Duet Enterprise for Microsoft SharePoint and SAP

Duet Enterprise is a new jointly developed product from SAP and Microsoft that enables interoperability between SAP and Microsoft Office 2010 client applications.

Duet Enterprise Architecture

Clients <u>Browsers</u> Duet Enterprise supports all browsers supported by SharePoint Server 2010. Microsoft Office Professional Plus 2010 Microsoft Outlook® 2010

 Microsoft InfoPath® 2010 • Microsoft Excel® 2010

Microsoft Word® 2010

Microsoft SharePoint Workspace 2010

Duet Enterprise SharePoint Add-on Components

These lists explain the Duet Enterprise SharePoint Add-on components as seen in the illustration at right.

Key SharePoint System Components used by Duet Enterprise

- A. SharePoint workflow functionality supports SharePoint users interacting with SAP workflows.
- B. The Enterprise Content Manager component is used to manage the lifecycle of documents, such as SAP reports.
- C. Duet Enterprise uses the SharePoint Security Token Service to authenticate users using SAML
- D. Microsoft Business Connectivity Services provide a connector for communication between SharePoint Server 2010 and the SAP environment along with other features used to connect to and interact with SAP information.

Duet Enterprise SharePoint Add-on Components

- 1. The Duet Enterprise Site templates provide SharePoint Server 2010 users with entry points into the preconfigured Duet Enterprise experience. The Duet Enterprise sites are composed of a an initial set of subsites, including Application Center, Customers, Products, and a set of sites for collaboration on customers and other business data. These sites are pre connected to the corresponding business objects in the SAP environment.
- 2. The Duet Enterprise Workflow feature enables SharePoint Server 2010 users to participate in SAP workflows, for example, to approve an expense report.
- 3. The Duet Enterprise Reporting feature enables the retrieval of SAP reports from SAP BW or SAP ERP.
- 4. The Business Connectivity Services Solution Designer feature is used to customize Duet Enterprise solutions.
- 5. The Duet Enterprise Collaboration feature enables SharePoint Server 2010 users to collaborate around SAP information and objects. This feature provides a set of templates to set up collaboration sites.
- 6. The monitoring and supportability components support integration troubleshooting of both Microsoft and SAP components. For example, this module enables administrators to change a feed or customize a
- 7. Duet Enterprise Role and Profile Sync enables SAP roles and SAP profiles to be used in SharePoint Server

