



Application Notes for TCC Atradis Balance with Avaya Aura® Communication Manager 7.0 – Issue 1.0

Abstract

These Application Notes contain configuration steps required for TCC Atradis Balance to interoperate with Avaya Aura® Communication Manager.

Readers should pay attention to Section 2, in particular the scope of testing as outlined in Section 2.1 as well as any observations noted in Section 2.2, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

TCC Atradis Balance is a Call Detail Recording (CDR) tool which provides call classification and billing information gathered from the Communication Manager. The Communication Manager Call detail recorder output is saved to disk and is accessed by Atradis Balance daily for reporting.

2. General Test Approach and Test Results

Interoperability testing contained functional tests mentioned in **Section 2.1**.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

During Interoperability Compliance testing, several call routing scenarios were testing to ensure that Atradis Balance is able to capture CDR data.

2.2. Test Results

All planned test cases were passed.

2.3. Support

Customers are served with support, depending on their service contract.

All service requests are sent to:

E-mail: service@atradis.net

Phone: +49 2202 9542 200

3. Reference Configuration

Figure 1 illustrates a sample configuration that consists of Avaya Products and Atradis Balance server. TCC Atradis Balance was installed on a VMWare virtual appliance for Windows 7.

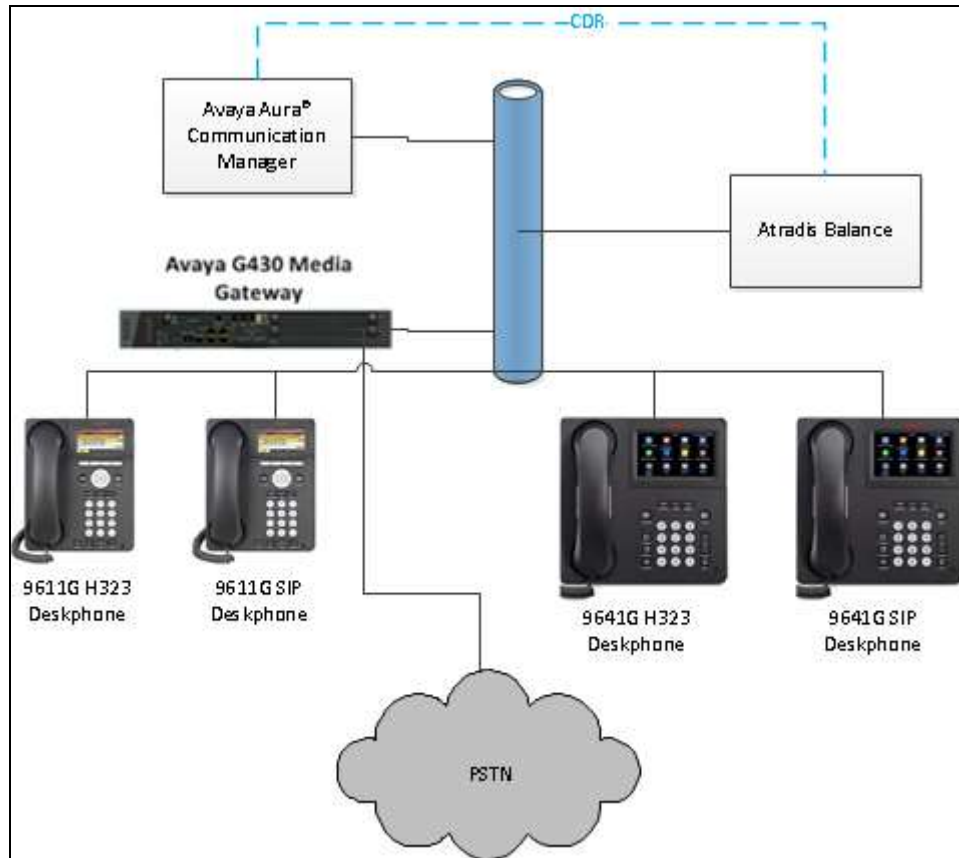


Figure 1: Test Configuration for TCC Atradis Balance

4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment/Software	Release/Version
Avaya Aura [®] Communication Manager on VMware Virtual Machine	R017x.00.0.441.0 CM 7.0.0.1.0.441.22477
Avaya G430 Media Gateway	37.20.0
TCC Atradis Balance	7.11

5. Configure Avaya Aura® Communication Manager

This section contains steps necessary to configure TCC Atradis successfully with Avaya Aura® Communication Manager.

All configurations in Communication Manager were performed via SAT terminal and the System Management Web Interface.

