system changes may be made by the application, and requires explicit confirmation.

Selecting the Startup Steps

The OpenScape Accounting Configuration Wizard offers a number of different steps that can be performed by the user. In the first step, the steps to be executed are chosen by selecting the corresponding check boxes. The individual steps are described in the following.

During the initial configuration, the license must be necessarily configured. Without a valid license, OpenScape Accounting will not run.

4.2 Loading Program Patches

4.2.1 Displaying the Loaded Program Patches

Program patches for OpenScape Accounting are stored in the database. Thus, they are automatically loaded and activated on all clients at login.

The table shows all program patches that are available in the database. The patch number (critical for the load sequence), the patch name and the patch release number are displayed by default. The displayed columns can be changed later with the native client (see the Administration Manual, Group Processing, Table: Patch).

4.2.2 Importing Program Patches

Specifying the Patch Directory

The patch directory is set to `OpenScape Accounting\image\patches` by default and should only be changed in exceptional cases. Patch files (`hdr` and `ptc`) from this directory can be loaded by not only the Configuration Wizard, on one hand, but also the administrative batch process "Load patches from directory", on the other.

Adding New Patches

Patch files obtained from the software server must be stored in the configured patch directory. In other words, all `hdr` and `ptc` files must be stored there.

All program patches from the patch directory appear at the bottom of the Patch page of the Configuration Wizard.

Loading Single Patches

A single patch can be imported by selecting it from this list and then clicking **Load patch** . If the program patch has already been loaded, a notification window will appear, and you can then select whether or not the patch in the database should be overwritten.

Finally, the result of loading the patch appears in a message box.

Loading All Patches

Clicking on **Load all patches** loads all program patches into the database. As in the case of loading single patches, a prompt may appear in some cases to confirm whether a patch in the database is to be overwritten.

4.3 Loading the License

4.3.1 Configuring the License Service

On the configuration page of the license, you can only edit the port of the License Agent and optionally specify a regular license file. If you did not configure a different port when installing the License Agent, `61740` is the default value.

The loading of a regular license file can be performed at a later point in time as well. Therefore, the Configuration Wizard's license setting page must be re-run. Alternatively, the license file can be registered directly within the License Agent.

When you then click `Next`, the configuration values are written, and the license is imported.

IMPORTANT: Setting up the license service is mandatory. If it does not run for an extended period, so further login will be possible until the service is running again.

4.3.2 Exceeding the License Volume

If the license volume of the loaded license is exceeded, the user receives a notification at each login. After this message has been displayed for the first time, a grace period of 30 days is granted for adapting the data to comply with the licensing framework. After this grace period expires, no further login is possible. The application can only be used again if a larger-volume license is imported or the data is purged by the vendor.

If a time-based license is used, a similar notification appears at login before the license expires so that an adequate response is possible.

INFO: Alerts can be defined in the switch processing (see the Administration Manual). For example, an alert can be generated when 80% of the licensed ports (measured each time after charges are imported) are reached and be sent by e-mail and/or as an SNMP trap by the SNMP agent.

4.4 Basic Settings

Introduction

The basic settings are used to define some basic configuration parameters for OpenScape Accounting that affect the application behavior. In addition, different services to handle partial functions of OpenScape Accounting can be set up here.

4.4.1 Common Settings

Unique Numbering Scheme	The call numbers (extensions) are unique, i.e., there are no extension numbers that exist on multiple switches.
Max. Length of Extension	To avoid wrong assignments, the maximum length of extension numbers can be limited to the specified length. When importing data, the detected extension is then truncated to the length specified here.
Deny Single Entry Reports	If this option is enabled, reports for specific extensions or subscribers are denied.
Allow Report for PINs	This option allows enabling or disabling reports of specific PINs.
Delete Data after Days	OpenScape Accounting can automatically clean up the data repositories. This setting specifies after how many days call detail records should be deleted from the system. A 0 disables the cleanup mechanism. Please observe any legal requirements in this context. The deletion is implemented only if the data cleanup service is also installed. The Configuration Wizard defines the cleanup interval for all existing call types (Business, Private, ...) with the given value. The native client can be used to define a derivating interval for a special type.
VAT	Defines the VAT value as to be shown within reports.
Install cleanup service	Installs and starts a Windows service, which performs the defined data cleanup operations in the background.
Log Unknown Records	If this option is enabled, records that were not recognized according to the selected pid are getting logged into a separate log file. By that it is possible to reimport them after a check and modification of the pid file.
Automatically create unknown extension numbers	If this option is enabled, new switches will automatically receive the rules to create unknown extensions and PINs.
Locking Alert	This option enables the generation of alerts if the record locking conditions were detected. This detection is only

	possible for records of OpenScape Voice.
Enable daily backup	Sets up a job in the OpenScape Accounting Scheduler Service that performs a daily backup
Working Hours	The working hours are relevant to correctly perform some of the analyses. Please enter the beginning and end of the standard working hours here, rounded to the full hour.

4.4.2 Print Settings

OpenScape Accounting has a report scheduler which executes scheduled printouts and exports. A Windows service is installed for this purpose; it monitors the job list. The service can by installed by selecting the **Install print service** check box.

The print service generates PDF files in a specified output directory. This directory can be set in the mask. Clicking on the **Select directory** button opens a directory selection dialog in which the output directory can be selected.

IMPORTANT: The directory must be located on a local hard drive on the server; network drives are not supported.

IMPORTANT: The directory must be writable for all users that should create and send reports via email out of the native application.

4.4.3 History Settings

Introduction

OpenScape Accounting has an integrated history function. It this function is enabled, whenever a predefined field of a subscriber or extension is changed, a history record is created for that object (up to a maximum of one history record per day). This enables a distinction to be made between the two objects for accounting purposes.

Here are two examples to illustrate this: if the "paying subscriber" (i.e., the one responsible for the cost) of an extension changes, it is useful to maintain a history so that the costs incurred can be selectively charged to the respective subscriber. When the PIN of a subscriber changes, then a history record should be generated for this as well so that call charge data can still be assigned to the 'old' PIN.

The history feature is taken into account especially when importing charges: if the feature is enabled, then the assignment of the record is not just done on the basis of the extension or subscriber, but also by taking the date of the call into account. In other words, the extension or subscriber that was "valid" at the time of the call is used.

This effectively means that a subscriber or an extension is only valid for a specific time period. For example, if an extension is created on 13.04., the call data for calls conducted on 10.04. would be discarded.

If the history function is enabled, the behavior of the Delete function changes in the Subscriber and Extension Management. The subscriber or extension is not removed from the database, but is only flagged as deleted. The table filter "Valid Rows" can be used to display only those rows that are currently valid. The table filter "Most Current Rows" shows those rows that have not yet been marked as deleted.

Enabling the history function causes additional controls to navigate through the history to be displayed at the top when editing subscribers and extensions. This makes it easy to look at the history of the current subscriber and to determine which property has changed.

IMPORTANT: Once the history function has been activated and history records have been created, the function should not be disabled again without performing an extensive reorganization of the data. For example, no extension number should occur more than once, since this could otherwise result in undefined conditions during data acquisition.

Settings of the History Function

Enable History Objects	Enables or disables the history function
Extension: history on change of	When history objects are enabled, you can enter the data fields of the extension here – separated by the hash (#) sign – for which a change history should be recorded.
Customer: history on change of	When history objects are enabled, you can enter the data fields of the subscriber here – separated by the hash (#) sign – for which a change history should be recorded.

4.4.4 Automatic Creation of New Logins

OpenScape Accounting provides the ability to automatically have a new login created for every new configured user so that these users can subsequently log into the web application or a native client. In such cases, the login name can be composed from the properties of the subscriber.

Editing a subscriber also causes a login to be created or the user to be updated. However, the login name remains unchanged.

The individual options are:

Create login for new subscribers	Enables or disables the generation of user logins for subscribers
Group for new logins	Newly created users are assigned to the group defined here. The group

	should ideally have very restrictive viewing and editing options.
Login template	New logins are created according to the template defined here. A vertical bar separates the individual components from one another. The properties of a subscriber can be inserted into the login with #PROPERTY. By default, the template `#firstname|.|#lastname` is used, which produces a login the form "john.doe".
New user password	The initial password for the user is entered here.

4.5 SNMP-Agent-Settings

General

The OpenScape Accounting's SNMP agents allows to inform a configured monitor application to receive SNMP traps about malfunctions or other special events. Additionally, it enables such a program to query some tables via an SNMP walk.

Configuration of the SNMP agent

To configure the agent, only the **local UDP port** must be specified. This port is used to send requests to the agent. By default, this is port `161`. If there are other SNMP agent installed on the same computer as OpenScape Accounting (e.g. an operating system's agent), it might be required to modify the port.

SNMP traps must be sent to a receiving monitoring program. Its host must be defined within the fields **SNMP trap target host** and **SNMP trap target port**.

The SNMP agent as well as the generated traps can be configured to be accessed or to be send using SNMPv2c or SNMPv3. If SNMPv2c is selected, the SNMP `Community` must be specified. If SNMPv3 is selected, a `user name` as well as the `authentication protocol` to used (`SHA`, `MD5`, or `none`) must be specified. If an authentication protocol is used, a `privacy protocol` (`DES`, `AES`, or `none`) can be used as well. For both, the authentication as well as the privacy protocol, a password can be specified which must be at least eight characters long.

Testing the Configuration

For testing the configuration, a SNMP trap can be sent to the configured destination. Therefore, the button **Send test trap** must be pressed.

Activating the SNMP agent

If the checkbox **Install SNMP agent** is marked, the according service is getting installed. Only if this service is installed and running, SNMP traps can be sent and requests can be received.

4.6 SMTP Configuration

General

OpenScape Accounting is able to send mails with user reports or notifiers. To be able to do so, a proper mailserver must be configured. The Configuration Wizards assists for this task.

Configuring the Mailserver Settings

Mailserver address	Hostname or IP addresse of the mailserver
Mailserver port	TCP port of the mailserver, `25` or `587` by default
Sender address	This email address is used in mails as the sender address
SMTP user	Username used for authentication at the mailserver (if required)
SMTP-Passwort	Password used for authentication at the mailserver (if required)

Testing the Mail Configuration

After having finished the configuration of the mailserver settings, a test mail can be sent. Therefore, a **receipient address** must be entered and the button **Send Testmail** must be clicked. If an error occurs during sending the mail it will be shown, otherwise there will be a test mail in the receipient's inbox.

4.7 Tariff Configuration

The classification determines the calculation of the costs for a call.The configuration wizard helps you load a tariff table or customize an existing tariff model.

4.7.1 Selecting the Tariff Model

In order for OpenScape Accounting to work correctly, (at least) one tariff model must exist. After the installation, the standard database contains a pulse-based tariff model and a time- (call-duration-) based tariff model. In addition, it is possible to load individual tariff models (based on a so-called vlist). A correct calculation from pulse-based charges is only possible if the switch (and thus the carrier as well) provides pulses.

In the default configuration, a charge group for business calls is created. Further charge groups can be created additionally. Fees can be calculated depending on the charge group, and calls can be charged separately. For each charge group it is possible to define the number of digits that should be overwritten with an "x", starting with the rightmost digit.

4.7.2 Tariff Rates Based on Units

To use this tariff, the pulses must be included in the call data records. Please fill in the following fields:

Field	Description
Tariff Area	The name of the tariff area.
Carrier	Fixed. Displays the carrier or the carrier tariff respectively.
Country Code	Country code for the tariff area, without the international access code. For example, the country code for Germany: 0049 -> 49
Area Code	The area code for the tariff area, without the international access code. For example, the area code for Oberhausen 0208 -> 208
International Access Code	The access code required for international calls (e.g. in Germany: 00)
National Access Code	The access code required for national calls (e.g. in Germany: 0)
Costs / Pulse (Business)	The fee that is charged per pulse.
Costs / Pulse (Private)	If the charge group "Private" has been enabled, please enter the costs per pulse here.
Costs / Pulse (External Company)	If the charge group "Company" has been selected, please enter the costs per pulse here.

4.7.3 Tariff Rates Based on Duration

To use this tariff, the duration must be included in the call data records. Please fill in following fields:

Field	Description
Tariff Area	The name of the tariff area.
Carrier	Fixed. Displays the carrier or the carrier tariff respectively.
Country Code	Country code for the tariff area, without the international access code. For example, the country code for Germany: 0049 -> 49
Area Code	The area code for the tariff area, without the international access code. For example, the area code for Oberhausen 0208 -> 208

Field	Description
International Access Code	The access code required for international calls (e.g. in Germany: 00)
National Access Code	The access code required for national calls (e.g. in Germany: 0)
Private Calls	If the charge group "Private" has been enabled, you can enter a surcharge in percent (a positive value) or a discount in percent (a negative value) with respect to the default price here.
External Company	If the charge group "External Company" has been enabled, you can enter a surcharge in percent (a positive value) or a discount in percent (a negative value) with respect to the default price here.

4.7.4 Tariff Rates Based on Individual Tariff Table

Preparation

To load an individual tariff table, the table itself and an `import.ini` file must be present. The tariff table must have been constructed in German but can naturally also have been created for any other international location.

Setting the Import Parameters

The `ini` file can be selected in the upper area of the import window. The name of the tariff area is detected from it. The folder name is used as the default for the carrier. However, it can also be changed.

Substitutions are possible for both international and national prefixes. Substitutions are not required for E.164 numbers.

If the **with country code** option is enabled, 0049 is used for national prefixes instead of a leading 0. Hence, 089 becomes 004989. If the **additionally with country code** option is enabled, the entry in our example is both imported with 089 and with 0049.

The **+ instead of international access** option is used to replace a double 0 in front of international prefixes with a + sign. Hence, 0049 becomes +49. If the **+ additionally to international access** option is enabled, the entry in our example is both imported with 0049 and with +49.

Tariff Rates based on multiple Individual Tariff Tables

Until now, it could happen, that the wrong location was shown in a Report when multiple Tariffs were used. The Problem based on the Situation that all Tariff Tables use the same Avon Table. When in one Tariff 0911 Nürnberg and in another Tariff 091 Spain exist, the Report would not show everytime the correct location for an single Call. Now with OpenScape Accounting V3, each Tariff imported uses his own Avon Table. So no overlapping regarding locations exists anymore.

Starting the Import

The tariff table is imported by clicking on the **Run** button. If tariff area with the specified name already exists, the tariff will be added there. If an entry with the same carrier already exists in this tariff area, the selected tariff will be created and be valid from the current date onwards. If such a tariff also exists, the import cannot be performed.

INFO: An existing tariff can thus be updated by importing a tariff with the same tariff area and carrier. Following the import, the new updated tariff will be used for evaluating call charges rather than old one.

4.7.5 Nutzung merherer kundenindividueller Tariftabellen

Prilimanary

To load a Tariff Table (in the Way of an `vlist.tda`-File), the `import.ini` must also exist.

Defining Import Parameters

Im oberen Bereich des Importfensters wird die `Import.ini`-Datei ausgewählt. Diese muss im gleichen Verzeichnis liegen wie die `vlist.tda`. Der Ortsnamen in der Import.in wird als Tarifbereich übernommen. Standardmäßig wird der Verzeichnisname als Carrier übernommen. Dieser kann jedoch auch geändert werden.

Die internationalen Vorwahlen, wie auch die nationalen Vorwahlen können während des Imports der Tabelle angepasst werden. Dies ist im Falle von E164-Nummern nicht notwendig.

Durch die Option **mit Landesvorwahl** wird bei nationalen Vorwahlen statt der führenden 0 ein 0049 eingefügt. Aus 089 wird somit 004989.

Die Option **mit Landesvorwahl zusätzlich** importiert den Eintrag im Beispiel sowohl mit 089 als auch mit 004989.

Die Option **+ statt internationaler Zugang** kann eine doppelte 0 vor internationalen Vorwahlen durch ein + Zeichen ersetzt werden. Aus 004989 wird somit +4989. Die Option **+ zusätzlich zu internationalem Zugang** importiert den Eintrag im Beispiel sowohl mit 004989 als auch mit +4989.

Starten des Imports

Durch einen Klick auf die Schaltfläche **Durchführen** wird die Tariftabelle importiert. Wird festgestellt, dass bereits ein Tarifbereich mit dem angegebenen Namen besteht, so wird der Tarif dort hinzugefügt. Besteht in diesem Tarifbereich bereits ein Eintrag mit dem gleichen Carrier, so wird der gewählte Tarif mit einem Gültigkeitsdatum ab dem aktuellen Datum erzeugt.

INFO: Durch das Importieren eines Tarifs mit gleichem Tarifbereich und Carrier kann ein bestehender Tarif aktualisiert werden. Nach dem Import des neue Tarifes wird dieser beim nächsten Gebührenimport zur Berechnung der Gebühren herangezogen statt des bisherigen "alten" Tarifes.

4.8 SIP Endpoint XML Import

4.8.1 OpenScape 4000

Structure of the XML File

OpenScape 4000 endpoint files are only supported from version V6. However, it must be created manually since it cannot be generated by the system. The structure of the endpoint file looks like this:

```
<?xml version="1.0" encoding="utf-8"?>
<ArrayOfSIPEndpoint>
  <SIPEndpoint>
    <Address>12345</Address>
    <SIPEndpointType>Gateway</SIPEndpointType>
    <Node>10001500</Node>
    <Trunk>PSTN</Trunk>
  </SIPEndpoint>
  <SIPEndpoint>
    <Address>54321</Address>
    <SIPEndpointType>HiPathNode</SIPEndpointType>
    <Node>10001500</Node>
    <Trunk>HG3550_NETZ4000</Trunk>
  </SIPEndpoint>
</ArrayOfSIPEndpoint>
```

The above example defines a system with two trunks. The switch has the node number **10-001-500**. It includes the trunks **12345** as a **PSTN trunk** and **54321** as a non-PSTN trunk. The PSTN trunk 12345 is identified as **PSTN** and the trunk 54321 as **HG_NETZ4000**.

IMPORTANT: OpenScape Accounting uses the trunk number to uniquely identify the switch. This is why the same trunk numbers must never be reused on different switches.

Actions During XML File Import

During import of the XML file, the individual SIP endpoint elements are processed in sequence. First, a check is performed to see whether a switch with the specified node number exists. If this is not the case, it will be created. During creation, the node number is also assigned as the name of the switch. The node number is usually in the format aa-bbb-ccc, however, the hyphens not taken into consideration.

IMPORTANT: Any subsequent synchronization with OpenScape Manager may result in the switch being renamed. The leading criterion for synchronization and import of the XML file is the node number. However, since the node number is identical in both cases, the switch will not set up twice.

Then, a check is performed to see whether a trunk with the specified number already exists. If this is not the case, the trunk will be created. Then, the note for the trunk and its identification (i.e., whether it is a PSTN trunk or not) are updated with the current values.

Only trunks are added during import. If certain trunks are missing in the XML file during a transaction, they will not be deleted from OpenScape Accounting. The same applies to switches.

Newly imported trunks are created with the default carrier DEF. The carrier must be edited manually to ensure that tariffs are calculated correctly. Likewise, for a newly imported switch, the default DEF tariff area must be changed to a valid tariff area, and a PID file must be specified before the call charge data can be added for this switch.

