

# **SAP NetWeaver Identity Management Master Guide**

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# 1 SAP NetWeaver Identity Management Master Guide

The following sections represent the Master Guide for SAP NetWeaver Identity Management.

## 1.1 Getting Started

This section contains useful information about the document and references to other relevant documents.

### 1.1.1 About this Document

This Master Guide is the central starting point for the technical implementation of SAP Identity Management. You can find cross-scenario implementation information as well as scenario-specific information in this guide.

The Master Guide provides an overview of SAP Identity Management, its software units, and its scenarios from a technical perspective. Use it to help you design your identity management system landscape before you start the implementation phase. It refers you to the required detailed documentation, mainly:

- Installation guides for single software components
- SAP Notes
- Configuration documentation
- Tutorials

#### **i** Note

Upgrade information is included in the installation guides for the single software components. In addition, the following documents are relevant.

Table 1: Upgrade Documents

| Document                                                                                                                   | Description                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">SAP NetWeaver Identity Management for SAP System Landscapes: Upgrading from Identity Management 7.1 to 7.2</a> | Describes the processes and steps necessary to upgrade the provisioning framework to the completely rewritten version of Release 7.2.        |
| <a href="#">SAP NetWeaver Identity Management Migration Guide – Identity Management 7.1 to 7.2</a>                         | Describes the process of upgrading a solution developed with SAP NetWeaver Identity Management 7.1 to SAP NetWeaver Identity Management 7.2. |

| Document                                                                                                                                                      | Description                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <a href="#">SAP Identity Management Using the Configuration Analyzer</a><br> | Describes how to analyze the configuration on an existing configuration for migration purposes. |

The Master Guide consists of the following main sections:

- **SAP Identity Management Overview**  
This section provides an overview of SAP Identity Management, including an overview of the software components that it comprises, the connectors and frameworks that are delivered, and an overview of the solution-wide capabilities that apply to all scenarios. It also provides an overview of the system landscape and the overall implementation sequence.
- **SAP Identity Management Scenarios**  
This section provides an overview of the identity management scenarios:
  - Provisioning for SAP or non-SAP systems
  - Integration with SAP Human Capital Management (SAP HCM)
  - Enhanced SAP Business Suite integration
  - Integration with BusinessObjects Access Control
  - Federation

#### **i Note**

You can implement any or all of the scenarios in your landscape.

#### **i Note**

You can find the most current information about the technical implementation of SAP Identity Management and the latest installation and configuration guides on the [SAP Help Portal](#).

We strongly recommend that you use the documents available here. The guides are regularly updated.

## **Constraints**

- The business scenarios that are presented here serve as examples of how you can use SAP software in your company. The business scenarios are only intended as models and do not necessarily run the way they are described here in your customer-specific system landscape. Ensure to check your requirements and systems to determine whether these scenarios can be used productively at your site. Furthermore, we recommend that you test these scenarios thoroughly in your test systems to ensure they are complete and free of errors before going live.
- This Master Guide primarily discusses the overall technical implementation of SAP Identity Management, rather than its subordinate components. This means that additional software dependencies might exist without being mentioned explicitly in this document. You can find more information on component-specific software dependencies in the corresponding installation guides.
- Good quality of data is a prerequisite for the successful implementation of an identity management system. Before you start implementing SAP Identity Management, we recommend you clean up the identity data in those systems you want to integrate.

## 1.1.2 Related Information

For more information about planning topics not covered in this guide, see the following content on SAP Service Marketplace or SDN:

Table 2: Planning Information

| Content                                                                                                                                                                                                 | Location on SAP Service Marketplace or SCN                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Overview about the phases of an SAP Identity Management project and guidelines about the implementation tasks associated with the corresponding phases and where to find documentation about each task. | <a href="#">Documentation and resource map</a>                                                                                                                                                                                                                                                                                      |
| Latest versions of installation guides                                                                                                                                                                  | <a href="#">Documentation Center</a>                                                                                                                                                                                                                                                                                                |
| General information about SAP Identity Management                                                                                                                                                       | <a href="#">SAP Identity Management Community</a>                                                                                                                                                                                                                                                                                   |
| Sizing, calculation of hardware requirements                                                                                                                                                            | <a href="#">SAP NetWeaver Identity Management Identity Center Minimum System Requirements</a> <br><a href="#">Sizing Guide for SAP NetWeaver Identity Management 7.1/7.2</a>                                                                                                                                                        |
| Released platforms and technology-related topics, such as maintenance strategies and language support                                                                                                   | <a href="#">Product Availability Matrix</a> <br><a href="#">Windows Server and SQL Server</a> <br><a href="#">Other database and operating systems</a>  |
| Network security                                                                                                                                                                                        | <a href="#">SAP Identity Management Security Guide</a>                                                                                                                                                                                                                                                                            |
| High Availability                                                                                                                                                                                       | <a href="#">Solution Operation Guide, Section 6</a>                                                                                                                                                                                                                                                                               |
| Information about Support Package Stacks, latest software versions and patch level requirements                                                                                                         | <a href="#">Support Package Stacks</a>                                                                                                                                                                                                                                                                                            |

### 1.1.2.1 Further Useful Links

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

Table 3:

| Content                                                                       | Location on SAP Service Marketplace                                                                                                |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Information about creating error message                                      | <a href="#">SAP Message Wizard</a>              |
| SAP Notes Search                                                              | <a href="#">SAP Notes Search</a>                |
| SAP Software Distribution Center (software download and ordering of software) | <a href="#">SAP Software Download Center</a>  |



| Content                                                            | Location on SAP Service Marketplace                                                                                                  |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| SAP Online Knowledge Products (OKPs) – role-specific Learning Maps | <a href="#">Ramp-Up Knowledge Transfer (RKT)</a>  |

## 1.1.3 Important SAP Notes

You must read the following SAP Notes before you start the installation.

These SAP Notes contain the most recent information on the installation, as well as corrections to the installation documentation. Make sure that you have the up-to-date version of each SAP Note, which you can find on SAP Service Marketplace.

### Related Information

[SAP NetWeaver Identity Management 7.2](#) 

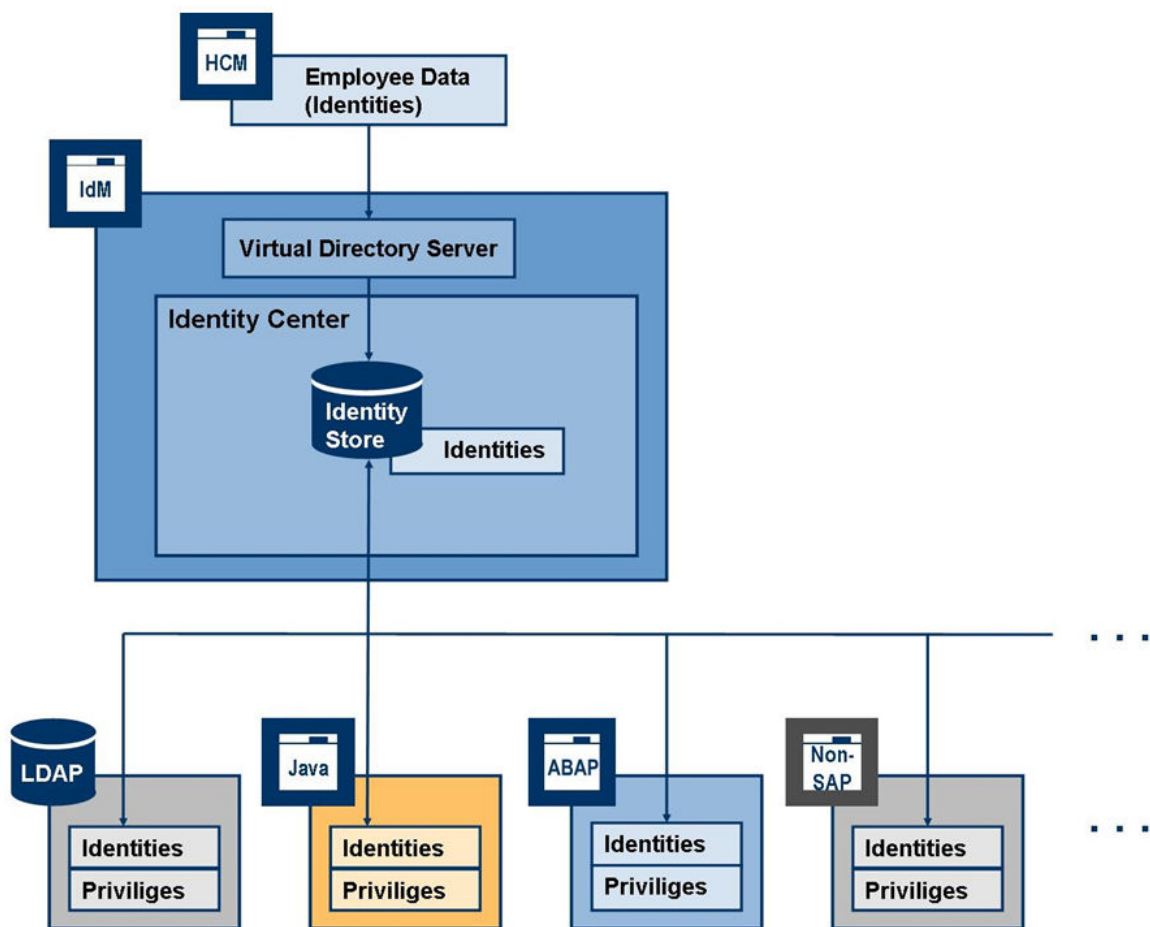
[SAP Note search](#) 

## 1.2 SAP Identity Management Overview

This section provides an overview of SAP Identity Management.