5.1. Configure CDR output

Use `change system-parameters cdr`. On Page 1 set:

- Set **Primary Output Endpoint: DISK**
- Set **Primary Output Format: customized**
- Set **Enable CDR Storage on Disk?** to **y**

```
change system-parameters cdr                               Page 1 of 2
                                CDR SYSTEM PARAMETERS
Node Number (Local PBX ID): 1                               CDR Date Format: month/day
Primary Output Format: customized Primary Output Endpoint: DISK
Use ISDN Layouts? y                                         Enable CDR Storage on Disk? y
Use Enhanced Formats? n Condition Code 'T' For Redirected Calls? y
Use Legacy CDR Formats? y Remove # From Called Number? y
Modified Circuit ID Display? n Intra-switch CDR? y
Record Outgoing Calls Only? n Outg Trk Call Splitting? y
Suppress CDR for Ineffective Call Attempts? n Outg Attd Call Record? y
Disconnect Information in Place of FRL? n Interworking Feat-flag? n
Force Entry of Acct Code for Calls Marked on Toll Analysis Form? n
Calls to Hunt Group - Record: member-ext
Record Called Vector Directory Number Instead of Group or Member? n
Record Agent ID on Incoming? n Record Agent ID on Outgoing? y
Inc Trk Call Splitting? y Inc Attd Call Record? n
Record Non-Call-Assoc TSC? n Call Record Handling Option: warning
Record Call-Assoc TSC? n Digits to Record for Outgoing Calls: outpulsed
Privacy - Digits to Hide: 0 CDR Account Code Length: 15
```

On Page 2

- Set the customized fields as shown below

```
change system-parameters cdr                               Page 2 of 2
                                CDR SYSTEM PARAMETERS
Data Item - Length      Data Item - Length      Data Item - Length
1: date - 6             17: code-dial - 4      33: _____ - ____
2: time - 4             18: cond-code - 1      34: _____ - ____
3: space - 1            19: isdn-cc - 4        35: _____ - ____
4: sec-dur - 5           20: ucld - 20          36: _____ - ____
5: space - 1            21: return - 1         37: _____ - ____
6: vdn - 10             22: line-feed - 1      38: _____ - ____
7: space - 1            23: null - 1           39: _____ - ____
8: calling-num - 15      24: _____ - ____  40: _____ - ____
9: space - 1            25: _____ - ____  41: _____ - ____
10: dialed-num - 18      26: _____ - ____  42: _____ - ____
11: acct-code - 8        27: _____ - ____  43: _____ - ____
12: auth-code - 7        28: _____ - ____  44: _____ - ____
13: in-trk-code - 4      29: _____ - ____  45: _____ - ____
14: in-crt-id - 3        30: _____ - ____  46: _____ - ____
15: code-used - 4        31: _____ - ____  47: _____ - ____
16: out-crt-id - 3       32: _____ - ____  48: _____ - ____
Record length = 123
```

5.2. Configure Intra Switch CDR

To allow internal call to be reported via CDR the extension on the system must be added to the intra-switch-cdr form. Use **change intra-switch-cdr** to add the extension numbers required

```

change intra-switch-cdr                               Page 1 of 3
                                INTRA-SWITCH CDR
                                Assigned Members: 10 of 1000 administered
                                Extension      Extension      Extension
827-0001
827-0002
827-0003
827-0004
827-0005
827-0500
827-5000
827-5001
827-5020
827-5021
Use 'list intra-switch-cdr' to see all members, 'add intra-switch-cdr' to add
new members and 'change intra-switch-cdr <ext>' to change/remove other members

```

5.3. Configure Special Applications

To allow records to be saved to disk and then accessed by Atradis, two special applications must be enabled.

Use **change system-parameters special-applications** to access the Special Applications form. On page 1 set **(SA7311) – CDR Record Answering Party?** to **y**

```
change system-parameters special-applications Page 1 of 10
SPECIAL APPLICATIONS

WARNING: Special App features are intended to serve specific needs and are not
recommended for general use. Activating one or more of these features
may result in unpredictable system behavior. Please review information
at http://support.avaya.com before feature activation.

Number of Features Activated: 3 Number of Restricted Features Activated: 1

(SA7161) - NORTEL SL1 PRI and DMS Names Display? ☐ n
(SA7291) - TAAS Pickup During Day? ☐ n
(SA7311) - CDR Record Answering Party? ☒ y
(SA7409a) - Flash to Answer Cw/Hold? ☐ n
(SA7409b) - Cancel ARS using '*'? ☐ n
(SA7474) - Cover Internal on Night Service? ☐ n
(SA7483) - Enhanced Emergency Alert? ☐ n
(SA7487) - Cover External on Trunk on Hold? ☐ n
(SA7491) - Expand DS1 Circuit Packs to 332 (Linux only)? ☐ n
(SA7578) - Integrated Directory Service over DCS? ☐ n
(SA7666) - COS Conference Tone Check? ☐ n
```

