Desktop Connection for SAP CRM, professional edition Release 2.0 SP05
# Content

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1 Document History

Table 1: Document History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.05</td>
<td>2013/11/19</td>
<td>The chapter SAP CRM Back End Server has been updated.</td>
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</table>
| 1.10    | 2014/01/24 | ● A note about the cache mode for the Microsoft Exchange Server has been added to the chapter Overview of Installing the Desktop Connection for SAP CRM.  
             ● A caution about multiple installations of Desktop Connection with reference to a single Microsoft Exchange profile has been added to the chapter Installation of Desktop Connection for SAP CRM on Client. |
<p>| 2.10    | 2014/04/23 | Version as of Support Package 1                                                                                                               |
|          |            | ● A link to the Technical Configuration Guide has been added to the chapter Configuration of SAP NetWeaver Gateway.                         |
|          |            | ● A note has been added to chapter Installation of Desktop Connection for SAP CRM on Client because of the discontinuation of Windows XP support. |
|          |            | ● The chapter Configuration of SAP NetWeaver Gateway has been added.                                                                         |
|          |            | ● The chapter Security Aspects of Data, Data Flow, and Processes has been updated.                                                           |
| 2.20    | 2014/07/16 | Version as of Support Package 2                                                                                                               |
|          |            | ● In chapter Installation of Desktop Connection for SAP CRM on Client the table of system requirements has been updated.                     |
|          |            | ● The section Troubleshooting Problems with Desktop Connection Productivity Caused by HTTP Traffic has been added to the chapter Troubleshooting. |
| 2.30    | 2015/01/16 | Version as of Support Package 3                                                                                                               |
|          |            | ● Information about the integration of Desktop Connection with IBM Notes (IBM Notes) was added.                                                |
|          |            | ● The Chapter Upgrade Information was added.                                                                                                 |
| 2.35    | 2015/02/12 | Extensibility information added under Package Management - Customization Package.                                                            |</p>
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<td>2.40</td>
<td>2015/06/11</td>
<td>Destination folder naming corrected under Installation Sequence.</td>
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| 2.50    | 2015/07/31 | Version as of Support Package 4  
- Information about the integration of the software invisibleStudio® with the Desktop Connection shipment was added.  
- Outlook only:  
  The section Workstation Installation was added under Installing Desktop Connection for SAP CRM in Silent Mode.  
  The section HTTP Dumps: Log Encryption was added under Security Aspects of Data, Data Flow, and Processes.  
- The section Incident Creation was added under Detailed Monitoring and Tools for Problem and Performance Analysis. |
| 2.55    | 2015/08/11 | Information about uninstalling Desktop Connection for SAP CRM was added under Installation of Desktop Connection for SAP CRM on SAP CRM.         |
| 2.60    | 2015/12/10 | Information about support of Microsoft® Outlook® 2016 and Microsoft® Exchange® Server 2016 added to System Requirements.                        |
| 2.65    | 2016/01/20 | Information about SAP enhancement package 4 for SAP Customer Relationship Management 7.0 added to Technical System Landscape.               |
| 2.70    | 2016/10/17 | Support Package 5 Version  
- System Requirements table updated under Verifying Network and Infrastructure Environments.  
- Additional languages supported.  
- Information about showing the Save Password check box added under Installing Desktop Connection for SAP CRM in Silent Mode.  
- Information about the encryption of Sync Dumps and the General Log added under Security Aspects of Data, Data Flow, and Processes.  
- More log types added under Post-Installation - The First Run Assistant for Desktop Connection, log types explained under Monitoring, and Detailed Monitoring and Tools for Problem and Performance Analysis. |
2 Getting Started

About this Document

This document is the single source of information for the implementation of Desktop Connection for SAP CRM. It contains both implementation information and security and operation information, and is divided into the following main sections:

- Introduction with references to related documents and relevant SAP Notes
- Overview of Desktop Connection for SAP CRM
- Technical System Landscape
- Installation Information
- Security Information
- Operation Information

This guide outlines the steps for installing and operating Desktop Connection for SAP CRM groupware integration components. The components must be installed on the SAP CRM backend server, SAP NetWeaver Gateway server as a NW Gateway Hub and locally on a PC to enable data synchronization. Installation is typically carried out by an administrator or IT support. See the installation software requirements in the section below.

Note

The most recent version of this document is available on SAP Service Marketplace at http://service.sap.com/instguides SAP Business Suite Application SAP CRM Add-Ons Desktop Connection for SAP CRM.

We strongly recommend that you use the document available there. The guide will be updated according to updates of the software.

Note

In this documentation Desktop Connection for SAP CRM is referred to as “Desktop Connection”, Microsoft Outlook is referred to as “Outlook” or “Microsoft Outlook” and IBM Notes, formally known as Lotus Notes, as “IBM Notes”. Microsoft Outlook and IBM Notes are referred to collectively as “personal information management” (“PIM”) applications. The software invisibleStudio is referred to as “invisibleStudio”.

For information about the features and functions of Desktop Connection for SAP CRM, see the SAP Library on SAP Help Portal at http://help.sap.com/desktopconnection.
Related Information

For more information about implementation topics not covered in this guide, see the following content on SAP Service Marketplace and on SAP Help Portal:

<table>
<thead>
<tr>
<th>Content</th>
<th>Location on SAP Service Marketplace or SAP Help Portal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latest versions of installation and upgrade guides</td>
<td><a href="http://service.sap.com/instguides">http://service.sap.com/instguides</a></td>
</tr>
</tbody>
</table>
| Released platforms and technology-related topics such as maintenance strategies and language support | [http://service.sap.com/platforms](http://service.sap.com/platforms)  
To access the Platform Availability Matrix directly, enter [http://service.sap.com/pam](http://service.sap.com/pam) |
| SAP Solution Manager | [http://service.sap.com/solutionmanager](http://service.sap.com/solutionmanager) |
[Sizing Guidelines >> Business Applications >> SAP CRM](http://www.service.sap.com/sizing) |
| invisibleStudio documentation for extensibility information | [https://support.sap.com/swdc](https://support.sap.com/swdc) |

**Note**
You have to install invisibleStudio to access the documentation.

Further Useful Links

The following table lists further useful links on SAP Service Marketplace:

<table>
<thead>
<tr>
<th>Content</th>
<th>Location on SAP Service Marketplace</th>
</tr>
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<tbody>
<tr>
<td>Information about creating error messages</td>
<td><a href="http://service.sap.com/messages">http://service.sap.com/messages</a></td>
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<tr>
<td>SAP Notes search</td>
<td><a href="http://service.sap.com/notes">http://service.sap.com/notes</a></td>
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<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>SAP Software Distribution Center (software download and ordering of software)</td>
<td><a href="http://support.sap.com/swdc">http://support.sap.com/swdc</a></td>
</tr>
<tr>
<td>SAP Online Knowledge Products (OKPs) · role-specific learning maps</td>
<td><a href="http://service.sap.com/rkt">http://service.sap.com/rkt</a></td>
</tr>
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</table>
3 Desktop Connection for SAP CRM - Overview

Desktop Connection for SAP CRM, professional edition enables you to synchronize SAP CRM business objects for example accounts, contacts, appointments, tasks, and e-mails between a PIM client and SAP CRM so that you can access all relevant data that has been created in an SAP CRM from a PIM client. All objects can be synchronized in both directions. For information about the features and functions of Desktop Connection for SAP CRM, see the SAP Library on SAP Help Portal at http://help.sap.com/desktopconnection.

A new OData service is provided by SAP that allows Desktop Connection for SAP CRM to access the SAP CRM business objects.

The OData service is implemented as an SAP NetWeaver Gateway service.

Desktop Connection for SAP CRM consumes the data described above through scheduled or manual data synchronization between SAP CRM and Outlook or Lotus Notes storages, ensuring changes are correctly reflected on both sides.

The following languages are supported:

- English (US)
- German
- Spanish
- French
- Japanese
- Portuguese
- Chinese
- Czech
- Hungarian
- Italian
- Polish
- Russian
4 Technical System Landscape

The following diagram provides an overview of the system landscape for Desktop Connection.

The following software components are mandatory for the technical implementation of Desktop Connection:

- SAP Customer Relationship Management on SAP CRM back end server:
  - SAP CRM 7.0 SP14 - NW 7.01 SP10
  - SAP enhancement package 1 (SP11)* for 7.0 CRM - NW 7.02 SP11
  - SAP enhancement package 2 (SP09)* for 7.0 CRM - NW 7.31 SP5
  - SAP enhancement package 3 (SP01)* for 7.0 CRM - NW 7.40 SP4
  - SAP enhancement package 4 (SP01)* for 7.0 CRM - NW 7.50 SP01
  * Minimum release levels

- For NetWeaver Basis 7.01 to 7.31: SAP NetWeaver Gateway 2.0 SP07 - Gateway Business Enablement Provisioning Component (IW_BEP as of SP09) on SAP CRM back end server

**Note**

As of SAP CRM 7.13 SP01 - NW 7.40 “Gateway Business Enablement Provisioning Component” (SAP_GWFND as of SP08) is included.
● For NetWeaver Basis 7.01 to 7.31: SAP NetWeaver Gateway 2.0 SP07 - **Gateway Core Component** on NetWeaver Gateway Hub

● Add-on for Desktop Connection on the SAP CRM back end server

● Desktop Connection for SAP CRM Client Components on PC

● invisibleStudio components:
  ○ enterprise edition: CRMGWSTUEE
  ○ professional edition: CRMGWSTU

● Components for the merge script for updating Desktop Connection:
  ○ enterprise edition: CRMGWMEREE
  ○ professional edition: CRMGWMER

Since SAP CRM is a typical SAP Business Suite application, you should also see to the SAP NetWeaver Security Guide, chapter **Technical System Landscape** for a suitable diagram of the technical system landscape.