4.8.2 OpenScape Voice

Structure of the XML File

The SIP endpoint file is generated by the OpenScape Voice (see newest OpenScape Voice Documentation, Interface Manual: Volume 1, CDR Interface, Chapter OSV Assistant SIP Endpoints XML File). It contains information about the individual switches and the connected gateways. The structure of this file looks as follows:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SipEndPointsInfo>
  <Name>myosv</Name>
  <Node1Name>myosv-node1</Node1Name>
  <Node2Name>myosv-node2</Node2Name>
  <PisnID>11-222-333</PisnID>
  <ListOfSipEndpoints>
    <SipEndpoint>
      <Name>h4k_demo</Name>
      <Type>NNITypeHipath4000</Type>
      <IpFqdn>172.20.10.10</IpFqdn>
      <Location>
        <Name/>
        <Code/>
      </Location>
      <ServiceProvider/>
    </SipEndpoint>
    <SipEndpoint>
      <Name>pstn_munich</Name>
      <Type>NNITypePSTNGateway</Type>
      <IpFqdn>172.20.10.50</IpFqdn>
      <Location>
        <Name>Munich</Name>
        <Code/>
   </Location>
      <ServiceProvider>Demo</ServiceProvider>
    </SipEndpoint>
  </ListOfSipEndpoints>
</SipEndPointsInfo>
```

The above example includes an OpenScape Voice with the name **myosv**; it consists of the two nodes **myosv-node1** and **myosv-node2** (duplex system). This switch has two gateways: the gateway**h4k_demo** acts as a gateway to a networked HiPath 4000 (type is **NNITypeHipath4000**) and has the IP address **172.20.10.10**. No location or carrier-specific information is given. The gateway **pstn_munich** acts as a gateway to the PSTN (type is **NNITypePSTNGateway**);

it has the IP address **172.20.10.50**. The gateway is located in Munich (location/ name is **Munich**), the connected carrier is **Demo** (service provider).

Actions During XML File Import

During import of the file, the associated switch is updated or created. The name of the switch (i.e., **myosv**) is the decisive import criterion. The PSTN ID is the node number of the switch; it is updated at each import.

After the switch has been added, the gateways are created or updated one by one. During these processes, a gateway is identified by the value of the IpFqdn element: if its value begins with a number, it is assumed to be an IP address and a search for a gateway with this IP address is performed. Otherwise it is assumed to be an FQDN and a search is performed for a gateway which has this FQDN as its host name.

During the creation or the update, the gateway type, the tariff area, the carrier and the channels are being updated. The gateway type is derived from the **Type** property, the tariff area from **Location/ Name**, the carrier from **ServiceProvider** and the channels from the **Channels** element.

After the gateways have been imported, they are assigned to the switches as necessary. This is done by creating the corresponding carrier entries in the switch.

When synchronizing the SIP endpoints, new gateways are added and existing ones are updated. Gateways which have been removed and are no longer included in the endpoint file must be manually removed from OpenScape Accounting.

INFO: The import of the XML file should only be performed after the import of the tariff table, otherwise the automatic assignment procedure will fail.

IMPORTANT: The tariff rate settings are not recorded in a history. This means that the current values are used always. This must be taken into account during any subsequent recalculation of the call charge data, since the tariff area or carrier of a gateway may have changed in the meantime.

4.9 Manual Setup of Telecommunication Systems

The TC systems (switches) are normally maintained by a management system and imported into OpenScape Accounting through synchronization. However, in exceptional cases, it may be necessary to add the equipment manually, especially in cases where CDR data is generated by third-party systems, for example.

IMPORTANT: The setup is **not** suitable for updating system properties. The main application must necessarily be used for editing.

4.9.1 Defining a Switch

A switch is identified by two characteristics: the name and the node number. The name is frequently used in the assignment of master data, the node number, by contrast, when importing charges. Both values must be unique, which means that no two switches may be created with the same name.

After the name of the new switch as well as a valid node number have been entered, the switch is created in OpenScape Accounting by clicking on **Next**. For the tariff area and carrier, the previously set values are applied.

IMPORTANT: This mask sets up a switch so that all trunk numbers from `1` through `99999` are assigned to it. However, since OpenScape Accounting expects the respective switch to be unambiguously derivable from a trunk number, this setting must be checked and corrected when configuring multiple switches.

IMPORTANT: For internal call, normally the trunk number `99999` is used. This trunk number does not need to be unique, i.e. it may be configured on every switch. If the switch was configured differently, the value may be changed by the constant named `InternalTrunkNumber` (type: `Number`, module: `finance`).

4.9.2 Assigning the PID File

Introduction

Call charge data is output in different formats by different switches. These formats vary both in the length and in the amount of information they give about calls.

OpenScape Accounting uses so-called "PID files" to interpret the data (PID stands for PABX Interface Description). PID files for all of the most common switches are already included in the delivery scope. Other formats can be ordered from the vendor. Based on these files, OpenScape Accounting can record, interpret and evaluate call charge data for any switch vendor or type.

NOTICE: If an OpenScape 4000 switch is used, the Assiatant/Manager's COL must use the output format `PHYS_HP_COL_V1.0` (or `PHYS_H400_HPAM_E164` if using E164).

Selecting a Provisioned PID File

OpenScape Accounting provisions PID files for many different switches. From the selection box, choose the PID which matches the configured switch. If an individual PID file exists, it can be selected via **Load File** . The file is then copied to the local hard drive and can be accessed from there.

Once the correct PID file has been selected, click **Accept** to confirm the selection. Call charge data can now be loaded into the configured switch.

4.9.3 Defining Data Transfers

Introduction

OpenScape Accounting can import call charge data from local files as well as remote systems. This chapter includes manual configuration examples. A more convenient configuration screen is described in the following chapter.

The screens for defining the transfer of call charge data are similar to those of the CDR Transporter. They are described in detail in the OpenScape Accounting Scheduler chapter.

Defining the Transfer Method

OpenScape Accounting provides various transfer methods for retrieving call charge data from a switch. However, often a local HiPath COL is used and takes care of the transfer job. In such cases, the transfer simply consists of importing the data records output by COL.

The `copy` method is used in such cases. No other settings are required in this screen for our example.

Defining the Data Files

In the second part of the call data record definition, a transport job is defined that lists the transferred files and transfer times for the CDR import. Since the data is to be deleted from the COL output directory after the transfer has been completed (to prevent the data from being imported twice), the `Collect and delete` transfer method is used. In addition, the path for the COL output file and the path for a temporary file must also be specified. The retrieved data is copied into this temporary file and then imported.

IMPORTANT: The local file must have an extension, otherwise problems may occur during processing.

The following table shows all available screen options.

Field	Description
Name	A unique name for the transport job.
Collect …	Here, the direction of the transfer (seen from the current machine) is configured, and if the original files should be deleted after the transfer.
Node	The previously defined node.
Format	Optional, used for reformatting records
Access Type	Indicates whether data should be transferred in Binary or ASCII format.

Field	Description
Host directory	A directory on the target machine where the transferred files can be found / into which the files will be transferred. The final backslash behind the last subdirectory must be specified (for example, `C:\Program Files\OpenScape Accounting\work\` instead of `C:\Program Files\`OpenScape Accounting`\work`)
File Name Target Host	The name of files in the source directory of the target machine that should be transferred.
Local directory	A directory on the local machine, into which the files are transferred / from which files are transferred to the target machine.
File Name	The name of the local file.
Format	Optional, used for reformatting records
Transfer settings	Here you can specify when the job is to be executed the next time and at which intervals it is to be repeated thereafter. For example: The interval day and the repetition 2 specify that the transfer is executed every second day, starting with the specified date and time.
External Job	By default, the `importGebuehren.bat` file from the OpenScape Accounting image directory should be specified here. After the file has been transferred successfully, the file specified here is executed by the scheduler and triggers the import of the newly transferred data.

4.10 OpenScape Business Configuration

4.10.1 Connection Data

Host Informationen

Within the host information, the parameters to connect to the switch must be specified. These are the `host` of the switch as well as an `user` and its belonging `password`. The user must be allowed to perform data requests using the HTTPS interface.

Interval

Within the interval settings, the interval value as well as the unit can be specified. Additionally, the next execution time can be given.

System Informationen

Within the system information, the data for the new switch to be created within OpenScape Accounting can be specified. Besides the `switch name` and `switch number` these are the `tariff area` and `carrier` as well as the used `trunk numbers`.

Prior to creating the switch in the application, the values are checked for validity. If a value is invalid, no configuration will be performed.

During the creation, the object will be added to the switch table and the required transfer jobs within the Scheduler Service will be created.

4.10.2 Master Data

The OpenScape Business offeres a port configuration file named `port_data.xml` which lists all configured extensions. This file can be imported using the Configuration Wizard.

Therefore, the file must be selected. During the switch creation, the file will be read and the found extensions will be added. The field **Internal Station Number** will be used as extension number and the field **Display Name** as name for the corresponding subscriber.

If the file is not in the expected format or if there is an error during the import, the import will not be performed.

4.11 Extension block

Common

Extension blocks are used in the ETB module in order to manage and display interconnected extensions.

The configuration can only be carried out if the module ETB is licensed.

4.11.1 Create/select extension blocks

Common

The configuration window is divided into two areas.In the upper part, the selection of the extension block and the lower one of the configuration is shown.

Selection of an existing extension block

In the selection list, configured extension blocks are listed.If an entry is selected here, its values are accepted into the processing.A new block can only be selected when processing has been completed.

Add a new extension block

By clicking the **Add** button a new extension block can be created.When you create, the system checks whether the name is unique;If not, a corresponding error is indicated.A new extension block is automatically transferred to the processing.

4.11.2 Edit the extension block

Common

A extension range (**from** and **to**) which it is valid, must be defined for each extension block. A check for overlaps with other blocks does not take place.

Definition of the extension block

Two to four sets can be defined for each extension block.These sets determine how the derived extensions compute. A **name** and **rule** must be defined for each set.

The set 1 should always represent the basic call number, as rule should be entered `+0`.

The set 3 is not activated until a rule two has been inserted, according to Set 4 according to rule 3.

The rule is entered as the set is calculated based on the base rule. Simply enter the value `+X` or `-X` accordingly `+X`.

Example: In a company the numbers 0-9999 are switched. As a matter of principle, the employees use extensions from the area 2xx. The 8 followed by its extension is their voice box, the 9 followed by the extension to the associated DECT telephone.

The configuration of the sets would therefore be:

- Set 1, Name `Ext` rule `+0`
  - *Example* - Set 1, extension 210 (no adaption, because of `+0`)
- Set 2, Name `Voice box`, rule `+8000`
- – *Example* - Set 1, Voice box 8210 (adaption, because of `+8000`)
- Set 3, Name `DECT`, rule `+9000`
- – *Example* - Set 3, Dect 9210 (adaption, because of `+9000`)

Complete the configuration

After the extension block has been configured, the settings must be saved using the Accept button.

NOTICE: The changes are only transferred to the database and saved after the configuration page has been left with the **Next** button.

4.12 Transfer of Call Charge Data

4.12.1 Selecting the Switch

The transfer of call charge data is always configured for a switch. For each switch, a separate data source and schedule can be defined.

IMPORTANT: The switch must have already been set up before configuring the transfer of call charge data, for example, via a OpenScape Manager Synchronization or SIP Endpoint Import.

The switch for which the transfer of call charge data is to be configured can be chosen in the selection box in the upper part of the window. After the selection, the controls are enabled; however, the buttons for navigating through the wizard are disabled. All edits must be explicitly accepted or discarded by pressing either the **Save** or **Discard** button. By pushing the **Delete** button, the transport job for the selected node will be deleted as well as the node itself; therefore, no further data will be fetched for the switch. After pressing one of these buttons, you can navigate through the wizard again select another switch.

INFO: The Configuration Wizard can be used to not only define new transfers of call charge data, but also to edit existing entries. Both the file storage location and the transfer interval are read and indicated in the input fields as defaults.

4.12.2 Local Transfer of Call Charge Data

A local transfer of call charge data is always configured whenever the data file is on the same system as OpenScape Accounting. This is especially the case if the HiPath COL is used to transfer the data from the switch.

After selecting the transfer type **Local**, only the data file needs to be specified via the file selection dialog. The file must reside on the local computer. Network drives are not supported.

4.12.3 Remote Transfer of Call Charge Data

Call detail records are often not stored on the local system, but only on the phone system itself or a central "data collector". OpenScape Accounting can retrieve the CDR records from such remote systems as well and supports different transfer mechanisms for this purpose. In the Configuration Wizard, only the most common protocols FTP and SCP are supported, but other protocols may also be used by setting up a transport job manually (see the OpenScape Accounting Scheduler Service).

The following values must be filled in the remote data transfer screen:

Host	IP address or host name of the remote system.

User	Login name to be used for authentication on the remote system.
Transfer Type	You can select whether the files should be transferred using FTP, SFTP, SCP, or HTTPS here.
Password / Confirm Password	Password to be used for authentication on the remote system.
Directory	Directory on the remote system from which the data is to be retrieved, specified with a final directory separator (normally a slash /).
File Name	File name of the data file on the remote system.
Fetching via HTTPS from OpenScape Business	If data should be retrieved from an OpenScape Business switch, this option must be activated. The required URLs will be filled automatically and the HTTPS request for displaying and clearing the buffer will be created. Two transport jobs will be created wihin the Scheduler Service for fullfilling these tasks; both are required for a proper functionality.

The validity of the connection data can by verified clicking on the **Test connection** button. The Wizard connects to the remote system, logs in and displays the result.

IMPORTANT: If `SCP` is used for the transfer, password authentication must be enabled on the server; the `keyboard-interactive` authentication method is not supported. If the message "Connection ok. Login failed." is displayed during the connection test, this indicates that the password authentication is disabled.

4.12.4 Defining the Transfer Interval

After the settings for the data file have been made, the transfer interval must be defined. This is done by specifying whether the polling should occur on a monthly (`month`), daily (`day`), hourly (`hour`) or per minute (`minute`) basis. Then, the interval is set. For example, the setting `1` and `day` means that the data transfer should be performed daily (i.e., every 24 hours). The time for the next run is specified in the **Next Run** field.

If the check box **Enable import after transfer** is selected, the transferred data is immediately added and charged through the CDR import. If it is not selected, the data is only appended to the existing file.

4.13 Configure system for associated device

Generally

From OpenScape 4000 V.11 version it is possible to assign several devices to an extension. OpenScape Accounting displays these assignments and offers various reports in this regard. The data can be retrieved from the system using “dipas_batch” with the AMO UPLO2. The retrieval always includes all ports set up in the system. All extensions that were imported via AMO UPLO2 are marked with the ASD option.

4.13.1 Select system for Associated Device

Selection of an existing system for which the associated devices are to be retrieved. Then click *Apply*and then *Next*

Wichtig: The Associated Device function can only be used in conjunction with an OpenScape 4000 V.11.

4.13.2 Associated Device - SSH - define access

Enter the SSH access data

Selection of an existing PABX for which the associated devices are to be retrieved.

Host:	IP - Adress of the PABX
Port:	Port (Standard SSH = 22)
User:	User for SSH access. The user must have permission to to use “dipas_batch”.
Password	User password
Associated Device	Activate option to use the Associated Device function.

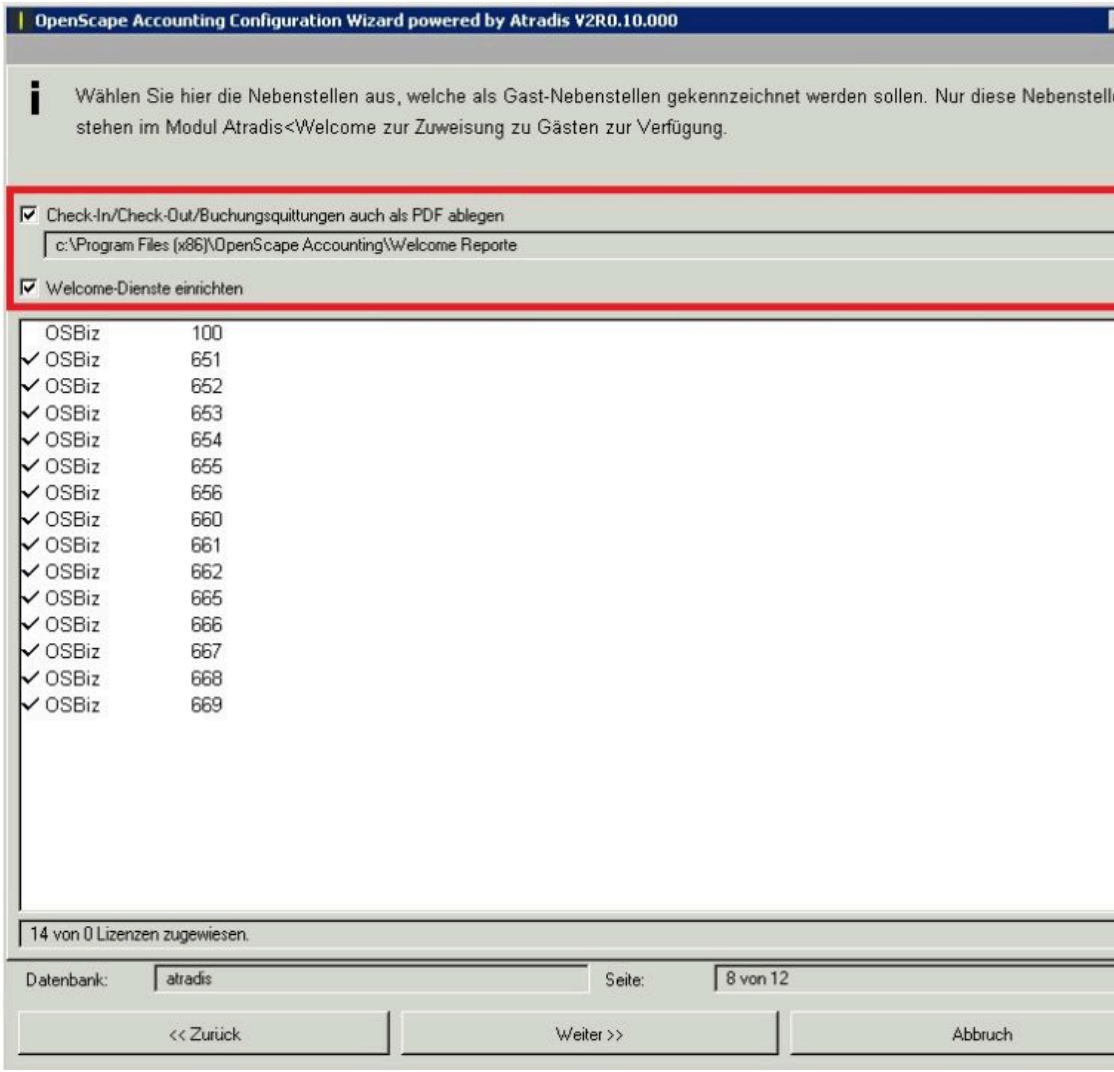
AThen click *Apply*and then *Next*

Wichtig: The Associated Device function can only be used in conjunction with an OpenScape 4000 V.11.

An entry is now created in the Scheduler Service in the background.

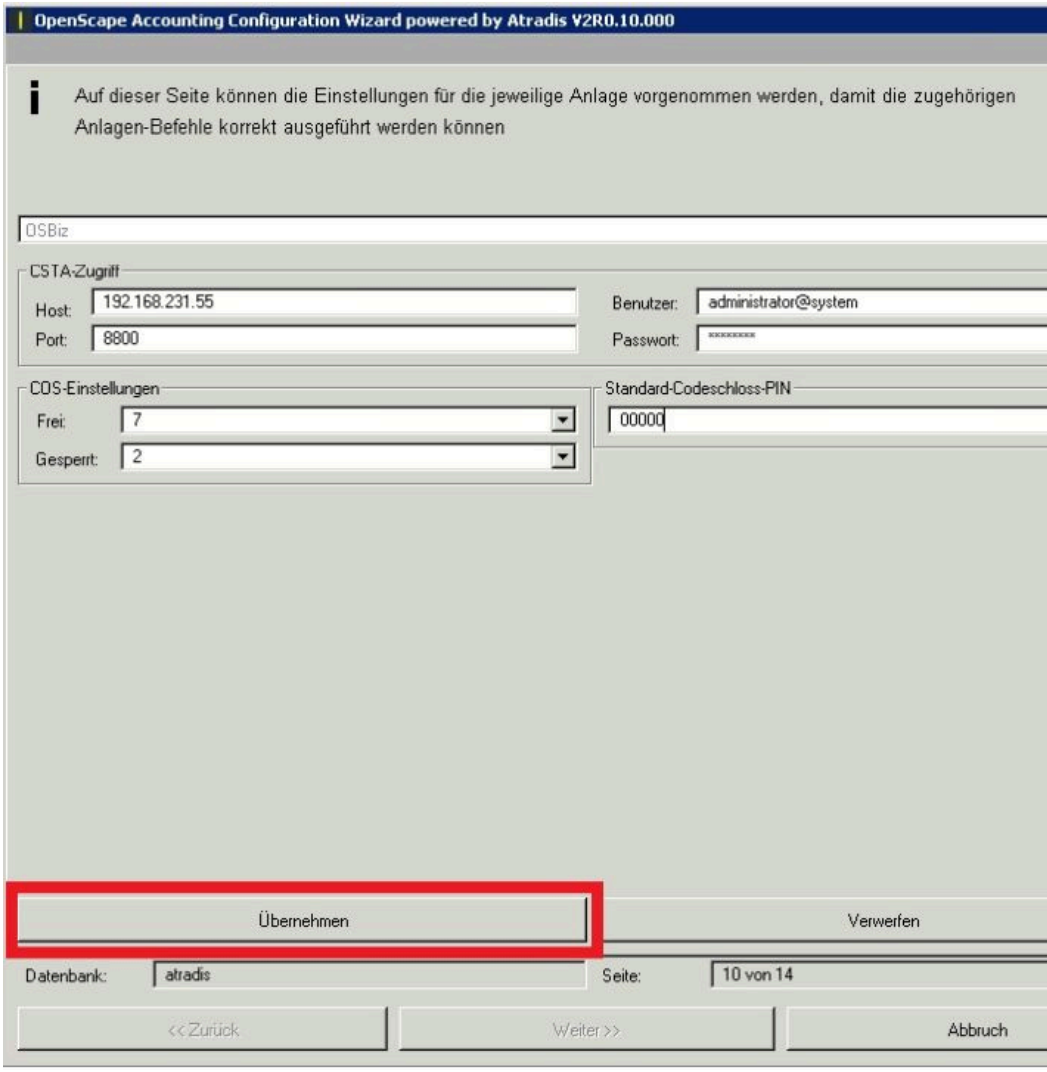
4.14 Configuring Welcome

The additional Module "Welcome" will be configured using the Configuration Wizard. Two Forms will be available for configuring Welcome. The first Form is used for Configuration, installing the needed Welcome-Services and Identifying Guest Extensions.



Special Reports will be needed for using Welcome.OpenScape Accounting is able to save each Printout as PDF File in a defined Folder in parallel. If this Function is used, an specific Folder must be entered for saving the PDF Files used by Welcome. If the Evidence shouldnt't be sent to an Printer the Option **Print Check In/Check out/Booking Bills on Printer** must be deactivated. The Option **Setup Welcome Services** must be activated , otherwise no Commands can be send to the Switch. Possible Switch-Commands will be locking and unlocking of Extensions, Display-Updates or PIN-Updates. The Services "OpenScape Accounting Welcome Cost Assignment Service", "OpenScape Accounting Welcome Print Service" and "OpenScape Accounting Welcome Switch Command Execution Service" will be installed.

After successfully importing the Personal Data from the Switch all available Extensions will be shown in this Window. While clicking on one of the Records, the Extension will be marked as „Guest-Extension“ and will be available for Welcome. In the lower Section of the Window, the maximal amount of Guest-Extensions which can be configured is shown. The second Form is used for configuring the connection tot he Switch. Depending on the Switch Type, different Options are available.



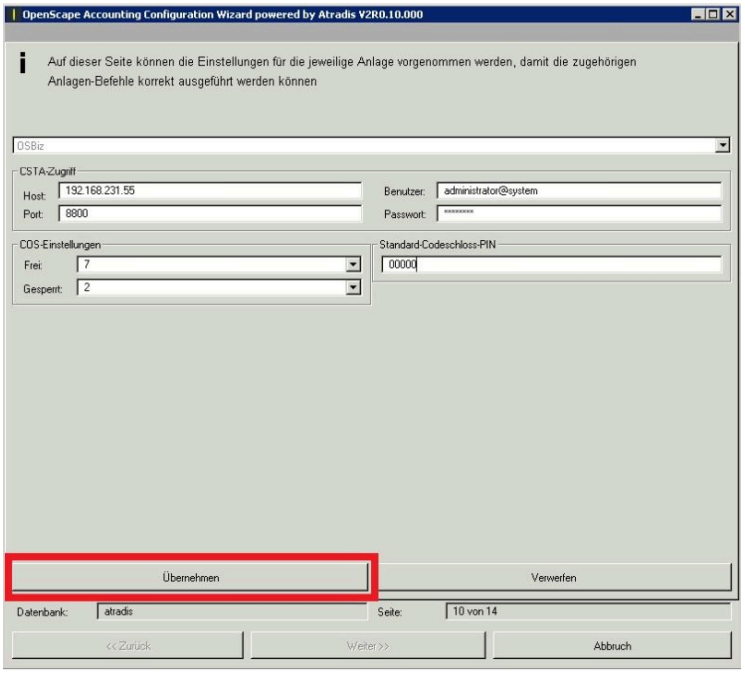
After an Switch is selected, the access to the Switch must be selected and configured. When selecting OpenScape Business, the CSTA-Interface is used. In the CSTA-Inferface, the following Parameter must be set:

- Host
- Port
- Username
- Password

In the COS-Settings it will be defined which COS an Extension will get assigned if the Extesion has the Status „Free“ or „Booked“. As Standard COS Class, `7` is used. Depending on the Configuration of the OpenScape Business, the Value must be changed. Also the COS Class which should be used if the Extension has the Status „locked“ must be configured. An Extension get the „locked“ Status if an Guset has checked-out or the Guest-Budget is less or equal to 0.-.This will avoid the Situation, that an unauthorized Extension could make Phonecalls. The Default Codelock PIN for all Extensions should be also configured. The Default Value is `00000`. It is recommended to change the Code. The Code is needed to unlock Extensions where no Guest is booked. Guest Individual Pin Codes can be assigned in OS Accounting independent. After all needed Settings were made in this Form, **Accept** must be clicked.

4.14.1 OpenScape Business V2 via CSTA

For activating the CSTA Interface using OpenScape Business, the CSTA-Interface must be activated on the OpenScape Business. So the Switch hast o be an OpenScape Business S or an OpenScape Business X including BoosterCard or BoosterServer.



After selecting the Switch, the Access for executing Switch Commands must be configured. In the CSTA-Inferface, the following Parameter must be set:

- Host
- Port
- Username
- Password

The username and password can be defined within the OpenScape Business under Expert mode, Middleware, CSTA Service Provider.

In the COS-Settings it will be defined which COS an Extension will get assigned if the Extesion has the Status „Free“ or „Booked“. As Standard COS Class, 7 is used. Depending on the Configuration of the OpenScape Business, the Value must be changed. Also the COS Class which should be used if the Extension has the Status „locked“ must be configured. An Extension get the „locked“ Status if an Guset has checked-out or the Guest-Budget is less or equal to 0.-.This will avoid the Situation, that an unauthorized Extension could make Phonecalls. How often it should be tried to send Commands to the Switch without bringing up an Error Message is handled in the Function **Command Retries.** .The Default Codelock PIN for all Extensions should be also configured. The Default Value is 00000. It is recommended to change the Code. The Code is needed to unlock Extensions where no Guest is booked. Guest Individual Pin Codes can be assigned in OpenScape Accounting independent. While the Option **Use Code Lock?** Is deactivated, no Codelock-PIN is used and Extension were basically unlocked. After all needed Settings were made in this Form, **Accept** must be clicked.

4.14.2 OpenScape Business V2R4 via WSI

In order to connect an OpenScape Business V2 with the application, the switch must be on V2R4 or newer. A Booster-Card or Booster-Server is not mandantory.

After having selected the switch, the access for executing the switch commands must be configured. Besides the **Host** and **Port**, it must be specified wheather to access the WSI using HTTPS or HTTP. The host's address depends on the installation environment. It is

- the `address of the base system` in case of an OpenScape Business X without Booster-Card or Booster-Server,
- the `address of the Booster-Card or the Booster-Servers` if in use,
- the `addresse of the switch` in case of an OpenScape Business S.

By default, the port for `https` is `8802`.

Access to the WSI is permitted to subscribers with an active UC license only. Additionally, the subscriber must have the flag `Associated dialing/ services` enabled in order to be allowed to perform all operations. The **Extension** as well as its **UC password** must be specified for authentication.

The COS settings define, which COS class should be assigned to an extension if it gets the state "free" or "checked in". By default, the class `7` is used. Depending on the OpenScape Business' configuration, this value must be changed, too. Additionally, the COS class that should be used if an extension gets locked must be specified. An extension will be locked if the assigned guest is checked out or if the guest uses the prepaid method and its credit balance is below 0. By that, it is prevented that unauthorized extensions may perform chargeable calls.

The number of **command retries** defines, how often a command will be resent to the switch prior to marking it as failed.

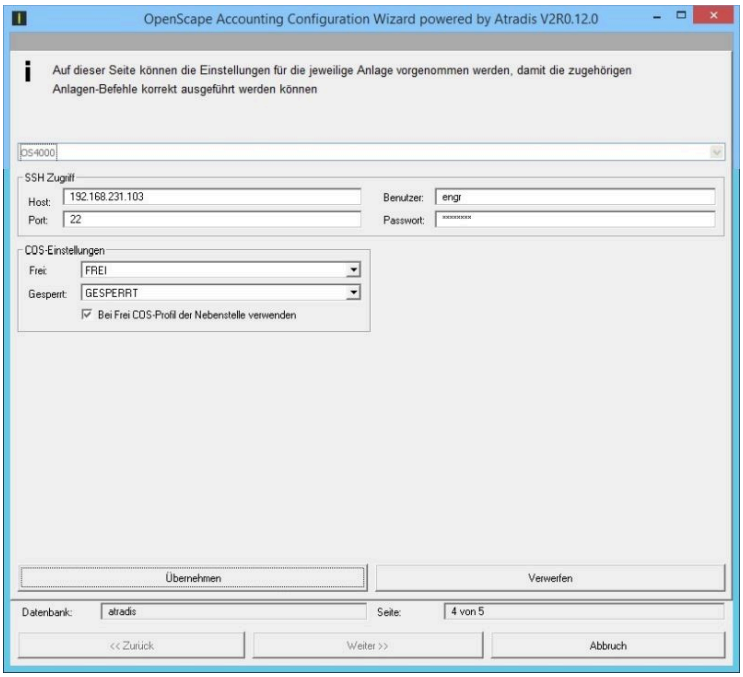
The default code lock pin should be provided as well. The default value is `00000`. It is recommanded to use another 5 digit PIN. This PIN is used to lock devices with no guest checked in. Guest related PINs can be assigned individually in OpenScape Accounting.

If the check box **Use the extension's COS profile in case of Unlocked COS** is selected, a guest extension will be set to the corresponding extension's COS profile instead to the defined Locked COS profile

If the option **Use Code Lock?** is disabled, no code lock pin will be set, i.e. the device is always unlocked.

After having specified all settings, the button **Accept** must be clicked in order to apply the settings.

4.14.3 OpenScape 4000



The OS Accounting Configuration Wizard must be used to set up the connection- and Login Data for the Switch so that Extensions can be locked and unlocked. The selected User must be able to run the `dipas_batch` command and the AMOs on the Switch. The Command Retries can be set up so that an command will be sent several Times tot he Switch until the Application will bring up an Error Message and cancles the Job. The connection tot he Switch is realized using an SSH-Connection. When the Debug-Mode is activated, the Output from the SSH-Connection is written to an seperate File which could be used for Error analysing. The locking and unlocking of Extensions in an OpenScape 4000 Switch is handled using COS-Clsses.(`AMO SDAT`).The COS Profiles used for **lock** and **unlock** can be configured in the OpenScape Accounting UI. When a Guest Extension is getting free, meaning the Guest checks out, by Standard, the COS Profile **locked** will be set. When using the Option **Bei Frei COS-Profil der Nebenstelle verwenden** the Profile oft he Guest Extension instead of the COS Profile **locked** is used. This would be usefull, if free Guest Extensions should not be set tot he same COS **locked** Profile. The Displayname is handled using the AMO PERSI. A PIN/Codelock Functionallity isn't used.

4.14.4 Generic Script Interface

Introduction

Besides the switch specific interfaces, the addon Welcome has also a generic script interface. This interface creates a secured SSH connection towards the switch and executes a script on the switch afterwards. In this script, there can be abritrary commands. Details on the structure and syntax of the scripts can be found in the chapter Script Syntax of the Generic Script Interface.

Configuration

In order to be able to use the addon, the configuration must be performed via the Configuration Wizard.

The configuration of the connection requires the **host** and the **port number**. Additionally, a **user** and its **password** may be specified. By default, an encrypted SSH connection will be used in order to prevent spying private data. If the option **Use insecure connection** is getting activated, instead of SSH a plain telnet connection will be used.

The number of **Command retries** may be specified: a swich command will be executed this number of times until it is getting finally marked as failed.

If **Debug Mode** is checked, additional information are getting logged in order to enhance the problem analysis.

Locking and unlocking of extensions are realized by adjusting the extension's COS class. Therefore, the required COS profiles can be defined within the Configuration Wizard as well (locked and unlocked).

If a guest extension is getting unused, i.e. if the guest is getting checked out, the COS profile `locked` will be used by default. If the option `Use the extension's COS profile in case of Unlocked COS` is enabled, the COS profile of the guest extension will be used instead. This is helpful if unsued guest extensions should use different COS profiles instead of the one defined as `locked`
.

For the six actions **Check In**, **Check Out**, **Lock extension**, **unlock extension**, **Update Display**, and **Update PIN** individual scripts can be defined. These scripts must be located at the server where the Welcome services are installed, a network drive cannot be used.

4.15 General Administration Functions (for Government Agencies)

General

OpenScape Accounting

has built-in features that enable the billing of telephony costs according to the different regulations for government agencies. For example, the reporting can be restricted to evaluating only a certain percentage of subscribers (see the Reporting chapter in the Administration Manual).

Limits and Exemptions

OpenScape Accounting supports billing using limits and exemptions. As a rule, at government agencies, users are charged for private calls using one of these models.

Limit	A limit specifies an amount up to which the call charges are fully waived for the subscriber. For example, if the limit amount is set to 5 €, the subscriber does not have to pay anything within the billing period.
Exemption	In contrast to a limit, in the case of an exemption, only the amount that

exceeds this value will be charged. If the amount is configured to 4€, for example, and the subscriber has caused costs for 3€ in the reporting period, nothing is charged to that subscriber. However, if he or she has caused costs of 7€, then this amount minus the exemption, i.e., 4€, must be paid

The limits/exemptions are taken into account for both the DTAUS export (the DTAUS Export chapter in the Administration Manual) as well as other relevant reports.

Conversion of Call Types

Some government agency regulations require a conversion of call types if a certain total threshold value was not reached within an accounting period. For example, if the total cost for private calls within a month were not more than 5€, these calls may need to be converted to business calls. In other words, in a subsequent evaluation, these calls would not be charged to the respective subscribers as private calls but would appear on the report for business calls instead.

The implementation of this conversion can be performed from the native application by using the batch process `Government Agency Function: Reassessment of Private Calls`. It can also possible to create and schedule a batch file to be executed with the OpenScape Accounting Scheduler Service, for example. In such cases, the sum is always calculated for the preceding month. The content of the batch file should like this (the paths must be adapted to the specific installation):