SharePoint Server 2010 Enterprise Edition **SharePoint Server 2010 Components**

Microsoft Environment

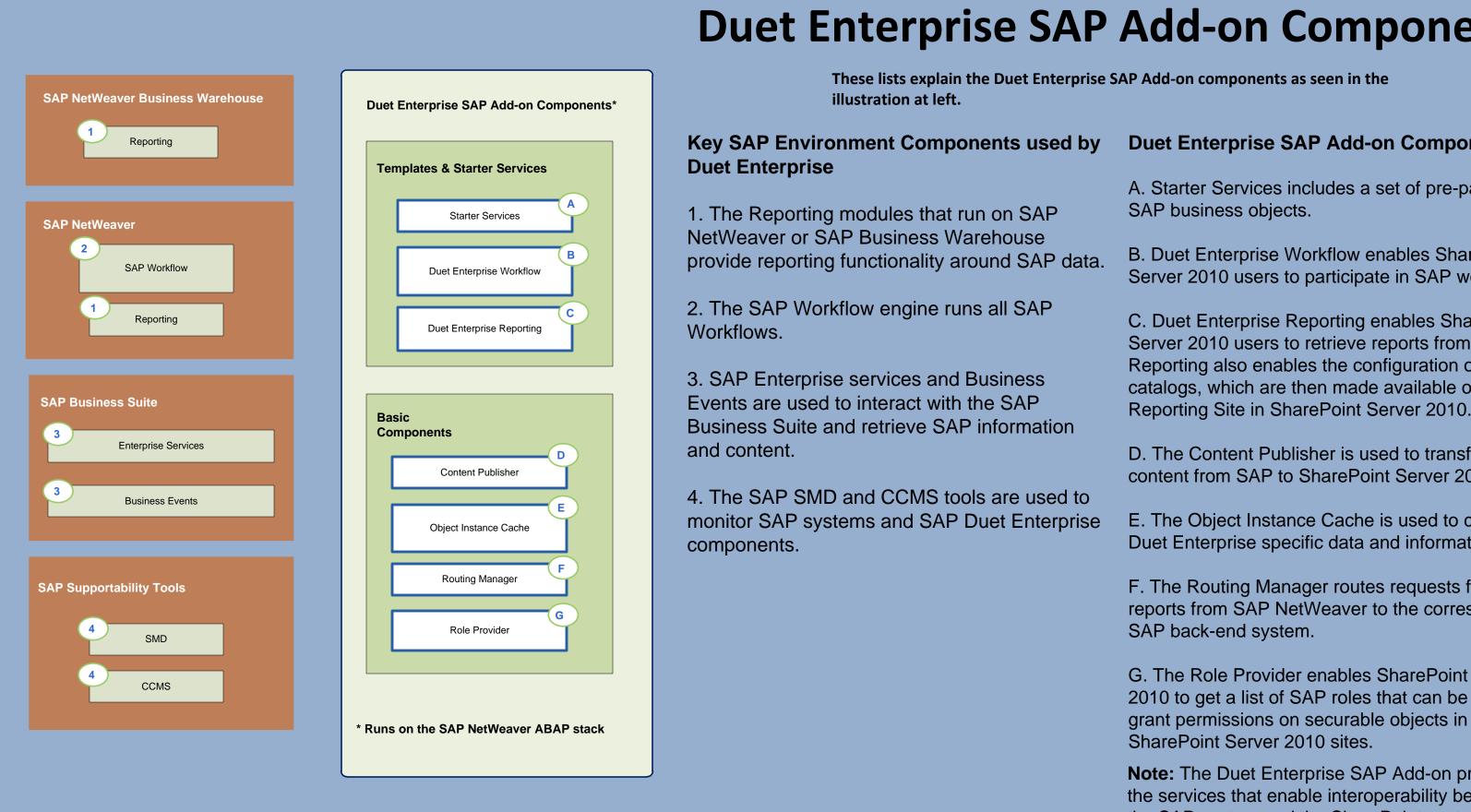
SharePoint Workflow Enterprise Content Manager SharePoint Security Token Service **Business Connectivity Services Duet Enterprise SharePoint Add-on** Duet Enterprise Site templates Duet Enterprise Workflow feature Duet Enterprise Reporting feature

BCS Solution Design feature

Monitoring & Supportability components

Duet Enterprise Role & Profile Sync

SAP Environment



Duet Enterprise SAP Add-on Components

These lists explain the Duet Enterprise SAP Add-on components as seen in the

Duet Enterprise SAP Add-on Components

- A. Starter Services includes a set of pre-packaged SAP business objects.
- B. Duet Enterprise Workflow enables SharePoint Server 2010 users to participate in SAP workflows.
- C. Duet Enterprise Reporting enables SharePoint Server 2010 users to retrieve reports from SAP. Reporting also enables the configuration of report catalogs, which are then made available on the
- D. The Content Publisher is used to transfer content from SAP to SharePoint Server 2010.
- E. The Object Instance Cache is used to cache Duet Enterprise specific data and information.
- F. The Routing Manager routes requests for reports from SAP NetWeaver to the corresponding SAP back-end system.
- G. The Role Provider enables SharePoint Server 2010 to get a list of SAP roles that can be used to grant permissions on securable objects in SharePoint Server 2010 sites.
- **Note:** The Duet Enterprise SAP Add-on provides the services that enable interoperability between the SAP system and the SharePoint system. For example, the Duet Enterprise Reporting module maps to the SharePoint Reporting site, and the Content Publisher module maps to the Enterprise Content manager.

Duet Enterprise Security

Duet Enterprise SharePoint user accounts cannot directly access information in the SAP system. Duet Enterprise enables SAP accounts. Duet Enterprise also enables SAP roles that are mapped to SAP users in the SAP environment. When SharePoint users are mapped to SAP users or roles this enables SAP applications to authenticate the SharePoint users by looking up the SAP account that is mapped to a particular SharePoint user. Duet Enterprise also enables using SAP roles as claims-based security principals in SharePoint. This enables SharePoint users and administrators to grant SAP users access to SharePoint securable objects, such as sites, lists, and items by securing those securable objects using SAP roles are defined and the SAP user-to-role assignment is managed in the SAP environment. The ability to secure SharePoint objects by using SAP roles saves the administrative overhead of redefining those same roles in SharePoint.