For more information, see SAP Library on SAP Help Portal at [http://help.sap.com/netweaver](http://help.sap.com/netweaver) [Choose relevant release] [Security Information] [Security Guide] [Technical System Landscape].

For more information about the technical system landscape, see the resources listed in the table below:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Guide/Tool</th>
<th>Quick Link on SAP Service Marketplace or SAP Community Network (SCN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical description for <strong>SAP CRM</strong> and the underlying components such as SAP NetWeaver</td>
<td>Master Guide</td>
<td><a href="http://service.sap.com/instguides">http://service.sap.com/instguides</a></td>
</tr>
<tr>
<td>High availability</td>
<td>See applicable documents</td>
<td><a href="http://scn.sap.com/docs/DOC-7848">http://scn.sap.com/docs/DOC-7848</a></td>
</tr>
</tbody>
</table>

Desktop Connection for SAP CRM interacts with the SAP CRM API in accordance with the SAP NetWeaver Gateway security rules. NET WCF Data Services Client library is used for interaction with the SAP CRM API.
5 Installation Information

This section provides installation instructions on how to build the infrastructure for Desktop Connection for SAP CRM in SAP Business Suite.

5.1 Preparation

SAP CRM Back End Server

Download the SAP NetWeaver Gateway Business Enablement Provisioning Component and install it on the SAP CRM application server. For more detailed information, see the topic Installing SAP NetWeaver Gateway Components in the SAP NetWeaver Gateway Installation Guide. You find this guide in the SAP NetWeaver Gateway documentation using the Search.

The solution consists of the following:

- ABAP component CRMGWS
- Outlook: CRMGWCON and CRMGWCUS
- IBM Notes: CRMLNCON 200 and CRMLNCUS 200
  - CRMGWCON/CRMLNCON 200 is the component for the clients, which has to be installed as an add-in on the user client.
    For more information, see the topic Installation of Desktop Connection for SAP CRM on Client in chapter Installation Sequence.
  - CRMGWCUS/CRMLNCUS 200 is a file that contains the customization package, which must be uploaded to CRM Server.
    For more information, see the topic Installation of Desktop Connection for SAP CRM on Client in chapter Package Management - Customization Package.

Download the solution from the SAP Software Distribution Center on the SAP Service Marketplace under http://support.sap.com/swdc:

- Download the ABAP component CRMGWS under Installations and Upgrades Browse our Download Catalog SAP Application Components SAP CRM DESKTOP PE CRM DESKTOP CONNECTION PE 2.0
- Download CRMGWCON/CRMLNCON 200 and CRMGWCUS/CRMLNCUS 200 under Support Packages and Patches Browse our Download Catalog SAP Application Components SAP CRM DESKTOP PE CRM DESKTOP CONNECTION PE 2.0 Support and Patches Entry by Component
  - Find the component CRMGWCON/CRMLNCON 200 under CRM Desktop PE Client
  - Find the component CRMGWCUS/CRMLNCUS 200 under CRM Desktop PE Server

Follow the steps outlined in the topic Installation of Desktop Connection for SAP CRM on SAP CRM to start the installation process.
SAP NetWeaver Gateway Hub

Download the SAP NetWeaver Gateway Core Component and install it on the SAP NetWeaver Gateway Server. For more information, see the SAP NetWeaver Gateway Installation Guide using the Search in the SAP Library for SAP NetWeaver Gateway.

Set up a SAP NetWeaver Gateway Hub for the Desktop Connection for SAP CRM Groupware Integration. Follow the steps outlined in the topic Configuration of SAP NetWeaver Gateway to start the configuration process.

Desktop Connection for SAP CRM Client

Download the latest Desktop Connection for SAP CRM client components setup file for the PIM client. Follow the steps outlined in the topic Installation of Desktop Connection for SAP CRM on Client to start the installation process.

Related Information

Installation of Desktop Connection for SAP CRM on Client [page 14]
Installation of Desktop Connection for SAP CRM on SAP CRM [page 12]
Configuration of SAP NetWeaver Gateway [page 13]

5.2 Installation of Desktop Connection for SAP CRM on SAP CRM

Install the Desktop Connection add-on component CRMGWS 700: Add-On Installation using the SAP Add-On Installation Tool (SAINT), which enables you to import the Desktop Connection installation packages from the SAP Service Marketplace into your SAP system landscape.

Follow the instructions in the Release Information Note (RIN) 1870348.

These installation packages have a compressed format, so first unpack them into your local file system. Next, import them using the installation tool. For detailed information about unpacking the installation packages, see Loading Installation Packages from the Application Server in the SAP NetWeaver Gateway Installation Guide. You find this guide in the SAP NetWeaver Gateway documentation using the Search.

To install Desktop Connection component:

1. Log on to the SAP system in which you want to install the Desktop Connection component and enter the transaction SAINT.
2. Import the installation packages. For detailed information about importing the installation packages, see Installing and Upgrading Add-Ons in the SAP NetWeaver Gateway Installation Guide.
5.3 Configuration of SAP NetWeaver Gateway

General Procedure

After you have installed SAP NetWeaver Gateway, you configure the Gateway system and configure the settings for OData Channel.


For more background information, see the documentation in the following steps.

Perform the following main steps:

1. Activate the SAP NetWeaver Gateway
2. Connection Settings: SAP NetWeaver Gateway to SAP CRM Backend System
3. Connection Settings: SAP CRM Backend System to SAP NetWeaver Gateway
   For more information, see http://help.sap.com/nwgateway Configuration Guide > SAP NetWeaver Gateway Configuration Guide > OData Channel Configuration > Connection Settings on the Backend System.
4. Settings for the OData Channel for the SAP NetWeaver Gateway Hub
   For more information, see http://help.sap.com/nwgateway Configuration Guide > SAP NetWeaver Gateway Configuration Guide.
5. Users and Authorizations for SAP NetWeaver Gateway Supported Languages in SAP NetWeaver Gateway

Procedure for Desktop Connection for SAP CRM Settings for OData Channel on the SAP NetWeaver Gateway Hub System

1. Assign SAP System Alias to OData Service
2. Activate and Maintain Services
For more information, see http://help.sap.com/nwgateway#section3 Developer’s Guides SAP NetWeaver Gateway Developer Guide OData Channel Basic Features Service Life-Cycle Activate and Maintain Services.
Activate the service with the external service name GROUPWARE_SYNC in the name space /CRMGWS/ here for Desktop Connection for SAP CRM.

5.4 Configuration of SAP CRM Back End System
To configure the back end system, perform the following steps:

- Define Profile and Maintain Settings.
- Assign Profile to Users.
- Assign Business Partners to Unknown Attendees.
- Administrate Customization Packages.
- Check User Administration, Authentication and Authorization.

For step-by-step information, see chapter 5 of the Technical Configuration Guide.

5.5 Installation of Desktop Connection for SAP CRM on Client
This chapter provides step-by-step instructions for installing Desktop Connection for the PIM client. It covers the following topics:

- Preliminary actions before installing Desktop Connection
- Network and infrastructure environments
- Step-by-step installation instructions

⚠️ Caution

- Desktop Connection cannot work with the same Microsoft Exchange profile/IBM Notes mail database on more than one PC, for example on a laptop and desktop PC.
- You cannot install Desktop Connection if the client-based groupware integration component is installed. For more information about client-based groupware integration, see SAP Library for SAP CRM on SAP Help Portal at http://help.sap.com/crm. Choose a release and then Application Help Data Exchange and Mobile Technologies Groupware Integration Client-Based Groupware Integration.
Overview of Installing Desktop Connection for SAP CRM

The installation package for Desktop Connection is a package consisting of an installer program (exe). It includes the following data:

- The installation information for Desktop Connection
- The core resource files and images

You can deploy Desktop Connection using a third-party deployment software of your choice. You can also use the distribution criteria in these products to distribute software to any group of users, operating systems, domains, workgroups, and so on.

Desktop Connection displays the First Run Assistant (FRA) after you complete the installation and the user starts the PIM client. For more information, see section “The First Run Assistant for Desktop Connection”.

Microsoft Outlook: Files, File Locations, and Profiles

Desktop Connection handles files and profiles according to the following conditions:

- The Desktop Connection client uses a specified profile and default location to store SAP CRM data. You can use either a Microsoft Exchange mailbox or a PST file (Outlook Personal Folders) as an Outlook default email delivery location.
- The installer prompts you to choose the installation directory where the Desktop Connection Add-in is installed. After installation, during the first launch of Outlook, you can select the Outlook profile.
- If you configure multiple Outlook profiles, the First Run Assistant applies the configuration of the Desktop Connection Add-in for only one of these profiles. You cannot use it with more than one Outlook profile.
- If you install and then remove the Outlook profile, the Desktop Connection Add-in remains in an installed state, and continues to appear in the Add/Remove Programs dialog box. In this case, you can remove the Desktop Connection Add-in from the Add/Remove Programs dialog.
- You can use a Microsoft Exchange Server account in cached mode only. Desktop Connection uses the Microsoft Outlook .OST file to store the Desktop Connection data. Microsoft Outlook synchronizes the data in the .OST file with the Microsoft Exchange Server, according to a predetermined schedule.

Protocol

Proceed as follows to check whether the indicator Use Cached Exchange Mode has been selected for the e-mail profile used for groupware integration:

Start ➤ Control Panel ➤ Mail ➤ Show Profiles... ➤ Properties ➤ E-mail Accounts... ➤ Choose the E-Mail tab page and double click the name. The Use Cached Exchange Mode checkbox is now displayed in a new window Server Settings.

IBM Notes: Files, File Locations, and Locations

Desktop Connection handles files and locations according to the following conditions:

- If you configure multiple locations in IBM Notes, the First Run Assistant applies the configuration for the Desktop Connection add-in to one of these locations only. You cannot use it with more than one IBM Notes location.
If you add and then remove the IBM Notes location, the Desktop Connection add-in remains in an installed state and is still displayed in the Add and Remove Programs dialog box. In this situation, the user can remove the Desktop Connection add-in.