On page 5 set (SA8702) – CDR Enhancements for Network? to y

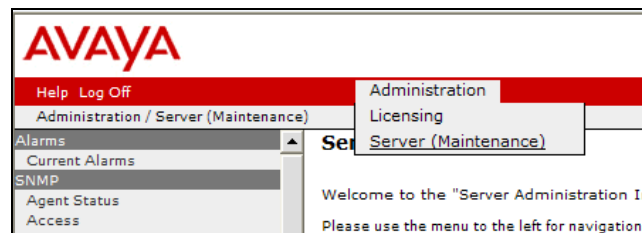
```
change system-parameters special-applications Page 5 of 10
SPECIAL APPLICATIONS

(SA8652) - No Hold Consult? n
(SA8654) - Crisis Alert Call Monitoring and Recording? n
(SA8661) - Increased Automatic Wakeup Calls? n
(SA8662) - Expanded PMS Name & Number? n
(SA8684) - PMS Wakeup Message? n
(SA8693) - Connectivity Check for Direct IP Shuffling? n
(SA8697) - 3rd Party H.323 Endpoint Support? n
(SA8701) - Net Region Support H.323 Endpoints Behind ALG? n
(SA8702) - CDR Enhancements for Network? y
(SA8731) - Block Outgoing Bridged Call Display? n
(SA8734) - Enhanced Extension Display? n
(SA8741) - CDR Identifier for IP Station Calls? n
(SA8744) - Block Name for Room to Room Calls? n
(SA8747) - Softphone Indication on DCP Terminals? n
```

5.4. Add a CDR user

An Administrator account must be administered that has CDR User permissions on Communication Manager. Browse to the Communication Manager and login using the proper credentials (not shown).

When logged in select **Server (Maintenance)**



From the left hand menu select **Administrator Accounts** and select **Add Login** and **CDR Access Only**. Click on **Submit** to administer the new login.

The screenshot shows the 'Administration / Server (Maintenance)' window. On the left, the 'Administrator Accounts' menu item is selected. The main content area is titled 'Administrator Accounts' and contains a 'Select Action:' section with radio buttons for 'Add Login', 'Privileged Administrator', 'Unprivileged Administrator', 'SAT Access Only', 'Web Access Only', 'CDR Access Only' (which is selected), 'Business Partner Login (dadmin)', 'Business Partner Craft Login', and 'Custom Login'. Below these are fields for 'Change Login', 'Remove Login', 'Lock/Unlock Login', 'Add Group', and 'Remove Group'. The 'Submit' button is highlighted with a red box.



On the New user administration screen enter a **Login Name**, Check that the **Primary group** is **CDR_User** and set a **Password**. Click on **Submit** to save the user details.

The screenshot shows the 'New user administration' form. The 'Login name' field contains 'cduser'. The 'Primary group' dropdown is set to 'CDR_User'. The 'Unix shell (/bin/echo for no shell)' is set to '/bin/bash'. The 'Home directory' is set to '/var/home/ftp/CDR'. The 'Select type of authentication' section has 'Password' selected. The 'Enter password or key' and 'Re-enter password or key' fields are empty. The 'Force password/key change on next login' option is set to 'No'. The 'Submit' button is highlighted with a red box.