```
REM * Reassessment of Calls // GAF
C:
cd "C:\Program Files\OpenScape Accounting\image" "C:
\Program Files\OpenScape Accounting\bin\visual.exe" -
noherald "C:\Program Files\OpenScape Accounting\image
\cableserver.im" gafReassessment start
```

IMPORTANT: The conversion only changes the call type; no recalculation occurs. This means that the cost of calls will subsequently have the same amount as the original calls.

4.15.1 Defining Limits and Exemptions

General

Limits and exemptions can be defined separately for each type of access code (AKZ). Only the value is specified; depending on the report, this value is then interpreted as a limit or an exemption. The value is also taken into account by the DTAUS function.

The list shows all defined values, together with the respective assess code type (AKZ).

Adding New Values

New limit and exemption values can be defined by clicking on the **Add** button. An input window appears showing a selection of the access code types (AKZs) that are not yet present. If a type is selected, then the value can be entered in the next window. This must be entered in the format `12.34` , i.e., with a period as a decimal separator.

Once the value has been specified, it appears in the list of defined limits and exemptions.

Editing Existing Values

A a value has been selected in the list, it can be edited by clicking on the **Edit** button. This opens a window in which the value can be adjusted. The `12.34` format indicated above must be used here as well.

Deleting Existing Values

To delete an existing value, it must be first selected in the list. The value can then be removed from the database by clicking on the **Delete** button.

Suppressing the Output in Reports

For verification purposes, even if the option **Print 0-cost objects** is set (see Basic Setting), subscribers who remain below the limit are also printed in the **Subscriber_Limit** and **Subscriber_Exemption** reports. By additionally activating the option **Print subscribers below exemption?** , this can be suppressed as well. Thus, only those subscribers for whom the limit is exceeded will be printed in the reports indicated above.

4.15.2 Defining the Conversion of Call Types

To define the conversion, the first step is to select whether the summation is to be based on extensions (by selecting the `Phone number` option) or on subscribers (by selecting `Subscribers`). The relevant value is selected in the **Sum by** list box.

Alter this, the **Limit** is defined. Calls for which the sum does not exceed that amount are converted in the batch run.

Finally, the fields **From** and **To** must be used to select from which call type to which call type the conversion should be performed.

Example

In the example, it is assumed that `Subscribers` was set as **Sum by**, `5` as **Limit**, `Private` as **From** and `Business` as **To**. During the batch run, all private calls of the past month are now summed up for each subscriber. If the sum 12.34, for example, i.e., greater than 5, nothing is changed. However, if it is 3, i.e., less than 5, the private calls are reclassified as business calls. They would therefore show no data in any subsequent report on private calls for these subscribers.

4.16 Master Data

In order to enable OpenScape Accounting to accept call data records, the phone systems, (internal) extensions and subscribers must be known. This information is usually maintained in a management system and can be exported from there. OpenScape Accounting offers a defined interface to various systems. In addition, a flexible mechanism for importing data from a CSV file is available.

OpenScape Accounting can essentially also "learn" about new extensions and automatically create them (see Basic Settings). However, if a management system is in use, it is advisable to resort to that system.

Is a management system is used, it is seen as the leader, i.e., changes are imported from there and made known in OpenScape Accounting. However, when changes are made in OpenScape Accounting, they are **not** transferred back. Consequently, in a fresh synchronization run, these changes would actually be overwritten again by the management system and thus reversed.

IMPORTANT: Master data should therefore be imported from or synchronized with only one master data system. If several systems are configured, this could lead to unpredictable effects, since each system would consider itself to be a leader and thus delete the "foreign" data of some other system.

4.16.1 One-time Import of Master Data

Introduction

The one-time master data import allows existing extension and subscriber records to be imported into the system. No synchronization with existing extension and subscriber records occurs. However, the function can be executed multiple times to import mutually independent master data that does not conflict with the data in the system.

Requirements for the Import Files

Multiple files can be processed at once. There must be exactly one file, in which the fields of the extension record and the fields of the subscriber record are referenced. This file is used as the base file. All other files may reference only the fields of the extension or only the fields of the subscriber and must have one or more fields in common with the base file. These common fields are used to uniquely identify the entry in the base file. For example, a file with extension records, a file with subscriber records and a base file with the extension number and the personnel number can be used for assignment purposes.

IMPORTANT: The one-time import assumes, that the assignment of extensions and subscribers is unique. That means that it is not possible to import multiple extensions for a single subscriber or multiple subscribers to one extension.

IMPORTANT: The fields of the input file must be trimmed, i.e. there should not be any leading or trailing spaces in the fields.

Fields Requiring Special Attention

Switch Name/ Switch Number	In OpenScape Accounting, a switch can be uniquely identified by the two fields Switch Name and Switch Number. Commonly, the switch name is used to synchronize master data records, whereas the switch number usually occurs in call data records. However, this may differ, depending on the manufacturer of the switch. For the master data import, only one of the two fields should be referenced.
PIN	OpenScape Accounting allows the administration of three PIN entries per subscriber: manual PIN, card PIN, and authorization change code (BuCode). The manual PIN is used to associate call data records with subscribers.
Organization Structure	The organization is structured hierarchically. Consequently, the organization level n is only displayed if the organization level n-1 has been defined. If the association of an organization level is deleted, all associations with lower organization levels are deleted as well.
PBX Access Code	Usually, this access code is included in the call data records and makes it possible to differentiate between business calls and private calls, for example. The fixed association of an access code to a subscriber overlays the information from the call data record. For example, all calls of a subscriber can be marked as patient calls or as an external company with separate charges.

Starting the Import

Before the one-time import, an import date can be specified. This date is particularly relevant for exact daily billing when history objects are enabled (see Basic Settings). The extensions and subscribers are created with a creation date.

If the Configuration Wizard detects any existing master data in the database, you are requested to explicitly confirm that the existing data can be ignored (**Ignore existing master data** check box).

Creating an Import

The one-time master data import window consists of three parts: the source files selector at the top left, the mapping options at the top left and the column preview at the bottom.

The list of source files shows the import files to be processed. With the button at the top, more files can be added to the list, and with the button at the bottom, files can be deleted from the list. The content of the currently selected file is displayed in the column preview pane.

The **File** field shows the name of the currently selected file. The **Field Delimiter** pull-down menu allows you to select the character to be used as a delimiter for the individual columns. The **First row is header** check box should be selected if the first row of the input file contains column headings. This row will not be imported if the check box is selected.

Mapping Columns

If fields of the currently selected import file are to be associated with fields in OpenScape Accounting, the configuration procedure must be carried out in a specific order. In the first step, the target table (`Subscribers` for subscriber records or `Phone numbers` for extensions data) must be selected, followed by the desired property of the new object. The available properties are adjusted based on the previously selected table. If the property has already been assigned, the assignment will be shown under **Data field:** (heading or column ID), and the corresponding column is highlighted in green in the preview.

To assign a column of the import file, after the property has been selected, the corresponding column is marked in the column preview. The selected column is highlighted in yellow. Finally, the **current column** option is selected. The selected column is highlighted in green.

To clear an association, select the **not filled** radio button. The color of the column will change from green to yellow. (Exception: the column is associated with another property as well.

Properties can be assigned fixed values. This is done by selecting the **Fixed value** option and entering the fixed value in the field below. This can be useful, for example, if no switch was specified in the master data file and all extensions are to be set up on a particular switch.

INFO: The columns in the column preview pane can have different colors. Possible colors: white (column not assigned and not selected), yellow (column not assigned but currently selected), blue (column assigned but not selected), green (column assigned and selected)

INFO: If the horizontal or vertical scrollbar does not appear, simply click on it once. This refreshes the scrollbar and makes it reappear so that it can be used to view all columns.

Performing the Import

If all assignments have been made, the import can be started with **Next**. First, you will be asked whether all data to be imported has been assigned. If you answer the prompt with **No**, the import will be aborted allowing you to make the missing assignments.

If you confirm the prompt, the assignments will be verified. Several informational messages are displayed. For example, the identified base file that is used for assigning extensions to subscribers is shown and must be confirmed.

Finally, the **Start import now?** prompt appears. If this is also confirmed, the master data will be loaded into the database in accordance with the property assignments.

If any errors are detected during the plausibility check, the import is not carried out and an error message is displayed. Possible messages:

<filex> contains no assignment	The specified file does not contain any property assignment.
To create the extensions table, the extension must be included.	To assign extensions, an assignment for the extension field must be provided.
The file(s) contain(s) not enough information	None of the files include information about both the extensions table and the subscriber table.
The file <filex> has no common fields with <base file>	The specified file contains no assignments for which matching data can be found in the base file.

4.16.2 ODBC Master Data Import

Requirements for ODBC Sources

Synchronization requires an ODBC source to be defined in the system. During a synchronization run, a table can be read from the ODBC source. Where appropriate, it should be checked whether a table or view can be set up in the underlying system in which all relevant data to be matched and synchronized is included.

IMPORTANT: The ODBC sorce's name must contain alphanumerical Characters only (i.e. letter a to z and numbers). Otherwise it may happen, that no data can be called up from the data source.

In contrast to the one-time data import, it must be defined which value in the ODBC table can be used as a basis for finding the corresponding OpenScape Accounting objects. One to three key fields from the ODBC table can be specified in this definition.

IMPORTANT: If a key field contains the value **phone number**, then the OpenScape Accounting phone number with the paying subscriber are used as matching objects; otherwise, all key fields must relate to subscriber fields.

The following fields can be selected as OpenScape Accounting data fields:

Field definition	Object and field	Special aspects
amtsnummer (operator)	Phone number->Operator (CO number)	
anrede (salutation)	Subscriber->Salutation	

bankLeitzahl (bank identification code)	Subscriber->Bank Code	
bemerkung (note)	Subscriber->Comment	
buCode	Subscriber->BU code	
dmsid	Subscriber->External key	Numerical
druckKnz1-4 (printcode1-4)	Subscriber->PrintCode1-4	Boolean value (see below)
endgeraet (device)	Phone number->Device	
etage (floor)	Phone number->Floor	
fax	Subscriber->Fax number	
firma (company)	Subscriber->Company	
fixedCosts	Cost Modelling->Service Catalog	Assigning Fixed Costs (see below)
funktion (function)	Subscriber->Function	
gebaeude (building)	Phone number->Building	
idCardPin	Subscriber->ID Card Pin	
kontoNummer (account number)	Subscriber->Account number	
kostenstelle (cost center)	Subscriber->Cost Center>Cost Center	
kostentraeger (cost center)	Subscriber->Cost Center	
kreditInstitut (bank)	Subscriber->Bank	
kstExtern (cstExtern)	Subscriber->External Cost Center	
lage (position)	Phone number->Position	
mail	Subscriber->E-mail address	
manualPin	Subscriber->manual PIN	
nachname (last name)	Subscriber->Last Name	
namensZusatz (name suffix)	Subscriber->Name suffix	
orgStruktur (orgStructure)	Subscriber->Organization	The Org. level must be separated by a backslash (\). The option is not available if organization1 has already been assigned.

organization1 .. organisationN	Subscriber->Organization	The organization level 1 to N. Level 2 will only be visible if Level 1 was assigned. The option is not available if the orgStructure has already been assigned.
persi	Phone number->Display Name	
personalNummer (personnel number)	Subscriber>Personnel Number	
querwahl (cross dial)	Phone number->Cross Dial	
raum (room)	Phone number->Room	
rufnummer (phone number)	Phone number->Dialed Number	For each Record, it is possible to import more than one phone number in one Step. (see below)
sonderKennung (special identifier)	Subscriber>Special Identifier	Boolean value (see below.)
Special subscriber	Subscriber->Special subscriber	Boolean value (see below.)
specificAKZ	Subscriber->Special access code (AKZ)	
switchnummer (switch number)	Phone number->Switch->Switch number	Numerical (see below.)
titel (title)	Subscriber->Title	
updateDatum (updateDate)	-	Different modification date (see below)
vorname (first name)	Subscriber->First Name	
vorwahl (area code)	Phone number->Area code	
iban	Subscriber->IBAN	
bic	Subscriber->bic	

Fields Requiring Special Attention

Boolean values are entered as true in OpenScape Accounting if the associated ODBC field contains a value of true or the values `YES`, `TRUE` or `X`.

For the **Switch Number**, a switch must have already been entered in OpenScape Accounting. If the switch is not available, new phone numbers are entered under the switch with the number (1), provided that it also does not exist under the default switch. When using a unique numbering scheme, an OpenScape Accounting entry is sought only via the phone number. Otherwise, the same rules apply as those listed for the switch number apply to the switch of the phone number.

If **Enable history objects** was activated, the identified modifications are entered under the current date. If a modification date is included in the ODBC table, this can be assigned as the **updateDate**. If an ODBC record includes a valid date in this field, then that date is used for this record instead of the current date.

FixedCosts are used for assigning fixed Costs during the Import. Fixed Costs used in the Import must exists in OpenScape Accounting before. It is possible to assign more than one fix Costs for each record. The Field Delimiter is defined using the Constant **ODBCFixedCostDelimiter**(Type String). If the Constant isn't set, OpenScape Accounting uses ‚#' as Standard Field Delimiter.

In an single Record, one or several **phone numbers** can be included. If a Record includes more than one **phone number**, the first **phone number** is mapped the Datafield **rufnummer**. For assigning an additional **phone number**, the Datafield **rufnummer2** is now offered. The Datafield **rufnummer** is automatically increased by one, for each additional **phone number**. **(rufnummer2,rufnummer3,…….rufnummerx).**

If there are attribut definitions configured within the system, they may also be synchronized via ODBC. They appear as `att:<S|E>:<AttributeDefinitionName>:<FieldName>` in the field selection. `S` represents an attribute which can be assigned to a subscriber, `E` represents an attribute which can be assigned to an extension. If the current record does not have an attribute of the specified type yet, it will be created. Only those attributes can be filled that cannot be assigned multiple times to the same object.

Creating the Synchronization Definition

ODBC connection: definition of the interface settings and readout of the field names.

Scan Time: specification of the first synchronization date and cycle. Option for performing the first synchronization with the Configuration Wizard.

Field assignment: assignment of ODBC fields to OpenScape Accounting fields and Preview

Reference fields: determination of the reference fields

Defining the ODBC Connection

If no interface has been predefined as yet, the entry **new DSN** can be selected in the **Interface** field. After this, a new interface identifier must be assigned.

The DSN name under which the interface was registered in the administration of ODBC interfaces is entered in the **ODBC entry** field.

The table name is entered in the **Table** field. If the table was defined for a specific user in the source database, the format `user.table` (e.g., dbo.da_tabs) should be used.

If a user name and/or a password is required to log on to the database, this should be entered in the corresponding fields. The password must be repeated in the **Password confirmation** field.

After all the required fields for the ODBC connection have been entered, the **Fetch fields** function be executed. This reads a table description of the ODBC table, and displays a message about the number of fields in the table. If no connection can be made via ODBC, an appropriate error message is displayed. If this occurs, the relevant definition must be checked again.

INFO: If the horizontal or vertical scrollbar does not appear, simply click on it once. This refreshes the scrollbar and makes it reappear so that it can be used to view all columns.

Specifying the Time for Synchronization

With these fields, you can set the time for the first automatic synchronization of the data repositories. The radio button can be used to specify that an initial synchronization should be performed that after the complete definition of the interface.

Field Assignments and Reference Fields

The field assignments are defined in the left pane. Three buttons to **Create**, **Modify** and **Delete** field assignments are included here for this purpose. The right pane shows the already recorded field assignments with a preview of the ODBC data (up to 200) with the OpenScape Accounting field names. The two controls below the preview can be used scroll the data.

INFO: For the preview to work correctly, at least 15 records must exist in the ODBC data source.

When creating and modifying a field assignment, a field name from the ODBC table must be selected first. All fields of ODBC table are always offered. A field can be thus be transferred to multiple OpenScape Accounting fields.

The next step is to select the OpenScape Accounting field into which the contents of the ODBC field are to be transferred. Only the field names which are still unassigned are displayed here.

Finally, at least one reference field with a recorded OpenScape Accounting field name must be entered. If the option for a direct synchronization is enabled, it is executed after displaying a prompt.

INFO: During the ODBC import, there a log file named `odbc-errors.log` is getting created within the `logs` directory. If an error occurs during the import, the error message will be appeded to this file.

4.16.3 OpenScape Manager

Master data from an OpenScape system can be imported into OpenScape Accounting via the OpenScape Manager Synchronization. Details on the request files used and their processing can be found in the section on OpenScape Manager Synchronization .

In order to configure the synchronization, only the connection data (**Host name**, **Login** and **Password**) needs to be specified. In addition, the transfer method must be selected. The available options are `SFTP`, `FTP`, and `SCP`.

If the **Enable Synchronization** check box is selected, the retrieved master data is imported daily. The transfer takes place between 2:00 a.m. and 3:00 a.m. in the night. At the beginning, the request files are transferred to the OpenScape

Manager, and about one hour later, the response files are retrieved. The import is started after receiving the last response file.

IMPORTANT: The OpenScape Manager XIE interface must therefore be configured so that the user directories are transferred new request files at suitable intervals.

IMPORTANT: If SCP is used for the transfer, password authentication must be enabled on the server; the keyboard-interactive authentication method is not supported. If the message "Connection ok. Login failed." is displayed during the connection test, this indicates that the password authentication is disabled.

4.16.4 HiPath User Management

Introduction

In order to use a HiPath User Management as a master data system for OpenScape Accounting, the User Management must place an export file named `Accounting.csv` on the OpenScape Accounting server. The configuration required for this is described in the HiPath User Management manual.

OpenScape Accounting accesses this file using an ODBC data source. The data is read every night at 2:00 a.m., and new extensions and subscribers are created, and those no longer present are deleted accordingly.

Configuring the Interface

Before the synchronization can be configured, the individual components must be tested. This is achieved by clicking the **Check now** button. Sequential tests are then performed to verify whether the appropriate ODBC data source has been set up and whether a file named `Accounting.csv` exists in the appropriate directory. The synchronization can be configured only if the test was successful.

The ODBC data source can be set up or changed simply by selecting the directory to which the `Accounting.csv` for HiPath User Management is exported. Proceed by clicking on the **Configure** button. This results in both the creation of a 32-bit system DSN with a text driver and the creation of a `schema.ini` file in the export directory. This .ini file contains a column description for the table.

After setting up the ODBC data source, the connection must again be validated by clicking on the **Check now** button. If all tests were successful, the connection can now be activated. If the **Activate HiPath UM synchronization** check box is also enabled, the master data will be synchronized automatically every night at 2:00 a.m.

Mapping the Columns of the Export File to Object Properties

HiPath User Management can be used to export a wide range of information on extensions and subscribers. However, to provide a standard import procedure which covers many different scenarios, not all information is mapped automatically.

After the configuration of the HiPath User Management has been completed successfully, the mappings can be modified. As described in the chapter ODBC Master Data Import , the existing **HIPATHUM** DSN is selected and adapted as necessary for this purpose.

IMPORTANT: If any of the default mappings were edited, the HiPath User Management synchronization procedure should only be executed again if the default settings are to be restored. Each configuration restores the default values and thus results in a loss of any changes made by the user.

The following table shows the columns available in the export file of the HiPath User Management and their mappings.

Column name	Mapped to object	Mapped to property
UM_ID	Subscriber	bemerkung (note)
MANDANT (CLIENT)		
FIRMA (COMPANY)		
AP_KST		
STR_KST		
PLZ_KST		
ORT_KST		
LAND_KST		
EMAIL_KST		
ORG1	Subscriber	organization1
ORG2	Subscriber	organization2
ORG3	Subscriber	organization3
ORG4	Subscriber	organization4
ORG5	Subscriber	organization5
ORG6	Subscriber	organization6
ORG7	Subscriber	organization7
PERS_NR	Subscriber	Personnel Number
NACHNAME (Last Name)	Subscriber	nachname (last name)
PIN	Subscriber	manualPin
VORNAME (First Name)	Subscriber	vorname (first name)
STR_TLN		
PLZ_TLN		
ORT_TLN		
FUNKTION (Function)	Subscriber	funktion (function)
KST (CC)	Subscriber	kostenstelle (cost center)

Column name	Mapped to object	Mapped to property
KN_No	Rufnummer (Call no.)	switchnummer (switch number)
NST_LANG	Rufnummer (Call no.)	rufnummer (phone number)
NST_KURZ		
displayname	Rufnummer (Call no.)	displayName
ART_NR		
ART_NAME		
GUELTIG_AB		
ART_BESCHR		
Language		
EMAIL_TLN	Subscriber	mail
ZAHL_TLN		
VIP		Special subscriber
ABR_TYP		
GERAET_TYP	Rufnummer (Call no.)	endgeraet (device)
KTO_NR	Subscriber	kontoNummer (account number)
INSTITUT_BANK	Subscriber	kreditInstitut (Bank)
BLZ (bank code)	Subscriber	bankLeitzahl (bank identification code)
TITEL_TLN	Subscriber	titel (title)
ANREDE_TLN	Subscriber	anrede (salutation)

INFO: During the HiPath User Management import, there a log file named `odbc-errors.log` is getting created within the `logs` directory. If an error occurs during the import, the error message will be appeded to this file.

4.16.5 OpenScape User Management

Introduction

The OpenScape User Management provides only a manual export file via the Common Management Portal. The export must be started by the user in each case. It does, however, offer an interface using SPML (Service Provisioning Markup Language) for this purpose. This interface is accessed via HTTPS.

The SPML data is converted into a CSV format for the import. This is then read into OpenScape Accounting via the ODBC interface.

Configuring the Connection Parameters

In order to enable OpenScape Accounting to access the OpenScape User Management Server, the connection parameters must first be specified. These are the **Host name**, the **Port** (normally 443 for HTTPS), the **Login** (typically the user of the Common Management Portal **Administrator@system**) and the associated password. In addition, the search settings must also be specified. This applies to both the **Domain** (**system**) as well as the search base ID (**system**). Since the connection to the Common Management Portal is secured by an SSL certificate, and this has not always been issued by a known root certificate authority, the certificate must be stored on the Accounting server (in PEM format). The data retrieval is performed only if the server uses the stored certificate and if the certificate was issued for the host (the FQDN is checked against the CN of the certificate).

If the **Activate OpenScape UM synchronization** option is enabled, the user data from the OpenScape User Management is retrieved at 2:00 a.m. every night and then imported.

Mapping the Columns of the OpenScape User Management to Object Properties

OpenScape User Management can be used to export a wide range of information on extensions and subscribers. However, to provide a standard import procedure which covers many different scenarios, not all information is mapped automatically.

After the configuration of the OpenScape User Management has been completed successfully, the mappings can be modified. As described in the chapter ODBC Master Data Import , the existing **OScUM** DSN is selected and adapted as necessary for this purpose.

IMPORTANT: If any of the default mappings were edited, the OpenScape User Management synchronization procedure should only be executed again if the default settings are to be restored. Each configuration restores the default values and thus results in a loss of any changes made by the user.

The following table shows the columns available in the export file of the OpenScape User Management and their mappings.

Column Name	Mapped to Object	Mapped to Property
IDENTIFIER	Subscriber	note
DOMAIN		
OBJECTCLASS		
OPERATION		
LOGINNAME		
LASTNAME	Subscriber	lastname
FIRSTNAME	Subscriber	firstname
MIDDLENAME		
GENDER		
SALUTATION	Subscriber	salutation

Column Name	Mapped to Object	Mapped to Property
TITLE	Subscriber	title
LANGUAGE		
HOMETIMEZONE		
DISPLAYNAME	Extension	displayname
NOTICE		
DESCRIPTION		
LOCALITY		
ADDRESS		
BUILDING	Subscriber	organization2
ROOM	Subscriber	organization3
STREET		
POSTALCODE		
CITY		
STATE_PROVINCE		
COUNTRY		
COMPANY	Subscriber	organization1
CONTACT		
BUSINESSPHONE1	Extension	extension number
BUSINESSPHONE2		
MOBILEPHONE		
HOMEPHONE		
FAX	Subscriber	fax
EMAILADDRESS	Subscriber	mail
ALTERNATEEMAILADDRESS		
IMADDRESS		
HOMEURL		
DEPARTMENT		
USERTEMPLATE		
RESOURCENUMBER		
LDAPCONID		
LDAPUSERID		
JPEGPHOTO		
SOURCEID		
PICKUPGROUP		
HGNOTPILOTID		
HGISPILOT		

Column Name	Mapped to Object	Mapped to Property
HGNAME		
RESOURCES		
PINS		
RESOURCENUMBER		
CLIENTMATTERCODE1		
CLIENTMATTERCODE2		
CLIENTMATTERCODE3		
CLIENTMATTERCODE4		
CLIENTMATTERCODE5		
CLIENTMATTERCODE6		
CUSTOMFIELD1		
CUSTOMFIELD2		
CUSTOMFIELD3		
CUSTOMFIELD4		
CUSTOMFIELD5		
CUSTOMFIELD6		
ORGSTRATTR1		
ORGSTRATTR2		
ORGSTRATTR3		
ORGSTRATTR4		
ORGSTRATTR5		
ORGSTRATTR6		
ORGSTRATTR7		

OpenScape User-Management with One Number Service

If the One-Number-Service-Feature is used in combination with the OpenScape User-Management, the field **businessPhone1** is filled with the ONS number. This number includes a leading plus sign. The OpenScape Voice skipps this character when generating its CDRs. Due to this inconsistency, such CDRs will not be imported as the extension number in the record is not equal to the one imported by the User-Management import.

OpenScape Accounting offers the possibility to strip any character from the data fields prior to importing them. Therefore, the following lines must be added in the section `OScUM` of the file `atradis.ini`:

```
ReplacementKey1="businessPhone1"
ReplacementValue1="+- ()"
```

This entry will remove all plus and minus signs, all spaces and opening and closing brackets from the field `businessPhone1`.

If characters should be removed from additional fields, appropriate entries can be added accordingly. Their names must be in the same schema, i.e. `ReplacementKey2`/`ReplacementValue2` etc.

4.16.6 LDAP Master Data Import

Requirements for LDAP Sources

For the synchronization, the OpenScape Accounting server must access a LDAP Server, for instance a Microsoft ActiveDirectory. For authenticating and authorizing the requests, login credentials must be supplied; they are stored encrypted within the database.

In contrast to the one-time data import, it must be defined which of the LDAP attributes should be used for finding the corresponding OpenScape Accounting objects. One up to three fields from the LDAP source canspecified in this definition.

IMPORTANT: If a key field contains the value **phone number**, then the OpenScape Accounting phone number with the paying subscriber are used as matching objects; otherwise, all key fields must relate to subscriber fields.

The following fields can be selected as OpenScape Accounting data fields:

Field definition	Object and field	Special aspects
amtsnummer (operator)	Phone number->Operator (CO number)	
anrede (salutation)	Subscriber->Salutation	
bankLeitzahl (bank identification code)	Subscriber->Bank Code	
bemerkung (note)	Subscriber->Comment	
buCode	Subscriber->BU code	
dmsid	Subscriber->External key	Numerical
druckKnz1-4 (printcode1-4)	Subscriber->PrintCode1-4	Boolean value (see below)
endgeraet (device)	Phone number->Device	
etage (floor)	Phone number->Floor	
fax	Subscriber->Fax number	
firma (company)	Subscriber->Company	
fixedCosts	Cost Modelling->Service Catalog	Assigning Fixed Costs (see below)
funktion (function)	Subscriber->Function	
gebaeude (building)	Phone number->Building	
idCardPin	Subscriber->ID Card Pin	
kontoNummer (account number)	Subscriber->Account number	
kostenstelle (cost center)	Subscriber->Cost Center>Cost Center	

kostentraeger (cost center)	Subscriber->Cost Center	
kreditInstitut (bank)	Subscriber->Bank	
kstExtern (cstExtern)	Subscriber->External Cost Center	
lage (position)	Phone number->Position	
mail	Subscriber->E-mail address	
manualPin	Subscriber->manual PIN	
nachname (last name)	Subscriber->Last Name	
namensZusatz (name suffix)	Subscriber->Name suffix	
orgStruktur (orgStructure)	Subscriber->Organization	The Org. level must be separated by a backslash (\). The option is not available if organization1 has already been assigned.
organization1 .. organisationN	Subscriber->Organization	The organization level 1 to N. Level 2 will only be visible if Level 1 was assigned. The option is not available if the orgStructure has already been assigned.
persi	Phone number->Display Name	
personalNummer (personnel number)	Subscriber>Personnel Number	
querwahl (cross dial)	Phone number->Cross Dial	
raum (room)	Phone number->Room	
rufnummer (phone number)	Phone number->Dialed Number	For each Record, it is possible to import more than one phone number in one Step. (see below)
sonderKennung (special identifier)	Subscriber>Special Identifier	Boolean value (see below.)
Special subscriber	Subscriber->Special subscriber	Boolean value (see below.)
specificAKZ	Subscriber->Special access code (AKZ)	
switchnummer (switch number)	Phone number->Switch->Switch number	Numerical (see below.)
titel (title)	Subscriber->Title	

updateDatum (updateDate)	-	Different modification date (see below)
vorname (first name)	Subscriber->First Name	
vorwahl (area code)	Phone number->Area code	
iban	Subscriber->IBAN	
bic	Subscriber->bic	

Fields Requiring Special Attention

Boolean values are entered as true in OpenScape Accounting if the associated LDAP attribute field contains a value of true or the values `YES`, `TRUE`, or `X`.

For the **Switch Number**, a switch must have already been entered in OpenScape Accounting. If the switch is not available, new phone numbers are entered under the switch with the number (1), provided that it also does not exist under the default switch. When using a unique numbering scheme, an OpenScape Accounting entry is sought only via the phone number. Otherwise, the same rules apply as those listed for the switch number apply to the switch of the phone number.

If **Enable history objects** was activated, the identified modifications are entered under the current date.

The pseudo attribute **LDAP-Tree**, which is mapped to the field **orgStruktur**, is treated differently. It represents the full Common Name of the LDAP object. When being mapped, the Organizational Unit parts are getting extracted and used as organizational structure.

FixedCosts are used for assigning fixed Costs during the Import. Fixed Costs used in the Import must exists in OpenScape Accounting before. It is possible to assignmore than one fix Costs for each record. The Field Delimiter is defined using the Constant **ODBCFixedCostDelimiter**(Type String). If the Constant isn't set,OpenScape Acoounting uses ‚#' as Standard Field Delimiter.

In an single Record, one or several **phone numbers** can be included. If a Record includes more than one **phone number**, the first **phone number** is mapped the Datafield **rufnummer**. For assigning an additional **phone number**, the Datafield **rufnummer2** is now offered. The Datafield **rufnummer** is automatically increased by one, for each additional **phone number**. **(rufnummer2,rufnummer3,…….rufnummerx).**

If there are attribut definitions configured within the system, they may also be synchronized via LDAP. They appear as `att:<S|E>:<AttributeDefinitionName>:<FieldName>` in the field selection. `S` represents an attribute which can be assigned to a subscriber, `E` represents an attribute which can be assigned to an extension. If the current record does not have an attribute of the specified type yet, it will be created. Only those attributes can be filled that cannot be assigned multiple times to the same object.

Creating the Synchronization Definition

Name: Defines the name of the connection.

Hostname: The host name of the LDAP server which should be used for the synchronization.

Port: The port number that should be used. By default, it is 389 and 636 when using LDAPS.

LDAPS?: If this check box is activated, the access is performed using LDAPS. The certificate used by the server will be trusted in any case.

Username: The user name that should be used for athentication at the LDAP server.

Password: The password which should be used for authentication at the LDAP server.

Domain: The domain which in which the user is located.

Base-DN: The Base-DN which is associated with the user.

Specifying the Seach Options

In the field **Search filter**, any LDAP expression may be specified. For instance, if all objects of the class `person` should be searched and imported, the expression `(objectClass=person)` could be used. The available attributes and values may differ for each LDAP implementation.

The field **Search Base** specifies the OU, in which the search should be performed. All subunits will be searched wither. An example for a Search-Base is `ou=Accounting,ou=Users,dc=example,dc=org`.

If the checkbox **Use organizational structure from LDAP** is active, the pseudo attribute LDAP-Tree can be assiged. As described above, the OUs of the object's Common Name are included.

The checkbox **Use relative tree** defines wheather OUs that are in a higher level of the LDAP structure than the Search base should be imported into the organizational structure, too.

By clicking **Fetch fields**, a connection to the specified LDAP server will be established. The first ten matching search results will be analyszed and all attributes that are assigned at most once to all of the objects will be offered for the synchronization. Attributes that are assigned multiple times to an object such as "memberOf" cannot be used for synchronization.

Specifying the Time for Synchronization

With these fields, you can set the time for the first automatic synchronization of the data repositories. The radio button can be used to specify that an initial synchronization should be performed that after the complete definition of the interface.

Field Assignments and Reference Fields

The field assignments are defined in the left pane. Three buttons to **Create**, **Modify** and **Delete** field assignments are included here for this purpose. The right pane shows the already recorded field assignments with a preview of the LDAP data (up to 10) with the OpenScape Accounting field names. The two controls below the preview can be used scroll the data.

When creating and modifying a field assignment, an attribute name from the LDAP source must be selected first. All attributes are always offered. A field can be thus be transferred to multiple OpenScape Accounting fields.

NOTICE: In the lower pane of the modification window, new attribute names may be added. This is helpful if the sample data do not include the desired attribute.

The next step is to select the OpenScape Accounting field into which the contents of the LDAP attribute are to be transferred. Only the field names which are still unassigned are displayed here.

Finally, at least one reference field with a recorded OpenScape Accounting field name must be entered. If the option for a direct synchronization is enabled, it is executed after displaying a prompt.

Selecting a Switch

If there is no switch identifier for an OpenScape Accounting Switch within the LDAP attributes, a switch object defined in OpenScape Accounting can be selected. In thatc ase, all objects will be imported for the selected switch.

INFO: During the LDAP import, there a log file named `ldap-errors.log` is getting created within the `logs` directory. If an error occurs during the import, the error message will be appeded to this file.

Restore the Default Mapping

By clicking the button **Restore Default Mapping**, a default mapping to a Microsoft Active Directory to OpenScape Accounting will be loaded. The current mapping will be discarded. The default mapping is defined as follows:

LDAP Attribute	Mapped to Object	Mapped to Property
company	Teilnehmer	bemerkung
displayName	Rufnummer	displayName
facsimileTelephoneNumber	Teilnehmer	fax
givenName	Teilnehmer	vorname
LDAP-Tree	Teilnehmer	orgStruktur
mail	Teilnehmer	mail
objectGUID	Teilnehmer	bemerkung
physicalDeliveryOfficeName	Rufnummer	raum
sn	Teilnehmer	nachname
telephoneNumber	Rufnummer	rufnummer
title	Teilnehmer	titel

4.16.7 OpenScape Business Master Data Synchronization

Introduction

The OpenScape Business exposes a function to query master data via its Web Service Interface (WSI). These can be fetched periodically by OpenScape

Accounting, stored into a CSV file, and finally getting imported using the ODBC interface.

Configuring the Connection Parameter

In order to access the WSI, the connection parameters must be known to OpenScape Accounting. These are the **host**, the **port** (8802 by default for secured https connections), and whether an **encrypted connection** should be used. The host is the address of the WSI, i.e. when using an OpenScape Business S or and OpenScape Business X without Booster Card and without Booster Server it is the address of the OpenScape Business itself. When using a Booster Card or a Booster Server, it is that address as the WSI is running on the Booster.

Additionally, a **user** and his **password** must be given. This user is used for the login at the WSI. The user must have a valid UC User license (when using UC Suite) or a myPortal Smart (when using UC Smart) assigned. Additionally, the flag **Associated dialing/services** must be set in order to be allowed to access the required functions.

If the option **Enable Masterdata Synchronization** is checked, the master data will be queried every night at 2:00 from the OpenScape Business and will be imported afterwards.

Mapping of OpenScape Business Fields towards Object Properties

The OpenScape Business exports serveral subscriber information. In order to provice a common import that fits for most customer scenarios, not all fields are mapped by default.

After the configuration of the OpenScape Business master data synchronization, the mapping may be customized. Therefore, the DSN **OSBiz<Node Number>** can be modified as described in the chapter ODBC Master Data Import.

IMPORTANT: If the mapping was customiued, the OpenScape Business Master Data Synchronization wizard may only be run again if the default mapping should be restored. By that, any customizations will be lost.

The following table lists the available columns of the OpenScape Business' export file and their default mapping.

Column	Mapped to object	Mapped to property
FIRSTNAME	Subscriber	vorname
SURNAME	Subscriber	vachname
NAME	Extension	persi
ID	Extension (Subscriber)	rufnummer (bemerkung)
PHBOOKFLAG		
TYPE		
ISUSER		
DND		
INTERCEPT		

Column	Mapped to object	Mapped to property
Forwarding		
SITE		

During the import, only rows with the property `ISUSER=yes` will be imported. By that, virtual subscribers are getting ignored.

4.17 Setting up the OpenScape Accounting Web Application

In addition to the native Windows application, OpenScape Accounting also provides a web application. The web application can be used to operate and manage OpenScape Accounting in the same way as when using the native application. Only a few special features such as the Report Editor or an Excel export are not available.

INFO:

In contrast to the native application, the language of the web application is determined by the language settings of the browser. Users who have configured `English` as the preferred language there see the web application displayed in English. However, if `German` is configured, the application is presented in German.

The default language is English; it is used when no valid language is configured.

IMPORTANT: The access to the web application is using a TLS secured connection. Unencrypted http connections are not supported by default.

The full host name of the server must be entered in the **Host name** field. Instead of the name, the IP address of the server may also be entered. The name appears later in the address bar when accessing the web application.

In addition to a front-end server (Apache), OpenScape Accounting uses one or more back-end servers. The front-end server only supplies static files and forwards other requests to one of the back-end servers. Depending on the number of users who simultaneously access the web application, the number of processes should be configured. The number of back-end servers can be controlled via the **Number of processes** field. About ten parallel users per process can be assumed.

The back-end servers must be able to accept requests on a TCP port. This port is only accessed from the front-end server and does not need to be released in the firewall. By default, port 8001 is used for the first back-end process, port 8002 for the second, etc. The first port is specified in the **from port** field; the remaining are used sequentially for each process.

The tabular views of OpenScape Accounting display a specific number of rows by default; the remaining records can be viewed by scrolling. This number can be set in the **Rows per page** field.

Besides the integrated user authentication, OpenScape Accounting also offers mechanisms for single-sign-on. Logins are supported via **NTLM/SSPI**, via a **token based** mechanism, and from a connected **Common Management Portal**. Details on configuring these automatic authentication mechanisms can be found in the Single Sign-On section.

If the checkbox **Install Scheduler Service Web Application** is avtice, the web application for the OpenScape Accounting Scheduler Service will be installed, too. It allows to have a quick overview of the current service state and its current log files.

If the checkbox **Install SOAP-Service** is activate, the OpenScape Accounting SOAP-Service will be installed. It allowes access to the defined tables and their objects via a SOAP interface.

If the web application is getting installed and at least one service was configured, a print service for the web application. It processes those print jobs that were issued by the web application. The output directory can be configured within the field **PDF directory**.

If the **Start web server** check box is selected, the web application is started after it is configured. Otherwise, the Windows services (**WebNSM1**, **WebNSM2** etc.) must be started manually.

4.17.1 Single Sign On

Single Sign-On (SSO) enables users who have authenticated themselves by logging into a computer or a service once to also use other services without having to log in again.

OpenScape Accounting supports the single sign-on mechanisms SSPI SSO and CMP SSO.

4.17.1.1 Single Sign-On using Windows Authentication

Introduction

In Microsoft Windows-based networks, the current Windows login can be used for authentication at the OpenScape Accounting web application. Whenever the user opens the OpenScape Accounting home page, the current Windows user name will be used automatically, and the login page will be skipped in such cases.

OpenScape Accounting uses the "Security Support Provider Interface (SSPI)" for this purpose. In the following, the abbreviation **SSPI SSO** is used for this interface.

Configuring SSPI-SSO in OpenScape Accounting

Select the following option in the Configuration Wizard on the **OpenScape Accounting Web Server Service** page:

Field	Select option
Automatic Login	`SSPI/NTLM`

User Configuration for SSPI SSO

For each user who wants to use SSPI SSO, a corresponding user must be set up in the OpenScape Accounting user administration with the same login name as the one used in MS Windows and, in addition, the associated MS Windows domain must be entered here as well. This user setting is made in the native client.

NOTICE: The single sign-on mechanism attempts to automatically log in the user at the first database scheme (default: atradis). If multiple database schemes are being used, the automatic login only be used for the first configured scheme (i.e., the first item in list **Scheme** list on the login page).

The domain can be entered in two places:

1) For each user separately

2) At the group level

To authenticate a user, the program first looks at the entry in the **SSO Domain** field of the user record in the User Administration, and if no entry exists, the program then uses **SSO Domain** entry of the corresponding group in the Group Administration.

The entry of a domain is a prerequisite for SSPI SSO authentication.

NOTICE: However, by contrast, the password registered in OpenScape Accounting is not checked for SSPI SSO, since this is not required for authentication. Consequently, the password for OpenScape Accounting and the Windows password need not be identical.

Browser Setup for SSPI SSO

Apart from the settings in OpenScape Accounting, the web browser being used must also support SSPI. Additional settings in the web browser may be required for this purpose. The following explains the setup for Internet Explorer and Mozilla Firefox.

Internet Explorer

In the Internet Options under Tools, select the zone in which the web application is classified the on the **Security** tab. These are usually **Local Intranet** or **Trusted Sites**. Open the dialog for the security settings using the **Custom Level** button. Under the menu item **User Authentication**, **Logon** , select the option `Automatic logon with current user name and password`.

Mozilla Firefox

Besides the graphical configuration interface, Mozilla Firefox also offers an extensive set of advanced text configuration options. This appears only after explicit confirmation by the user, since even basic changes made here could lead to connection problems.

To reach the advanced configuration, enter `about:config` in the address bar. In the dialog box, select the option `network.automatic-ntlm-auth.trusted-uris`. The value can be edited with a double-click. Enter the

URL under which the web application is accessible from the client (example: `https://openscapeaccounting.example.org`) here.

4.17.1.2 Single Sign-On using the Common Management Portal

If a Common Management Portal (CMP) is used, it can serve as a basis for single sign-on. A user who is logged in at the CMP can switch to OpenScape Accounting directly via a link on the CMP portal page without logging in again. This mechanism is referred to in short as **CMP SSO** below.

Requirements for CMP SSO

- A running instance of the Common Management Portal (CMP)
- The RPM installation package for CMP SSO must be installed on the CMP; details can be found in the CMP User Guide

Preparation: Defining a Registration Login Name and a Registration Password

A registration login name and a registration password must be defined and entered in the following steps on both the CMP side and the OpenScape Accounting side. This ensures that the connection setup of the CMP is secured on the OpenScape Accounting side. This is the only purpose of this special user name and this password. They are used at any other location (other than the two mentioned below) and do not need to be entered anywhere else. Please ensure that the user name does **not** match one of the user names defined in OpenScape Accounting.

Suggestion:

Registration login name	`reg_CMP_OScACC`
Registration password	*(user-defined, secure password)*

Configuring the System for CMP SSO during the Installation of OpenScape Accounting

Select the following options in the Configuration Wizard on the **OpenScape Accounting Web Server Service** page:

Field	Select option
Automatic Login	`Common Management Portal`

In addition, make the prepared entries in the **CMP Registration Options** box:

Field	Entry
User	*(Enter the registration login name as defined above here)*
Password	*(Enter the registration password as defined above here)*

Setting up a Connection between the CMP and OpenScape Accounting

Upfront Note: Details on the connection setup can be found in the Common Management Portal User Guide.

During the connection setup between the CMP and OpenScape Accounting, a user name and password are requested in the final section of the **CMP Registration Options** input dialog. Enter the prepared entries here:

Field	Entry
User name	*(Enter the registration login name as defined above here)*
Password	*(Enter the registration password as defined above here)*

User Setup for CMP SSO

For each user who wants to use CMP-SSO, a corresponding user must be set up in the OpenScape Accounting user administration with a login name that matches the user name entered in the CMP and, in addition, an associated domain must also be entered here. This user setting is made in the native client.

NOTICE: The single sign-on mechanism attempts to automatically log in the user at the first database scheme (default: atradis). If multiple database schemes are being used, the automatic login only be used for the first configured scheme (i.e., the first item in list **Scheme** list on the login page).

The domain can be entered in two places:

1) For each user separately

2) At the group level

To authenticate a user, the program first looks at the entry in the **SSO Domain** field of the user record in the User Administration, and if no entry exists, the program then uses **SSO Domain** entry of the corresponding group in the Group Administration.

The entry of a domain is a prerequisite for CMP SSO authentication.

NOTICE: However, by contrast, the password registered in OpenScape Accounting is not checked for CMP SSO, since this is not required for authentication. Consequently, the password for OpenScape Accounting and the CMP password need not be identical.

4.17.1.3 Single-Sign-On using Token Validation

Introduction

The OpenScape Accounting web application has the ability to use a token based Singel Sign On mechanism. Therefore, a user must be authenticated at an external entiry. This entity creates a token which is forwared to the web application. If the web application is started with such a token, it verifies the token at the external entity. If the validation succeeds and a valid user name is returned, the corresponding user will be authenticated.

Configureing Token based SSO in OpenScape Accounting

Select the following option in the Configuration Wizard on the OpenScape Accounting **Web Server Service** page:

Field	Select Option
Automatic Login	`Token based`

Konfiguration der Token-Validierung

In the field **Token Validation URL**, an URL must be provided to which the validation request should be sent. To the entered value, the received token will be appended. For instance, if the entered URL is `https://validation.example.org/sso/?token=` and the received token is `exampletoken`, the validation request will be sent to the URL `https://validation.example.org/sso/?token=exampletoken`.

The response to the validation request must be answered with the valid Login name of an OpenScape Accounting user. If the answer is empty or if and error like HTTP 401 unauthorized is returned, no automatic login will be performed. Instead, the login screen will be shown.

The request to the web application must include a parameter named `token`, `http://openscapeaccounting.example.org/?token=exampletoken` for example. The mechanism checks at the initial request if there is such a parameter. If it is present, the value is getting extracted for the described validation. If no token parameter was given, the login screen will be shown.

4.18 Generation of SSL Certificates

Default Certificate

OpenScape Accounting is shipped with a self signed SSL certificate, issued to **localhost**. It should be replaced by another to increase the security as well as the appearance.

Generate a Self Signed Certificate

The Configuration Wizard is able to generate a self signed certificate. Therefore, the server and customer specific information as well as an expiration date must be entered in the generation mask. After clicking next, a new self signed certificate will be generated and activated automatically; therefore, the frontend server will be restarted once.

Using a Certificate issued by Company Certification Authority

In most companies, a Certification Authority (CA) is established already. By that, certificates can be issued to the Accounting server. The certificates must be available in a BASE64 encoded format and must not have a passphrase. To install such a certificate, the file `server.key` (private key) and `server.crt` (public key) within the directory `\web\conf\ssl` must be replaced. Afterwards, the frontend server needs to be restarted.

NOTICE: If a new self signed certificate is getting generated after installing a company certificate, the company certificate will be overridden.

NOTICE: Additional information about the configuration of an Apache web server (e.g. regarding the SSL settings) can be found in the Apache manual.

5 Simple Mode for OpenScape Business Installations

Introduction

The Configuration Wizard is a powerful tool to setup and to configure an OpenScape Accounting installation. It allows the easy adjustment of many configuration items.

If the software is used in combination with an OpenScape Business, many settings are not required, for instance a master data synchronization towards an OpenScape 4000 Manager.

In order to make the usage of the software even more easier in such an enviroment, a simple mode for OpenScape Business was added. In this mode, only exactly one OpenScape Business switch can be set up and configured. There are also only those options available for configuration, that are really mandantory, all others will be filled with default values.

It is possible to switch back to the default mode of the Configuration Wizard at any time. A change back to the simple mode is not recommanded as not all configurations that are made in the default mode may be compliation with the simple mode's conventions. This could lead to undesired behavior.

Defining the Configuration Mode

When starting the configuration wizard for the first time, it asks if it should be started in default or simple mode. This option will be persisted in the `atradis.ini` file and may be changed there as well. Therefore, in the section `ConfigurationWizard` the option `mode` may be set to `osbiz` or `default`.