The installer prompts you to choose the installation directory where the Desktop Connection Add-in is installed. After installation, during the first launch of the IBM Notes client, you can select the IBM Notes location.

Verifying Network and Infrastructure Environments

This topic describes how to make sure the network and infrastructure environments are correctly configured to successfully install and start the Desktop Connection client.

Verify Network and Infrastructure Environments

1. Choose your deployment software, and review the conditions that apply to the installation.
2. Make sure a direct connection to the SAP CRM Server is available.

Make the corresponding changes in the Connection Settings dialog box, since Desktop Connection uses these settings to connect to the OData Service.

System Requirements

Before you install Desktop Connection, you must verify that the following supported components are installed depending on which version of Desktop Connection you want to install.

Table 5: System Requirements for Microsoft Outlook

<table>
<thead>
<tr>
<th>Software Component</th>
<th>Version</th>
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</thead>
<tbody>
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<td>Operating system (client)</td>
<td>Microsoft Windows 7 (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 8 (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 8.1 (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 10 (32/64 bit)</td>
</tr>
<tr>
<td>Microsoft Office</td>
<td>Microsoft Outlook 2007 SP02 and higher</td>
</tr>
<tr>
<td></td>
<td>Microsoft Outlook 2010 (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Outlook 2013 (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Outlook 2016 (32/64 bit)</td>
</tr>
<tr>
<td>Microsoft Exchange</td>
<td>Microsoft Exchange Server 2007</td>
</tr>
<tr>
<td></td>
<td>Microsoft Exchange Server 2010</td>
</tr>
<tr>
<td></td>
<td>Microsoft Exchange Server 2013</td>
</tr>
<tr>
<td></td>
<td>Microsoft Exchange Server 2016</td>
</tr>
<tr>
<td>Microsoft .NET Framework</td>
<td>Microsoft .NET Framework 4.6.1 must be installed on the machine on which the Desktop Connection is installed.</td>
</tr>
<tr>
<td>Software Component</td>
<td>Version</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Microsoft Visual C++</td>
<td>Microsoft Visual C++ 2010 SP1 Redistributable Package (x86)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Visual C++ Redistributable Packages for Visual Studio 2015 (32/64 bit) depending on your installed Microsoft Office version</td>
</tr>
</tbody>
</table>

⚠️ **Caution**

Do not install Desktop Connection and the Microsoft Exchange Server in the same system.

### Table 6: System Requirements for IBM (Lotus) Notes

<table>
<thead>
<tr>
<th>Software Component</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating system (client)</td>
<td>Microsoft Windows 7 (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 8 (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 8.1 (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 10 (32/64 bit)</td>
</tr>
<tr>
<td>IBM (Lotus) Notes</td>
<td>IBM (Lotus) Notes 8.5.1 SP1 or higher</td>
</tr>
<tr>
<td>Microsoft .NET Framework</td>
<td>Microsoft .NET Framework 4 must be installed on the machine on which the Desktop Connection is installed.</td>
</tr>
<tr>
<td>Microsoft Visual C++</td>
<td>Microsoft Visual C++ 2010 SP1 Redistributable Package (32 bit)</td>
</tr>
<tr>
<td></td>
<td>Microsoft Visual C++ Redistributable Packages for Visual Studio 2013 (32 bit)</td>
</tr>
</tbody>
</table>

ℹ️ **Note**

The Desktop Connection user needs to have the manager access level in the access control list (ACL).

### Installation Sequence

This topic describes how to make sure the network and infrastructure environments are correctly configured to successfully install and start the Desktop Connection client.

1. **Make sure that the operating system requirements are met.**
   
   The installer program validates the version of the operating system and the version of the PIM client currently installed on the Desktop Connection user’s computer.

2. **Make sure that the corresponding PIM client is installed on the client’s computer, and that it is also configured for first time use.**

3. **Make sure you have rights on the client’s computer to run the executable file from the Desktop Connection installation package.**
4. Manually copy an appropriate installer file to the client’s computer (two separate installers are used to install Desktop Connection for Microsoft Outlook and Desktop Connection for IBM Lotus Notes).

5. Do the following depending on your users per computer:
   ○ IBM Notes and Outlook: To install Desktop Connection on one computer, run the installer program.
   ○ Outlook only: To install Desktop Connection on a workstation:
     1. Start the Command Prompt program.
     2. Enter the path to where the installer program is located in the command line followed by the parameter /V"ALLUSERS=1".
     3. Click Enter to execute the command.

Example

For example, if the installation file build2.1.50.exe is located at C:\Users\DNNNNNN, the complete path in Command Prompt would read:

C:\Users\DNNNNNN>build2.1.2.50.exe /V"ALLUSERS=1"

6. Outlook only: Start Outlook and select the relevant e-mail profile.

7. Outlook only: Apply the Desktop Connection for SAP CRM configuration to your Outlook profile by clicking Yes. The First Run Assistant starts.

8. In the Welcome dialog box of the installation wizard, click Next.

9. In the Destination Folder dialog box, specify the folder where the installer is to install Desktop Connection. You can specify any folder you want. By default, the installer program installs to the following directory:
   C:\Users\{username}\AppData\Roaming\iCRM\Desktop Connection for SAP CRM

10. In the Ready to Install the Program dialog box, click Install to begin installation.

11. In the InstallShield Wizard Completed dialog box, click Finish to exit the Installation Wizard.

Installing Desktop Connection for SAP CRM in Silent Mode

This topic describes how to install Desktop Connection in silent mode. The silent mode installation helps to minimize the amount of information the user needs to input manually during the installation. It delegates defining installation parameters to administrators on behalf of users.

The parameters for silent installation are provided in the installation package (.exe file). As an administrator, you need to prepare MST files in which installation options for Desktop Connection are collected (see below the list of defined installation parameters). Then run installers for every user who passes MST files as a parameter. You can run this either from the command line or by using a mass deployment tool. Here is an example:

Desktop_Connection_for_SAP_CRM_x86.exe /b"C:\CacheDirectory" /v"TRANSFORMS="C:\Transforms\MyTransforms.mst"

Parameters defined in MST file are applied during installation. These parameters must be added to the Property table of the MSI package. If the property you want to add is missing in the Property table, it must be added there as a row.

The parameters with their sample values that are defined for silent installation are listed below:

- General settings
○ LOGIN_INFO_IS_READONLY= 0 or 1 (0 = false, 1 = true); use 1
○ LOGIN_SAVE_PASSWORD=0 or 1 (0 = false, 1 = true); use 1
○ LOGIN_SHOW_SAVE_PASSWORD=0 or 1
○ LOGIN_USERNAME=ICRM
○ LOGIN_PROTOCOL=https
○ LOGIN_SERVER_URL=https://fake.com
○ LOGIN_SERVER_HOST=fake.com
○ LOGIN_PORT=2222
○ LOGIN_SSO_MODE=0, 1 or 2 (possible values are: 0= Direct, 1 = Single Sign-On SAML, 2 = Single Sign-On x509); use 2
○ PATH_ON_SERVER=/sap/opu/odata/CRMGWS/GROUPWARE_SYNC_SSO
○ PROXY_PORT=73
○ PROXY_USAGE=0, 1 or 2 (possible values are: 0 = Direct Connection to the Internet (No Proxy Server), 1 = Use Microsoft Internet Explorer Settings for Proxy Server, 2 = Manual Proxy Server Configuration); use 1.
○ PROXY_SERVER="\""
○ PREFER_SERVER_LANGUAGE=0 or 1 (Possible values are: 0 = Outlook language, 1 = CRM language used for all requests to the CRM server. This setting can be used if it is required to, for example, get picklists translated in the CRM language. This parameter will only work if the server returns a language value in the response to the CPCheckPackage request.)

- For encryption of log files
  ○ ENCRYPT_HTTP_LOGS=1
  ○ HTTP_LOG_FILE_NAME=http_dump.xml

By default, logs encryption is disabled.

- For incident creation from the UI
  ○ solman_host: SAP Solution Manager system server address.
  ○ solman_port: SAP Solution Manager server port.

When Desktop Connection is installed on a workstation for several users (Outlook only), each user has a separate set of the following items:
- Binaries for the Desktop Connection application
- Configuration files
- Settings in the Microsoft Registry

For more settings, see “Desktop Connection Specific Guidelines” in the Desktop Connection for SAP CRM Extensibility Guide.

Workstation Installation (Outlook only)

When Desktop Connection for SAP CRM is installed on a workstation for several users, installation only has to be done once per workstation. Each user has to run the First Run Assistant to complete the installation, and does not have to install the software separately.

For more information about workstation installation, see section Installation Sequence.
Changes That Desktop Connection for SAP CRM Makes During Installation

This topic describes changes that Desktop Connection makes during installation to the file system, Windows registry, and settings in the PIM client.

Where Desktop Connection for SAP CRM Stores Data in the File System

Desktop Connection places most files that it requires in the following folder: APPDATA\iCRM\Desktop Connection for SAP CRM\Profile\.

For example, in Windows 7, Desktop Connection places most files that it requires in the following folder: C:\Users \username\AppData\Roaming\iCRM\Desktop Connection for SAP CRM\Profile.

Changes That Desktop Connection for SAP CRM Makes in the Windows Registry

Desktop Connection adds the following registry entries when you install the Desktop Connection add-in. Desktop Connection adds registry entries in the following registry keys: HKEY_CURRENT_USER\Software\iCRM\Desktop Connection for SAP CRM and HKEY_CURRENT_USER\Software\iCRM\Desktop Connection for SAP CRM Defaults.

These settings include the following information:

- In the Connector subkey, settings for Desktop Connection that are used for connection configuring.
- In the Logging subkey, logging settings that Desktop Connection uses to tune logging behavior.
- In the LoggingProfiles subkey that stores the information about the logging profiles.
- In the Scheduler subkey that stores information about periodic synchronization.