### 1.2.1 Introduction to SAP NetWeaver Identity Management

Enterprises are under pressure to increase the speed of deploying new applications and systems across their global networks, both internally and in the context of e-business with partners and customers. One of the challenges involved in these processes is the difficulty in finding and bringing together information relating to identities and resources that are distributed across multiple and often incompatible information sources. Identity data is often stored in many different applications throughout the enterprise and maintained manually in different locations. This is costly and, in addition to posing a security risk, can cause inconsistencies and low data quality. The prime objective of SAP NetWeaver Identity Management is to centrally manage and keep all identity data within the enterprise up-to-date. See the figure below.



## 1.2.2 Software Units and Capabilities of SAP Identity Management

SAP Identity Management is an add-on to the SAP NetWeaver Application Server for Java (AS Java). Some of the components that make up SAP Identity Management run on the AS Java, for example, the Identity Management User Interface. Other components are stand-alone and are installed separately. The complete set of software units that make up SAP Identity Management are categorized as follows:

- **Software components**  
Software components comprise of the individual installable software units, for example, the Identity Center, Virtual Directory Server (VDS), or the identity provider (IdP).
- **Connectors**  
Connectors are the interfaces that enable you to connect SAP or non-SAP systems to SAP Identity Management. The connectors are specific to a system type, for example, there are connectors for AS ABAP systems, AS Java systems, LDAP directory servers, or connectors for non-SAP products.
- **Frameworks**  
Frameworks work together with the connectors. They contain the logic and functions used when storing and provisioning identity data. These are somewhat broader than the connectors, but are still specific to the system type. For SAP systems (for example, AS ABAP, AS Java, or SAP Business Suite systems), there is the

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SAP provisioning framework. For SAP Access Control, there is the Governance, Risk, and Compliance (GRC) framework. These frameworks can also be used simultaneously in a complete implementation scenario based on the system types used in the overall landscape.

## 1.2.2.1 Software Components

The installable software components that make up SAP Identity Management include:

- Identity Center
- Virtual Directory Server (VDS)
- Identity Management User Interface
- Identity Management User Interface for HTML5
- Identity Management REST Interface Version 2
- Identity Federation
- UWL IDM Connector

See the sections that follow.

### 1.2.2.1.1 Identity Center

The Identity Center is the primary component used for identity management.

The Identity Center includes functions such as:

- Identity provisioning
- workflow
- password management
- auditing
- logging
- reporting

It uses a centralized repository, called the identity store, to provide a uniformed view of the data, regardless of the data's original source. The Identity Center retrieves the data from these various repositories, consolidates it, transforms it into the necessary formats, and publishes it back to the various decentralized repositories.

The Identity Center consists of the following parts:

- Database content  
All information about provisioning or workflow tasks and jobs, the identity store, scheduling information, state information, and audit logs is kept in the database. The user interface configuration, for example, which fields are shown and who has access to which tasks, is also stored there.  
The supported databases are Microsoft SQL Server 2005 and 2008, Oracle version 10.2 and 11.2, as well as DB2 V10.1. For more information about database requirements, see the database installation guides.



### Note

Do not use native database tools to maintain the Identity Center database in a productive system. Do not, for example, manually delete queues or update entries. Perform all database maintenance using the tools provided by SAP Identity Management, for example, user interfaces, jobs, and tasks.

- Runtime components

The runtime components include the runtime engines, dispatchers, and event agents. These act as local or remote agents for the Identity Center and are responsible for processing both provisioning and synchronization tasks. Event agents can be configured to take action based on changes in different types of repositories such as directory servers, message queues, or others. The Runtime components require the SAP Java Virtual Machine (SAP JVM). If the runtime components run on the same server as an SAP NetWeaver AS for Java system, then they can use the SAP JVM that is provided with the AS Java system.

- Management Console

The Management Console is a plug-in for the Microsoft Management Console (MMC). This console provides the functions for setting up the initial configuration for the various tasks and jobs involved with identity management provisioning.

## System Copy for Identity Center

Using system copy, you copy your SAP Identity Management Identity Center configuration and data from one database system to another. Such a move could be necessary, for example, to prepare an update or a replacement of the hardware. For more information about system copy, see the *SAP Identity Management System Copy Guide*.

## Related Information

[SAP Identity Management System Copy Guide](#) 

### 1.2.2.1.2 Virtual Directory Server

The Virtual Directory Server is a component provided with SAP Identity Management that acts as a single access point for clients retrieving or updating data in multiple data repositories, as it provides a uniformed view of the data in real-time.

You can use it, for example, to consolidate multiple repositories into a single data source that is connected to the Identity Center. You can then use the Identity Center for provisioning and performing identity management functions to the repositories over the Virtual Directory Server.

The Virtual Directory Server implements a structure called a virtual directory tree. It is a structure that organizes all managed applications so that each of them can be addressed through a unique identifier. A unique identifier, in this context, corresponds to a distinguished name in the virtual directory tree, but is mapped to a unique identifier within the application. In addition, the Virtual Directory Server has built-in connectors (and an extensible connector framework) for a variety of the applications. Most important, the Virtual Directory Server has a connector for the Identity Center, so it can execute operations directly in the identity store.

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The Virtual Directory Server provides a range of additional services such as virtualization, name-space conversion, attribute and schema mapping, or attribute value modification. These services may be crucial for resolving requirements when using identity services (see the solution-wide capabilities).

### 1.2.2.1.3 Identity Management User Interface

The SAP Identity Management User Interface is used for managing the identities.

There are functions for user registration and other self-service tasks, password reset requests, and approval of tasks. It also contains monitoring information for administrators of the Identity Center.

#### **i** Note

The Identity Management User Interfaces referred to here are the UIs that are deployed on the AS Java and used for the purposes mentioned above. There are also user interfaces for the Virtual Directory Server and the Identity Center. These are installed with these components and not covered explicitly in this document.

The Identity Management User Interface is a Web Dynpro for Java application that runs on an AS Java system.

There are two different components, one for the AS Java running on SAP NetWeaver 7.0 one for the AS Java running on SAP Composition Environment 7.10/7.11 or 7.2 releases. (When installing on an AS Java 7.2 release, use the SAP Identity Management UI software package for SAP NetWeaver 7.1.)

### 1.2.2.1.4 Identity Management User Interface for HTML5

SAP Identity Management User Interface for HTML5 is a user interface available as of SAP NetWeaver Identity Management 7.2 SP8, based on HTML5 and JavaScript and developed using the SAP UI Development toolkit for HTML5 (SAPUI5). It also uses SAP Identity Management REST Interface 2.0.

The SAP Identity Management User Interface for HTML5 can be used by all users to maintain their own profile information and request new roles (self-service) and by managers/administrators for role request approvals.

#### Related Information

[Installing and Configuring SAP Identity Management User Interface for HTML5](#)

### 1.2.2.1.5 Identity Management REST Interface Version 2

The Identity Management REST (Representational State Transfer) Interface Version 2 is a service API (Application Programming Interface) that supports the new user interfaces for SAP NetWeaver Identity Management 7.2 and other new custom-made user interfaces.

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Version 2 of Identity Management REST service implements the Open Data Protocol (OData) in version 2.0, and supports (as does OData) both formats for representing the resources it exposes - the XML-based Atom format and the JavaScript Object Notation (JSON) format.

The component supports SAP NetWeaver 7.3 SP9 or higher, and 7.31 SP6 or higher as runtime environment and requires SAP NetWeaver Identity Management 7.2 SP8 or higher.

## Related Information

[SAP NetWeaver Identity Management REST Interface Version 2](#)

### 1.2.2.1.6 Logon Help

SAP Identity Management Logon Help is a client application for Windows Workstations for users to reset their passwords.

Logon help does this in conjunction with the Password Reset Self-Service scenario of SAP Identity Management Identity Center and a Microsoft Windows domain controller. Business users set their security questions and answers as part of the self-service scenario. If the business users forget their password to log on to the Windows domain on their workstation, business users can use the front-end client, Logon Help, to enter answers to security questions and a new password. If the business users enter their data correctly, Logon Help logs the business users on to the Windows domain with the new password.

## Related Information

[Logon Help for SAP Identity Management Implementation Guide](#)

### 1.2.2.1.7 Identity Federation

Identity federation includes a SAML 2.0 identity provider and a security token service (STS) using the WS-Trust 1.3 standard.

You can use the identity provider for single sign-on (SSO) with SAP or non-SAP service providers. As an identity provider, SAP NetWeaver Application Server (SAP NetWeaver AS) Java can provide cross-domain SSO in combination with SAML 2.0 service providers and at the same time enable single log-out (SLO) to close all user sessions in the SAML landscape. SAML 2.0 also enables identity federation by defining a name ID to be shared between the identity provider and one or more service providers.

You can use the STS to provide cross-domain SSO for web service providers. The STS converts what are often proprietary authentication methods from a Web service consumer into a security token consumable by the web service provider. The STS supports X.509, SAML 1.1, and SAML 2.0 security token types.

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The identity federation component runs separately from the rest of SAP Single Sign-On. It can be installed together with the other components, but there are no technical dependencies between the identity federation component and the other SAP Single Sign-On components.

You can deploy this software on SAP NetWeaver AS for Java release 7.2 SPS 2 with SAP Note [1471322](#) applied or SAP NetWeaver AS for Java release 7.2 SPS 3 or later. However, to use the security token service or the newest user interface improvements in the identity provider, you must install the latest identity federation software component archive (SCA) and upgrade the host SAP NetWeaver AS for Java to release 7.2 SPS 4 or later.

## Related Information

[Identity Provider for SAP Single Sign-On and SAP Identity Management](#)

[Security Token Service for SAP Single Sign-On and SAP Identity Management](#)

### 1.2.2.1.8 UWL IDM Connector

The UWL IDM connector integrates SAP Identity Management with the Universal Worklist (UWL).

UWL gives users a unified and centralized way to access their work and relevant information in the portal. It collects tasks from multiple provider systems in one list for easy access to all tasks. With this architecture, you can also include tasks that originate from SAP Identity Management, for example, approvals.

## Related Information

[UWL Integration Configuration Guide](#)

### 1.2.2.2 Connectors

There are a number of connectors available for SAP and non-SAP systems that are delivered with SAP Identity Management directly.