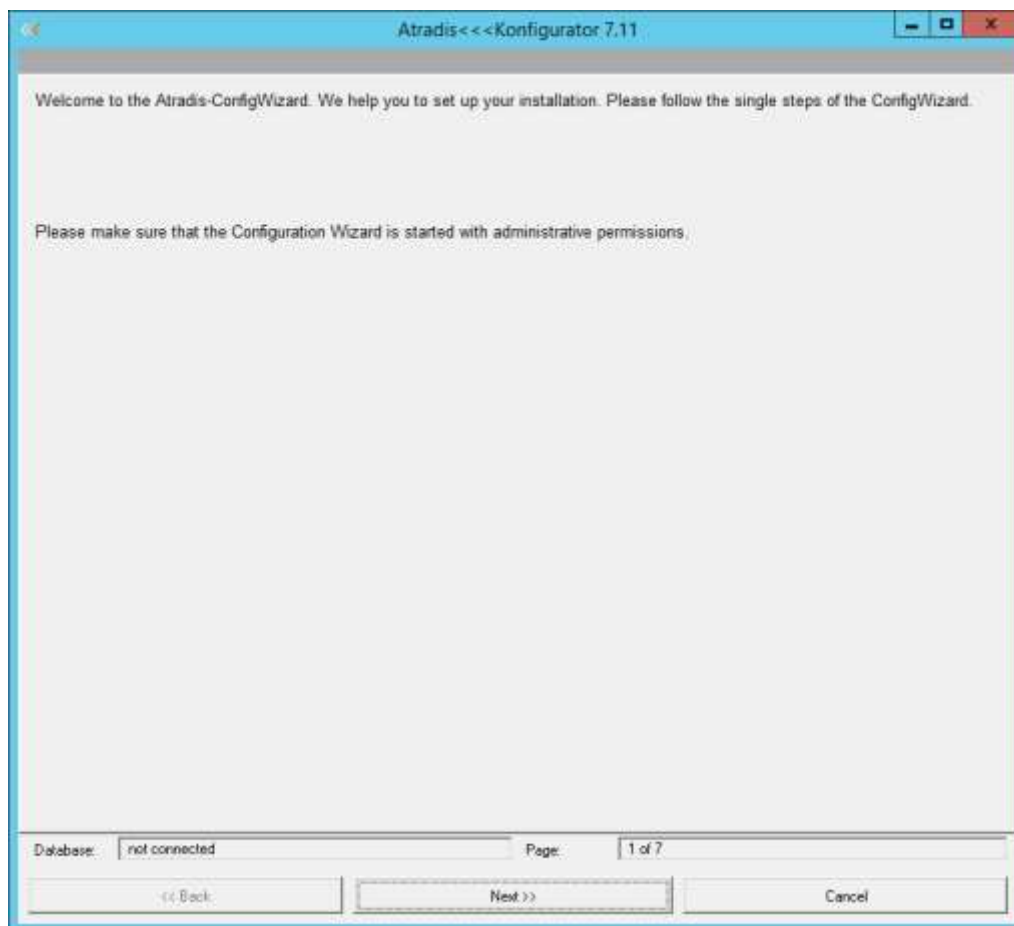
6. Configure TCC Atradis Balance

This section describes the configuration steps required for Atradis Balance to interoperate with Communication Manager. It is presumed that Atradis Balance has been installed correctly and is ready for the initial configuration to be completed.

Check that the licence files are present in the Atradis Balance installation Directory

 CDR100.ctl	22.02.2016 12:20	CTL-Datei	1 KB
 NSM100.lic	22.02.2016 12:20	LIC-Datei	1 KB

From **Start** → **All Programs** → **Atradis** start the **Atradis Configuration Wizard**. Click on **Next** to navigate to the next page of the wizard.



on **Page 2** select **atradis** from the **Scheme:** drop down and Select **Authenticate as: syscable** using the **Password:** provided during installation.

Atradis<<Konfigurator 7.11

i To perform the remaining steps, a connection to the database must be first established. If you performed a standard installation, you can accept the default values without changes.

Scheme: atradis The scheme selects the database scheme that you want to configure. Normally, Atradis works with only one scheme.

Authenticate as: ☒ syscable ☐ syscable_en

Password: [password]

Database: not connected Page: 2 of 7

<< Back Next >> Cancel

On Page 3, select the options highlighted below.

Atradis<<<Konfigurator 7.11.000

Please select the individual configuration steps you want to perform. We recommend performing all configuration steps.

Default Settings
To start-up Atradis you need a license file, which is delivered by your vendor. Please notice that a license file must be loaded within ten days after delivery.

- ☐ Patch-Import
- ☒ Atradis<Balance license import
- ☒ Base settings

Settings
☐ HiPath COL Migration ☐ SNMP Agent Settings ☐ SMTP Settings

Switch Configuration
The system needs at least one tariff. After that, the phone system(s) can be configured.

- ☒ Import tariff table
- ☒ Import SIP Endpoint XML file
- ☒ Configure switch
- ☐ Configure OpenScape Business
- ☐ Configure Welcome

Transfer of call-charge data and data processing
The parameters for the transfer of call-charge data will be defined and then entered in the Atradis scheduler. Optionally you may also define the settings for the interface to THoMAS.

- ☒ Define transfer settings for call-charge data
- ☐ THoMAS interface
- ☐ Configure General Administration functions

Master Data Administration
Optionally you may import once master data (customer, extensions, cost center, ...) or configure a scheduled import of master data.

- ☐ Import master data once
- ☐ Master data synchronization via ODBC
- ☐ Configure HiPath Manager-Synchronization
- ☐ Configure HiPath User Management Synchronization
- ☐ Configure OpenScape User Management Synchronization
- ☐ LDAP Synchronization