Secure objects in SharePoint using SAP Roles

When a SharePoint user runs an SAP report from a SharePoint site, a file that contains the report is delivered to a SharePoint document library and secured using one or more SAP roles. Because the file is secured using an SAP role rather than the user account of the SharePoint user who ran the report, SharePoint must look up the SAP role in the user profile store for SharePoint users who want to view the report. The diagram below, and the associated list on the right, describe the authorization process of a user requesting access to a securable object in SharePoint that has been secured using

Although Duet Enterprise support multiple authentication methods, Claims authentication is the only method that supports using SAP role to secure

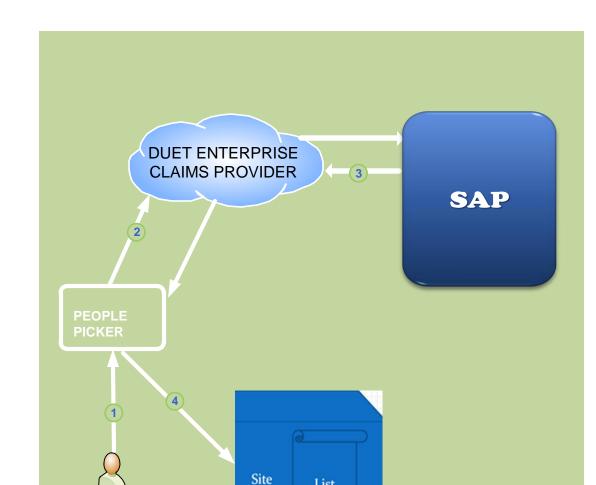
objects in SharePoint. The diagram below and the list to the right shows a high-level view of how authentication works in a Duet Enterprise

SAP back-end

SAP

SharePoint user

Connector 8 NetWeaver



Duet Enterprise Claims-based Authentication

SharePoint Server

SharePoint

Secure

Token Store

All network calls over HTTPS

SharePoint user identity

Claims Identity

1. A SharePoint user or administrator opens the People Picker and assigns SAP roles to SharePoint securable objects, such as sites, lists, and documents.

- 2. The People Picker uses the Duet Enterprise Claims Provider to access the list of SAP roles that have been authorized for use in SharePoint. The Duet Enterprise Claims Provider requests the SAP role definitions from the SAP application.
- 3. The SAP application sends the SAP role definitions back to the Duet Enterprise Claims Provider, which makes them available in the People Picker.
- 4. The SharePoint administrator selects the SAP role from the People Picker and grants that SAP role the appropriate permissions for the SharePoint securable

. The SharePoint user's identity is sent to the Business

Connectivity Services Windows Communication

2. The connector sends the SharePoint user's identity to

3. The SharePoint Security Token Service returns a

4. The token is then sent to SAP NetWeaver in a SOAP

5. A trust relationship is created between the SAP NetWeaver and the Security Token Service during deployment. This enables SAP NetWeaver to use the

token to look up the SAP user that is mapped to the

The SAP user account that is mapped to the

SAP NetWeaver users the SAP user account to

request access to information in the SAP system and

SharePoint user who is identified by the token.

SharePoint user is returned to SAP NetWeaver.

requested information is sent to SAP NetWeaver.

the BCS WCF connector as a SOAP response.

8. SAP NetWeaver sends the requested information to

the SharePoint Security Token Service.

token that identifies the SharePoint user.

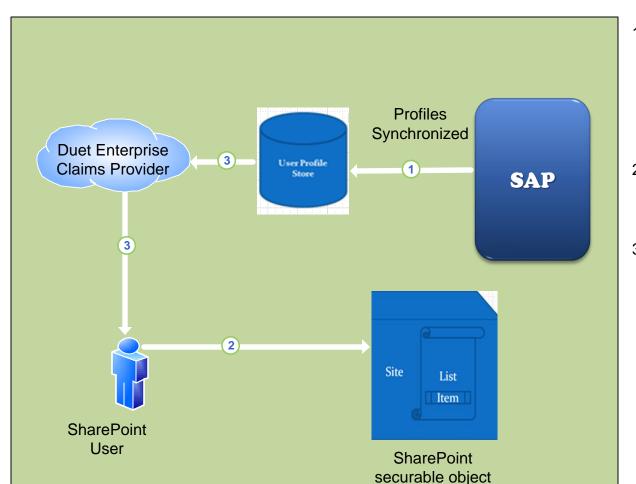
Foundation connector.

request packet.

SharePoint user.