There are also connectors available for connections to SAP or non-SAP systems that have been developed by partners.

#### **i** Note

The list of connectors shown below is subject to change as additional connectors become available. For the most current list, see the SAP Identity Management - Connector Overview on SCN.

Table 4: Connector Overview of Connectors Provided with SAP Identity Management

| Connector                              | Applicable Product / Application                                                                                                                                                               | Release/Platform Prerequisites                                                                                                   |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| SPML                                   | AS Java / J2EE Engine applications<br>Third-party products that support SPML                                                                                                                   | AS Java / J2EE Engine Release 6.40 and higher                                                                                    |
| AS ABAP                                | AS ABAP applications (SU01 users) SAP HCM employee data (export to SAP Identity Management)                                                                                                    | AS ABAP: Release 4.6 and higher<br>SAP HCM: Release 6.0 SPS 37                                                                   |
| AS ABAP for SAP Business Suite systems | SAP Business Suite applications (provisions SU01 users plus application-specific identity information such as business partners)                                                               | SAP Enhancement Package 4 for SAP ERP 6.0<br><br>For application-specific dependencies, see the table below                      |
| SAP Access Control (GRC)               | SAP Access Control                                                                                                                                                                             | SAP Access Control Release 5.3 SP 9<br><br>SAP Access Control Release 10.0 SP4 or higher                                         |
| MS Active Directory                    | MS Active Directory                                                                                                                                                                            | MS Active Directory Versions with MS-Windows Server 2000/2003 Platform: MS Windows Server 2000 and 2003                          |
| LDAP directory servers                 | Any LDAP directory server using the generic LDAP API Novell eDirectory SunOne Directory Special requirements for other directory servers, for example, schema modifications, on a project base | Platform: Supported platforms for the respective directory server Novell eDirectory or SunOne Directory: Any release             |
| Generic database                       | Any SQL database                                                                                                                                                                               | Any platform supported by the respective database                                                                                |
| Generic ASCII Interface                | Any ASCII text file                                                                                                                                                                            | Any platform-supported ASCII text files                                                                                          |
| Lotus Notes / Domino                   | Lotus Notes<br><br>Lotus Domino server                                                                                                                                                         | Lotus Notes client 7.0 or higher<br><br>Lotus Domino server 7.0 or higher<br><br>Platform: MS Windows 2003 server, MS Windows XP |
| MS Exchange                            | MS Exchange 2000/2003 or higher                                                                                                                                                                | MS Exchange 2000/2003 or higher<br><br>Platform: MS Windows Server 2000 / 2003 or higher                                         |
| SAP HANA Connector                     | SAP HANA Platform Edition                                                                                                                                                                      | SAP HANA Platform Support Package Stack 04                                                                                       |

## Related Information

[SAP Identity Management - Connector Overview](#) 

### 1.2.2.3 Frameworks

Along with the connectors, SAP Identity Management also provides a number of frameworks that provide the set of jobs, tasks, and functions that are necessary when provisioning to the various system types. See the table below.

Table 5: Framework Overview

| Framework                                                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identity Management Provisioning Framework for SAP Systems              | Also called the SAP provisioning framework. Provides the set of templates to use to connect SAP systems to SAP Identity Management and to set up the jobs and tasks for provisioning the corresponding users and the corresponding assignments. The framework supports the SAP system types: AS Java, AS ABAP, SAP Business Suite, and SAP HANA Platform. It also includes support for SunOne and Microsoft Active Directory servers. |
| Identity Management Provisioning Framework for SAP Systems Version 2    |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SAP HCM staging area identity store                                     | This framework provides a staging area identity store and framework to use when importing identity data from an SAP HCM system. You can then work with the data in the staging area before provisioning to the corresponding SAP systems.                                                                                                                                                                                             |
| SPML IDS identity store                                                 | This framework provides an identity store and framework to use when integrating those SAP Business Suite applications (for example SAP CRM or SAP SRM) that send SPML requests using bgRFC from the SAP HCM system to SAP Identity Management.                                                                                                                                                                                        |
| Governance, Risk and Compliance (GRC) Provisioning Framework            | The GRC provisioning framework consists of a set of tasks in the Identity Center and a configuration in the Virtual Directory Server that enables the use of SAP Access Control for risk validation before user provisioning.                                                                                                                                                                                                         |
| Governance, Risk and Compliance (GRC) Provisioning Framework Version 2  |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Identity Management Provisioning Framework for SAP systems, version 7.1 | The SAP provisioning framework version 7.1, is available for compatibility reasons when upgrading from a SAP ID Management Release 7.1 system. To use it, set up the system to run in Release 7.1 compatibility mode                                                                                                                                                                                                                  |

The SAP HCM staging area identity store and SPML IDS identity store supplement the SAP provisioning framework by providing functions used for the specific scenario. The GRC provisioning framework is a separate framework that is used explicitly for integration with SAP Access Control. Although it is a separate framework, it can be configured and used simultaneously with the other frameworks.



## 1.2.2.4 Solution-Wide Capabilities

The SAP HCM staging area identity store and SPML IDS identity store supplement the SAP provisioning framework by providing functions used for the specific scenario.

The GRC framework is a separate framework that is used explicitly for integration with SAP Access Control. Although it is a separate framework, it can be configured and used simultaneously with the other frameworks.

Table 6: Additional Capabilities

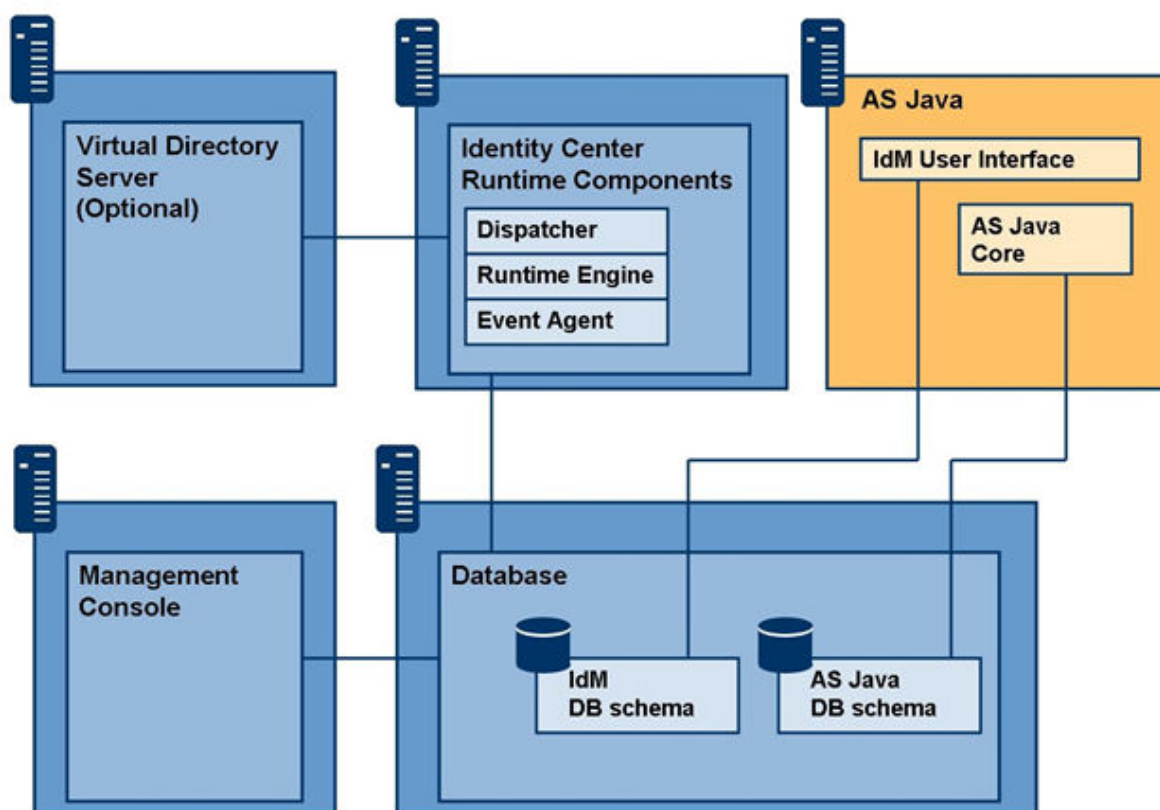
| Capability                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | More Information                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Synchronization                         | Using jobs, you can synchronize identity data between target systems independent of the provisioning frameworks.                                                                                                                                                                                                                                                                                                                                                               | <a href="#">Identity Center - Basic Synchronization</a><br><br><a href="#">Identity Center - Directory Synchronization</a><br> |
| Identity Services                       | The SAP Identity Management Identity Services provide Web service access to identity information stored in an identity store in the Identity Center or some other application that can be accessed from the Virtual Directory Server. The identity services are Web services that are created and configured on the Virtual Directory Server and deployed on the AS Java.                                                                                                      | <a href="#">Identity Services - Architectural Overview</a><br><br><a href="#">Identity Services: Configuration Guide</a><br>  |
| Reporting (with SAP Business Warehouse) | You can use SAP Business Warehouse for reporting on identities. This option uses a BW connector on the Virtual Directory Server for transferring the data to the BW system.                                                                                                                                                                                                                                                                                                    | <a href="#">Identity Reporting Using SAP Business Warehouse</a>                                                                                                                                                                                                                                      |
| Custom Implementation                   | You may need to extend the capabilities of SAP Identity Management to meet your own needs. For example, you may want to provision additional attributes, or you may want to trigger specific events when an identity is created or modified. For ABAP-based SAP systems, you can implement the Business Add-In (BAdI) interface IF_BADI_EXTEND_IDENTITY. This interface is available for use with the enhanced SAP Business Suite use case for the SAP provisioning framework. | <a href="#">Identity Center - Extension Framework</a><br><br><a href="#">Extending the SAP Provisioning Framework</a><br>  |

## 1.2.3 System Landscape

The system landscape to set up when using SAP NetWeaver Identity Management depends on the functions and features you want to use, and these can be divided into the two main categories:

- Identity provisioning
- Identity federation

The figure below shows a minimal system landscape to use for identity provisioning.