```
[ConfigurationWizard]
mode="osbiz"
```

5.1 Initial Settings

Patch Import

The Loading of Program Patches is done as known from the default mode.

License Import

The Loading of a license is done as known from the default mode.

Base Settings

In the simple mode, there are only some base settings available. These are from the common settings:

Max. Length of Extension	To avoid wrong assignments, the maximum length of extension numbers can be limited to the specified length. When importing data, the detected extension is then truncated to the length specified here.
Delete Data after Days	OpenScape Accounting can automatically clean up the data repositories. This setting specifies after how many days call detail records should be deleted from the

	system. A 0 disables the cleanup mechanism. Please observe any legal requirements in this context. The deletion is implemented only if the data cleanup service is also installed. The Configuration Wizard defines the cleanup interval for all existing call types (Business, Private, ...) with the given value. The native client can be used to define a derivating interval for a special type.
VAT	Defines the VAT value as to be shown within reports.
Working Hours	The working hours are relevant to correctly perform some of the analyses. Please enter the beginning and end of the standard working hours here, rounded to the full hour.

NOTICE: The Cleanup Service will be installed automatically.

From the printing settings, only the **PDF Directory** can be specified. PDF documents will be stored within this directory.

NOTICE: The Print Service will be installed automatically.

IMPORTANT: The directory must be located on a local hard drive on the server; network drives are not supported.

IMPORTANT: The directory must be writable for all users that should create and send reports via email out of the native application.

In the settings of the history function, the follwing settings may be defined:

Enable History Objects	Enables or disables the history function
Extension: history on change of	When history objects are enabled, you can enter the data fields of the extension here – separated by the hash (#) sign – for which a change history should be recorded.
Customer: history on change of	When history objects are enabled, you can enter the data fields of the subscriber here – separated by the hash (#) sign – for which a change history should be recorded.

5.2 SMTP Configuration

General

OpenScape Accounting is able to send mails with user reports or notifiers. To be able to do so, a proper mailserver must be configured. The Configuration Wizards assists for this task.

Configuring the Mailserver Settings

Mailserver address	Hostname or IP addresse of the mailserver
Mailserver port	TCP port of the mailserver, `25` or `587` by default
Sender address	This email address is used in mails as the sender address
SMTP user	Username used for authentication at the mailserver (if required)
SMTP-Passwort	Password used for authentication at the mailserver (if required)

Testing the Mail Configuration

After having finished the configuration of the mailserver settings, a test mail can be sent. Therefore, a **receipient address** must be entered and the button **Send Testmail** must be clicked. If an error occurs during sending the mail it will be shown, otherwise there will be a test mail in the receipient's inbox.

5.3 Tariff Configuration

The classification determines the calculation of the costs for a call.The configuration wizard helps you load a tariff table or customize an existing tariff model.

5.3.1 Selecting the Tariff Model

In order for OpenScape Accounting to work correctly, (at least) one tariff model must exist. After the installation, the standard database contains a pulse-based tariff model and a time- (call-duration-) based tariff model. In addition, it is possible to load individual tariff models (based on a so-called vlist). A correct calculation from pulse-based charges is only possible if the switch (and thus the carrier as well) provides pulses.

In the default configuration, a charge group for business calls is created. Further charge groups can be created additionally. Fees can be calculated depending on the charge group, and calls can be charged separately. For each charge group it is possible to define the number of digits that should be overwritten with an "x", starting with the rightmost digit.

5.3.2 Tariff Rates Based on Units

To use this tariff, the pulses must be included in the call data records. Please fill in the following fields:

Field	Description
Tariff Area	The name of the tariff area.
Carrier	Fixed. Displays the carrier or the carrier tariff respectively.
Country Code	Country code for the tariff area, without the international access code. For example, the country code for Germany: 0049 -> 49
Area Code	The area code for the tariff area, without the international access code. For example, the area code for Oberhausen 0208 -> 208
International Access Code	The access code required for international calls (e.g. in Germany: 00)
National Access Code	The access code required for national calls (e.g. in Germany: 0)
Costs / Pulse (Business)	The fee that is charged per pulse.
Costs / Pulse (Private)	If the charge group "Private" has been enabled, please enter the costs per pulse here.
Costs / Pulse (External Company)	If the charge group "Company" has been selected, please enter the costs per pulse here.

5.3.3 Tariff Rates Based on Duration

To use this tariff, the duration must be included in the call data records. Please fill in following fields:

Field	Description
Tariff Area	The name of the tariff area.
Carrier	Fixed. Displays the carrier or the carrier tariff respectively.
Country Code	Country code for the tariff area, without the international access code. For example, the country code for Germany: 0049 -> 49
Area Code	The area code for the tariff area, without the international access code. For example, the area code for Oberhausen 0208 -> 208

Field	Description
International Access Code	The access code required for international calls (e.g. in Germany: 00)
National Access Code	The access code required for national calls (e.g. in Germany: 0)
Private Calls	If the charge group "Private" has been enabled, you can enter a surcharge in percent (a positive value) or a discount in percent (a negative value) with respect to the default price here.
External Company	If the charge group "External Company" has been enabled, you can enter a surcharge in percent (a positive value) or a discount in percent (a negative value) with respect to the default price here.

5.3.4 Tariff Rates Based on Individual Tariff Table

Preparation

To load an individual tariff table, the table itself and an `import.ini` file must be present. The tariff table must have been constructed in German but can naturally also have been created for any other international location.

Setting the Import Parameters

The `ini` file can be selected in the upper area of the import window. The name of the tariff area is detected from it. The folder name is used as the default for the carrier. However, it can also be changed.

Substitutions are possible for both international and national prefixes. Substitutions are not required for E.164 numbers.

If the **with country code** option is enabled, 0049 is used for national prefixes instead of a leading 0. Hence, 089 becomes 004989. If the **additionally with country code** option is enabled, the entry in our example is both imported with 089 and with 0049.

The **+ instead of international access** option is used to replace a double 0 in front of international prefixes with a + sign. Hence, 0049 becomes +49. If the **+ additionally to international access** option is enabled, the entry in our example is both imported with 0049 and with +49.

Tariff Rates based on multiple Individual Tariff Tables

Until now, it could happen, that the wrong location was shown in a Report when multiple Tariffs were used. The Problem based on the Situation that all Tariff Tables use the same Avon Table. When in one Tariff 0911 Nürnberg and in another Tariff 091 Spain exist, the Report would not show everytime the correct location for an single Call. Now with OpenScape Accounting V3, each Tariff imported uses his own Avon Table. So no overlapping regarding locations exists anymore.

Starting the Import

The tariff table is imported by clicking on the **Run** button. If tariff area with the specified name already exists, the tariff will be added there. If an entry with the same carrier already exists in this tariff area, the selected tariff will be created and be valid from the current date onwards. If such a tariff also exists, the import cannot be performed.

INFO: An existing tariff can thus be updated by importing a tariff with the same tariff area and carrier. Following the import, the new updated tariff will be used for evaluating call charges rather than old one.

5.3.5 Nutzung merherer kundenindividueller Tariftabellen

Prilimanary

To load a Tariff Table (in the Way of an `vlist.tda`-File), the `import.ini` must also exist.

Defining Import Parameters

Im oberen Bereich des Importfensters wird die `Import.ini`-Datei ausgewählt. Diese muss im gleichen Verzeichnis liegen wie die `vlist.tda`. Der Ortsnamen in der Import.in wird als Tarifbereich übernommen. Standardmäßig wird der Verzeichnisname als Carrier übernommen. Dieser kann jedoch auch geändert werden.

Die internationalen Vorwahlen, wie auch die nationalen Vorwahlen können während des Imports der Tabelle angepasst werden. Dies ist im Falle von E164-Nummern nicht notwendig.

Durch die Option **mit Landesvorwahl** wird bei nationalen Vorwahlen statt der führenden 0 ein 0049 eingefügt. Aus 089 wird somit 004989.

Die Option **mit Landesvorwahl zusätzlich** importiert den Eintrag im Beispiel sowohl mit 089 als auch mit 004989.

Die Option **+ statt internationaler Zugang** kann eine doppelte 0 vor internationalen Vorwahlen durch ein + Zeichen ersetzt werden. Aus 004989 wird somit +4989. Die Option **+ zusätzlich zu internationalem Zugang** importiert den Eintrag im Beispiel sowohl mit 004989 als auch mit +4989.

Starten des Imports

Durch einen Klick auf die Schaltfläche **Durchführen** wird die Tariftabelle importiert. Wird festgestellt, dass bereits ein Tarifbereich mit dem angegebenen Namen besteht, so wird der Tarif dort hinzugefügt. Besteht in diesem Tarifbereich bereits ein Eintrag mit dem gleichen Carrier, so wird der gewählte Tarif mit einem Gültigkeitsdatum ab dem aktuellen Datum erzeugt.

INFO: Durch das Importieren eines Tarifs mit gleichem Tarifbereich und Carrier kann ein bestehender Tarif aktualisiert werden. Nach dem Import des neue Tarifes wird dieser beim nächsten Gebührenimport zur Berechnung der Gebühren herangezogen statt des bisherigen "alten" Tarifes.

5.4 Configuration of an OpenScape Business

Introduction

When using the simple mode of the Configuration Wizard, only exactly one OpenScape Business switch may be configured. By convention, this switch is named `OSBiz` and uses the node number `1`.

Connection Parameters

For the data retrieval from the OpenScape Business the `host` must be specified. In addition, a `User` and its `password` must be provided. The user must be configured from within the the OpenScape Business' **Administrators** tab, the `Basic` profile is sufficiant.

If OpenScape Accounting was configured to retrieve its license from the OpenScape Business, the host field will be preset using this address.

In addition, a retrieval interval for the CDR data may be specified. By default, the interval is set to retrieve and to import the data once a day.

System Information

It can be defined based on which tariff the calls should be charged. Therefore, the **Tariff Area** may be specified as well as the **Carrier**.

5.5 Configuration of Master Data Synchronization

Introduction

For the creation of an OpenScape Business' master data, there are multiple options. Depending on the selected option, additional information must be provided.

No Synchronization

When selecting **No Synchronization**, the application will not create any master data. Instead, the user must manually create the extensions and subscribers from within the application.

This option will also be preselected if the master data was imported using the port_data.xml file in a previous run.

One Time Import using port_data.xml

If the option **One Time Import using port_data.xml** is selected, a `port_data.xml` file can be imported (it is available from the OpenScape Business' Web Management at **Expert**, **Wartung**). When importing the file, all extensions from this file will be created; an update of existing extensions will not be done.

This option should only be used for an initial master data import. It should also not be used if the synchronization via WSI should be used.

Create Automatically

If the option **Create Automatically** is checked, two extension rules will be added to the switch. These rules defines that all numeric extensions and PINs

should be created if they do not exist in the database. Using this configuration, the system learns extensions based on the read CDR records.

Synchronization using the WSI

If this option is selected, a master data synchronization using the Web Service-Interface will be configured. The field **host** will be prefilled with the switch's address. If the option **OCAB or Booster Server avilable**, another address may be specified instead. This must be the address of the Booster.

In order to access the WSI, a **User** and its **Password** must be specified. This user must be a UC user and its belonging extension must have set the flag **Associated Services/Dial** and must have a UC license assigned.

The connection may be tested afterwards; the connection itself, the authentication, and the permission will be verified during this test.

5.6 Configuration of the Welcome Addon

Introduction

The Configuration Wizard's simple mode is intended to be used with an OpenScape Business. Therefore, the configuration of the Welcome addon will also use the Web Service Interface (WSI). The OpenScape Business itself must be running with V2R4 or newer.

If the option **Enable Welcome** is enabled, the required Welcome services will be installed automatically. Afterwards, the extensions to be used from within the addon can be configured, too.

WSI Access

In order to access the WSI, its **Host** address must be specified. If the master data synchronization was configured previously, the WSI's address will be taken from that configuration. If an OpenScape Business S or an OpenScape Business X without Booster-Card and without Booster-Server is used, the address is the address of the switch itself. If a Booster is used, its address must be provided in this fiedl.

By default, the **Port** is set to `8802` and **Https** is enabled.

Accessing the WSI is allowed to subscribers with an UC license only. The authentication data will be taken from the master data synchronization as well if present. The specified **extension** must have set the flag **Associated Services/ Dial** in order to be allowed to perform all operations.

The number of **Command Retries** defines how many attempts should be perform prior to marking a command as failed.

COS-Einstellungen

Die COS-Einstellungen definieren, welche COS-Klasse eine Nebenstelle zugewiesen bekommen soll, sobald sie den Status "Frei" bzw. "Eingecheckt" erhält (Wert im Feld "Frei"). Standardmäßig ist hier die Klasse `7` eingerichtet. Je nach Konfiguration der OpenScape Business muss dieser Wert angepasst werden. Zusätzlich muss hier definiert werden, welche COS-Klasse eine Nebenstelle zugewiesen bekommen soll, sobald sie den Status "Gesperrt" erhält. Eine Nebenstelle wird gesperrt, wenn der zugewiesene Gast ausgecheckt wird oder das Gastbudget kleiner oder gleich 0,- ist. Dadurch wird

vermieden, dass unberechtigte Nebenstellen kostenpflichtige Gespräche führen können.

Ist die Option **Bei Frei COS-Profil der Nebenstelle verwenden** aktiv, so wird beim Check Out eines Gastes nicht das Frei-COS-Profil gesetzt sondern das COS-Profil, welches der jeweiligen Nebenstelle in den Stammdaten zugeordnet ist.

Standrad-Codeschloss-PIN

Die Standard-Codeschloss-PIN für alle Nebenstellen sollte ebenfalls an dieser Stelle eingetragen werden. Der Standard-Wert ist `00000`. Es wird empfohlen einen anderen 5-stelligen PIN zu vergeben. Dieser wird benötigt, um Endgeräte, auf denen kein Gast angemeldet ist, zu entsperren. Gastbezogene PIN's können in OS Accounting jedem Gast individuell zugeordnet werden.

Ist die Option **Codeschloss verwenden?** deaktiviert, so wird kein Codeschloss-PIN gesetzt, dh. die Nebenstelle ist grundsätzlich aufgeschlossen.

Configuring Guest Extensions

Guest extensions can be configured as described in the default mode. From the list of all extension within the systems those extension that should be available in the Welcome addon can be selected.

The output directory for receipts can be specified as well as if receipts should be generated in general.

5.7 Configuration of the OpenScape Accounting Web Application

Introduction

The Web Application can be configured in the simple mode, too. It is not required to switch to the configuration in default mode. This section describes the available options in short:

External Host Name	The external host name defines the address. This address will be used in all generated links, i.e. this name must be available to and accessible by all clients.
Number of Processes	The number of processes defines the number of background processes to be created. User requests are processes on these background services. The more users are working on the system in parallel, the more background processes should be configures.
Session Timeout (Min)	The session timeout defines the period of inactivity after which a user should be logged of from the application.

5.8 Generation of SSL Certificates

Default Certificate

OpenScape Accounting is shipped with a self signed SSL certificate, issued to **localhost**. It should be replaced by another to increase the security as well as the appearance.

Generate a Self Signed Certificate

The Configuration Wizard is able to generate a self signed certificate. Therefore, the server and customer specific information as well as an expiration date must be entered in the generation mask. After clicking next, a new self signed certificate will be generated and activated automatically; therefore, the frontend server will be restarted once.

Using a Certificate issued by Company Certification Authority

In most companies, a Certification Authority (CA) is established already. By that, certificates can be issued to the Accounting server. The certificates must be available in a BASE64 encoded format and must not have a passphrase. To install such a certificate, the file `server.key` (private key) and `server.crt` (public key) within the directory `\web\conf\ssl` must be replaced. Afterwards, the frontend server needs to be restarted.

NOTICE: If a new self signed certificate is getting generated after installing a company certificate, the company certificate will be overridden.

NOTICE: Additional information about the configuration of an Apache web server (e.g. regarding the SSL settings) can be found in the Apache manual.

---

6 Mixed Network Scenarios in OpenScape Accounting

6.1 Preparations on the Switch Side

6.2 Settings in OpenScape Accounting

Selecting the PID Files

In order to enable OpenScape Accounting to process mixed-network calls correctly, the Global Call ID must also be recorded. The PID files `OSV_MixedNetwork.pid` for OpenScape Voice and `H4K_MixedNetwork.pid` for OpenScape 4000 are provided for this purpose. These PIDs must be assigned to the respective switches during the switch configuration.

Merging of Records

The merging of the records can be achieved in two ways: first, there is a batch process available on the Administration tab (**Finance: Mixed Network Join**) for this purpose and, second, the execution can be initiated on a timed schedule through the OpenScape Accounting Scheduler service.

The merge routine checks all data that is older than a configurable interval. This interval can be controlled via the constant **MixedNetworkInterval** (Type: `Number`, Module: `Finance`). A value in days must be entered here. Only those records with the same Call ID (GCID Node and GCID sequence) for which the latest record precedes the time interval are processed. The interval is required so that the call data from all systems can be collected and processed. Under some circumstances, it is possible that a switch may output a call record with some delay, even though the call was actually completed a long time ago.

Manual Execution of the Batch Process

The button for the batch process is on the Administration tab. It contains the batch process **Finance: Mixed Network Join**. When this process is run, calls that are older than the defined interval are merged and re-evaluated if required. The user is informed about the status of the merge operation by a progress bar.

During the execution of the batch process, the relevant calls of all nodes are merged. The execution via the Scheduler also permits the dedicated merging of all calls that were initiated on a particular node.

Automated Execution via the Scheduler

As in the case of importing the XML file, the merging of call data can also be performed automatically via the OpenScape Accounting Scheduler. It is normally sufficient to schedule the automatic merge on daily basis (e.g., at night).

In order to do this, you will need to have created a batch file that can then be executed via the OpenScape Accounting Scheduler or the Windows scheduler service. The content of the file is as follows (the paths must be adapted to the specific installation):