Duet Enterprise User Authorization

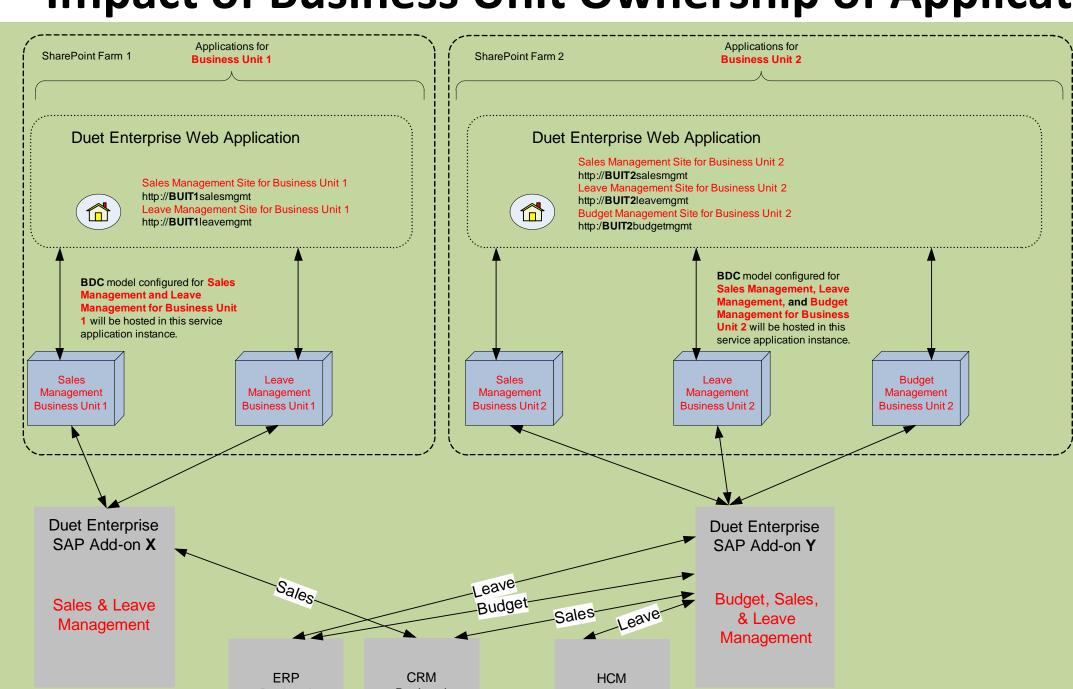
The diagram below provides a high-level overview of the Duet Enterprise user authorization process.



A SharePoint farm administrator synchronizes the user profiles in SAP with the SharePoint User Profile Store over a Business Data Connectivity Services connector. This brings the SAP roles to which are users mapped into the SharePoint User Profile Store.

- 2. A SharePoint user or administrator logs into a SharePoint site and attempts to access a site, list, or items that are secured using an SAP role.
- SharePoint uses the Duet Enterprise Claims Provider to access the User Profile Store to determine which SAP roles the SharePoint user or administrator has been assigned. SharePoint then grants or denies the SharePoint user access to the securable object based on the role the user is assigned and the permissions granted to that SAP role on the securable object.

Impact of Business Unit Ownership of Applications on Duet Enterprise Landscape



SAP

Landscape

^a Party Monitor

oftware (optiona

Microsoft Stack

Duet Enterprise Clients

SharePoint Server 2010

Active Directory

SCOM

Clients using

Enterprise

Enterprise

Authentication

Notification

Monitoring

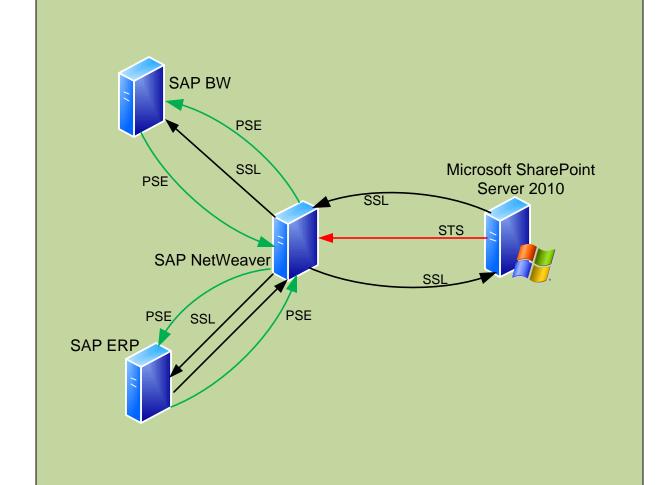
This diagram represents an organization in which SAP backend systems are managed by the Corporate IT organization, Duet Enterprise SAP add-ons are managed by each business unit IT department, and SharePoint Server 2010 is managed by the SharePoint administration team. This landscape scenario depicts all applications among the business units as hosted in the same farm. In this situation, the administrator and the business unit want complete control of all of the components in the stacks.