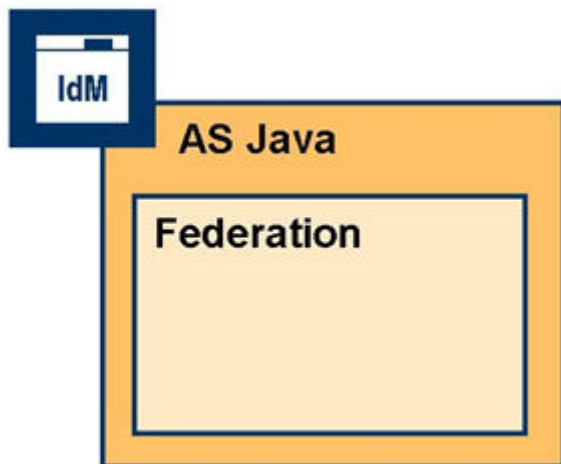


In this case, the Identity Management User Interface runs on the AS Java. The other components are stand-alone components that are installed separately. You can install these components on the same host, for example, for development or demo systems, however, for productive systems, we recommend installing them on separate ones.

### **i** Note

Depending on your requirements for performance, scalability, high availability, or security, you can also duplicate or cluster the different servers. For more information, see the document SAP NetWeaver Identity Management 7.1/7.2: Sizing Guide.

When using SAP NetWeaver Identity Management for identity federation, install the federation component on the AS Java. The other components are not necessary for this scenario. See the figure below.



## Related Information

[Sizing Guide for SAP NetWeaver Identity Management 7.1/7.2](#)

## 1.2.4 Overall Implementation Sequence

The overall implementation sequence is set up according to three main phases:

1. Planning phase
2. Implementation and test
3. Go-Live

## Process

The first phase of the implementation sequence for SAP Identity Management is the planning phase. In this phase, you should:

- Analyze your platform and system requirements and determine your system landscape. In addition to taking system requirements like security, scalability, and performance into account, we recommend using a multitier approach. Do the initial implementation in a development system and move the configuration into a quality system for testing, and finally into the productive system.
- Take organizational steps to define the roles and responsibilities needed for the implementation phase.
- Set up a role model that specifies how the various roles and privileges are represented in the Identity Center and provisioned to the various target systems.

### ➔ Tip

We recommend you take the opportunity to clean up superfluous or outdated roles and privileges in your system. Consider using business roles to consolidate the authorization information into a central point of administration.

- Identify data ownership. This involves determining the originating and target systems for all objects and their attributes that are to be handled in the identity management landscape. This is the basis for configuring attribute mappings in the initial load jobs, update jobs, and provisioning tasks. This also provides you with an overview of which connectors and frameworks you require.
- Determine customer-specific requirements for workflows, approval tasks, reporting, or extending the frameworks that are available out-of-the box.

Then, plan the implementation phase, which could be set up similar to the following:

1. Download and install the various components, for example, the Identity Center or the Virtual Directory Server.
2. Perform the initial configuration.
3. Familiarize yourself with the product at a technical level.  
This reduces errors when proceeding with the implementation.
4. Set up the individual frameworks and connectors according to your system landscape.
5. Set up and run the initial loads.  
After this step, the identity data is collected in the Identity Center identity store.
6. Clean up the data in the identity store.
7. Set up additional processes, for example, workflow approvals, self-services, reporting, or custom jobs.
8. Set up additional processes, for example, workflow approvals, self-services, reporting, or custom jobs.
9. Implement an authorization concept for using and working with SAP Identity Management. This includes setting up access to the user interfaces as well as specifying attribute owners or setting up access control for specific tasks in the Identity Center.
10. Test the complete implementation.

### i Note

As of SAP NetWeaver Identity Management 7.2, initial provisioning is no longer necessary.

Once all tests are successful, move the implementation to the productive environment. (For more information, see the [Implementation Guide – Transport](#).)

## More Information

For a more detailed view of the planning, implementation, and also the operating phases, see the [document and resource map](#).

This map also provides links to the documents required for each of the steps.

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## 1.3 SAP Identity Management Scenarios

This section describes some common implementation scenarios for SAP Identity Management.

### 1.3.1 Provisioning for SAP or non-SAP Systems

#### Description

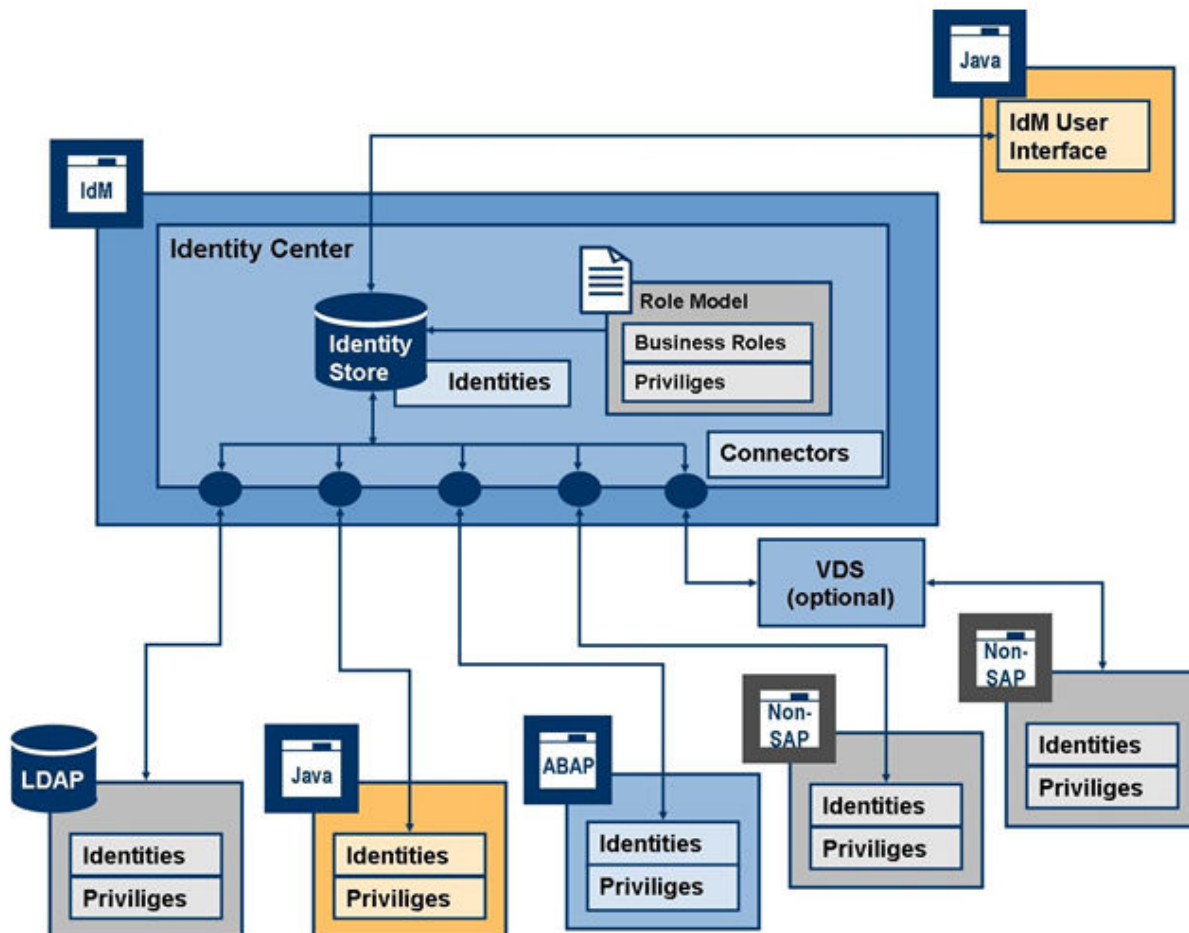
You can use SAP Identity Management for processing identity information in a variety of ways, depending on your system landscape. You can use it in homogeneous or heterogeneous landscapes, either with or without SAP systems. The identity store is the central storage location for the identity data, and when changes occur to identity-related data, including roles, privileges, and the corresponding assignments, the identity-related information is provisioned to the appropriate target systems.

#### Technical System Landscape

The figure below shows the basic system landscape to use for this scenario. The Identity Center is the central component where you set up the provisioning tasks and jobs, as well as the connectivity to the target systems. The Identity Center also hosts the role model and the data ownership model that are used to determine which identity and privilege assignments and which attribute values are provisioned to which systems.

You can use the Virtual Directory Server to consolidate systems (as appropriate) and then connect the Virtual Directory Server to the Identity Center. The Identity Management User Interface, where you make changes to the identities and other identity-related information, runs on the AS Java.

See the figure below.



## Software Units

The following components are used in this scenario:

- Identity Center
- Virtual Directory Server (optional)
- Identity Management User Interface

The following connectors are used in this scenario:

- SPML connector (for AS Java target systems, or non-SAP systems that use SPML)
- AS ABAP connector (for AS ABAP target systems)
- LDAP connector (for directory servers)
- Additional connectors (as appropriate for the target systems)

In addition, the SAP provisioning framework is used when connecting to SAP systems.

---

## Implementation Sequence

For an overview of the implementation sequence, see the Overall Implementation Sequence.

The following documents provide more information about provisioning to SAP or non-SAP systems.