```
REM Mixed-Network Join C: CD "C:\Program Files\OpenScape
 Accounting\image" "C:\Program Files\OpenScape
 Accounting\bin\visual.exe" -noherald "C:\Program
 Files\OpenScape Accounting\image\cableserver.im"
 mixednetworkjoin 11-222-333
```

In the example, the merge is carried out for all calls that have the value 11-222-333 in the Global Call ID Node field. If the merge is to be performed for all switches, the keyword `start` must be entered instead of the node number.

6.3 Prerequisites and Restrictions

In order to enable OpenScape Accounting to process mixed-network data correctly, certain preconditions must be fulfilled. These preconditions are explained below.

- **Use of E.164 numbers throughout the network**

  Extensions in the E.164 format must be used across the entire network. This applies to all extensions included in the CDR, i.e., both incoming and outgoing extensions as well as transferring extensions.
- **Master Data Management System**

  The master data (extensions and subscribers) must necessarily be taken from a management system. This also means that the setting **Automatically create new extension numbers** must be disabled (see Basic Settings).
- **No merging of complex call scenarios**

  OpenScape Accounting represents all call data for billing purposes correctly. If a complex call (e.g., with forwarding) is conducted, the individual outgoing calls are shown separately. Conversely, this means that the thread ID is not taken into account.
- **Recalculation only for PIN calls**

  In mixed network scenarios, private calls are only supported on the basis of PINs. If there is a PIN call among the recorded data, its call type and subscriber information is transferred to all other records. Other provisions from freely-defined fields in the PID can lead to undefined results.
- **Overflow of sequence numbers**

  An OpenScape Voice can generate sequence numbers in the range 0 through 9, which means that they can be up to ten digits long. However, the field in the record of the OpenScape 4000 is only eight digits long. Consequently, in such cases, digits are truncated and may thus result in incorrect data. OpenScape Accounting is able to process Global Call IDs (GCID Node + GCID Sequence) with a total length of up to 32 characters.
- **Unique trunk numbers**

  It is assumed that the trunks in the mixed network are uniquely named and that no two systems use the same trunk numbers. Likewise, it is also assumed that the trunk names are maintained properly.
- **Trunk number length**

  It is assumed that the trunk numbers of an OpenScape 4000 are always five or six digits. This is particularly important when importing the OpenScape 4000 XML file, since the validity of an endpoint entry is determined by this convention. In the application itself, the numbers are displayed numerically, i.e., without leading zeros.

- **Individual trunks in the switch management**

  In the carrier management of a switch, all trunks must be defined individually; it is not possible to specify ranges. These are generated automatically when importing an OpenScape 4000 XML file.
- **Evaluation only after the join interval**

  Since the call data is merged and, where appropriate, recalculated only after the expiration of a definable interval, it is important to ensure that an evaluation is performed only after the expiration of that interval (plus processing time). For example, if the interval is set to three days, an evaluation should take a range of up to four days ago into account.
- **PID files**

  In order to record the GCID and detect the call type correctly, the supplied PID files must be used. If custom adjustments to the previously used PID files were made, these files must be tested by the Support Team.
- **Incorrect statistical analyses**

  Since the phone number conversion in the respective HiPath COL can be correctly performed only for the respective switch, but not for the networked systems, it may happen that some incoming call data records are discarded. This implies that no statistical analyses of trunk assignments can be created or performed. Similarly, when evaluating incoming calls, it is important to note that both INCOMING and INONNET records must be displayed.

7 OpenScape Accounting SNMP Agent

7.1 OpenScape Accounting MIB Files

OpenScape Accounting MIB files are installed automatically by default. They are stored in the `C:\Program Files\OpenScape Accounting\lib\mibs` directory. These MIB files describe all available SNMP tables and traps provided by the agent.

All traps sent by OpenScape Accounting are also included in the alarm table of the OpenScape applications.

7.2 Installation and Configuration

The OpenScape Accounting SNMP Agent is installed by the Configuration Wizard. Simply select the option SNMP Agent Settings and fill out the options provided on the page. Within the settings, the basic configuration (ports, trap target, and protocol version) as well as optional authentication options can be done.

8 Backup & Restore

8.1 Configuration

Within the backup configuration window it can be specified, which parts of OpenScape Accounting should be included within the backup.

To be able to perform a database backup, OpenScape Accounting needs to authenticate against the database. Therefore, the Oracle-System user or a special database user can be used. If the option **Use Backup-Role** is activated, a special database user is created in the database and the required permissions are assigned.

The **System Password** must be provided always, either for creating the backup or for installing the special database user.

The option **Backups to keep** defines the number of backups that are stored on the system. If the number is exceeded, the oldest backup will be removed from the disk.

The **Backup Directory** as well as the **Backup File Name** can be configured. The directory must be accessible to the Windows SYSTEM user. For that, a backup on a network share is not possible.

The **Backup File Name** may contain variables representing the current year (`:year:`), the current month (`:month:`), the day of the month (`:day:`), the current hour (`:hour:`), or the minute (`:minutes:`). A valid backup name would be `oscacc-backup_:year::month::day:`.

For each day of the week it can be specified, if all files or only configuration files should be backed up (all files from the installation directory).

Additionally, it can be configured whether the database, the OpenScape Accounting services, and/or the ODBC data sources should be backed up.

When backing up an ODBC data source, only the data source's configuration will be backed up. The data source itself will not be included.

8.2 Creating a Backups

Creating a Daily Backup automatically

The OpenScape Accounting Configuration Wizard offers the possibility to create a backup on a daily basis. This can be activaed using the checkbox on the General Settings page.

If the daily backup is activated, every night at 1:00am a backup will be created. It will be stored in the configured directoy using the defined name.

Creating a Manual Backup

If the backup program is started with the parameter `/backup` only, the additional information will be taken from the configuration file and a backup gets done. The call needs to be started using a command line:
`backup2.exe /backup`

Viewing the Log Files

During the backup and restore process, log file are written. These files are stored in the directory `C:\Program Files\`

`OpenScape Accounting\Backups` (respectively the configured backup directory). The file name comply with the name of the backup file. These files should be reviewed to detect errors during the backup process.

Backup Parameters

A backup can be created using the `backup2.exe` file from the image directory at every time. Therefore, a command prompt needs to be run and the program started with command line parameters. The following list shows the supported command line parameters:

```
/backup            Starts a backup
/restore           Starts a restore
/config            Starts the configuration
/silent            Hides progress bar
/nocleanup         Skips the backup cleanup
/configonly        Backups configuration files only
/nodatabase        Does not perform a database backup
/noservices        Does not backup services
/noodbc            Does not backup ODBC data sources
/filename          Filename of the backup or restore file
/fullbackup        Performs a full backup
/systempassword    Specifys the database SYSTEM password
/requestSystemPwd Prompts for the database SYSTEM password
```

8.3 Restore a Backup

To restore a backup file, the programm needs to be started using the command line as follows:

```
backup2.exe /restore /filename=<Path and Name of
 Backup.zip>
```

After that, all OpenScape Accounting services will be stopped and the backup restored. If the option `/silent` was not provided additionally, a progress bar is shown and indicates the current status of the restore.

9 OpenScape Manager Synchronization

Introduction

The master data synchronization in OpenScape Accounting can be done by querying data from an OpenScape Manager. The Manager tables **SWITCHDATA**, **LOCDAT**, **PORT**, **PERSDAT**, and **PINDATA** will be queryied and their values assigned to the relevant objects. By that, subscribers and extensions can be correcly historicised within OpenScape Accounting.

NOTICE: If only an OpenScape 4000 Assistant and no OpenScape Manager is used, the Assistant can be used for synchronization. The queries and way of processing remains the same.

Versioning of Data

OpenScape Accounting is able to create historical entries for subscribers and extensions. If a property changes (for instance the cost center or the organizational unit of a subscriber), this change should also be visible in the analysis: all call charges before the change should be accounted to the old cost center, all charges after that to the new one. These settings can be configured within the History Settings.

9.1 Operating Procedure

The interface is accessed via so-called request files (file extension `req`). Using FTP or SCP, these files are stored in a defined directory on the OpenScape Manager. The Manager answers the requests and places the response files (file extension "`rsp`") with the requested data in the same directory. The file name without the extension remains the same.

The request files and their results are usually stored and retrieved by the OpenScape Accounting Scheduler on the basis of a schedule. The import is then performed by the OpenScape Accounting server.

9.2 Queries

SWITCHDATA

The SWITCHDATA table is used to read out the switch information. The query is as follows (`switchdata.req`):

```
#SWITCHDATA
1;SELECT identifier, switch, info, nodenum FROM SWITCHDATA;
#@
```

The information read from here is stored as follows:

OpenScape Manager column	OpenScape Accounting object and property	Notes
identifier		
switch	Switch -> name	Name of the switch

info	Switch -> comment	Notes on the switch
nodenum	Switch -> NodeNo	Node number of the switch

LOCDAT

The LOCDAT table is used to assign addresses. By default, the query looks as follows (`locdat.req`):

```
#Port data;
1;SELECT location, name, address1, address2 FROM LOCDAT;
#@
```

The information read from here is stored as follows:

OpenScape Manager column	OpenScape Accounting object and property	Notes
location	CompanyAddress -> name	Name of the organizational unit (at the first level below the root) to which the address is assigned
name		Not used
address1	CompanyAddress-> street	
address2	CompanyAddress-> zip CompanyAddress -> city	Must have the format "12345 City Name"

PORT

The PORT table contains information about the extensions. The query looks as follows (`portdat.req`):

```
#Port data;
1;SELECT unique_key, extension, switch_name, pen,
 devconname, displayname FROM PORT;
#@
```

The information read from here is stored as follows:

OpenScape Manager column	OpenScape Accounting object and property	Notes
unique_key	Call no. -> dmsid	Unique identification of the extension
extension	Call no. -> Call Number	
switch_name	Call no. -> Switch	Name of the switch
pen	Call no. -> location	
devconname	Call no. -> equipment	Name of the terminal device
displayname	Call no. -> persi	Display text

PERSDAT

The PERSDAT table contains information about the subscribers. The query is as follows (`persdat.req`):

```
#PERSDAT
1;SELECT unique_key, company, org1, org2, org3, org4, org5,
 org6, name, christianname,title, salutation, location,
 building, longname, extension, switch_name, sequ_num,
 info_8, bankcode, accountnum, chargeid FROM PERSDAT ORDER
 BY switch_name, extension, sequ_num;
#@
```

The information read from here is stored as follows:

OpenScape Manager column	OpenScape Accounting object and property	Notes
unique_key	Subscriber -> dmsid	Unique identification of the subscriber
company	Subscriber -> [Organization 1]	Used as the name of the organizational level below the root level
org1	Subscriber -> [Organization 3]	Used as the name of the organizational level below the company
org2	Subscriber -> [Organization 4]	Used as the name of the organizational level below the org1
org3	Subscriber -> [Organization 5]	Used as the name of the organizational level below the org2
org4	Subscriber -> [Organization 6]	Used as the name of the organizational level below the org3
org5	Subscriber -> [Organization 7]	Used as the name of the organizational level below the org4
org6	Subscriber -> [Organization 8]	Used as the name of the organizational level below the org5
name	Subscriber -> Last Name	
first name	Subscriber -> First Name	
title	Subscriber -> Title	
salutation	Subscriber -> Salutation	
location	Subscriber -> Company, Subscriber -> [Organization 2]	Used both as a company name and as the name of the org. level below the first org level
building	Subscriber -> Building	Name of the building
longname	Call no. -> Room	Room of the extension

extension	Call no. -> Call Number	Identifies the associated call number together with the switch_name
switch_name	Call no. -> Switch	Identifies the associated call number together with the extension
sequ_num	[Subscriber -> manualPin]	Identifies the PIN for the subscriber together with the switch_name and extension
info_8	Call no. -> is a special subscriber	ja, yes or true if the extension is to be flagged as a special extension
bankcode	Subscriber -> Bank Code	Bank code for the subscribers's bank account
accountnum	Extensions -> Account Number	Account number for the subscriber's bank account
chargeid	Subscriber -> cost center	Cost Center number for the subscriber

IMPORTANT: The personal data will be read out for each extension sorted by the pin position in ascending order. The first subscriber in such a block (i.e. the one with the lowest pin position) will be used as paying subscriber for the extension.

PINDATA

The PIN information for the subscribers is read from the PINDATA table. The query is as follows (`pindat.req`):

```
#Port data;
1;SELECT identifier, extension, switch_name, pin_num,
 pin_type, position FROM PINDATA;
#@
```

The information read from here is stored as follows:

OpenScape Manager column	OpenScape Accounting object and property	Notes
identifier		Not used
extension		Identifies the PIN together with the switch_name and position
switch_name		Identifies the PIN together with the switch_name and position

pin_num	Subscriber -> manualPin	
pin_type		Not used
position		Identifies the PIN together with the extension and the switch_name

IMPORTANT: PIN data must always be imported together with personal data.

9.3 Processing

The response files from the OpenScape Manager are read out during import and the appropriate objects are added, changed or deleted. The interface uses the ASCII delimiter which was used in the request file to also delimit the individual lines in the output file. The delimiter can be adjusted by editing the **DMSLineSeparator** constant (Line Feed = 10, Carriage Return = 13). If the supplied default request files are used, no adjustments are necessary.

The transaction size can also be adjusted. The default transaction size is 500, i.e., transactions are committed to the database after 500 lines. This value can be customized by editing the **DMSTransactionSize** constant.

During import, the identifiers of the individual extension and subscriber entries are memorized. After the import has been completed successfully, all records that are no longer present in the synchronization file can thus be identified. If the respective option is enabled, they can be deleted at this date.

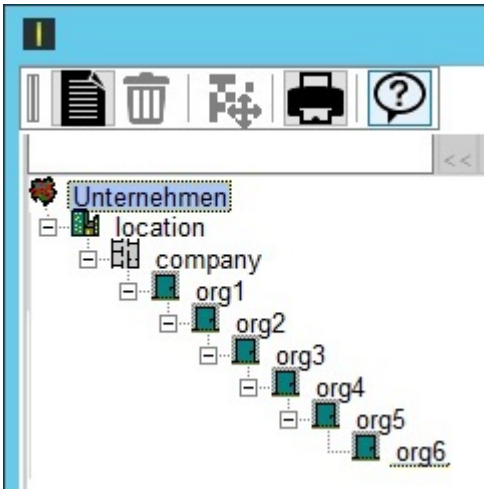
On the one hand, the response files can be imported manually via the corresponding import mask of the native application (see the Administration Manual). On the other hand, they can also be imported automatically using the OpenScape Accounting Scheduler. Once the data has been transferred successfully, the scheduler starts the import. A batch file with the following content is used for this purpose:

```
C: CD "C:\Program Files\OpenScape Accounting\image" "C:
\Program Files\OpenScape Accounting\bin\visual.exe" -
noherald "C:\Program Files\OpenScape Accounting\image
\cableServer.im" impstamm -date 01.02.2012 -switchdata
 "C:\hpm\switchdata.rsp" -locd "C:\hpm\locdat.rsp‟ -port
 "c:\hpm\port.rsp" -pers "c:\hpm\persdat.rsp" -pin "c:\hpm
\pindata.rsp" -delete true
```

The **–date 01.02.2012** parameter indicates for which date the import is to be performed. If the parameter is not specified, the current date will be used. The **-delete true** parameter indicates that extensions and subscribers that no longer exist should be flagged as deleted. If this parameter were omitted, new objects could be created and existing ones edited; deleted objects, however, would still remain valid in OpenScape Accounting.

9.4 Composition of the Organizational Structure

When using the default request files, the organizational structure composed during the import looks like the following:



The values of the corresponding request columns will be placed within the hierachy.

In order to modify the structure, the request files must be edited. For instance, if the field `location` should be removed, the request must be modified from

```
#PERSDAT
1;SELECT unique_key, company, org1, org2, org3, org4, org5,
 org6, name, christianname,title, salutation, location,
 building, longname, extension, switch_name, sequ_num,
 info_8, bankcode, accountnum, chargeid FROM PERSDAT ORDER
 BY switch_name, extension, sequ_num;
#@
```

to