Changes That Desktop Connection Makes to Settings in IBM Notes

Desktop Connection adds the following variables to the IBM Notes configuration file (notes.ini):

- $CRMPABDB - net path to Personal Address Book database
- $CRMMailDB - net path to user’s mail database

Post-Installation - The First Run Assistant for Desktop Connection

After installation, you need to perform the first synchronization with the SAP CRM Server to make SAP CRM data available in the PIM client. The First Run Assistant (FRA) is a wizard that guides you through the setup of the Desktop Connection Add-in in the PIM client. It is displayed when you start the PIM client for the first time after Desktop Connection has been installed.

Proceed with the following steps after installation:

1. Start the PIM client. The FRA is displayed with a Welcome screen.
2. Click the Welcome window to start.
3. Depending on the software you are using, do one of the following:
   - In Microsoft Outlook, select the profile, for which you want to configure Desktop Connection.
   - In IBM Notes, select the location for which you want to configure Desktop Connection. The current user’s location is used by default.
4. In the Login Credentials step of the FRA wizard, the Desktop Connection for SAP CRM - Login dialog box appears.
5. In the **Connection** field of the *Desktop Connection for SAP CRM - Login* dialog box, select one of the following authentication methods:
   - **Direct**
     If you select the Direct Connection, enter your user info. That is, **Username**, **Password**, **Server** (= hostname for the CRM Gateway Server), and **Port** (= https ICM port number of CRM Gateway Server). The login dialog box examines the connection settings, and if a connection is established, the assistant continues.
   - **Single Sign-On (SAML)**
   - **Single Sign-On (x509)**
     If you select the **Single Sign-On (SAML)** or **Single Sign-On (x509)** connection types, the **Username** and **Password** fields are disabled and you only need to make entries in the **Server** and **Port** number fields (that is, the hostname and port number for the SAP CRM Server).

For more information about the authentication methods, see the topic *User Administration and Authentication*, chapter *Authentication from the PIM Client to SAP CRM* in this document.

6. Choose **Log In**. If the credentials are valid, the FRA automatically proceeds to the **Obtaining Package** step. Once obtained, the package is applied and the progress bar shows the progress. When the package is applied, the FRA appears for the second time.

7. Select the Synchronization Schedule step. The *Desktop connection for SAP CRM - Options* dialog appears with settings for automatic synchronization.
   - Select the **Schedule an automatic Synchronization interval** option. You can then set an interval for the next auto synchronization using the sliding bar.
   - You can also select the **Show progress during automatic synchronization** option to display the progress during auto synchronization.

8. Apply the settings for auto synchronization and proceed to the **Advanced** settings step.

9. The **Advanced** settings step is used to configure the logging and reporting options.
   - You can select the level of logging policy (that is, **Basic**, **Custom**, **Detailed**, and **Exhaustive**), and logging verbosity (that is, **Debug**, **Info**, **Warning**, **Error**, and **Fatal**).
   - You can also select the type of logs:
     - **General log**
     - **Log application exceptions**
     - **Log application crashes**
     - **Log sync dump**
     - **HTTP dumps**
     - **Application freeze dumps**
     - **Profiler log**
     - **End-to-end trace**
   - Click **Clear Logs** to delete all log files. A warning message is displayed informing you that the files currently used by the application cannot be deleted.

10. The next step is **Convert Items**. The FRA prompts you to convert existing native Outlook or IMB Notes contacts to SAP CRM contacts. If you confirm you want to covert the contacts, the sharing bar is added to all converted native PIM contacts indicating that they are shared with SAP CRM.

11. Once all settings have been accepted, the **First synchronization** starts. You can **Hide** the dialog or **Stop** synchronization during the process. If synchronization is successful, the FRA is closed. You can start working in Outlook or IBM Notes.

**Package Management - Customization Package**
Desktop Connection supports configuration using a customization package. A customization package is a collection of XML metadata and JavaScript files packed in a .zip file and is managed in SAP CRM.

Desktop Connection for SAP CRM downloads an applicable customization package for the specified user from the server during the initial synchronization. Customization can be changed by using a tool called invisibleStudio. Get the source package along with invisibleStudio and start with this Source Package. For more information, see SAP Note 1926916.

The following items show some examples of possible customizations:

● Add or remove fields that Desktop Connection synchronizes.
● Change the layout that Desktop Connection uses to display a custom form in the client.
● Change a control that Desktop Connection supplies to Microsoft Outlook.
● Change a security rule.

The customization package contains the following information:

● Extensions to the Desktop Connection user interface
  These interface extensions include custom views, forms, lookup controls, and toolbars.
● Translated text strings for prompts and labels in PIM client
● Data validation and security logic
● Synchronization filters and view modes used during synchronization
● Conflict resolution rules
● Criteria for identifying duplicate objects
● JavaScript business logic implementation
● Data mapping between SAP CRM fields and PIM client’s fields

If you change the data model, the customization package performs a complete resynchronization.

The SAP CRM backend provides a method for checking and delivering a customization package using an OData function import for the user credentials provided. The customization package files are uploaded to SAP CRM and assigned to the groupware clients for the user, using the Customizing activity Administrate Customization Packages. For more information, see Customizing for Customer Relationship Management under Desktop Connection for SAP CRM Administrate Customization Packages.

Merge Script

You have to run the merge script before you upgrade your Desktop Connection application if you have made changes in your customization package. The script checks whether your system has been modified for the automatic migration of the customized package, in preparation for the upgrade.

⚠️ Caution

If you have made modifications that did not follow the guidelines and recommendations, this will lead to manual effort after the upgrade.

The merge script runs in the Windows console and uses the standard accessibility functions of this console.
Removing or Repairing Desktop Connection for a Single User

The repair and uninstall procedures can be performed using the installer program. Moreover, you can also remove the Desktop Connection Add-in from the Control Panel.

To repair, run the installer program and select the Repair option from the Program Maintenance dialog box. The remaining steps are identical to those in the installation process.

To remove Desktop Connection for a single user, do the following:

1. Make sure all personal data is synchronized and backed up.
   ○ Perform synchronization in PIM client
   ○ Backup personal data
   To backup personal data in Outlook, we recommend that you export data to a storage file. This is done by performing the following steps in Outlook:
   1. From the application-level menu, choose File > Options > Advanced. Under the Export section, choose the corresponding Export button.
   2. In the Import and Export Wizard dialog box, choose Export to a file. Choose Next.
   3. In the Export to a File dialog box, choose Outlook Data File (.PST). Choose Next.
   4. In the Export Personal Folders dialog box, choose the appropriate folders. Choose Next, and then Finish.

To backup personal data in Lotus Notes, do the following:

1. Close Lotus Notes, otherwise the copy of database can become corrupted.
2. Open the C:\Program Files\IBM\Lotus\Notes\Data folder.
3. Copy the names.nsf file and paste it to another folder on your computer or the network.

To restore personal data in Lotus Notes, do the following:

2. Copy the names.nsf file from the backup storage and paste it to the following folder: C:\Program Files \IBM\Lotus\Notes\Data.
3. Open Lotus Notes.

2. Uninstall Desktop Connection
   If you want to uninstall the add-in using the installer program, run the installer. Select the Remove option from the Program Maintenance dialog box.
   To remove it from the Control Panel, choose Start > Control Panel > Uninstall a program. Choose the Desktop Connection add-in, and uninstall it.
   When uninstalling while running the PIM client, you will be prompted to close it before modifying files during the uninstallation process.
   During removal, Desktop Connection automatically performs the following tasks:
   ○ Removes custom data - SAP CRM data originating from Desktop Connection
   ○ Leaves shared and unshared PIM client-originated Appointments
   ○ Removed customization

Related Information

User Administration and Authentication [page 34]
5.6 User Creation and Authorization Assignment

It is important that you understand the user concept in the system landscape. To obtain an overview of the user concept in the system landscape, see User Administration and Authentication [page 34].

You have to create users in the SAP NetWeaver Gateway system and in the SAP CRM application back end system.

The Desktop Connection for SAP CRM application users need dedicated authorizations in the Gateway system. Depending on the application, they are also required in the backend system.

5.7 User Management

User management for Desktop Connection uses the mechanisms provided with the SAP NetWeaver Application Server ABAP, for example, tools, user types, and password policies. For an overview of how these mechanisms apply to the mobile applications and what additional mechanisms they need, see the sections below.

5.8 User Management Concept

Desktop Connection is based on the following user management concepts:

- **Users in the Back-End System (SU01, PFCG)**
  Desktop Connection users do not require specialist authorizations in SAP CRM. You should base your authorization requirements on the existing business roles and their assigned PFCG roles.

- **Users in SAP NetWeaver Gateway (SU01, PFCG)**
  Desktop Connection for SAP CRM clients communicate using an OData interface (NetWeaver Gateway Server). Users log on to the NetWeaver Gateway Server to use this NetWeaver Gateway interface and are taken from there to the CRM Server by a trusted RFC connection. So the Desktop Connection users also require a user in the SAP NetWeaver Gateway. Users must have the same user name as users in the SAP CRM backend.
6 Security Information

Other Relevant Security Guides

- SAP CRM Security Guide
- SAP NetWeaver Gateway Security Guide
- Microsoft Exchange Security Guide
- IBM Notes/Domino Security Guide
- Microsoft Office Security Guide

The Security Guides for SAP CRM and SAP NetWeaver Gateway also apply to Desktop Connection for SAP CRM (Desktop Connection provides access to SAP CRM data using SAP NetWeaver Gateway). Note also that since Desktop Connection inherits the security principles of the PIM client with which it is integrated, the relevant security guidelines for Microsoft Outlook and Microsoft Exchange or for IBM Lotus Notes/Domino also apply here.