## Related Information

[Identity Center - Provisioning](#) 

[Identity Center - Working with Roles and Privileges](#) 

[SAP NetWeaver Identity Management Provisioning Framework for SAP Systems: Architectural Overview](#)

[SAP NetWeaver Identity Management for SAP System Landscapes: Configuration Guide](#)

[Identity Management for SAP System Landscapes: Technical Overview](#) 

[SAP NetWeaver Identity Management Provisioning Framework for SAP Systems Version 2: Configuration Guide](#)

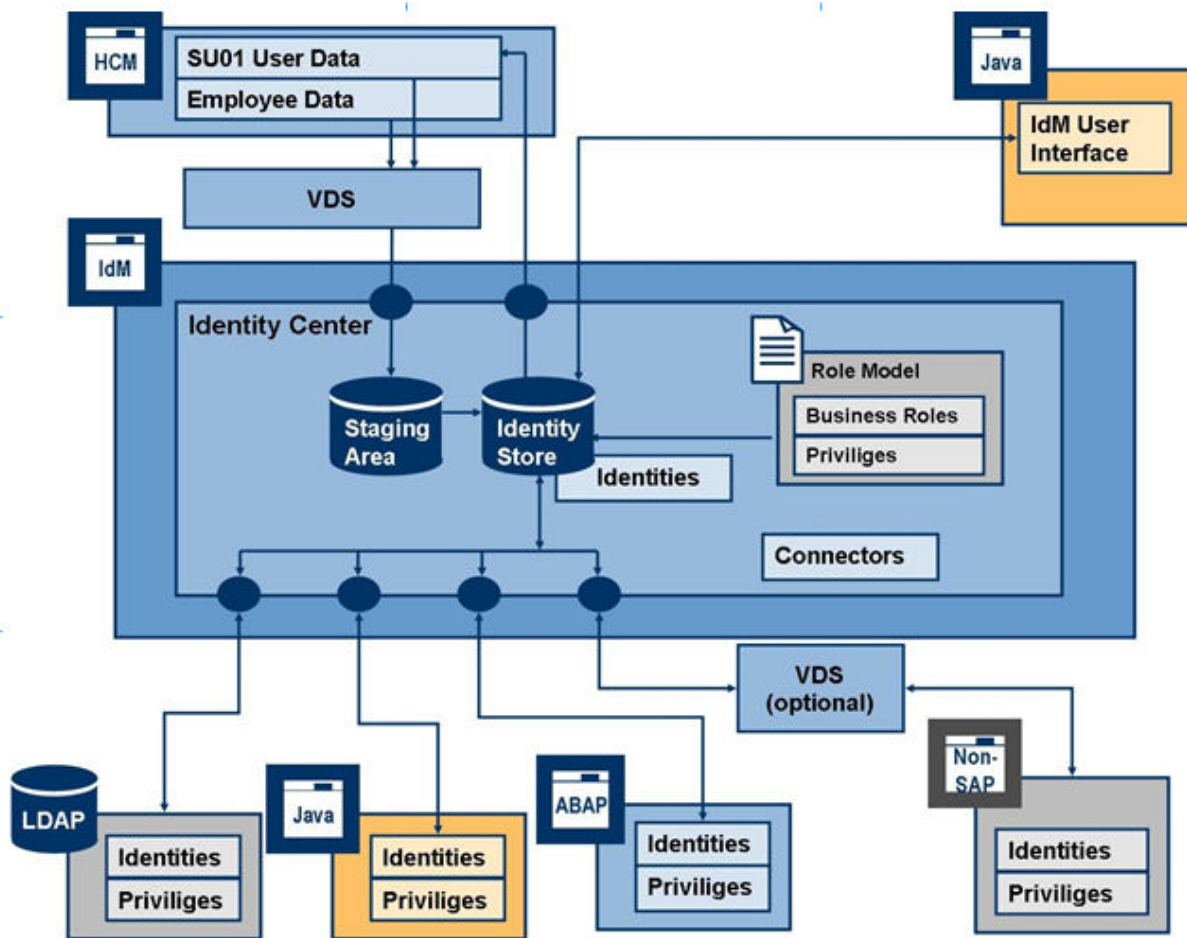
## 1.3.2 Integration with SAP HCM

### Description

In many cases, the primary source for identity information (employee master data) is the SAP HCM system. When integrating SAP Identity Management with SAP HCM, identities are replicated to the Identity Center after they are created in the SAP HCM system. Based on the role model that is set up in the Identity Center, SAP Identity Management determines the user/role or user/group assignments that are provisioned to the various target systems.

### Technical System Landscape

The data transfer from the SAP HCM system to SAP Identity Management takes place using the Virtual Directory Server. The Virtual Directory Server exposes an LDAP interface towards the identity store, allowing the SAP HCM system to write to the identity store using the LDAP capabilities of the AS ABAP. As in the basic scenario for provisioning to SAP or non-SAP systems, the identities and privilege assignments are provisioned to the target systems based on the role model that is set up in the Identity Center. See the figure below.



## Software Units

The following components are used in this scenario:

- Identity Center
- Virtual Directory Server
- Identity Management User Interface

The following connectors are used in this scenario:

- SPML connector (for AS Java target systems, or non-SAP systems that use SPML)
- AS ABAP connector (or the AS ABAP for SAP Business Suite connector, if used in combination with the enhanced SAP Business Suite integration scenario)
- LDAP connector (for directory servers)
- Additional connectors (as appropriate for the target systems)

In addition, the SAP provisioning framework and the SAP HCM staging area identity store are used in this scenario.



## Implementation Sequence

For an overview of the implementation sequence, see the Overall Implementation Sequence.

The following documents provide more information about integration with SAP HCM systems.

## Related Information

[SAP NetWeaver Identity Management Provisioning Framework for SAP Systems: Architectural Overview](#)

[SAP NetWeaver Identity Management for SAP System Landscapes: Configuration Guide](#)

[Identity Management for SAP System Landscapes: Technical Overview](#)

[SAP NetWeaver Identity Management Provisioning Framework for SAP Systems Version 2: Configuration Guide](#)

## 1.3.3 Enhanced SAP Business Suite Integration

### Description

In addition to SAP HCM, you can integrate many applications from the SAP Business Suite into the SAP Identity Management landscape. In this case, application-specific processing such as the creation of a business partner is performed in addition to the provisioning of standard AS Java or AS ABAP identities (SU01 users) and their corresponding assignments. The corresponding connector is provided with the SAP provisioning framework.

#### Note

For many of the SAP Business Suite systems, for example, SAP CRM or SAP SRM, a central person is created and used to link an identity to his or her business partners. When an identity is created and provisioned with SAP Identity Management, this central person and corresponding business partner is also created in the SAP Business Suite system.

Another enhancement available in this scenario is that certain communication data for the employee can be provisioned back to the SAP HCM system. This is not possible in the standard SAP HCM scenario. The table below shows the applications that are supported by the AS ABAP for SAP Business Suite connector, additional application-specific release prerequisites, if applicable, and the feature provided for the application.

Table 7: SAP Business Suite Systems and Features Supported with Enhanced Business Suite Integration

| SAP Business Suite Application          | Features                                                                                                                                                                                              | Prerequisites                                                                                                                                                              |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAP Human Capital Management            | Sending of employee-related data from SAP HCM to SPA SAP NetWeaver Identity Management Transfer of identity data, including communication data, from SAP Identity Management to SAP HCM               | SAP HCM application component Personnel Administration as of SAP Enhancement Package 4 for SAP ERP 6.0                                                                     |
| SAP ERP Financials (Auditing)           | A user with the role SAP_PLM_AUDITOR will also receive authorizations for the transactions Audit Management and Audit Monitor, as soon as the user and authorization distribution has been completed. | CA-AUD (auditing) of SAP ERP cross-application components as of SAP Enhancement Package 4 for SAP ERP 6.0                                                                  |
| SAP ERP Financials (Accounting)         | A new SAP Financials user automatically receives access to all of the functions for the corresponding company code that apply to his or her responsibility.                                           | A new SAP Financials user automatically receives access to all of the functions for the corresponding company code that apply to his or her responsibility.                |
| SAP Transportation Management (SAP TM)  | The combination of a user account, a business partner, and a central person is created automatically.                                                                                                 | SAP HCM application component Personnel Administration as of SAP Enhancement Package 4 for SAP ERP 6.0 (optional) SAP TM 7.0 or higher                                     |
| SAP Extended Warehouse Management (EWM) | The combination of a user account, a business partner, and a central person is created automatically.                                                                                                 | SAP HCM application component Personnel Administration as of SAP Enhancement Package 4 for SAP ERP 6.0 SAP EWM 7.0 or higher with labor management activated               |
| SAP Supply Network Collaboration (SNC)  | Trigger automatic generation of users and business partners for SAP SNC.                                                                                                                              | SAP HCM application component Personnel Administration as of SAP Enhancement Package 4 for SAP ERP 6.0 SAP SNC 7.0 or higher                                               |
| SAP Service Parts Planning (SPP)        | Trigger automatic generation of users and business partners for SAP SPP.                                                                                                                              | SAP HCM application component Personnel Administration as of SAP Enhancement Package 4 for SAP ERP 6.0 (for the creation of users and business partners for new employees) |
| SAP Product Lifecycle Management        | Users are created in PLM based on employee data from SAP HCM.                                                                                                                                         | SAP HCM application component Personnel Administration as of SAP Enhancement Package 4 for SAP ERP 6.0 The PLM Web User Interface (PLM Web UI) is activated.               |