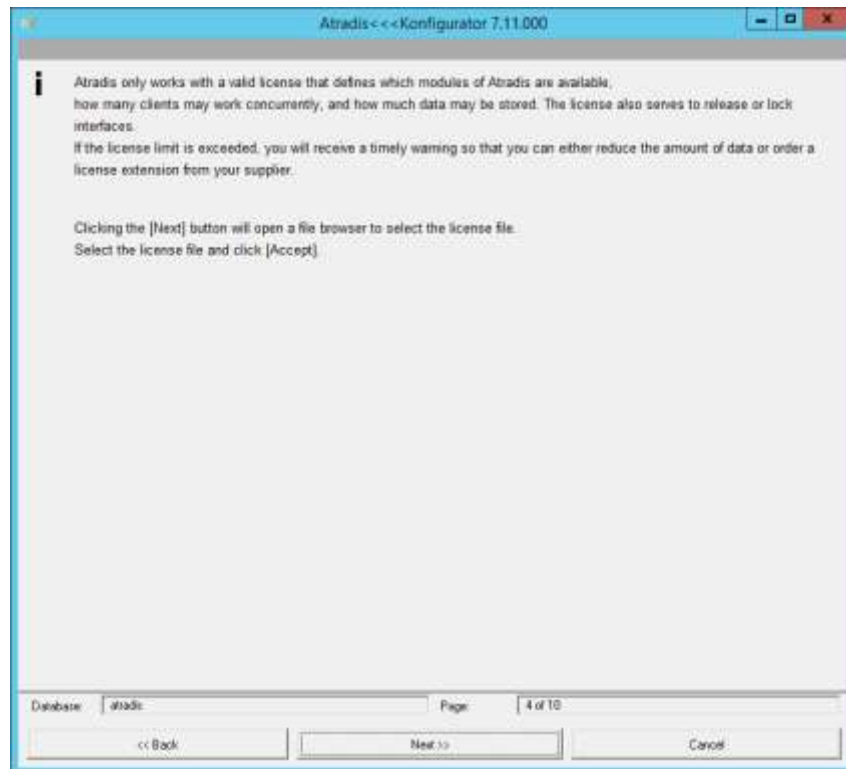
Web Server
Configuration and dimensioning of the Atradis web service

- ☐ Web server settings
- ☐ Generate SSL Certificate

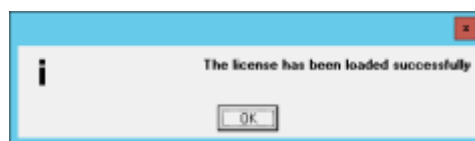
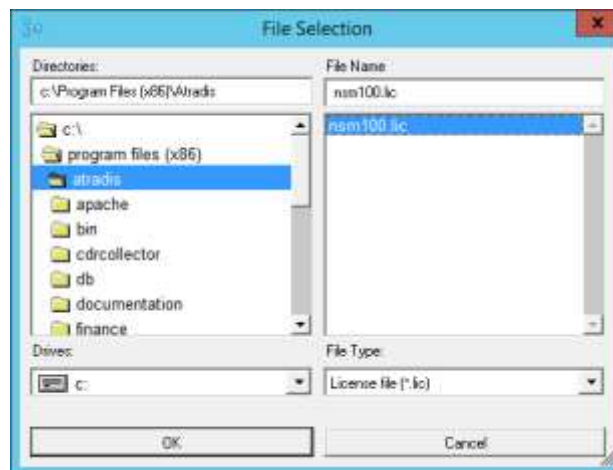
Database: atradis Page: 3 of 10

<< Back Next >> Cancel

On Page 4 click on Next to select the License file in the install directory



Browse to the Atradis install directory and select the License file(.lic).



On the following page, select the highlighted features.

Atradis << Konfigurator 7.11.000

Please choose the base settings for your system. For details please refer to the manual.

Common Settings

☒ Unique numbering scheme
Max. length extension: 22

☐ Deny detailed reports

Delete calls after days: 180

☒ Install cleanup service

VAT: 19.00

☐ Enable daily backup

☒ Automatically create unknown extension numbers

☒ Allow Report for PINs
Please observe the legal requirements. 0 disables automatic deletion.

☒ Log unknown records

☐ Locking Alert (only available for some switches)

Working Hours: 7 - 18

Printing Settings

☒ Install Print server

PDF directory: c:\Program Files (x86)\Atradis\image\

History Settings

☐ Enable history objects

Extension: history on change of: #

Subscriber: history on change of: #

Device: history on change of:

SIM: history on change of:

☐ Create login for new subscribers

Group for new logins: Users

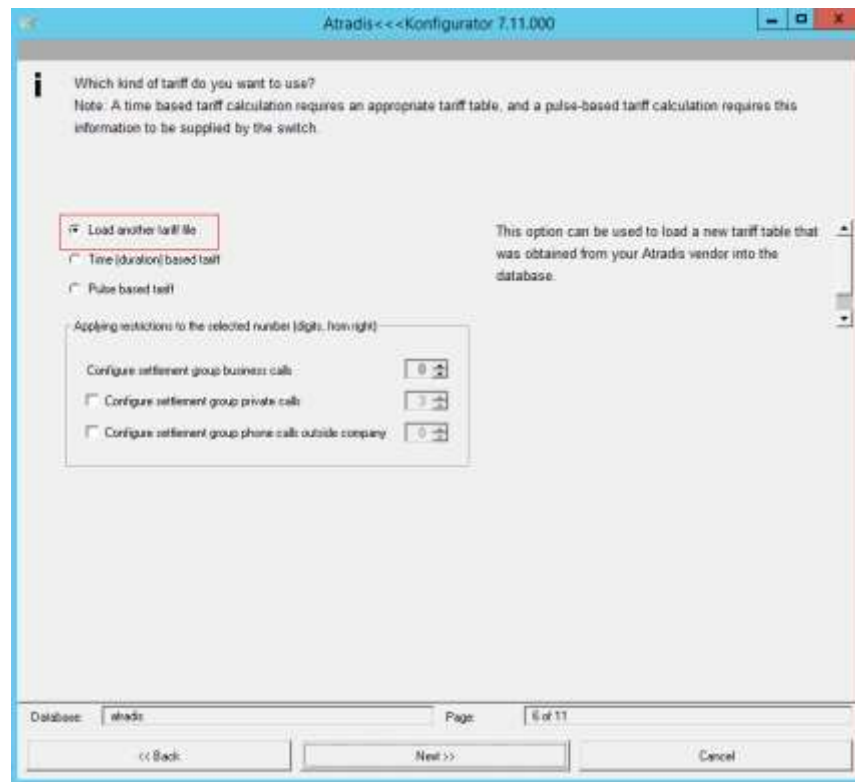
Login template: #firstname,##lastname

New user password: password

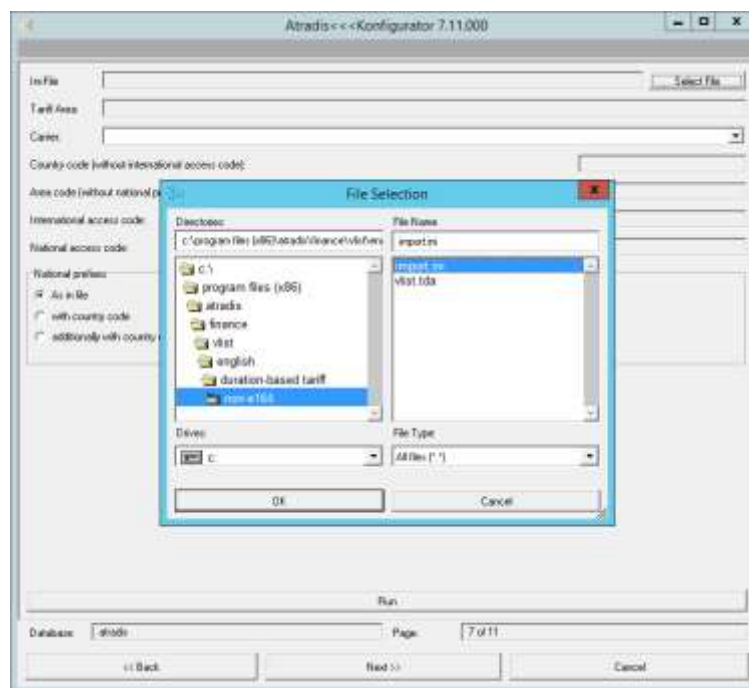
Database: atradis Page: 4 of 5

<< Back Next >> Cancel

On Page 6 Select the type of tariff configuration required.



On Page 7 select the .ini file used for creating a tariff list. The example below is installed by default.



When the file is loaded click on **Run**.

Atradis<<<Konfigurator 7.11.000

Ini-File: c:\program files (x86)\atradis\finance\wlist\english\duration-based tariff\non-e164\import.ini [Select File]

Tariff Area: Bergisch Gladbach

Carrier: non-e164

Country code (without international access code): 49

Area code (without national prefix): 02202

International access code: 00

National access code: 0

National prefixes:

- ☒ As in file
- ☐ with country code
- ☐ additionally with country code

International access:

- ☒ As in file
- ☐ + instead of international access
- ☐ + additionally to international access

Run

Database: atradis Page: 5 of 6

<< Back Next >> Cancel

On Page 8 enter a **Switch Name** and **Switch Number**.

Atradis << Konfigurator 7.11.000

i Please enter a name and a number for your switch.
The name is eventually used by the import of external data, and
the switch number is eventually used when call-charge data is imported.
If this information is not needed, please confirm the proposed default values.

Switch Name:

Switch Number:

Database: Page:

<< Back Next >> Cancel

On Page 9 select **ACM ab V5.21** from the **PID file:** drop down and click on **Accept**.

Atradis << Konfigurator 7.11.000

i The format of raw call charge data depends on the switch type. Consequently, the appropriate format description must be assigned to the switch. If you already have raw data on this system, you can use the test function to see if the data records were interpreted correctly. If you want to create a new PID file, an existing format to be used as a basis must be selected first.