You should refer to the entire SAP CRM Security Guide, however, the sections Activity Management and Accounts and Contacts are of particular interest when using Desktop Connection.


Overview of Security Measures for Desktop Connection for SAP CRM

The following principles apply to the handling of SAP CRM data in Desktop Connection:

- Follow the security patterns and policies for the following areas, as established by the OData service for integration between SAP CRM and the PIM client. See Security Configuration:
  - Data visibility
  - Data access permissions
  - Business rules and validation
    - Support client-side logic and business rules validation to achieve the following:
      - Prevent users from performing actions in the PIM client for which they do not have authorization in SAP CRM (for example, change authorization).
      - Visually indicate errors immediately, during data input, rather than during synchronization, when users do not necessarily have the context required to properly interpret and react to error messages.
      - Utilize security mechanisms in the base container (PIM client) for storing data synchronized from SAP CRM. CRM data stored by users has the same security level as data in the PIM client.
      - Ensure communication channel security by adhering to the security of the integration OData service.

⚠️ Caution

General Disclaimer

Extending the SAP standard customization package with invisibleStudio implies a modification of SAP standard XML and JavaScript files which may lead to the introduction of new security issues. These may be propagated.
throughout the system landscape after uploading the modified customization package files to the SAP CRM backend server. SAP advises to take appropriate measures to protect against such risks, for example by scanning the modified customization package source files with a security scanner and by using a virus scan prior to uploading the files to the SAP CRM server.

When uploading the modified customization package to the CRM server the content is processed using the Virus Scan Interface. The related virus scan profile is defined in Customizing for SAP NetWeaver Application Server > System Administration > Virus Scan Interface > Define Virus Scan Profiles.

Note

The to be uploaded customization package might be rejected by the virus scanner interface. We recommend to use a virus scan profile where the parameter CUST_ACTIVE_CONTENT is not set to Active to enable the upload of JavaScript content.

Related Information

Security Configuration [page 26]

6.1 Security Configuration

Refer to the SAP NetWeaver Gateway security guide on SAP Help Portal at http://help.sap.com/nwgateway

Security Information > Security Guide > Configuring Trust in the SAP NetWeaver Gateway System Landscape

Security-relevant configuration of Desktop Connection for SAP CRM focuses on the following areas:

- Outlook and IBM Notes security
  For Outlook and IBM Notes, ensure the same level of security between data synchronized by Desktop Connection and data in users’ mailboxes. The following are examples of Outlook/IBM Notes-specific security considerations:
  ○ Potential access by multiple users to the same e-mail inbox
  ○ Access to an Outlook/IBM Notes data file on the file system
    For more information, see the appropriate Outlook/IBM Notes security configuration guidelines.
  The user can enable or disable the sharing of encrypted e-mails by changing the registry settings for the entry DisableEncryptedEmailSharing in the Microsoft Registry settings. By default sharing of encrypted e-mails is enabled.

- Communication channel security
  Connection to the SAP system should be configured using HTTPS. For more information, see topic User Administration and Authentication.

- Security rules for SAP CRM data in the PIM client
  The following rules are defined as part of the customization package provided by Desktop Connection:
  ○ Rules for preventing users from performing actions for which they are not authorized
  ○ PIM client-based security and validation rules
    The primary goal of these rules is not to enforce security (which is enforced by the integration OData service), but to prevent users from performing actions they are not allowed to perform in SAP CRM.
Changes to the standard customization package during implementation of Desktop Connection are likely to alter the standard delivery business rules and also need to be properly validated.

- Application configuration security rules
  - Connectivity to SAP CRM
    Must match the security rules of the integration OData service. The following authentication techniques are supported:
    - Basic HTTP authentication over HTTPS
    - SAML-based single sign-on (SSO)
    - SSO/X.509
  - Saving passwords to registry
    Desktop Connection provides a configuration option (accessible by administrators and not end users) to store passwords in the registry of a user’s machine in an encrypted form. This means users do not have to enter their SAP CRM password every time they start the PIM client. This option is disabled by default for security reasons. During implementation, this option may be enabled if the security risk is acceptable. For more information, see topic User Administration and Authentication.

**Activating the Integration OData Service**

To activate the OData service for the integration of Desktop Connection with the SAP CRM system, proceed as follows:

1. In the SAP NetWeaver Gateway system, go to the Customizing activity Activate and Maintain Services under SAP NetWeaver Gateway OData Channel Development with IW_BEP Registration.
2. Choose Add Service.
   The Add Service screen appears.
3. In the Add Service dialog box, enter the system alias for your SAP CRM system and the name of the integration OData service ( /CRMGWS/GROUPWARE_SYNC).

**Additional Information**

<table>
<thead>
<tr>
<th>Information Area</th>
<th>Quick Link</th>
</tr>
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</table>
Additional Configuration

- For security reasons, a minimum support package for SAP CRM has to be installed (see Technical System Landscape), otherwise the exception “Security functionality missing for text transfer in SAP_BASIS component” occurs and synchronization is terminated.
- Apply SAP Note 1582870.

Related Information

User Administration and Authentication [page 34]
Technical System Landscape [page 9]

6.2 Security Aspects of Data, Data Flow, and Processes

Data for the following business objects (BOs) data is transferred from SAP CRM to the PIM client: Employees, appointments, contacts, accounts, tasks, e-mails and documents attached to BOs.

Employees, appointments, contacts, accounts, tasks, e-mails and documents attached to BOs are also transferred (created and updated) from the PIM client to SAP CRM.

For information about restricting access to SAP CRM data, see topic Authorizations.

A high-level overview of the product integration is displayed in the following figure:

The major components are as follows:

- Microsoft Outlook or IBM Notes with Desktop Connection for SAP CRM Add-In installed
- SAP CRM server with the integration OData service (see Security Configuration) and other objects that support the PIM client integration

The primary data flows are as follows:

1. **Customization package** containing product configuration/metadata is requested from the customization package management service during installation and as the first part of synchronization. The package is stored locally in the PIM client.

2. **Synchronization process, driven by Desktop Connection** between SAP CRM and the PIM client enables bi-directional data exchange between SAP CRM data and data in Outlook OST/PST or Notes NSF storage. The rules defined in the customization package control which objects/fields are synchronized. This effectively provides data available for the PIM client users.

3. **Valid for Outlook:** **Synchronization process, driven by Outlook** between OST/PST storage and Exchange provides bi-directional data exchange between data in users’ Exchange mailbox and data in their OST/PST, including SAP CRM data in Outlook.

4. **Valid for Outlook:** **Microsoft ActiveSync protocol** is used to deliver information from users’ Exchange mailbox to their cell phone/tablet, which includes SAP CRM information synchronized in step 2 above.

5. **Valid for Outlook:** **HTTP/XML** is used to deliver information from users’ Exchange mailbox into their web browser via Outlook Web Access, including SAP CRM information synchronized in step 2 above.

As part of the HTTP communication between Desktop Connection and the SAP NetWeaver Gateway Server, a log encryption function is available. For more information, see section **HTTP Dumps: Log Encryption**.
HTTP Dumps, Sync Dumps, and the General Log: Log Encryption

You can write log files (HTTP Dumps) for the communication between Desktop Connection and the SAP NetWeaver Gateway Server.

The log encryption functionality consists of a write and retrieve process:

Log HTTP Dumps: Write Process

When the log file is written, the Windows Data Protection API is used for encryption.

When the log file is written, the Windows Data Protection API is used for encryption.
During runtime, communication logs are written on the client machine to allow the analysis of software or communication issues. The logs contain business data, are stored locally, and are not encrypted by default.

In case you want to use encrypted logs, this can be set up during installation of Desktop Connection. See topic *Installation of Desktop Connection for SAP CRM on Client*, chapter *Installing Desktop Connection for SAP CRM in Silent Mode*.

You can also enable and disable the encryption of the general log and HTTP dumps in the Windows Registry: To enable log encryption, in the following registry key, create a parameter with the name encrypt and type DWORD and set the parameter value to 1: `HKEY_CURRENT_USER\Software\iCRM\Desktop Connection for SAP CRM \Logging\<LOG_TYPE>`, where `<LOG_TYPE>` is the name of the log type for which to enable encryption, can be either `GeneralLog` (for the general log) or `SyncDump` (for Sync dumps).

The Windows data protection service (DPAPI) is used for communication log encryption. This service uses the user’s logon credentials and secondary entropy (a secondary secret key that is specific to the data protection application) when protecting data.

If you need to send your encrypted log file to your support engineer for analysis, you need to decrypt the log file first. For more information, see section *Decryption of Logs*.

For more information about the configuration of the logging settings, see topic *Generic Information About Operating the SAP Desktop Landscape*, chapter *Monitoring Installation and Setup*.

**Note**

If users choose to activate Synchronization Dump logging, these files may contain personal information such as appointment participants or e-mail recipients. They may also contain company-relevant data such as appointments, tasks, or e-mail titles.

The possibility to store such data in a log file is considered to have the same impact on data security as the possibilities that exist natively in the Outlook client to save the content of appointments or e-mails and other objects in a file on the client machine, and all corresponding security measures are also required for storing data in a log file.

InvisibleStudio logs security relevant events about deploying and reverting the customization package into the Windows Application log on the desktop of the person performing the customizations.

**Caution**

There is no mechanism for automatic deletion of the content of the communication logs. Every user has to ensure the appropriate handling and deletion of this data by exercising their data protection responsibilities.

Log HTTP Dumps and General Log: Retrieving Process
When the log file is retrieved, a report is used to encrypt files.

If automatic encryption was activated during installation of your system or in the Microsoft Windows Registry, you have to decrypt your log files before sending them for analysis to your support engineer.

Decryption is done by running the program LogDecrypt that is saved during the installation of Desktop Connection to the location C:\Users\<User>\AppData\Roaming\iCRM\Desktop Connection for SAP CRM\bin.