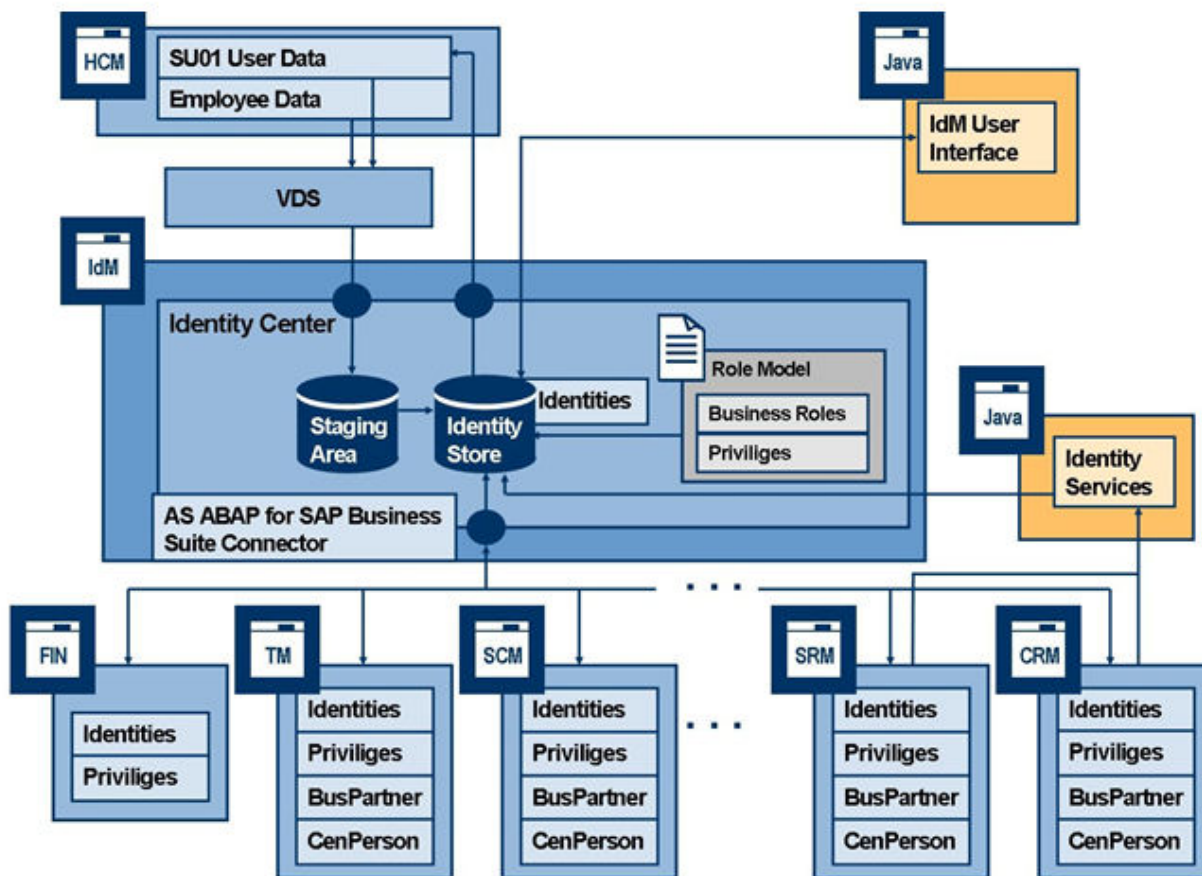
| SAP Business Suite Application                 | Features                                                                                              | Prerequisites                                                                                          |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| SAP Portfolio and Project Management           | The combination of a user account, a business partner, and a central person is created automatically. | SAP HCM application component Personnel Administration as of SAP Enhancement Package 4 for SAP ERP 6.0 |
| SAP Customer Relationship Management (SAP CRM) | SAP Customer Relationship Management (SAP CRM)                                                        | SAP CRM 7.0                                                                                            |
| SAP Supplier Relationship Management (SAP SRM) | The combination of a user account, a business partner, and a central person is created automatically. | SAP ERP HCM as of SAP Enhancement Package 4 for SAP ERP 6.0 SAP SRM 7.0                                |

## Technical System Landscape

The system landscape to use for this scenario is similar as for the other scenarios that involve SAP systems. Typically, the SAP HCM system is set up as the starting point for maintaining identity data, which is then provisioned to the target systems. The difference in this scenario is that the AS ABAP for SAP Business Suite connector is used to connect to the corresponding SAP Business Suite systems instead of the AS ABAP connector. This allows for the additional application-specific processing of the identity information.

In addition, certain SAP Business Suite applications (for example, by SAP CRM or SAP SRM) send identity-related information to SAP Identity Management using identity services, which run on an AS Java.

See the figure below.



## Software Units

The following components are used in this scenario:

- Identity Center
- Virtual Directory Server (assuming the SAP HCM is included in the system landscape)
- Identity Management User Interface

The following connectors are used in this scenario:

- SPML connector (for AS Java target systems, or non-SAP systems that use SPML)
- AS ABAP for SAP Business Suite connector (for SAP Business Suite target systems)
- LDAP connector (for directory servers)
- Additional connectors (as appropriate for the target systems)

The following frameworks are used in this scenario:

- SAP provisioning framework
- SAP HCM staging area identity store
- SPML IDS identity store (for SAP CRM and SAP SRM applications)

---

## Implementation Sequence

For an overview of the implementation sequence, see the Overall Implementation Sequence.

The following documents provide more information about enhanced SAP Business Suite Integration.

## Related Information

[Overview of the supported SAP Business Suite integration scenarios](#)

[SAP NetWeaver Identity Management Provisioning Framework for SAP Systems: Architectural Overview](#)

[SAP NetWeaver Identity Management for SAP System Landscapes: Configuration Guide](#)

[Identity Management for SAP System Landscapes: Technical Overview](#)

[SAP NetWeaver Identity Management Provisioning Framework for SAP Systems Version 2: Configuration Guide](#)

## 1.3.4 Integration with SAP Access Control

### Description

The integration with SAP Access Control consists of a set of tasks in the Identity Center and a configuration in the Virtual Directory Server that enables the use of SAP Access Control for risk validation before user provisioning. Using this solution, SAP NetWeaver Identity Management can execute provisioning to multiple target systems that are controlled by SAP Access Control to ensure compliance according to the rules implemented here.

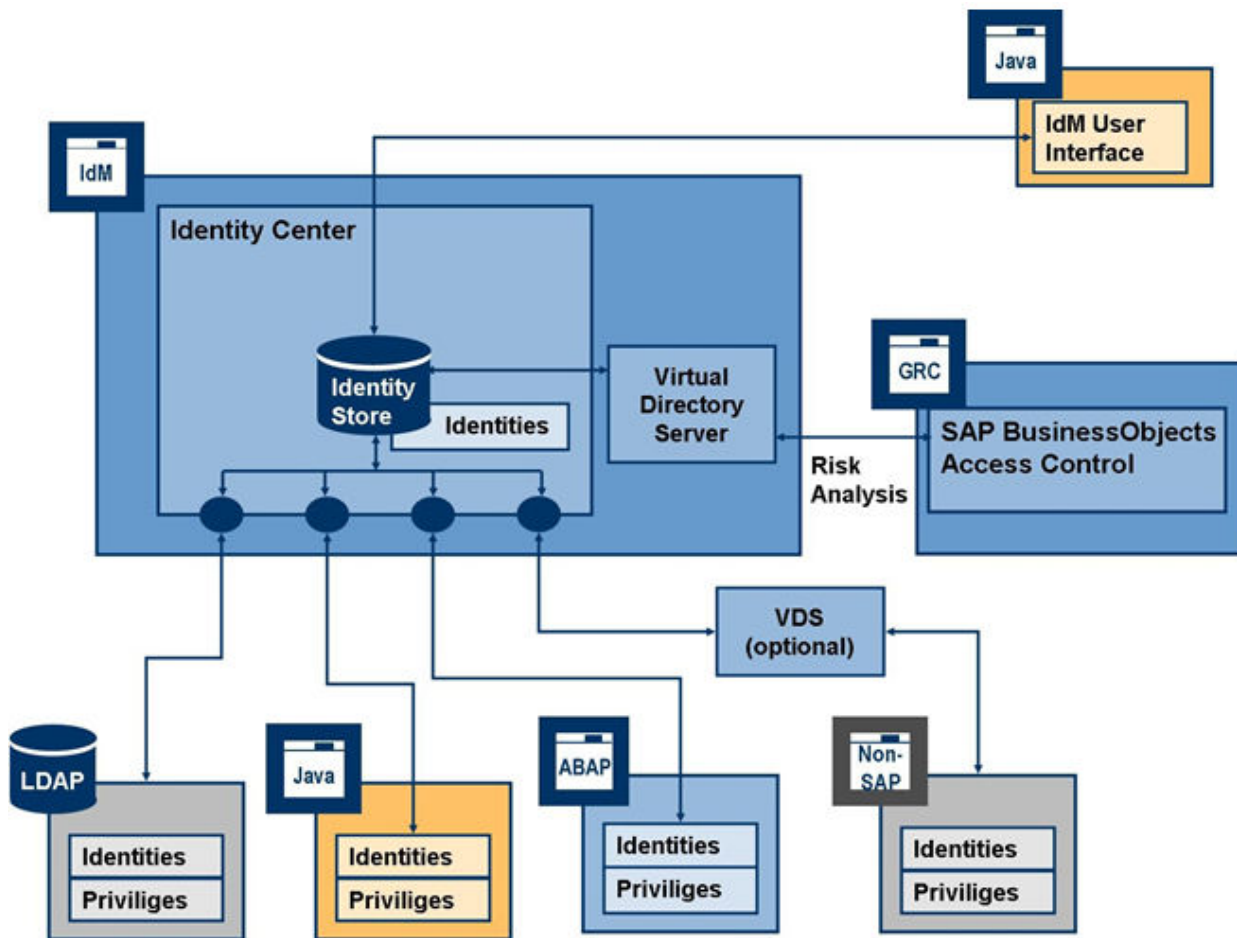
When business requirements imply compliancy and Segregation of Duties checks, SAP NetWeaver Identity Management performs risk validation on SAP Access Control before assigning permissions.

### Technical System Landscape

There are two landscape configuration scenarios for the integration:

- **Centralized provisioning**  
The centralized provisioning is recommended as a default solution. This is a scenario where SAP NetWeaver Identity Management is the only provisioning system, responsible for provisioning both the assignments requiring and not requiring compliance checks to the systems (both SAP and non-SAP). The SAP NetWeaver Identity Management uses SAP Access Control to execute risk analysis.
- **Distributed provisioning**  
This solution is recommended to use in exceptional cases only. The provisioning is performed both by SAP NetWeaver Identity Management and SAP Access Control.

The figure below shows an overview of the system landscape when using centralized provisioning.