Switch Name:

PID file:

Database: Page:

Enter the details of the Communication Manager and connection details in the **Remote transfer** section and the **Transfer interval** details. Click on **Accept** when finished.

Atradis << Konfigurator 7.11.000

i At this page, the call charge retrieval is getting configured. The data can be fetched from the local system (e.g. if the switch delivers them to the local file system) as well as from a remote server. The fetch interval may be configured, too. After the selection of a switch, you have to select whether to save or to discard the changes before another switch or another page can be selected.

Select switch:

Transfer settings:

☐ Local ☒ Remote

Local transfer:

Source file:

Remote transfer:

Address: Password:

User name: Confirmation:

Access Type:

Host directory:

File name:

☐ Fetching via HTTPS from OpenScape Business

Transfer interval:

Transfer all:

next run:

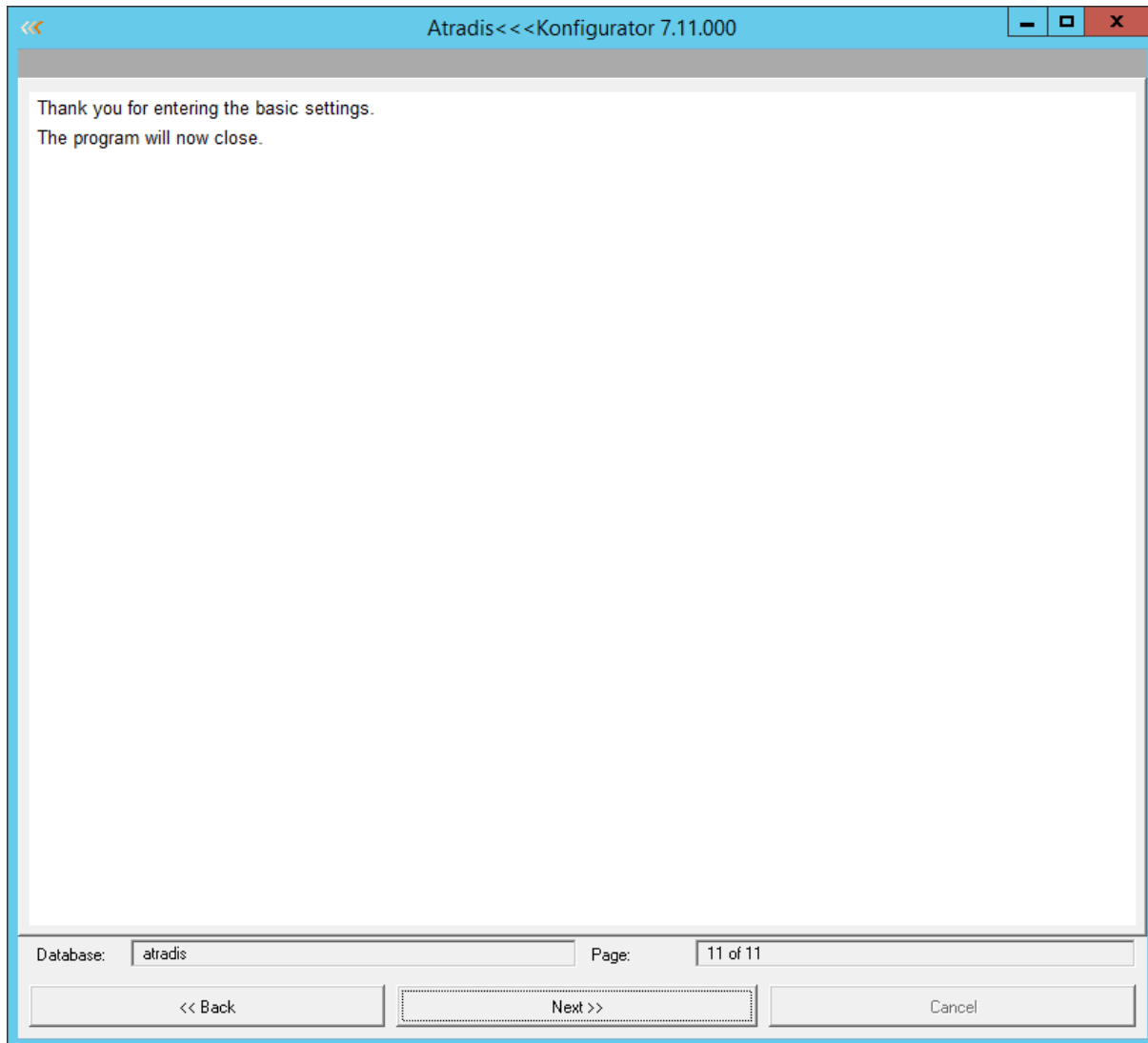
☒ Enable import after transfer

☐ Enable Fraud-Check after import

Options:

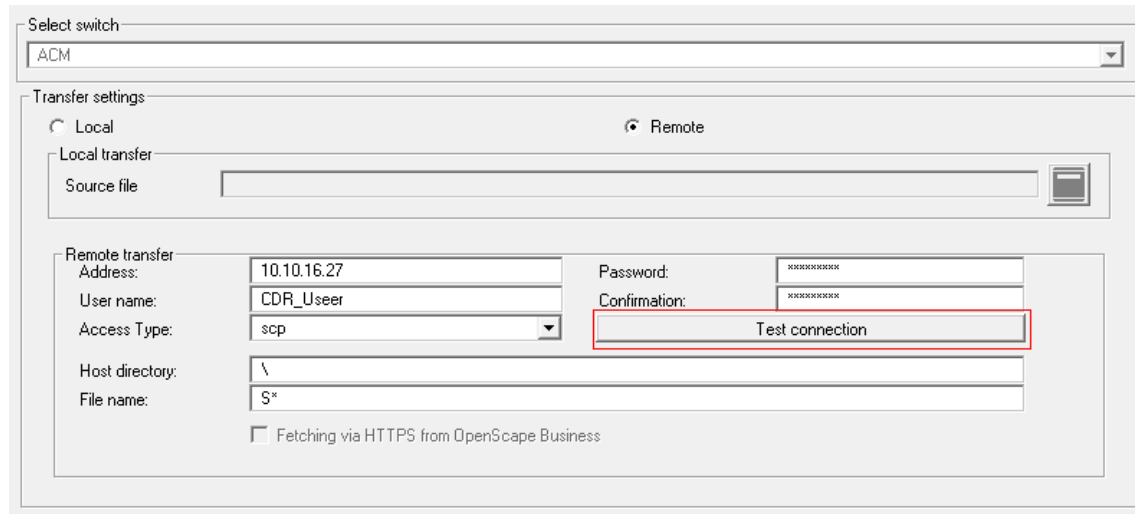
Database: Page:

On Page 11 click on **Next** to complete the configuration steps

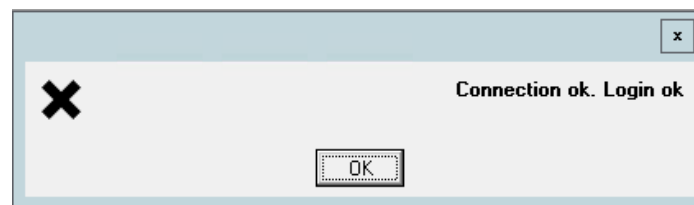


7. Verification steps

During the configuration steps for Communication Manager shown in **Section 6** click on the Test Connection Button. The pop up window confirms that the **Connection** and **Login** are **ok**



The screenshot shows a configuration window for Communication Manager. At the top, there is a 'Select switch' dropdown menu with 'ACM' selected. Below this is the 'Transfer settings' section. It has two radio buttons: 'Local' (unselected) and 'Remote' (selected). Under 'Local transfer', there is a 'Source file' text field and a folder icon. Under 'Remote transfer', there are several fields: 'Address' (10.10.16.27), 'User name' (CDR_User), 'Access Type' (scp), 'Password' (masked with asterisks), 'Confirmation' (masked with asterisks), 'Host directory' (backslash), and 'File name' (S*). A red rectangle highlights the 'Test connection' button. At the bottom, there is a checkbox for 'Fetching via HTTPS from OpenScape Business' which is unchecked.



7.1. Verify Communication Manager CDR

The CDR output to DISK can be verified by checking the content of the CDR output directory on Communication Manager.

You must have root or CDR_User permissions to view this directory

The output directory is /var/home/ftp/CDR and the following files are present when output is successfully sent

```
root@CM71627> ls -al
total 16
drwxrwx---. 3 root      CDR_User 4096 Feb  8 10:03 .
drwxrwxr-x. 6 ftp       ftp       4096 Jul  7 2015 ..
-rw----- 1 atradiscdr CDR_User  114 Feb  5 09:02 .bash_history
lrwxrwxrwx 1 root      root        53 Feb  8 10:02 C-S000001-0001-160208-10_022
drwxr-x---. 2 root      CDR_User  4096 Feb  8 10:02 current
```

8. Conclusion

TCC Atradis Balance was able to successfully interoperate with Avaya Aura® Communication Manager.

9. Additional References

The following Avaya product documentation can be found at <http://support.avaya.com>

[1] *Administering Avaya Aura® Communication Manager*, August 2015, Release 7.0, Document Number 03-300509.

Documentation related to TCC Atradis can be obtained directly from TCC via the Support information in Section 2.3.

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