```
#PERSDAT
1;SELECT unique_key, org1, org2, org3, org4, org5, org6,
 info_10, name, christianname,title, salutation, company,
 building, longname, extension, switch_name, sequ_num,
 info_8, bankcode, accountnum, chargeid FROM PERSDAT ORDER
 BY switch_name, extension, sequ_num;
#@
```

As the number of request fields must not be changed, an empty field must be inserted at the position of the original field `org6`. In the example above, that is `info_10`. By this procedure, the composition of the structure may be adjusted to a customer's individual needs.

10 OpenScape Accounting Scheduler Service

10.1 Starting and Stopping the Service

Starting the Service

The Windows service **CDRScheduler** is set up during the installation. The service is then started automatically during the startup of the operating system. Alternatively, the service can be started through the Windows Services Manager or via the `net start CDRScheduler` command.

Stopping the Service

The service can likewise also be stopped through the Windows Services Manager or via the `net stop CDRScheduler` command.

10.2 Data Objects

In order to parameterize the system, at least objects of the node and transport job type must be created. The format and fields directory object types are only required if a substantive transformation of data formats is to be performed.

A transport job defines which file on a remote computer is to be transferred to the local computer or from the local computer to a remote computer. Optionally, a transformation of the file content using format descriptions can be performed. A node entry contains the access data to a remote computer (node) for a defined protocol (e.g., ftp). CDR files (call detail records) are the target objects to be transported. The format descriptions are made up of variable and constant fields. Variable fields are described by field name (from the field directory), type, length and other settings. Constant fields have no further function (except for the readability of CDRs). Telnet jobs are used to send requests (AMO, e.g., REGEN) to an OpenScape 4000 and output the results to a file. The result can be restricted via filters, and the format be changed.

10.3 Starting the Application

During the installation, the Administration application for the service is also installed. This application (CDR Transporter) can be accessed via the Start menu. The application must necessarily be run with administrative privileges, and a corresponding prompt is therefore displayed on starting the program.

On starting the application, the main menu appears. The functions are released only after entering the password. The password for OpenScape Accounting is `CDR-C551` by default.

You can then use the appropriate buttons to activate the respective function or exit the configuration tool. Exiting the application does not terminate the service.

10.4 Node Management

Node Management

The currently selected entry is marked by a flag in the first column. The bottom part contains buttons to save the changes made, to create new entries or to change or delete existing entries. The **Add** button is only enabled if the number of nodes already recorded has not yet reached the licence size. The **Save** button is only active if changes have been made in the list. The **Change** and **Delete** buttons are active only when an entry has been selected. A node entry cannot be deleted if it is still included in a transport job.

Fields of a Node Entry

Field	Contents	Tests
Name	Name of the node entry	Unique node name
Address	IP address or host name	-
Port	Port for the connection	-
Access Type	Selection of the access method	sftp, ftp, tftp, tcp, scp, or copy
Passive FTP	Enable passive FTP mode	Only for FTP
TCP: with authorization	Enable authorization procedure	Only for FTP
TEA key 0 – 3	4 x 4 byte in hexadecimal notation	Only for FTP
User name	Login name	Only for SFTP, SCP, FTP, or HTTPS
Password	Login password	Only for SFTP, SCP, FTP, or HTTPS
Confirmation	Repetition of password	Only for SFTP, SCP, FTP, or HTTPS: must match the password.
Private-Key-File:	Filename of the file containing the private key for a public-key-authentication. The public key must be available in a file with the same name but with the extension `.pub`.	Only for SFTP
Warn if:	Enable record count control	Deviations from the minimum / maximum values result in the creation of an e-mail message with a corresponding warning

Less entries than	Value 0: no verification; otherwise, warning message if less data records had been read	-
More entries than	Value 0: no verification; otherwise, warning message if more data records had been read	-

When all fields have been correctly filled in, the **Test connection** button can be used to test whether a connection can be established (not with the `copy` procedure).

SCP Data Transfer

To use `scp`, the remote system must support password authentication. If you do not know if your system has password authentication enabled, check its sshd configuration file. In most distributions, the file is at `/etc/ssh/sshd_config`. Open the file and change the line `PasswordAuthentication no` to `PasswordAuthentication yes` (or comment it out). If the line is missing add it to the file. Afterwards, restart the SSH server by executing `/etc/init.d/sshd restart`.

The Scheduler Services uses scp to retrieve and rm (via an ssh session) to delete data on the switches. By default, the cdr user is restricted to use sftp after connecting the switch. Therefore, the default shell for the scp user must be changed in order to be able to delete the cdr data on the switch. Run the following command on a shell on the corresponding switch: `usermod -s /bin/ksh cdr`. No service needs to be restarted. Alternatively, you may use another user to connect to the switch (e.g. sysad as that user is allowed to execute `rm`). To modify the user, you may use the Scheduler Service GUI or the Configuration Wizard.

NOTICE: These settings need not to be done when using the `SFTP` transfer mode.

SFTP connection to OpenScape Manager

When using the SFTP method to connect to an OpenScape Manager, it may be necessary to modify the Manager's SSHD configuration. In deployment scenarios where the OpenScape Accounting server is on a different network than the Manager, the `UseDNS` option must be set to `no`. This can be done from within the file `/etc/ssh/sshd_config`. Open the file with any editor and search for `UseDNS`. It should be commented out by default. Remove the `#` in front of the line and set it to `no` so that the line becomes
`UseDNS no`

Save the file and restart the SSHD by executing `/etc/init.d/ssh restart`.

10.5 Transport Jobs

Managing Transport Jobs

The existing transport jobs are listed. The currently selected entry is marked by a flag in the first column. The bottom part contains buttons to save the changes made, to create new transport jobs or to change or delete existing entries. The **Save** button is only active if changes have been made in the list. The **Change** and **Delete** buttons are active only when an entry has been selected. The **Archive** button displays the archive directory with the already transmitted data.

Transport Job Data

Field	Contents	Tests
Name	Name of the transport job	Unique transport job name
Fetch/send	Selection of the transfer direction	Only one selection is possible. Wildcards in the file name of the target computer are only allowed for retrieval functions, provided the node can be addressed via FTP or COPY.
Node	Name of the system or host	Selection from defined nodes (see Node Management)
Format	Format of the file on the node/host	Selection from defined formats (see Format Management) or delete field content. This field is optional.
Access Type	Selection between ASCII and binary transmission	
Host directory	Directory on the node/ host	Input is not verified.
File name	File name on the node/ host	Wildcards are only allowed for retrieval functions of nodes that can be addressed via FTP or COPY.
Local directory	Directory on the local computer	Selection via file browser
File name	File name on the local computer	No wildcards are allowed
Format	Format of the file on the local computer	Selection from defined formats (see Format Management) or delete field content. This field is optional.

Next date	Date of next transmission	Selection from calendar
Next time	Time of next transmission	Valid time format
Interval	Selection of the repeat interval	Selection from minute, hour, day and month
Frequency	Factor for Interval	Example: Interval = hour, Frequency = 3 -> Every three hours the file is transferred.
External job	File name of a job to be run following data transfer	Here you can enter or select the file name of a program that is to be executed following data transfer. The Scheduler waits for the completion of the external job.
Execute transfer	Manual start of file transfer	The file transfer is performed, and the result of the transfer operation is displayed. If the transfer was successful, the configured external job can then be executed.

10.6 Telnet Jobs

Telnet Job Management

The existing Telnet jobs are listed. The currently selected entry is marked by a flag in the first column. The bottom part contains buttons to save the changes made, to create new Telnet jobs or to change or delete existing entries. The **Save** button is active only when changes have been made in the list. The **Change** and **Delete** buttons are active only when an entry has been selected.

Telnet Job Data

Field	Contents	Tests
Name	Name of the Telnet job	Unique name in the Telnet job list
Node	Name of the system or host	Selection from defined nodes (see Node Management)
Login prompt	String of OpenScape 4000	This text is used to detect that the user name is to be transferred to the system.

Field	Contents	Tests
Password prompt	String of OpenScape 4000	This text is used to detect that the password is to be transferred to the system.
Input prompt	String of OpenScape 4000	This text indicates that the system is ready to receive a command.
AMO command	Command to be run	This command is sent to the system following a successful login. It must meet the requirements of the system in its syntax and content (no verification is performed).
Pos. Answer	String of OpenScape 4000	This text confirms that the command was successfully executed.
Neg. Answer	String of OpenScape 4000	This text confirms that the command was NOT successfully executed.
Filter	Optional method of accepting only specific data records	See below
Output format	Optional method of accepting only specific fields of the OpenScape 4000 answer.	See below
Local directory	Directory on the local computer	Selection via file browser
File name	File name on the local computer	No wildcards are allowed
Next date	Date of next transmission	Selection from calendar
Next time	Time of next transmission	Valid time format
Interval	Selection of the repeat interval	Selection from minute, hour, day and month
Frequency	Factor for Interval	Example: Interval = hour, Frequency = 3 -> Every three hours the file is transferred.

Field	Contents	Tests
External job	File name of a job to be run following data transfer	Here you can enter or select the file name of a program that is to be executed following data transfer. The Scheduler waits for the completion of the external job.

Filter Format

An output row of OpenScape 4000 corresponds to the format:
`<command>:<param1>,<param2>….`

The command is interpreted as parameter 0 here. The filter format can be used to specify that only values from rows with preset parameter contents are to be extracted.

Example for two output rows:
`ADD-ACDTA:TLN,12679,OPTISET,4,4,2,1,1,NORMAL,2,3,2; ADD-ACDTA:TLN,12679,ANSS;`

A `1=TLN,3=OPTISET` filter would thus show all data containing the value **TLN** for parameter 1 and **OPTISET** for parameter 3.

General syntax: `[<parameterno>=<value>],..`

Output Format

Only certain parameters of the HIPATH result list, supplemented by constant values, can be specified for the output file. For example, a file is to be created from the above example with the following format:
`CHANGE;12679;4;4;`

First, the separator is specified with D=;. Then the constant text CHANGE is specified, and the parameters 2,4 and 5 are assigned. Notation:
`D=;,CHANGE,%2,%4,%5`

Rules: The default separator is a comma (,). Any deviating separator is entered at the beginning with `D=<separator>`. This is followed by comma-separated parameter numbers with a preceding percentage sign (%) or constant texts.

10.7 Format Management

Format Management

The currently selected entry is marked by a flag in the first column. The bottom part contains buttons to save the changes made, to create new entries or to change or delete existing entries. The "Save" button is only active if changes have been made in the list. The **Change** and **Delete** buttons are only active if an entry has been selected. A format entry cannot be deleted as long as it is still included in a transport job. Format descriptions are used to specify the structure of a CDR. This is only required if different formats are used. Otherwise, format management can be completely ignored.

Structure of a Format Description

The currently selected entry is marked by a flag in the first column. Below the table a sample format is displayed corresponding to the current entries. Variable numeric fields are filled with **0**; alphanumeric fields are filled with **A**. Overlapping is indicated by **X**, while a hexadecimal constant is marked by **h** and a gap within the description by **?**. The bottom part contains buttons to save the changes made, to create new transport jobs or to change or delete existing entries. The **move up** and **move down** buttons can be used to shift a selected entry within the list. The **Save** button is only active if changes have been made in the list. The **Change** and **Delete** buttons are active only when an entry has been selected. After clicking the **Add** button, you have to first decide whether a constant or a variable field is to be appended at the end of the list.

A constant consists of one or more characters that constantly remain at the current position of a CDR. A variable field can contain a different value for every CDR. A hexadecimal value remains at its position and has a length of one byte.

Fields of a Constant

Field	Contents	Tests
Offset	Distance from the beginning of the data record	Is calculated by the program
Constant	Constant character(s) at this location	-

Fields of a Hexadecimal Value

Field	Contents	Tests
Offset	Distance from the beginning of the data record	Is calculated by the program
Constant	Hexadecimal character at this location	Selection from a list

Fields of a Variable

Field	Contents	Tests
Offset	Distance from the beginning of the data record	Is calculated by the program
Name	Selection of a field list entry	-
Length	Length of the variable in digits	-
Comment	Display of field note	-
Field type	Alphanum. for texts, numeric for integers	-
Justification	Choice between left-aligned or right-aligned	-

Filler	Fill characters	-
Minimum	- Currently not evaluated	-
Maximum	- Currently not evaluated	-
Default value	Default	Is used for transformations if this field does not exist in the original format.

10.8 Field Management

Managing the Field Catalog

The existing field catalog entries are listed. The currently selected entry is marked by a flag in the first column. The bottom part contains buttons to save the changes made, to create new entries or to change or delete existing entries. The **Save** button is only active if changes have been made in the list. The **Change** and **Delete** buttons are active only when an entry has been selected. A field catalog entry cannot be deleted if it is still included in a format.

Fields of a Catalog Entry

Field	Contents	Tests
Name	Unique name of the field	
Comment	Information content of the field	

10.9 Scheduler Activity

This display can be used to monitor which activities are run by the Scheduler. The Scheduler is requested to send a response when you use the **Test Scheduler** button. If the service is still active, the response **Still living** will appear after a few seconds.

The **Stop Scheduler** button can be used to exit the Scheduler.

10.10 Global Settings

In the Global settings, the mailing data can be stored if automatic alerts are desired for failed data transmissions. Furthermore, the language to be used is set here. The language is relevant for the representation of date and time formats.

10.11 Web-Application

The OpenScape Accounting Scheduler Service can be installed with an additional web application. It allows the access to the current state of the Scheduler Service and shows the current log files. The URL to the web application is `https://<oscacc-server>/CDRWeb`.

If the user is not authenticated, only the Service state is shown (running or stopped).

The password used for authentication is the same as for the native Scheduler application. After successfully authentication, the Scheduler's log files and the used license can be seen.

11 HiPath COL - OpenScape Accounting Scheduler Service - Migration

11.1 Migration with the configuration wizard

Start of the configuration witzard

In the selection of tasks in the configuration wizard the option `HiPath COL Migration` can be chosen. This will start the migration wizard and guides the user through the adjustment of the transport jobs.

Query of the HiPath COL database

Through the local ODBC interface the HiPath COL databse is accessed. Normally the system-DSN is called `cdb` and can be used without username and password. If needed, the username and password can be put into the given input fields.

By choosing **read data** all configuration data of the HiPath COL is fetched and analyzed. If the connection is established, the database is checked, whether it is a COL database or not. Differnt tables are examined and the contents are verified.

If a migration is possible, the migration results are displayed.

NOTICE: Per default settings, the COL database is only available on the local machine where the COL was installed. Therefore, the migration assistant has to be started on this machine.

Displaying line details

By double clicking on an input or output line or a migration result details are displayed. In particular, the field containing the comments is information about why a line can not be migrated. Similarly, the screen shows that the line is migrated or has been migrated.

In case of the migration result detail window, one is able to select if the result should be migrated. By that, a migration can be deferred and performed later

Starting the migration

By clicking on the button **start migration** the migration for all displayed migration results is performed. Successfully transformed lines are marked.

The migration process itself, and the associated validations and restrictions are described below.

11.2 Mode of operation

The migration of the input and output lines of the HiPath COL to transport jobs of the OpenScape Accounting Scheduler service will take place in two steps. In the first step all input and output lines are read and possible migration results are shown. The second step performs the needed changes for the found and selected results and shows the outcome of the migration process.

To read out the HiPath COLs configuration data, the database is accessed through the provided ODBC data source. Normally the system-DSN is called `cdb`. This name can be changed with the configuration wizard.

First, the migration wizard attempts to establish a connection to the ODBC-data source of the COL. If this connection is not sucessfully established, the migration will not take place. If the connection is established, the database is checked, whether it is a COL database or not. Differnt tables are examined and the contents are verified. This test must be successfull to start the migration.

If a COL database is found, the input lines are read and validated. It is checked, if the input line was migrated before, the system type and version is valid and if the input line format is supported. All output lines are checked accordingly. Additionally are all poosible filters read and the related switches and transport jobs within the Scheduler Service are identified.

A last control is carried out and it is checked, whether for each input line exaclty exists one output line.

After the validation of all input- and output lines, the potential result is calculated. Based on the valid input lines, the associated output lines are identified. Even OpenScape Voice duplex installations can be migrated. The corresponding switch will be marked as duplex switch in OpenScape Accounting and two transport jobs and will be created in the Scheduler Service. For every migration result the old and new pid, the transfer protocol and the next execution time is displayed.

Aftwerwards, all valid migrations can be carried out. During the migration the new PID file is set to correctly recognize the cdr format. The transport job and a new node is created. In the last step the COL transport job is deactivated within the COL database (The next execution time is moved 10 years in the future).

11.3 Additional Information

Introduction

This chapter provides additional information about supported formats and scenarios. It should help to get a better understanding of the migration process and to make it easier to check the prerequirements for an automated migration.

Installation Environment

To be able to perform a successfull migration, several preconditions must be matched. OpenScape Accounting needs to be installed and configured on the system (for a fresh installation, no migration is required). In such an installation, the HiPath COL was the transport agent for retrieving CDR data from the different switches. The Scheduler Service got his data from the local COL's output lines. The CDR data retrieval and import must have been configured using the Configuration Wizard as it needs to match several conventions. Manually defined jobs (i.e. directly configured within the Scheduler Service) are not supported.

At the time of migration, no data should be processed by the HiPath COL to prevent any data loss; i.e. all outputs should be done and OpenScape Accounting should have processed the data. Specially in the case of an OpenScape Voice, OpenScape Branch, and RG data this requirement is important as the migration modifies the input format for Accounting gets

changed from the COL output format to plain BF files. By that, the new PID files cannot parse the old data correctly.

Requirements to the COL's Input Lines

An input line must match multiple criterions to get migrated correctly:

- The input line must not have been migrated yet.
- The source system and version must be supported. Supported systems and versions are: `H4000M` version `MV1.0` to `MV4.0`, `OSV` version `V4`, `OB` version `V1`, and `RG700` version `V1.3`.
- The source file must be defined in the input line.
- The connection data (address, user, and password) must be filled.
- The input format must be supported. Supported formats are: `H4000_V 4 .0_L`, `OSV_V4`, `OB_V1`, and `RG8700_V1.3`. During the check, only the format's name will be tested, the fields within the format definition won't.
- The input line may only be associated with exactly one output line.

Requirements to the COL's Output Lines

An output line must match multiple criterions to be regarded during the migration:

- The output format must be supported. Supported output formats are: `OB_AM`, `OSV_AM`, `RG8700_AM`, `AM-WIN2.0`, and `H4000_HPAM_E164`.
- The output file name must be defined.
- The associated input line must be identified using a filter with the `SYSID` element. Valid operators are = and `IN`, others won't be regarded. (If only one input line and one output line is defined, this requirement is not neccessary.)
- The output line must be refereed by a transport job within the Scheduler Service which was created by the Configuration Wizard.

Additional Remarks

- The transfer type for all supported systems will be set to `SFTP`.
- If an OpenScape 4000 is getting migrated, the Assistant's or Manager's COL's output format must be set to `PHYS_HP-COL_V1.0` (or `PHYS_H4000_HPAM_E164` if E164 is getting used).

11.4 Restrictions

The automatic migration covers a lot of configurations and can migrate them to the OpenScape Accounting Scheduler Service. However, there are also some limitations that can not be processed.

Deinstallation of HiPath COL	The HiPath COL will not be automatically removed. So it remains possible to check the originating data.
Field manipulation	The migration of field manipulation is not supported. The Scheduler Service collects the data directly from the switch. Adding or changing fields is not possible.
Filter Operators	Filter operators cannot be migrated automatically and will be ingored

	during the automated migration process. Manually, these filters can be adapted by editing the PID file.
Format manipulationen	The migration assistant checks, whether the input and output lines use defined formats. Only predined formats are considered for the migration. The name but not the settings of a format is verified.
Mulitple output lines	The migration of multiple output of one iput line (e.g. backup) is not supported. A backup is already performed by the Scheduler Service itself. The backups are stored in the directory `received_archive`. Input lines, which end in different output lines, are ignored.
Migration of HiPath 3000 / HiPath 5000	The migration of HiPath 3000 and 5000 is not automatically possible. The reconfiguration must be manually carried out.
Mixed-Network Installations	The configuration of a mixed-network installation is often complex and detailled knowledge about the environment is required. Therefore, the automatic migration of such a mixed-network installation is not provided.
Mapping of input to output lines	The mapping of input to output lines will be done via defined output filters. Only the operators `=` or `IN` are suported. Other filter operators will be ignored.
RMX Data Retrieval	The Scheduler Service supports the data retrieval from remote files and directories. The retrieval of data directly from the OpenScape 4000's RMX is not possible.

12 SOAP Interface

Introduction

OpenScape Accounting has a sophisticated collection of company data which are often combined from different source systems. To make these data available for other applications as well, the SOAP interface may be used. All available data is restricted by the permissions defined in the native application.

12.1 Configuration

Configuration

To use the SOAP interface, the application must authenticate using a username and password. These are common users as defined in OpenScape Accounting. After a successful authentication, all tables defined for the user's group are available including all configured columns. Filters that are defined for the table with the option **Reduced view** will be applied, for sure. Other filters that are defined by the current user or for the group in general are presented as separate tables:

Example: For **Teilnehmer** (subscribers), there is the restricting filter `valid` (column **expirationDate isNull**) defined as well as the non-restricting filters **coworker** and **patient**. When querying the available tables, the table **Teilnehmer** will occur three times:

- Teilnehmer
- Teilnehmer#coworker
- Teilnehmer#patient

When querying the table contents, only subscribers matching the filter **valid** will be returned. In the first case, all available and matching subscribers will be returned, in the two other cases only those matching the filter **coworker** or **patient** respectively.

Within the file `atradis.ini`, there can be made the following configuration settings for the SOAP interface:

sessionMaxTimeInSeconds	Maximum time, before an inactive session times out and will be terminated (Default: 60 minutes)
maxRecordsSize	Maximum number of records per query (0 = unlimited); Default: 0

Interface Description

A detailed interface description can be taken from the WSDL file `AtradisSoapService.wsdl`. The file is located in the `image` directory of the installation. The interface is getting installed using the Configuration Wizard's Web Server Configuration. After being installed, the interface is accessible via the URL `https://accounting.example.org/SoapServer/`.

In the following, the implemented methods will be explained.

12.2 Methods

Methods

The SOAP interface explains the individual methods available.

isAlive

The method `isAlive` (without parameters) is answered by an `isAliveResponse`. It contains a boolish value. If it is `true`, the interface is ready to be used. If it is `false`, no database connection is available. If there is a time out, the interface is not active.

authenticate

The method `authenticate` is used for authenticating against the OpenScape Accounting service and requires two parameters:

name

User name of the OpenScape Accounting user

password

Password of the OpenScape Accounting user

A respone of the type *authenticateResponse* containing a field named *sessionId* will be returned. If the session id is empty, the login was not successfull. The session id must be passed in all futher messages to the SOAP server.

logout

The method `logout` expects one parameter:

sessionId

The session id which was created by `authenticate` previously.

The session will be terminated. No further requests are valid for this session.

getTables

The method `getTables` expects one parameter:

sessionId

The session id which was created by `authenticate` previously.

All table names for the user's group will be listed. If non-restricting table filters were defined by the user or for the group, one additional entry per filter will be returned either (see above).

describeTable

The message `describeTable` expects two parameters:

sessionId

The session id which was created by `authenticate` previously.

tableName

The table name (with or without filter name) that should be described.

A list will be returned with two fields for each column of the requested table:

fieldname	The column header of the table description.
fieldtype	The field type of the column.

getTableContent

The method `getTableContent` expects two parameters:

sessionId

The session id which was created by `authenticate` previously.

tableName

The table name (with or without filer name) for which rows should be returned.

The rows to be returned are gathered and returned until the value of the parameter *maxRecordsSize* (see above).

The value `eof` in the result element *getTableContentResponse* has either the value `false` if additional rows are available or `true` if all rows were returned. The field *soapRecordContents* contains the rows. It consists of two fields named *fieldname* and *fieldvalue* for the column name and its value.

next

The method `next` expects one paramater:

sessionId

The session id which was created by `authenticate` previously.

The next rows to be returned are gathered and returned until the value of the parameter *maxRecordsSize* (see above).

The value `eof` in the result element *getTableContentResponse* has either the value `false` if additional rows are available or `true` if all rows were returned. The field *soapRecordContents* contains the rows. It consists of two fields named *fieldname* and *fieldvalue* for the column name and its value.

getLicense

The message `getLicense` expects as parameter:

sessionId

The session ID that was previously generated by `authenticate`.

The next data records are determined and returned as far as the value of the parameter *maxRecordsSize* (s.o.).

The `eof` value in the *getTableContentResponse* return element is `true` if all records have been supplied and `false` if there are more data available. The *soapRecordContents* field contains the table entries, each of which consists of a further table in which the fields *fieldname* and *fieldvalue* are contained for each data column.

12.3 Methods for Welcome Module

Methods

The SOAP interface explains the individual methods available.

To check in a guest / patient:

guestCheckIn

The message `guestCheckIn` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

firstName

The first name of the guest to be transferred.

lastName

The last name of the guest to be transferred.

extensionId

The ID of the extension to be submitted.

paymentType

The billing type of the guest to be transferred.

Type: `prepaid` for prepayment or `postpaid` for Final settlement

akzTyp

The AKZ type of the guest to be transferred.

Example: `All` or `Service` or `Private` or `Patient` or `External`

pin

The pin of the guest to be handed over.

If the field is empty when the pin is transferred, a new pin is automatically generated.

language

The language of the guest to be transferred.

Supported languages: `de` for German or `en` for English

note

The comment of the guest to be handed over.

If the guest / patient is checked in, then the result is `true` if the check-in is successful or `false`.

Request a guest / patient:

getGuestList

The `getGuestList` message expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

A table is returned which contains two fields per entry:

fieldid	Contains the ID of the guest
fieldvalue	Contains the title, title, first name and last name of the guest

To customize a guest / patient name:

editGuestName

The message `editGuestName` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

title

The title of the guest to be handed over.

salutation

The salutation of the guest to be handed over.

firstName

The first name of the guest to be transferred.

lastName

The last name of the guest to be transferred.

The corresponding information is updated.

The value in the *editGuestName* return element is `true` if all records have been updated, and `false` if invalid values have been passed on commit.

Adapt the address of the guest / patient:

editGuestAddress

The message `editGuestAddress` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

address

The address of the guest to be registered.

The corresponding information is updated.

The value in the return element *editGuestAddress*s contains the value `true`, if all records have been updated, and `false`, if invalid values have been transferred at the time of transfer.

Adjust the room of the guest / patient:

editGuestRoom

The message `editGuestRoom` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

room

The room of the guest to be registered.

The corresponding information is updated.

The value in the return element *editGuestRoom* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Customize guest's / patient's pin:

editGuestPin

The message `editGuestPin` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

pin

The pin of the guest to be registered. Empty input automatically generates a new pin.

The corresponding information is updated.

The value in the return element *editGuestPin* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Comment of the guest / patient:

editGuestNote

The message `editGuestNote` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

note

The remark of the guest, which should be registered.

The corresponding information is updated.

The value in the return element *editGuestNote* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Adjust language setting of the guest / patient:

editGuestLanguage

The message `editGuestLanguage` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

language

The language to be assigned to the guest.

Supported languages: `de` for German or `en` for English

The corresponding information is updated.

The value in the return element *editGuestLanguage* contains the value `true`, when all records have been updated and `false`, wenn bei Übergabe ungültige Werte übergeben wurden.

Adjust the billing type of the guest / patient:

editGuestPaymentType

The message `editGuestPaymentType` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

paymentType

The billing type of the guest to be used.

Variants: `prepaid` for prepayment or `postpaid` for final settlement

The corresponding information is updated.

The value in the return element *editGuestPaymentType* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Adjust daily basic fee of the guest / patient:

editGuestDailyRate

The message `editGuestDailyRate` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

dailyRateId

The ID of the daily rate to be registered for the guest.

The corresponding information is updated.

The value in the return element *editGuestDailyRate* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Customize COS profiles of the guest / patient:

editGuestCosProfile

The message `editGuestCosProfile` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

cosProfileId

The ID of the COS profile to be registered for the guest.

The corresponding information is updated.

The value in the return element *editGuestCosProfile* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Adjust the type of the guest / patient:

editGuestAkzType

The message `editGuestAkzType` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

akzType

The AKZ type of guest to be used. The name of the AKZ type is transferred. If the name is empty, the AKZ Type will not be used.

Example: `Alle` or `Dienst` or `Privat` or `Patient` or `Extern`

The corresponding information is updated.

The value in the return element *editGuestAkzType* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Guest / Patient Lock / Unlock:

guestLock

The message `guestLock` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

locked

The guest / patient is locked or unlocked.

Variants:`true` for locks or `false` for unlock.

The guest / patient will be locked or unlocked accordingly.

The value in the return element *guestLock* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Make bookings for the guest / patient:

guestAddBooking

The message `guestAddBooking` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

amount

The amount to be booked.

comment

Comment on booking.

The corresponding information is updated.

The value in the return element *guestAddBooking* contains the value `true`, when all records have been updated and `false`, if the guest / patient could not be checked in.

Ask account balance of guest / patient:

guestGetCurrentCreditBalance

The message `guestGetCurrentCreditBalance` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

Current account balance of the guest / patient is transmitted.

Details des Gastes/Patienten abfragen:

guestGetDetails

The message `guestGetDetails` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

A table is returned containing two fields per entry.

fieldname	Contains the name of the column (firstname)
fieldvalue	Contains the content of the column (Heinz)

The following entries are output as `fieldname` with the associated `fieldvalue`:

```
id, salutation, title, firstName, lastName, address,
language, note, checkinTimestamp, checkoutTimestamp,
pin, room, extension, cosProfile, dailyRate, paymentType,
guestState, currentCredit
```

Check out guest / patient:

guestCheckOut

The message `guestCheckOut` expects the following parameters:

sessionId

The session ID previously generated by `authenticate`.

guestId

The guest ID, previously determined by `getGuestList`.

The guest / patient is checked in.

The value in the return element `guestCheckOut` contains the value `true` if the check-out was successful or `false` if the guest / patient could not be checked in.

13 Adaptive Learn

Introduction

It is possible OpenScape Accounting to create Rules for learning automatically Extensions and Pinnumbers from Calls Data Record. This Feature can be activated for each Switch seperately. The Feature gives the Option to learn only specific Extensions or Pinnumbers from the Call data Record.It can be used to prevent that OpenScape Accounting learns Extensions or Pinnumbers automatically which doens't fit to the Customer Network.

Configuration

The Rules will be defined in the Section Interfaces for each existing Switch seperately. In the Section **Extension Rules** of the selected Switch, the Rules for the adaptive learning of extensions and Pinnumbers can be created. Existing Rules can be checked by using the **Input Test** Function. There Extensions or Pinnumbers can be inserted which will be directly checked against the existing Rules for this Switch. The Status is directly shown. If an inserted Extension or Pinnumber will fit, the Staus is shown `Green`. If it doesn't fit, the Status is `Red`.

Examples:

For an single Switch, only Extensions beginning like `49897007` should be automatically created. An new Rule is created using **Type** `Extension`. The Rule will be `49897007.*`.

For an single Switch, only Pinnumbers in the Range between `500000` and `999999` should be automatically created. An new Rule is created using **Type** `PIN`. The Rule will be `[5-9][0-9][0-9][0-9][0-9][0-9]`.

As Syntax for creating the Rules, the Regex11 must be used.

14 Associated Devices

Ab OpenScape 4000 V.11 Version ist es möglich, mehrere Geräte einer Nebenstelle zuzuordnen. OpenScape Accounting zeigt diese Zuordnungen an und bietet diesbezüglich verschiedene Berichte an. Die Daten können über „dipas_batch“ mit dem AMO UPLO2 aus dem System abgerufen werden. Der Abruf umfasst immer alle im System eingerichteten Ports. Alle Erweiterungen, die über AMO UPLO2 importiert wurden, sind mit der Option ASD gekennzeichnet.

Tipp:

Die Einrichtung wird im Konfigurationswizard im Bereich *Switch einrichten* über die Option **Anlage für Assciated Device konfigurieren** vorgenommen

---

Der Abruf der Daten erfolgt auf AMO Ebene. Hierzu wird als Kommunikationsweg der **dipas_batch** genutzt. Nach erfolgreicher Verbindung werden die benötigten Daten durch Verwendung des AMO UPLO2 automatisch von der Anlage abgerufen. Der Abruf beinhaltet immer alle in der Anlage eingerichteten Nebenstellen/Ports. Die abgerufenen Daten werden gespeichert und in das OpenScape Accounting importiert. Dabei werden die Nebenstellen/Device des UPLO2 zu den bestehenden Teilnehmer, dem die Nebenstelle als Primary Device zugeordnet ist, gemappt.

Wichtig: Der UPLO2 Abgleich ist ein zusätzlicher optionaler Import und keine generelle Sychronisation wie z.B. HiPathmanager -, LDAP -, ODBC -, einmaliger Stammdatenimport oder die Aufnahme der Nebenstelle durch eine Nebenstellenregel. Das bedeutet, der UPLO2 Abgleich wird nur durchgeführt, wenn Stammdaten im OpenScape Accounting vorhanden sind. Umgekehrt werden alle Nebenstellen/Device, die durch den UPLO2 Abgleich den entsprechenden Teilnehmern zugewiesen wurden, mit dem Flag ASD gekennzeichnet. Somit werden diese gekennzeichneten Nebenstellen/Device bei einer generelle Sychronisation nicht beachtet.

Jede Nebenstelle (Port) hat im Abruf immer alle die Einträge bezüglich der zugeordneten Devices.

Beim Import in OpenScape Accounting wird nun über die Nebenstelle (Primary Device) der Teilnehmer gesucht und diesem Teilnehmer alle Device der Nebenstelle zugeordnet.

In einem Teilnehmer Report werden die einzelnen zugeordneten Rufnummern einzeln oder summerisch mit ihren Daten/Kosten aufgeführt.

In einem Vergleichsreport werden pro Teilnehmer die einzelnen Rufnummern mit Anzahl Gespräche/Kosten/Dauer/... aufführt.

Beispiel eines UPLO2

---------- ASSOCIATED DEVICE LIST ----------

DESK = **12100** (primary device)

CLIENT = 12674 (UNIPHONE)

ADDITIONAL = 12111 , 12112

EXEC-UPLO2:PORT,**12100**;

H500: AMO UPLO2 STARTED

*BBO,L,I,0,0,2023,05,26,15,44,27,B0-E60.G0.033,160,164,6bg.04,1;

*LI12100,1,1,2,0,1,0,0,33,33,0,0,,,0,1;

*LN28,55,,,,,0,1,0,0,,,1,1,1,0,0,0,0,,0,0,1,1,1,3,1,4;

*LN,0,,,,,,,,5,1,4,1,0,,,0;

*LN10,12100,1,0,1,2,,,,,,4,,,,,,1,,,,,;

*LN0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0;

*LN,,,,,;

*LN,,,,"READY";

*LN,,,,,0,,,,,,,,,,0,500,0,;

*LN,,,,,1-1-826,1,,0,0,,0,0,0,0,,;

*LN,,0,,,,,,,1,0,,,,,;

*LN,,,,,,,,,,0,0,0,0,0,0,,,,,,,268409107,2,0,1,1,0,0;

*LN0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,,0,0,,,,,;

*LN,,,0,;

*LN,0,0,,,,,,,,,,,,;

*LN,0,,,,,,;

*LN,,,,0,0,0,0,,,,0,0,0,0,1,0,0,0,,,;

*LN0,,0,,,0,5,12674,0;

*LN,,,"DIGITECO",4026842612100;

*LN"";

*LN"";

'"*LN1,,**12674,12111,12112**;"'

*EE,2023,05,26,15,44,27;

AMO-UPLO2-111 OUTPUT OF DMS RELEVANT DATA FROM SWITCHING UNIT (63)

15 Selective Charge

Introduction

Until now, only the charging of Outgoing Calls was possible with OpenScape Accounting. With OpenScape Accounting V3 it is now possible to charge all possible Call Directions. (Outgoing, Incoming, Internal, Outonnet aso.) The Call Directions which should be charged will be configured in the PID File. Regarding this, two new Flags for the PID File exist:

CHARGECALL	CHARGECALL activates the charging for the selected Call Direction
CHARGENUMBER	Defines the Field existing in the Call Data Record which will be used for charging the Call by referencing its field name (e.g. `CALLER_ID`)

If nothing is changed in the PID File, only Outgoing Calls were charged in OpenScape Accounting like before.

Configuration

The PID File which should be modified will be determined by checking the Switch Configuration in the UI of the OpenScape Accounting . The PID File, assigned to the Switch will be copied and saved with an new Filename in the Folder `<Installationdirectory>\OpenScape Accounting\pid \Unify`. The new File will be modified and afterwards attached to the Switch Configuration in the OpenScape Accounting UI.

Example:

Outonnet Calls should be charged in the OpenScape Accounting. For the selected Switch, the default `osv_bf.pid` File is used. Copy the `osv_bf.pid` File and save the new File named `Customer_osv_bf.pid`. The new pid File will now be opened and modified with an Text Editor . All Sections in the `Customer_osv_bf.pid` responsible for Outonnet Calls will be modified in the Way that the Flags `CHARGECALL` and `CHARGENUMBER` were added. As CDR Field Name for calculating the Calls, `DIALED_NUMBER` will be used for `CHARGENUMBER`.

```
[OSV.OutgoingOnNet]
Constant= GENERAL35 = 20
FieldDelimiter=44
MaxLength=0
MinLength=80
Recognition2=2, '00000000', 40, '900'|'902'|'999', 41,
 '901'|'903', 127, '!'.'$ISPSTN'
RecordEnd=10, 1
RecordStatus=NORMAL
RecordType=OUTONNET, NORMAL
ReferenceSumDuration=No
SaveRecord=Yes
CHARGECALL=Yes
CHARGENUMBER=DIALED_NUMBER

[OSV.OutgoingOnNet.Fields]
ACCOUNT=STRING, delimited CL 0, 16, 0
AUTHORCODE=STRING, delimited CK 0, 15, 0
```

```
PRIVATE=MATCH,delimited CK 0, 0,
 '0'|'1'|'2'|'3'|'4'|'5'|'6'|'7'|'8'|'9'
CALL_CONNECT_TIME=TIMESTAMP, delimited AV 0, 1, 0
UNIQUEIDENTIFIER=STRING, delimited F 0, 59, 0, delimited A
 0, 10, 0
CALL_ID=STRING, delimited F 0, 59, 0
CALL_RELEASE_TIME=TIMESTAMP, delimited AW 0, 1, 0
CALL_START_TIME=TIMESTAMP, delimited C 0, 1, 0
DIALED_NUMBER=STRING, delimited K 0, 128, 0
EXTENSION=STRING, delimited L 0, 20, 0
GLOBALCALLID=NUMERIC, delimited DR 0, 10, 0
GLOBALCALLIDNODE=STRING, delimited DQ 0, 10, 0
IPEGRESS=STRING, delimited DW 0, 48, 0
IPINGRESS=STRING,delimited DV 0, 48, 0
NO_ANSWER=MATCH, delimited R 0, 0, '!'.'0'
ORIGINATINGPARTYID=STRING, delimited AN 0, 3, 1
SWITCH_NAME=STRING, delimited E 0, 16, 0
TERMINATINGPARTYID=STRING, delimited AO 0, 3, 9
XFER_EXTENSION=STRING, delimited BM 0, 20, 0
GENERAL10=STRING, delimited R 0, 1, 0
GENERAL11=STRING, delimited S 0, 3, 1
GENERAL12=STRING, delimited CW 0, 128, 0
GENERAL13=STRING, delimited DX 0, 128, 0
GENERAL16=STRING, delimited DC 0, 20, 0
GENERAL18=STRING, delimited DU 0, 10, 0
GENERAL19=STRING, delimited AN 0, 3, 1
GENERAL20=STRING, delimited AO 0, 3, 9
GENERAL22=STRING, delimited DB 0, 10, 0
GENERAL32=STRING, delimited DT 0, 10, 0
GENERAL34=STRING, delimited A 0, 20, 0
```

All other Sections in the PID File responsible for Outonnet Calls(`RecordType=OUTONNET, NORMAL`) must also be modified like above. At least, the new `Customer_osv_bf.pid` File is added tot he selected Switch in the OpenScape Accounting UI. Now Outgoing and also Outonnet Calls will be charged for this Switch.

Additional Informations:

- No Restrictions regarding the usage of CDR Fields for the CHARGENUMBER Flag.
- All existing Call Directions can be activated for calculating
- All Kind of Switches(OpenScape 4000, OpenScape Business, OpenScape Voice, and other manufacturer's switches) are supported

16 Script Syntax of the Generic Script Interface

Introduction

The generic script interface of the Welcome addon allows to use customized scripts for adjusting the extensions' permissions. This chapter explains the structure and syntax of such a script.

Structure of the Script

A script consists of two sections, a `CONSTANT` and a `SCRIPT` section.

Within the `CONSTANT` section, constants may be defined. These constants can be referenced from within the main script. Constants are defined in the format `<name> <value>`, i.e. the name is until the first space, all following characters are used as its value. In particular, a constant named `timeout` may be defined. This constant defines the amount of time to wait until a command will be recognized as failed. Additionally, the system will create some constants in order to allow the script to access information like the extension number or the display name. These constants are:

EXTENSION	the extension number
FIRSTNAME	the guest's first name
LASTNAME	the guest's last name
GUESTGROUP	the name of the guest's group, the guest belongs to
DISPLAYNAME	the display name that should be used for the guest
PIN	the guest's PIN
COS1, COS2, LCOSS1, LCOSS2, LCOSD1 und LCOSD2	the values from the guest's COS profile

All variables may be accces via `$<name>$`; for example `$GUESTGROUP$` represents the guest's group's name.

Within the `SCRIPT` section, all commands are listed and will be executed from top to bottom. The following commands are available:

`DELAY <sec>`	Delays the script execution for the given amount of seconds
`DEBUG <string>`	Prints <string> into the command result, can be used for debugging of scripts
`EXIT <code>`	Terminates the script execution with the hint <code>. If <code> is omitted or equals `OK`, the command will be seen as successfully executed, failed otherwise. The code will be shown in the command result, too.
`SEND <befehl> EXPECT <string> ONTIMEOUT <command`	Sends the character sequence <befehl> to the server and waits for <string> afterwards. If this response is not getting received within the defined timeout period, <command> will be

	executed (this may be one of `DEBUG`, `DELAY`, `EXIT`, or `GOTO`). <expect> and <code> must be each in a new line and both may be omitted.
`LABEL <name>:`	Creates a jump point named <name>. This jump point may be targeted using the `GOTO` statement. Implicitly, there will be an jump point named `default` in the beginning of the script if no other jump point is named there.
`GOTO <name>`	Resumes the script execution at the jump point <name>. If the name cannot be found, the script execution will be terminated with an error.

17 Log Collector Tool

Introduction

In order to provide a quick and purposeful error analysis, a complete log check is essential. The Log Collector tool assists in gathering these files and creating an extensive log file directory. This directory can be packed and sent to the service desk to provide helpful analysis data.

Starting the Log Collector Tool

The Log Collector can be started similar to the Windows application. The command line parameter `-logCollector` needs to be added so that the full command line looks like `"C:\Program Files (x86)\OpenScape Accounting\bin\visual.exe" "C:\Program Files (x86)\OpenScape Accounting\image\nsm.im" -logCollector`.

During the startup, a new window will open. An error description can be provided. By clicking the **Start** button, the collection of the data will begin. After collecting the data, the target directory will be shown that contains the data.

Mode of Processing

The following data will be collected:

Current Environment	Includes the current execution timestamp, the current directory, the command line, and the given error description.
System Information	The output of the `systeminfo` command.
Registry Values	The values of the registry trees `HKLM\Software\tcc` and `HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{BCA19880-2319-40E0-A2A1-C2045257C7E5}_is1`.
Services	The services installed and running on the system are listed using the `sc query` command.
Configuration file `atradis.ini`	The default file from the installation directory as well as the user defined file from the `%APPDATA%\atradis` directory will be copied.
Oracle Configuration Files	If the software is installed using the Oracle database system, the `tnsnames.ora` and `sqlnet.ora` from the `network/admin` directory will be copied. If existing, a `tnsnames.ora` from the `image` directory will be copied as well.
Other Configuration Files	All subdirectories and subsubdirectories from the installation directory will be checked for `*.conf`,

	`*.cfg`, files or files matching the pattern `headless-startup*.st`. The directory `web\conf` will be copied completely (if present).
Log files	All subdirectories will be checked for log files. If the directory has a name with a date (i.e. year and month or year-month-day), only the data of the previous and current month will be copied.
Connection Test	For each mandate in the `atradis.ini` (`image` and `%APPDATA%\atradis` directory) a connection test will be made. The syscableini account will be used for this initial attempt. If successfull, the syscable password will be read out in order to check the connection as well. By this test, login errors can be analyzed.
Mandate specific data	Again, a connection to each mandate will be established. All entries from the constant table, all login data (name, group, locking state, failed logins, last login) and the licence information will be read and saved to the log file.

Content of the Output Directory

The output directory of the Log Collector tool contains a log file named `summary.txt` which contains all data execpt:

`services.txt`	All services according to `sc query`
`registry.txt`	The registry entries
`systeminfo.txt`	The results of `systeminfo`
`atradis.ini`	All `atradis.ini` files, prefixed with the directory's name
Subdirectory `appdata`	`atradis.ini` from the `%APPDATA%\atradis` if available
Subdirectory `config`	All configuration files (`tnsnames.ora`, `sqlnet.ora`, `image_tnsnames.ora`, `*.cfg`, `*.config`, `headless-startup*.st`), eventually prefixed with a directory name (for instance `Web_werserver-1.cfg`)
Subdirectory `logs`	All `log` files, eventually prefixed with a directory name (for instance `cdrcollector_logging_schedulering.l`

18 Encryption of the IP connection when accessing postgreSQL database

Encrypting the IP connection to the Postgres database

Explanation:

After installation, the **IP connection** between Accounting Client/Web and the PostgreSQL database is automatically encrypted (TLSv1.3).

The following certificates are created using OpenSSL:

- CA Certifikate
- Server Certifikate
- Server Key File

The certificates can of course be replaced by the customer's own certificates.

Adjustments made in postgresql.conf in the *SSL* section.

Example:

(Certificates must be located in the *%Install_Dir%\OpenScape Accounting \postgres\data\baseXX* directory.)

- # - SSL -
- ssl = on ssl_ca_file = root.crt
- ssl_cert_file = postgres.crt
- #ssl_crl_file = ssl_key_file = postgres.key
- #ssl_ciphers = HIGH:MEDIUM:+3DES:!aNULL'
- # allowed SSL ciphers
- #ssl_prefer_server_ciphers = on
- #ssl_ecdh_curve = prime256v1
- #ssl_min_protocol_version = TLSv1.2
- #ssl_max_protocol_version =
- #ssl_dh_params_file =
- #ssl_passphrase_command =
- #ssl_passphrase_command_supports_reload = off

Adjustments made in pg_hba.conf.

The entries below the entry *IPv4 local Connections* changed from **host** to **hostssl**. The entry **password** was also added to **md5** adjusted. This means that the password is also transmitted in encrypted form. The entries for the application connection were adjusted accordingly from **host** to **hostssl**.

- #local is for Unix domain socket connections only
- local all all password
- # IPv4 local connections:
- **hostssl all all 127.0.0.1/32 md5**
- **hostssl all all 192.168.10.58/32 md5**
- # IPv6 local connections:
- host all all ::1/128 password
- # Allow replication connections from localhost, by a user with the
- # replication privilege.
- local replication all password host
- replication all 127.0.0.1/32 password

- host replication all ::1/128 password
- # Allow Atradis Roles access to the atradis database from everywhere
- # Administrators may restrict this if neccessary and not done from within the firewall
- **hostssl** atradis +"atradis_syscable" 0.0.0.0/0 **md5**
- **hostssl** atradis +"atradis_syscableini" 0.0.0.0/0 **md5**
- **hostssl** atradis +"atradis_syscable" ::/0 **md5**
- **hostssl** atradis +"atradis_syscableini" ::/0 **md5**

If you now connect to the database via the console using Psql, then If the connection is successful, it will automatically be displayed as the connection protocol TLSv1.3. The The connection is therefore encrypted.

Of course, manual changes can still be made in the conf - files become.