## Software Units

The following components are used in this scenario:

- Identity Center
- Virtual Directory Server
- Identity Management User Interface

In addition to the connectors to use for identity provisioning to the target systems, the SAP Access Control (GRC) connector is needed in this scenario. In addition to the SAP provisioning framework, the GRC framework is needed in this scenario.

---

## Implementation Sequence

If SAP NetWeaver Identity Management is to perform the provisioning tasks, set up provisioning to the target systems based on the overall implementation sequence. In addition, set up the integration with SAP Access Control as follows:

1. Create the corresponding configuration on the Virtual Directory Server.
2. Extend the Identity Center identity store schema.
3. Import the SAP GRC provisioning framework and corresponding service jobs into the Identity Center.
4. Adjust the Identity Center and Virtual Directory Server configurations.
5. Initialize the process by running the initial load jobs.

For more information about SAP Access Control integration, including detailed information about the implementation steps, see the documents listed in the table below.

## Related Information

[Compliant Provisioning Using SAP Access Control Architectural Overview](#) 

[Compliant Provisioning Using SAP Access Control Configuration Guide](#) 

[SAP NetWeaver Identity Management Compliant Provisioning Using SAP Access Control - GRC 10.0 Provisioning Framework Version 2: Architectural Overview](#) 

[SAP NetWeaver Identity Management Compliant Provisioning Using SAP Access Control - GRC 10.0 Provisioning Framework Version 2: Configuration Guide](#) 

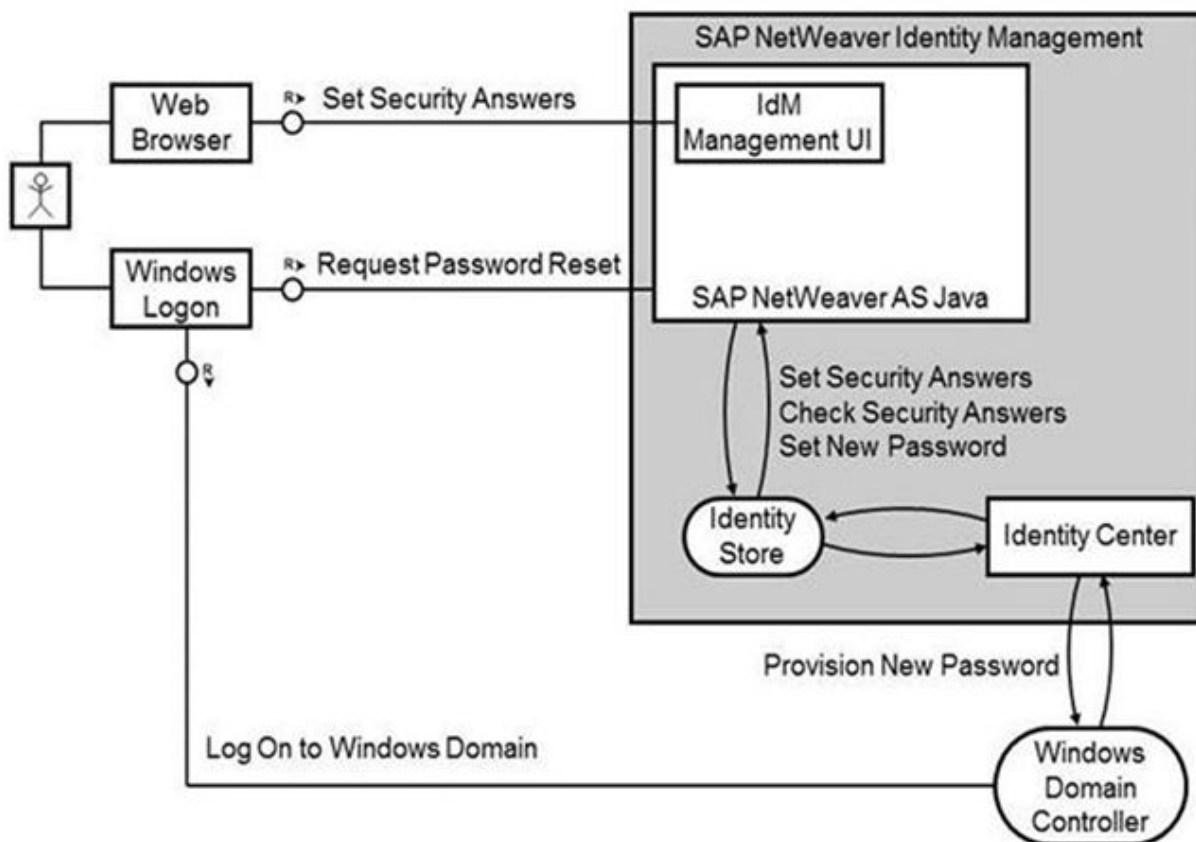
## 1.3.5 Logon Help

### Description

SAP NetWeaver Identity Management Logon Help is a client application for Microsoft Windows. Logon Help enables users in a Windows domain to reset their passwords from the Windows logon screen by answering a set of security questions. SAP NetWeaver Identity Management Identity Center checks that the answers are correct and provisions the new password into the Windows domain. Once complete, Logon Help enables the user to log on to the Windows domain. Logon Help empowers users to reset their own passwords without having to resort to local call centers for password reset.

### Technical System Landscape

Logon Help communicates with the Identity Center to get the required information to enable password reset for users of Microsoft Windows.



The figure above illustrates a user logging on to the SAP Identity Management user interface to set security questions and answers, which the Identity Center saves in the identity store. When a user forgets his or her password, the user starts the Logon Help client from Windows logon. Logon Help retrieves the security questions from the identity store through the Identity Center. The user then provides the required answers and a new password. Logon Help passes the answers to the Identity Center, which checks them against hash values of the answers stored in the identity store. If they match, the Identity Center resets the password and provisions the new password to the network. Logon Help then polls the domain controller until the new password is available and logs the user on.

## Software Units

The system landscape required for SAP NetWeaver Identity Management Logon Help assumes the following components:

- Microsoft Windows domain  
You have a network of workstations in one or more Microsoft Windows domains with your users in an active directory server (ADS).
- SAP NetWeaver Identity Management Identity Center 7.2 SP 6 or higher



## Implementation Sequence

The implementation sequence for Logon Help requires the following steps in addition to the overall implementation sequence.

1. Configure the user management engine (UME) of the SAP NetWeaver AS Java to use the ADS as the data source.  
The mapping of the UME to the ADS enables your Windows users to log on to the SAP NetWeaver Identity Management user interfaces so they can set their security questions.
2. For the Identity Center to read data from the ADS into its identity store, the following prerequisites must be met:
  - The Identity Center is configured to use the ADS as the data source.
  - To provision passwords to the Active Directory, you need to set up an SSL connections between the Identity Center and the Active Directory. At least indicate the SSL port of the Active Directory in the repository constants. For more information about these constants, see *Repository Constants for Active Directory for Provisioning Framework* in *SAP NetWeaver Identity Management for SAP System Landscapes: Configuration Guide* or *SAP NetWeaver Identity Management Provisioning Framework for SAP Systems Version 2: Configuration Guide*.
  - On the AS Java the administrator assigned the users of the Active Directory at least the UME action to access the Identity Center UI.

Then execute the steps below:

- Under **Enterprise People** > **Password Policy** > , enable **Password Provisioning**.
  - Configure the self-service password reset feature. This also includes defining a UI task to enable the business users to enter the responses to the security questions. This is only possible after making the task available to all users.
  - Use the **Set Password On AD** task as part of the provisioning framework.
3. Install and configure SAP NetWeaver Identity Management Logon Help on the client computers.

The following documents provide more information about Logon Help for SAP NetWeaver Identity Management.

## Related Information

[SAP NetWeaver Identity Management Identity Center Initial Configuration](#)

[Identity Center: Working with Microsoft Active Directory](#) 

[Identity Center Implementation Guide - Self-Service Password Reset](#) 

[Logon Help for SAP NetWeaver Identity Management Implementation Guide](#)

[SAP NetWeaver Identity Management for SAP System Landscapes: Configuration Guide](#)

[SAP NetWeaver Identity Management Provisioning Framework for SAP Systems Version 2: Configuration Guide](#)