To decrypt a log file, use the following command:

```
<LogDecrypt.exe <path_to_file_or_folder>..., where <path_to_file_or_folder> is an absolute or relative path to an encrypted log file or to the folder where such log files are stored. You can specify multiple paths. Note that for folders, all subfolders are ignored.
```

For each encrypted log file, the Log Decryption Tool produces a decrypted output log file named `<src_file_name>.decrypted.<src_file_ext>`, where `<src_file_name>` is the name of the encrypted log file and `<src_file_ext>` is the log file name extension.

**Example**

For example, the decrypted `general.log` file will be named `general.decrypted.log`.

Decrypted log files are saved to the same folder where the encrypted log files are located. The decrypted files can be sent to support.

**Note**

Decryption must be run on the same computer on which the data was encrypted and by the same user.
Virus Scan When Working with Documents

If you upload documents to SAP CRM, run a virus scan on the document’s content. To do so, use the virus scan function of SAP NetWeaver in SAP CRM and SAP Gateway.


Execution of JavaScript Code by invisibleStudio

During runtime of invisibleStudio, the file cscript.exe is executed to run JavaScript code. This is the standard Windows JavaScript interpreter.

In general, this file is located in your Windows system directory under Windows\System32\cscript.exe.

IBM Notes-Specific Aspects

Creation of Temporary Files

SAP Desktop Connection creates documents in the client file system. The file system serves as a temporary storage. During this time, the documents are subject to the access control in the file system. Once editing is completed, the temporary files are deleted.

Before synchronizing attachments, temporary files are stored in the client file system. After synchronizing, temporary files are created in the web browser where they are handled according to the web browser’s security settings.

Access Control Handling

Access control is managed at a higher architectural level using Desktop Connection and at a lower architectural level using Lotus/IBM Notes. For more information about Lotus/IBM Notes’ access control capabilities, see the Lotus/IBM Notes documentation.

Related Information

Authorizations [page 37]
Security Configuration [page 26]
Installation of Desktop Connection for SAP CRM on Client [page 14]
Generic Information About Operating the SAP Desktop Landscape [page 43]
6.3 User Administration and Authentication

Use

Desktop Connection for SAP CRM uses the user management and authentication mechanisms provided with the SAP NetWeaver platform, in particular SAP NetWeaver Application Server (AS) ABAP. Therefore, the security recommendations and guidelines for user administration and authentication as described in the SAP NetWeaver AS ABAP Security Guide also apply to Desktop Connection for SAP CRM.


Caution


For Desktop Connection for SAP CRM, the following user authentication mechanisms are supported:

- Basic authentication over HTTPS (user credentials are passed to the server in each request header, encrypted by HTTPS)
- SSO/SAML
- SSO/X.509

Authentication from Outlook/IBM Notes to Exchange/Domino and SAP CRM

The list of data flows described in the section Security Aspects of Data, Data Flow, and Processes of this guide, contains two major and unrelated authentication scenarios.

Data Flows 3-5

These are native to Microsoft Outlook and Microsoft Exchange and are not affected by SAP CRM Outlook Integration.

Data Flows 1 and 2

These require authentication of Microsoft Windows users against the customization package management service. Authentication is required to do the following:

- Authorize users to work with SAP CRM data
- Retrieve the customization package tailored to the user or user role
- Enable synchronization between SAP CRM and the PIM client
- Implement user-specific filtering of data, depending on user visibility rules defined in SAP CRM, and implementation-specific visibility rules that further reduce the set of data available for synchronization.

The manner in which Desktop Connection authenticates against SAP CRM is unrelated to the authentication procedure in the PIM client. To use the same credentials for backend authentication for both the PIM client and SAP CRM, you would need different configurations. For example, using the same Active Directory. However, such an authentication mechanism is currently not supported.
Authentication from the PIM Client to SAP CRM

SAP CRM PIM client integration supports the techniques described below.

Direct Authentication

This technique collects user credentials when they are required (for example, when synchronization is started), and then does either of the following:

- Keeps credentials in the memory only
  After the PIM client is restarted, users are asked to enter their credentials again.
- Optionally stores credentials in the user registry (password is encrypted, see details below)
  Users are not required to enter their login/password again unless the user password is changed on the server.

Delegated and Federated Authentication Using an External Single Sign-On (SSO) System

SSO is a process that allows users to access all authorized resources without having to log in to each resource separately. SSO can be used to validate user names and passwords against the corporate user database or another client application, rather than having separate user passwords that are managed by the system.

This method supports persistent sessions with SSO systems, meaning that user logons are kept to a minimum. Desktop Connection for SAP CRM supports the following SSO access policies:

- SAML 2.0 standard-based SSO
- X.509 certificate-based SSO

The Desktop Connection installer includes SSO add-ons, so there is no need to install them separately.

Table 8: Comparison of Authentication Techniques

<table>
<thead>
<tr>
<th>Technique</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct authentication</td>
<td>• Simple, does not require additional configuration&lt;br&gt;• The effort required to establish a new session is relatively low (no or one-time user input is required)</td>
<td>• Less secure if passwords are persistent&lt;br&gt;• Less usable if users are required to enter a password when they initiate synchronization for the first time after restarting the PIM client</td>
</tr>
<tr>
<td>Single sign-on authentication</td>
<td>• Secure, user credentials are not entered in/stored by the application&lt;br&gt;• Can provide uniform access to protected resources across the organization</td>
<td>• Requires SSO solution to be deployed and enabled for the integration OData service&lt;br&gt;• Relatively high effort required to establish a new session (the user is required to enter some data for successful SSO); some configurations sessions expire often so users have to re-enter their credentials several times</td>
</tr>
</tbody>
</table>

Features

Direct Authentication
The application logic used to collect user credentials is specific to Desktop Connection for SAP CRM:

- SAP CRM PIM client integration collects the user name and password when it needs to connect to SAP CRM to retrieve the customization package, to perform synchronization, or for any other activity.
- Credentials are always stored in the PIM client process memory, so users are not asked to re-enter them for the same client session.
- Having credentials in memory enables scheduled synchronizations.
- Changes to the password/password expiration policies are supported. Once the integration OData service determines that the password is not valid, the credentials dialog is opened to re-enter credential information.
- Password lockout policies are also honored. Once an authentication attempt fails with an invalid password response, the actual application will never independently retry it unless users instruct it to do so.
- Password storage in the registry is supported. The user name and password are stored in users’ registry hive (HKCU), which automatically supports any encrypted file system solutions that are deployed.
  - The password is also encrypted in the application code before it is stored in the registry, and is decrypted after being read from the registry before the first use.
  - The Windows data protection service (DPAPI) is used for password encryption. This service uses the user’s logon credentials and secondary entropy (a secondary secret key that is specific to the data protection application) when protecting data. Other safety methods may also be used.

### Single Sign-On Authentication

#### SAML 2.0 Standard-Based Authentication

Desktop Connection for SAP CRM supports SAML 2.0 Browser SSO using the SAP NetWeaver AS ABAP infrastructure.

The results of successful SSO logins are sent to OData service requests. The basic workflow of obtaining HTTP headers and cookies from the SSO response and passing them to service requests during SAML 2.0 SSO authentication is as follows:

1. The user accesses SAP CRM in SSO SAML mode and enters credentials in the login dialog.
2. Desktop Connection for SAP CRM uses the SSOLoginDialog component to open the provided URL.
3. SSOLoginDialog handles processing of user credentials and authentication.
   - Incoming HTTP headers are monitored against the Set-Cookie name.
4. During the authentication process, the SSOLoginDialog component controls the HTTP headers obtained from the identity provider (IdP) service using the BeforeRequest and AfterRequest events.
5. When the matching cookie header is obtained from the incoming HTTP headers (that is, the cookie header included in HTTP requests has a cookie with a domain and path that match the request), the SSOLoginDialog is closed assuming the login process has been successful.
6. The Cookie Header is passed to the OData.DynamicService to send requests to SAP CRM on behalf of the user.
   - The OData.DynamicService also has the OnSend request event, which handles the addition of cookie headers spontaneously for each request sent.

#### X.509 Certificate-Based Authentication

Desktop Connection for SAP CRM allows you to authenticate users in the SSO environment with X.509 certificates, instead of using a user name and password. The standard mechanism of authenticating users with X.509 certificates is used in the current implementation. An X.509 certificate represents a guarantee by a Certificate Authority (CA) that a public key is associated with a particular identity.
Each user has a unique public certificate, which identifies them as the subject of the certificate (using their X.509 Distinguished Name (DN)), and is signed with the private key of the root certificate issued by the certificate authority.

Desktop Connection for SAP CRM holds the corresponding public root certificate issued by the certificate authority. This certificate should be installed in the Trusted Root Certification Authorities, which are stored on the machine on which Desktop Connection for SAP CRM operates. Any certificate signed by the corresponding private key of this root certificate is trusted. When Desktop Connection for SAP CRM invokes a user authentication request with X.509, it includes the public certificate of the user in the SOAP header.

Administrators install the root certificate in the local computer store as follows:

1. Make sure the CA certificate has been downloaded as a *.cer file.
2. Right-click the certificate file and select Open from the context menu. This will display the Properties dialog for the file.
3. In the Properties dialog, choose Install Certificate to start the Certificate Import wizard.
4. In the wizard, choose Next and then choose the Place all certificates in the following store option.
5. Choose Browse to open the Select Certificate Store dialog.
6. Select the Show physical stores option to expand the listed stores.
7. Expand the Trusted Root Certification Authorities store and select the Local Computer store below it.
8. Choose OK to save your selection.
9. Choose Next and then Finish to complete installation of the certificate.

You can now use Internet Explorer to verify that the certificate has been installed in the proper store.

1. Open the Tools menu and select Internet Options... to open the Internet Options dialog.
2. Select the Content tab and choose Certificates.
3. The Certificates dialog should list the CA certificate on the Trusted Root Certification Authorities tab.