In this scenario, the service levels differ between applications in the enterprise. Some applications are critical for business and care is taken to ensure availability of these applications. Other applications are important but do not have to ensure the same level of services as those of critical applications. Multiple Duet Enterprise applications can be deployed in a single SharePoint Server 2010 farm. Multiple SAP backend systems and domains can be used with Duet Enterprise. Note that a single SAP NetWeaver Server must be deployed with a single SharePoint Server 2010.

Many organizations have complex requirements that require deploying multiple

- SAP backend systems. Examples of such complex requirements are as follows:
- Critical differences between the SAP applications
- Geographical distribution of the user base
- Business unit ownership of the application or system Functional separation of the applications and autonomy of the operations

Duet Enterprise Trust Configurations



Legend: PSE = Personal Security Environment; SSL = Secure Sockets Layer; STS = Security Token Service

The Trust Configurations diagram shows the one-way Security Token Service (STS) flow between Microsoft SharePoint Server 2010 and SAP NetWeaver that SAML requires. The two-way Secure Sockets Layer (SSL) flow of trust between SharePoint Server 2010 and SAP NetWeaver is a requirement for secure communication. The SSL flow is a required exchange of certifications in this environment if the certifications are self-signed but can be an option if the certifications are publicly-signed.

The diagram then shows the two-way Personal Security Environment(PSE) flow of trust between SAP NetWeaver and NetWeaver BW that is

used to establish trust between the SAP systems. The one-way SSL flow is required in this environment for secure communications. if the user is authorized to access the information, the The two-way PSE flow between the SAP NetWeaver and SAP ERP systems is used to establish trust between the components of the SAP systems. The two-way SSL flow between the SAP ERP system and the SAP NetWeaver system is used for returning reports back to SAP

NetWeaver and also for handling customer data. The *mstnw702-ssl.cert* certificate must be shared between the SharePoint Server and the SAP NetWeaver Server. The *mstnw702-pse.cert* 9. The BCE connector passes the information to the certificate must be shared between the SAP NetWeaver Server and the SAP ERP Server.

Duet Enterprise Landscape Monitoring Duet Enterprise Landscape: Logical Overview

SAP Server Stack

Add-on

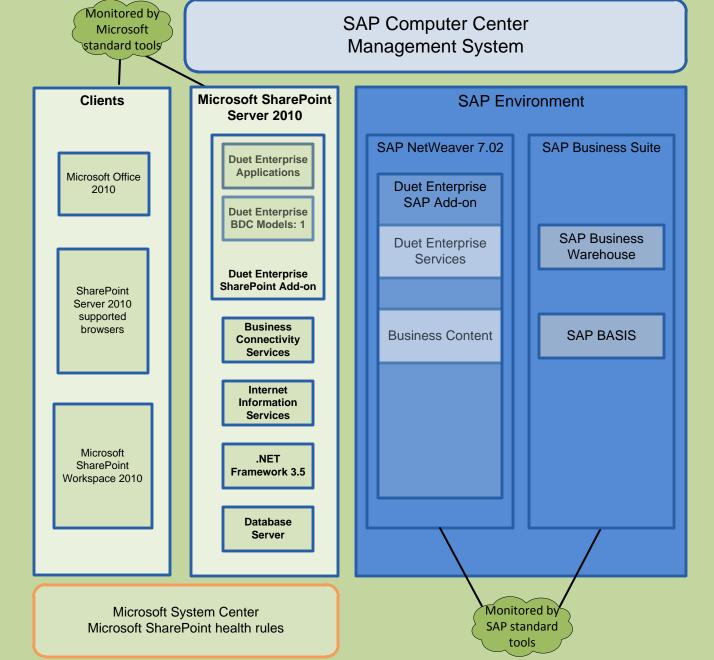
SLD (optional)

SMD

SAP Business Warehouse

components

NW 6.40/7.0



CCMS (part of ABAP system)

Microsoft