## 1.3.6 Identity Federation

### Description

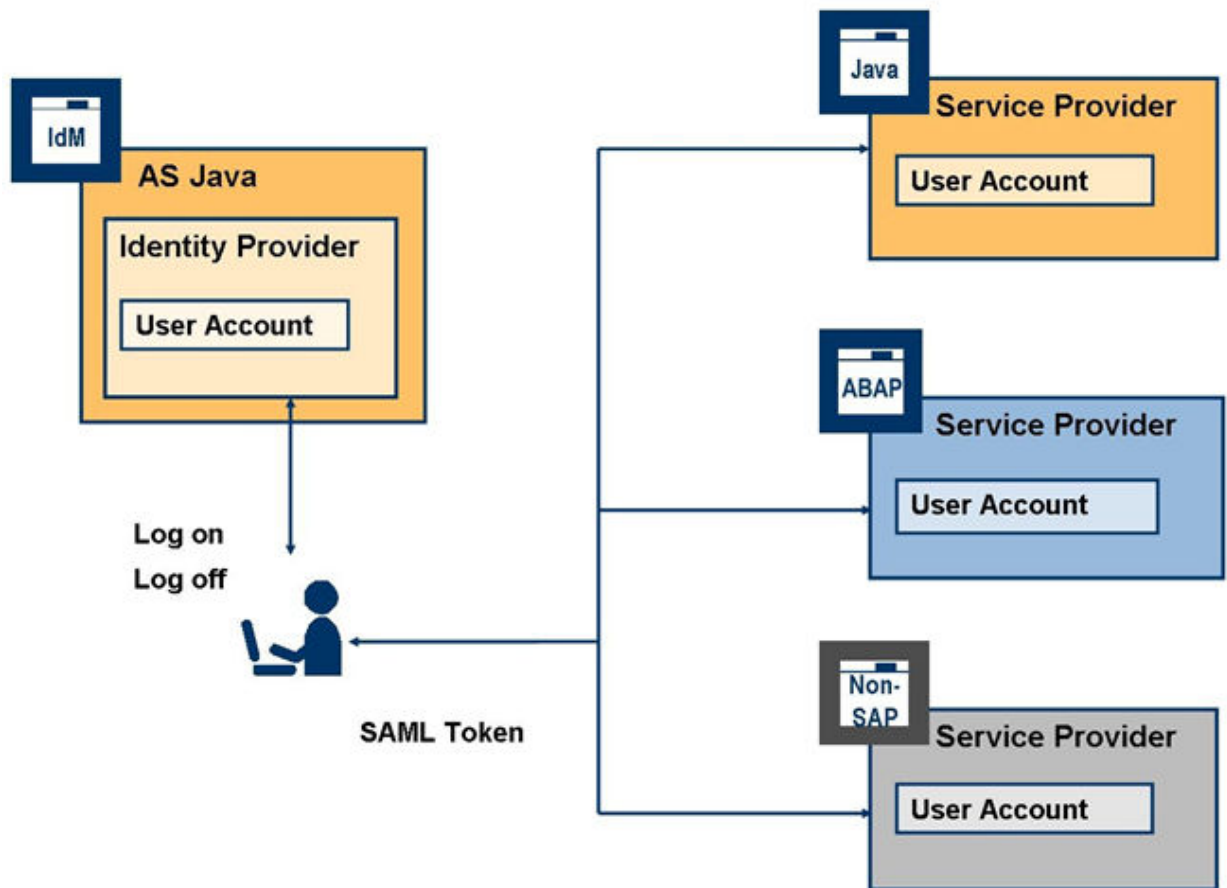
Identity federation provides the means to share identity information across company boundaries. To share information about a user, partners must be able to identify the user, even though they may use different identifiers for the same user. The name identifier (name ID) is the means to establish a common identifier. Once the name ID has been established, the user is said to have a federated identity. Identity federation enables SSO for Web-based access and Web services across domains, such as between companies. SAP's solution relies on standards for interoperability between SAP and non-SAP systems. For Web-based access, identity federation uses an identity provider that supports SAML 2.0. SAML 2.0 also enables Single Log-Out (SLO). You can also use identity federation to transport profile attributes to create or update temporary or permanent users between systems. You can even transport authorization attributes enabling you to change user authorizations in a target system. For Web services, identity federation uses a security token service (STS) that supports WS-Trust 1.3. The STS supports a number of authentication methods from a Web service consumer and can convert these tokens into a security token that a Web service provider can use. The STS supports X.509, SAML 1.1, and SAML 2.0 tokens. Like SAML 2.0 for Web-based access, the SAML 2.0 assertion can transport profile and authorization attributes to the target Web service provider.

### Technical System Landscape

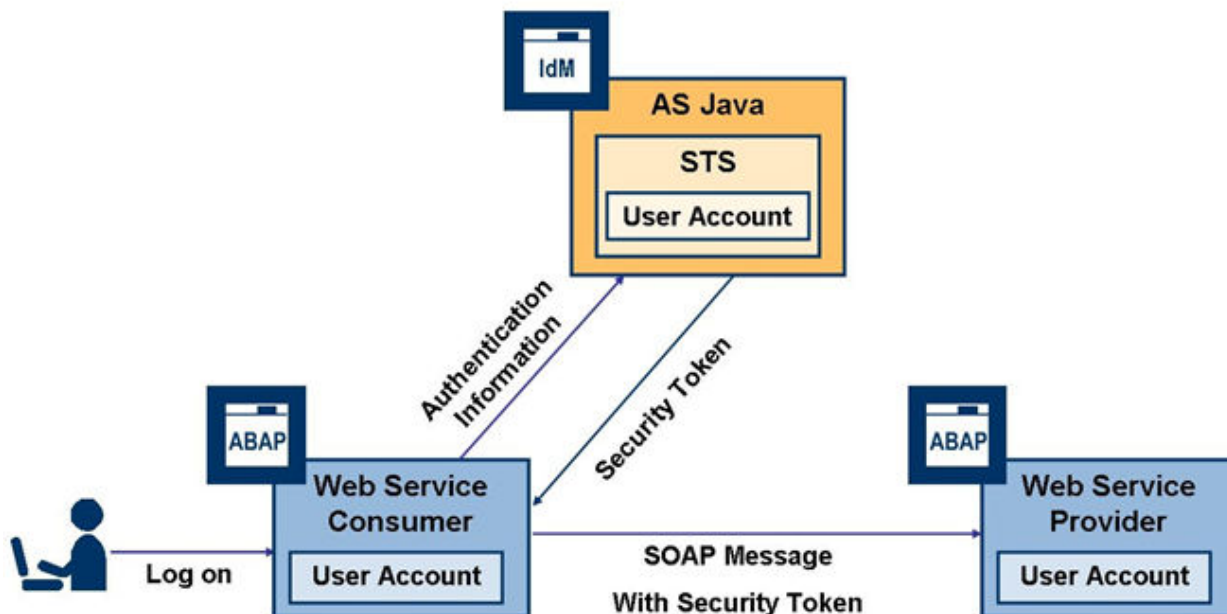
The figures below show an overview of example system landscapes when using federation.

#### ➔ Tip

Protect all communication between systems with Secure Sockets Layer (SSL) especially those that carry messages that are not already encrypted.



Identity federation for Web-based access relies on an identity provider that links a local account to a number of user accounts on service providers with a name ID. When a user logs on to the service provider, the service provider only needs the name ID to log the user on to the local account.



Identity federation for Web services relies on an STS to provide a security token to a Web service consumer. Before the STS can issue a security token, it needs authentication credentials for the local user of the STS. The STS provides the name ID (or subject for X.509 tokens) that the Web service consumer uses to authenticate the user at the Web service provider. The figure above uses a Web service consumer and Web service provider of an AS ABAP, but the solution is not limited to the AS ABAP or even SAP consumers and providers.

## Software Units

For Web-based access, the primary component used for federation is the identity provider, which runs on the AS Java. The target systems that are to be included in the federation scenario also need to be active service providers.

For Web services, the primary component used for federation is the STS, which runs on the AS Java. The target systems that are to be included in the federation scenario also need to be active Web service consumers and Web service providers.

## Implementation Sequence

The implementation sequence for the federation scenarios differs from the overall implementation sequence.

- Web-Based Access
  1. Download and install the federation software.
  2. Configure the identity provider.
  3. Enable the identity provider.
  4. Configure the types of protocol bindings to support.
  5. Identify and configure the trusted service providers.

- Web Services
  1. Download and install the federation software.
  2. Configure the STS.
  3. Enable the STS.
  4. Select the authentication types for Web services.
  5. Trust the Web service providers.
  6. Identify and configure the trusted Web service providers.
  7. Identify and configure the Web service consumers.

For more information about identity federation, including detailed information about the implementation steps, see the following documents:

## Related Information

[Identity Provider for SAP Single Sign-On and SAP Identity Management](#)

[Security Token Service for SAP Single Sign-On and SAP Identity Management](#)

## 1.4 Appendix

The following list shows all documents mentioned in this Master Guide.

### Note

For a list of documents according to phase, see the [document and resource map](#).

## Related Information

[Installation guides, security guide, solution operation guide](#)

[SAP Identity Management - Connector Overview](#)

[SAP NetWeaver Identity Management Identity Center Minimum System Requirements](#)

[Sizing Guide for SAP NetWeaver Identity Management 7.1/7.2](#)

[SAP Identity Management Identity Center: Basic Synchronization](#)

[SAP Identity Management Identity Center: Working With Directory Server](#)

[SAP Identity Management Identity Services - Architectural overview](#)

[SAP Identity Management Identity Services - Configuration Guide](#)

[Identity Reporting Using SAP Business Warehouse](#)

[SAP Identity Management System Copy Guide - Copying the Identity Center Database](#)

[How to Create Reports with SAP Identity Management](#)

[SAP Identity Management Identity Center Implementation Guide - Extension Framework](#)

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[Developer Guide: Extending the Provisioning Framework for SAP Systems](#) 

[SAP Identity Management Implementation Guide - Transport](#) 

[SAP NetWeaver Identity Management 7.1 Identity Center Tutorial - Provisioning](#) 

[Identity Center Tutorial - Working with Roles and Privileges](#) 

[SAP NetWeaver Identity Management Provisioning Framework for SAP Systems: Architectural Overview](#)

[SAP NetWeaver Identity Management for SAP System Landscapes: Configuration Guide](#)

[Identity Management for SAP System Landscapes: Technical Overview](#) 

[SAP Identity Management Provisioning Framework for SAP Systems Version 2: Configuration Guide](#)

[Identity Management for SAP System Landscapes: Upgrading from Identity Management 7.1 to 7.2](#)

[SAP NetWeaver Identity Management Migration Guide - Identity Management 7.1 to 7.2 Version](#)

[SAP Identity Management Using the Configuration Analyzer](#) 

[Logon Help for SAP Identity Management Implementation Guide](#)

[Overview of the supported SAP Business Suite integration scenarios](#)

[SAP Identity Management Compliant Provisioning Using SAP Access Control Architectural Overview](#) 

[SAP Identity Management Compliant Provisioning Using SAP Access Control Configuration Guide](#) 

[SAP Identity Management Compliant Provisioning Using SAP Access Control - GRC 10.0 Provisioning Framework Version 2: Architectural Overview](#) 

[SAP Identity Management Compliant Provisioning Using SAP Access Control - GRC 10.0 Provisioning Framework Version 2: Configuration Guide](#) 

[Identity Provider for SAP Single Sign-On and SAP Identity Management](#)

[Security Token Service for SAP Single Sign-On and SAP Identity Management](#)

[SAP NetWeaver Identity Management REST Interface Version 2](#)

[SAP NetWeaver Identity Management Installation Guide](#)

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# Important Disclaimers and Legal Information

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