**Note**

Choosing the registry store instead of the local store will install the certificate in the root store for the current user (in this case, the administrator), however the certificate may not be present in the Trusted Root Certification Authorities store that Desktop Connection opens while running as the system account.

**Related Information**

Security Aspects of Data, Data Flow, and Processes [page 28]

**6.4 Authorizations**

Desktop Connection uses the authorization concept provided by SAP NetWeaver Application Server (AS) ABAP. Therefore, the recommendations and guidelines for authorizations as described in the SAP NetWeaver Application Server ABAP Security Guide also apply. The SAP NetWeaver authorization concept is based on assigning authorizations to users according to roles. For role maintenance, you use the profile generator (transaction PFCG) on Application Server ABAP, and the User Management Engine’s user administration console on AS Java.

**Note**

For more information about creating roles in user and role administration of AS ABAP, see SAP Help Portal at http://help.sap.com/nw_platform <Choose relevant release> Application Help Function-Oriented View Security Identity Management User and Role Administration of Application Server ABAP.

All accesses to SAP CRM data via the service interface of Desktop Connection are protected by the authorization checks documented in the SAP CRM Security Guide.

**Caution**


---

**Role and Authorization Concept**

No additional authorization objects are provided for activity management, access of employees, and accounts and contacts. The standard authorization objects in the SAP CRM system are used.

For standard roles and security-relevant authorization objects, see the SAP CRM Security Guide on SAP Service Marketplace at http://service.sap.com/securityguide SAP Business Suite Applications SAP CRM. See the following sections:

- For appointments: Component-Specific Guidelines: SAP CRM Sales Activity Management
- For master data: Component-Specific Guidelines: Master Data Accounts and Contacts

Configure the authorization objects for every named user that uses the services.

**Caution**


---

**Standard Roles**

A new role /CRMGWS/USER_ROLE was introduced with Desktop Connection for SAP CRM. This role is intended to be assigned to Desktop Connection users.
Table 9:

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CRMGWS/USER_ROLE</td>
<td>SAP CRM Desktop Connection User Authorizations</td>
</tr>
</tbody>
</table>

**Standard Authorization Objects**

Authorization object /CRMGWS/FI was introduced to restrict the download of customization packages from SAP CRM.

Only users that have the value CPLOAD assigned in the field /CRMGWS/FI for the authorization object /CRMGWS/FI can download customization packages.

The authorization object /CRMGWS/FI is assigned to the role /CRMGWS/USER_ROLE.

Table 10:

<table>
<thead>
<tr>
<th>Authorization Object</th>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CRMGWS/FI</td>
<td>/CRMGWS/FI</td>
<td>CPLOAD</td>
<td>Download customization packages</td>
</tr>
</tbody>
</table>

Customization packages can be uploaded to SAP CRM using the report /CRMGWS/CPUPLOAD, which contains the following authorization check:

Table 11:

<table>
<thead>
<tr>
<th>Authorization Object</th>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_TABU_DIS</td>
<td>DICBERCLS</td>
<td>CRMC</td>
<td>Authorization Group</td>
</tr>
<tr>
<td></td>
<td>ACTVT</td>
<td>02</td>
<td>Change</td>
</tr>
</tbody>
</table>

This is the standard check for authorization to change CRM Customizing.

The report /CRMGWS/CPUPLOAD is intended to be executed by an administrator in Customizing for Customer Relationship Management under Desktop Connection for SAP CRM ➤ Adminstrate Customization Packages in the Customization Package Files dialog, by choosing Upload Customization Package File.

**SAP CRM Security Model**

Desktop Connection follows the SAP CRM security model as follows:

- Desktop Connection users must be authenticated and authorized in SAP CRM to be able to use the product.
- The integration OData service provides the correct customization packages to Desktop Connection for SAP CRM users. In terms of security, customization packages control the data model, data set, and rules to be followed in the PIM client.
The integration OData service provides the correct data records to Desktop Connection users.

Desktop Connection follows the security and visibility rules defined in SAP CRM via the integration OData service. The integration OData service must only allow users to access data for which they are authorized.

All SAP CRM security rules are applied when data is updated in SAP CRM. Desktop Connection can understand and correctly inform users about any failures to update data in SAP CRM.

Desktop Connection uses rules defined in the customization package to control access to CRM data in the PIM client and the actions that users can perform with that data:
- Rules for preventing users from performing actions for which they are not authorized.
- Any PIM client security and validation rules are secondary by nature. Their primary goal is not to enforce security (which is to be enforced by the integration OData service), but to prevent users from performing actions they are not allowed to perform in SAP CRM. It will also indicate any errors at earlier phases.
- The PIM client rules apply every time users work with Desktop Connection for SAP CRM, (in Outlook even in offline mode), but are otherwise identical to the rules enforced by SAP CRM. On the other hand, the PIM client rules may not be as detailed as CRM rules. This means that users are allowed to perform actions which can be prohibited by SAP CRM.
  - All PIM client rules are controlled by the following:
    - The customization package
    - Additional record type-based and record-based security information, communicated to customization package logic by the integration OData service and Desktop Connection

Changes to the standard customization package during implementation of Desktop Connection are likely to alter the standard delivery business rules and also need to be properly validated.

### 6.5 Session Security Protection

To increase security and prevent access to the SAP logon ticket and security session cookies, SAP recommends that you activate Secure Session Management.

SAP also highly recommends using SSL to protect the network communications where these security-relevant cookies are transferred.

**Session Security Protection on SAP NetWeaver Application Server (AS) ABAP**

To activate session security on AS ABAP, set the corresponding profile parameters. In addition, activate session security for the clients using the transaction `SICF_SESSIONS`.

Session Security Protection Using SAP NetWeaver Gateway


Desktop Connection follows the model defined in the integration OData service (see topic Security Configuration) to establish session security based on the following authentication methods:

- HTTPS with HTTP Basic Authentication
- SSO/SAML
- SSO/X.509

Related Information

Security Configuration [page 26]

6.6 Network and Communication Security


No security-specific installation/configuration is necessary.

Desktop Connection uses the following authentication methods for network communication.

- HTTPS with HTTP Basic Authentication
- SSO/SAML
- SSO/X.509

6.7 Internet Communication Framework (ICF) Security

Use

You should only activate those services that are needed for applications that run in your system. Desktop Connection for SAP CRM requires the service /default_host/sap/opu/odata/crmgws/GROUPWARE_SYNC.

Use the transaction SICF as the SAP NetWeaver Gateway host to activate these services.

If your firewalls use URL filtering, also note the URLs used for the services and adjust your firewall settings accordingly.
More Information

For more information, see SAP Library for SAP NetWeaver on SAP Help Portal at http://help.sap.com/nw_platform</Choose relevant release> Application Help Function-Oriented View Search for “Activating and Deactivating ICF Services”.


6.8 Additional Security Aspects

- Password security
  No passwords are saved in the log files.
- Package tampering checks
  Users are not allowed to modify customization packages.

Enhanced Mitigation Experience Toolkit (EMET)

If EMET is used on the client, note that EMET version 5.0 must be installed, since lower versions are not supported by Desktop Connection for SAP CRM.

IBM Notes-Specific Security Aspects

ActiveX Components

SAP Desktop Connection uses the following ActiveX components:

- MSXML2.DOMDocument.6.0 (part of the Microsoft system environment)
- Scripting.FileSystemObject (part of the Microsoft system environment)
- VBScript.Regexp (part of the Microsoft system environment)
- LotusSAPCRMConnector.Application (part of the SAP Desktop Connection solution)

The ActiveX component LotusSAPCRMConnector.Application does not upload files to arbitrary directories, download arbitrary files, change arbitrary registry settings, execute arbitrary programs or commands, or send arbitrary e-mails or files to any recipients.
7 Operation Information

7.1 Generic Information About Operating the SAP Desktop Landscape

This chapter provides a starting point for managing your SAP solutions so that they run in an optimum fashion. It contains specific information about various tasks and lists the tools that you can use to perform these tasks. The following SAP NetWeaver, SAP CRM, and SAP NetWeaver Gateway documentation is especially important. This documentation must be used in conjunction with this Operations Guide, since this guide covers Desktop Connection for SAP CRM-specific topics, and not general SAP NetWeaver or SAP CRM topics:

<table>
<thead>
<tr>
<th>Information</th>
<th>Location</th>
</tr>
</thead>
</table>

Target Groups:
- Technical consultants
- System administrators
- Solution consultants
- Business process owners
- Support specialists
Monitoring

Monitoring is an essential task in the management of SAP Technology. As of SAP Solution Manager 7.1 SP04, the SAP Solution Manager supports root cause analysis for SAP NetWeaver Gateway 2.0.

For more information, see:

- https://service.sap.com/support ➤ SAP Solution Manager ➤ Run SAP like a Factory ➤ Application Operations ➤ End-to-End Root Cause Analysis
- SAP Note 1478974.

Monitoring Installation and Setup

Application Logging System

Once Desktop Connection is installed, you can configure your own settings for logging and reporting.

In the **Options** dialog box, choose the **Advanced** option. Then select **Configure Logging and Reporting**.

The following log types are available:

- **Generic** - general plain text log for wide system usage
- **Application exceptions** - lightweight stack-trace logging at the moment when an exception happens
- **Crash** - mini dumps saved during crashes (for instance, caused by access violation)
- **Sync dumps** - synchronization engine logs
- **HTTP dumps** - logs that contain information about all requests that the Desktop Connection Add-in sends to the server and the responses it gets from the server
- **End-to-end traces** - logs that contain time and IDs of requests sent to the server
- **Application freeze dumps** - dumps saved when the Desktop Connection application freezes
- **Profiler logs** - logs in the Trace Event Format (*.json) that contain trace information about script events (the profiler log is helpful when troubleshooting performance issues)

Component Specific Monitoring

You can monitor the following items:

- Entire system
- Operating systems
- System configuration
- System errors
- Performance
- Background processes
- Network communications
7.2 Detailed Monitoring and Tools for Problem and Performance Analysis

Trace and Log Files

Trace files and log files are essential for analyzing problems.

Important Log and Trace Files:

Table 13:

<table>
<thead>
<tr>
<th>Component</th>
<th>Content</th>
<th>File</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>All components</td>
<td>General plain text log for wide system usage</td>
<td>log.0000.txt</td>
<td>%userprofile%\AppData \Roaming\iCRM\Desktop connection for SAP CRM \Profile\Logs \GeneralLog</td>
</tr>
<tr>
<td>All components</td>
<td>Application exceptions lightweight stack-trace logging at the moment when an exception happens</td>
<td>-</td>
<td>%userprofile%\AppData \Roaming\iCRM\Desktop connection for SAP CRM \Profile\Logs \ExceptionLog</td>
</tr>
<tr>
<td>All components</td>
<td>Crash dump - mini dumps saved during crashes</td>
<td>-</td>
<td>%userprofile%\AppData \Roaming\iCRM\Desktop connection for SAP CRM \Profile\Logs \CrashDump</td>
</tr>
<tr>
<td>Synchronization engine</td>
<td>Synchronizer logs</td>
<td>-</td>
<td>%userprofile%\AppData \Roaming\iCRM\Desktop connection for SAP CRM \Profile\Logs \SyncDump</td>
</tr>
<tr>
<td>SAP CRM Connector</td>
<td>HTTP dumps - communication between client and server</td>
<td>-</td>
<td>%userprofile%\AppData \Roaming\iCRM\Desktop connection for SAP CRM \Profile\Logs \SoapDump</td>
</tr>
<tr>
<td>SAP CRM Connector</td>
<td>End-to-end traces - IDs and time of requests sent from client to the server</td>
<td>-</td>
<td>%userprofile%\AppData \Roaming\iCRM\Desktop connection for SAP CRM \Profile\Logs \E2ETrace</td>
</tr>
<tr>
<td>All Components</td>
<td>Application freeze dumps - dumps saved when Desktop Connection freezes</td>
<td>-</td>
<td>%userprofile%\AppData \Roaming\iCRM\Desktop connection for SAP CRM \Profile\Logs \HangDump</td>
</tr>
</tbody>
</table>
The following logging types are defined:

- Basic
- Detailed
- Exhaustive
- Custom

Basic, Detailed and Exhaustive are defined with all sets of parameters, while the Custom type does not contain parameters. Whenever users switch to Custom, or when detected, the current logging settings are altered from one of the four types shown above, a Custom scheme is turned on. Applying any logging type except Custom implies that you are replacing all logging settings with one from the profile.

Applying a new logging profile requires an application restart.

The default logging type is Basic, which is applied during product installation.

All types are installed in the application registry during installation. To switch to a new logging type, you must clear the existing logging settings.

### Problem Messages

When creating a message, you need to distinguish between backend application-related issues or issues with the client components. For backend related issues, use the standard application component hierarchy.

The Desktop Connection for SAP CRM-related technology components have been assigned to a new component hierarchy as follows:

#### Table 14:

<table>
<thead>
<tr>
<th>Component</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRM-BF-DCN</td>
<td>Desktop Connection for SAP CRM</td>
</tr>
</tbody>
</table>

#### Incident Creation

Users can create incidents directly from the UI in the Desktop Connection for SAP CRM - Options under Support by clicking Create Incident and following the instructions on-screen if the feature is activated. By default, the Support option is not active.

The incident creation feature using SAP Solution Manager can be activated by maintaining the parameters solman_host and solman_port during Desktop Connection silent installation automatically, or manually in the Windows Registry Editor after installation. The other required parameters are filled automatically at run time.

**Parameters for Incident Creation Feature**
Table 15:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>solman_host</td>
<td>SAP Solution Manager system server address.</td>
</tr>
<tr>
<td>solman_language</td>
<td>SAP Solution Manager system logon language.</td>
</tr>
<tr>
<td>solman_port</td>
<td>SAP Solution Manager server port.</td>
</tr>
<tr>
<td>solman_product_version</td>
<td>Desktop Connection build number.</td>
</tr>
<tr>
<td>solman_system_info</td>
<td>CRM system ID, CRM client ID, and CRM system installation number.</td>
</tr>
<tr>
<td>solman_useremail</td>
<td>CRM user e-mail address.</td>
</tr>
</tbody>
</table>

The CRM backend system has to be connected to a SAP Solution Manager system and the user has to have incident creation authorization.

For more information, see *Installation of Desktop Connection for SAP CRM on Client* [page 14], section *Installing Desktop Connection for SAP CRM in Silent Mode*.

### 7.3 Management of Desktop Connection for SAP

SAP provides you with an infrastructure to help your technical support consultants and system administrators effectively manage all SAP components. Moreover, this infrastructure can be used to complete all tasks related to technical administration and operation.

For more information about the associated technology, see the Technical Operations Manual in the SAP Library under SAP NetWeaver.

#### Starting and Stopping

No special procedure is required to start or stop the Desktop Connection for SAP CRM functions. Therefore, it is not covered in this document.

#### Software Configuration

This chapter explains which components or scenarios used by this application are configurable, and which tools are available for making adjustments.

**Component Configuration Tools**
Table 16:

<table>
<thead>
<tr>
<th>Component</th>
<th>Configuration Tool(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login,</td>
<td>First Run Assistant</td>
<td>The First Run Assistant assists in logging on to the system for the first time, in obtaining the package, and in performing the first data synchronization.</td>
</tr>
<tr>
<td>Synchronization, Options</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.4 Troubleshooting

Troubleshooting the Desktop Connection for SAP CRM Installation

In some specific cases, Desktop Connection might display a message during installation that is similar to one of the following error messages:

- System cannot open the device or file specified
- Server returned unexpected error whilst attempting to install the package

This problem might be due to the fact that the installer file is encrypted, or is located in a directory for which the user does not have run permissions.

To troubleshoot the Desktop Connection installation, proceed as follows:

1. Open Windows Explorer.
2. Right click the .msi installation file. Choose Properties.
3. In the General tab, choose Advanced.
4. Make sure the following option is not selected. Choose OK.
5. Encrypt contents to secure data.

Troubleshooting Problems that Occur When Connecting to the SAP CRM Server

In some cases, to find out how to resolve a problem that occurs when Desktop Connection connects to the SAP CRM Server, you can view log.0000.txt log file for possible errors. It increments this log file name each time it creates another log file.

Synchronization Error Handling by Desktop Connection for SAP CRM

If a top-level error occurs during synchronization, the synchronization engine stops any further processing. It displays a message to the user, describing the error. The following types of errors can occur:

- System error
- Resource allocation error
- General storage problem
- Application state malfunction
- Login failure
- Connectivity problem
- Missing xml or js files in the customization package

If an operation failure occurs in the synchronization engine, Desktop Connection creates a synchronization issue. It then attempts to perform this operation again during the next synchronization session. The following types of errors can occur in this situation:

- Unexpected failure during add, update, or delete operation.
- If data for an object has changed since Desktop Connection queried this object during the current synchronization session, it cannot perform the update and the delete operations until the next synchronization cycle. In this situation, it creates an issue and then handles this issue in the subsequent synchronization. This synchronization creates a collision because the object has changed since the last synchronization. A collision is a data integrity problem that occurs if Desktop Connection modifies the same record on the SAP CRM Server and in the client between synchronization sessions.

Desktop Connection logs synchronization errors in both the synchronization log files and also in the GeneralLog file.

**Note**

**IBM Notes only:**

If an e-mail address is provided in the Domino format `a@b` and the specified Domino domain is not recognized, the synchronization fails.

### Troubleshooting Problems with Desktop Connection Productivity Caused by HTTP Traffic

#### Settings for the Desktop Connection Client

If the amount of data sent from Desktop Connection and received from the SAP CRM server influences the Desktop Connection operation and productivity, you can compress all HTTP traffic. To do this, do the following:

1. Choose **Start** and type `Regedit` in the **Search** field to open the Windows Registry.
2. Open the following folder: `HKEY_CURRENT_USER\Software\iCRM\Desktop Connection for SAP CRM \Connector\HttpClient`
3. Set `AcceptCompression = 1` to enable or `AcceptCompression = 0` to disable compression of HTTP traffic.

**Note**

If the key `AcceptCompression` does not exist in this folder, create a new entry of the **DWORD (32-bit) Value** type and specify the required value.

#### Settings for the NetWeaver Gateway Server
Make the following server settings for the SAP NetWeaver Gateway Hub instance:

1. Start transaction /IWFND/MAINT_SERVICE.
2. Select the registered OData Service: **External Service Name**: GROUPWARE_SYNC and **Namespace**: /CRMGWS/.
3. Choose **ICF Node** and then **Configure (SICF)**.
4. Double-click the **groupware_sync** service.
5. On the Service Date tab page, activate **Compression**.

**Troubleshooting the Microsoft Outlook 2013 Icons for Desktop Connection**

With Microsoft Outlook 2013, the icons of Desktop Connection records are sometimes displayed incorrectly, for example, in the **New** menu or navigation pane.

If that is the case, install the Microsoft hotfix package dated April 8, 2014 (article ID 2878323).
8 Upgrade Information

8.1 Upgrade Tools

When upgrading a customized version of Desktop Connection between the following versions, special precautions need to be taken.

- From SP02 to SP03
- From SP03 to SP04
- From SP04 to SP04 Patch 1
- From SP04 Patch 1 to SP04 Patch 2
- From SP04 Patch 2 to SP04 Patch 3
- From SP04 Patch 3 or later to SP05

For more information, see SAP Note 2118319.
Important Disclaimers and Legal Information

Coding Samples

Any software coding and/or code lines / strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, unless damages were caused by SAP intentionally or by SAP's gross negligence.

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