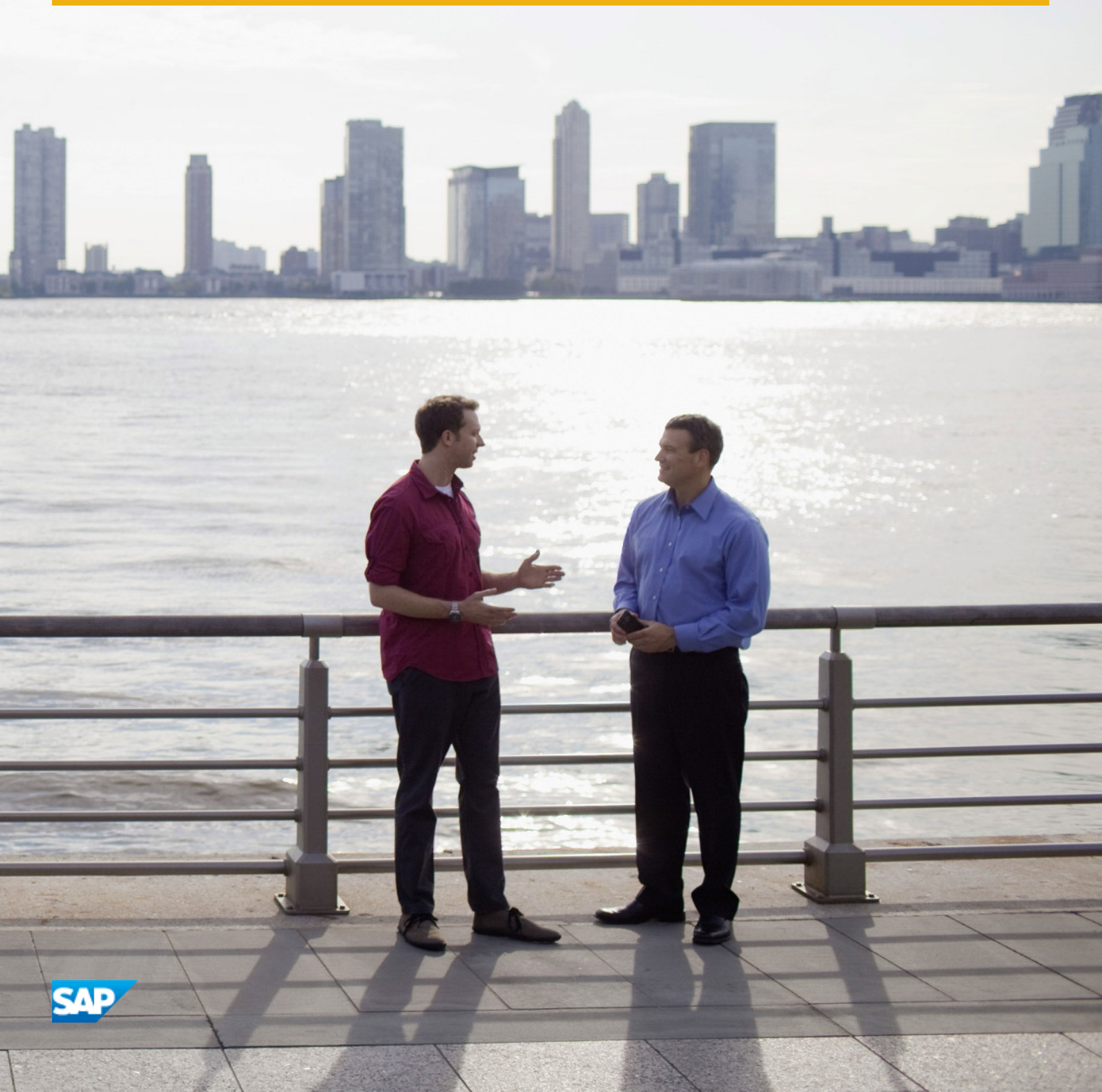


SAP 3D Visual Enterprise Generator 9.0 FP04
Document Version: 2.40 – 2017-09-07

Generator Installation Guide

SAP 3D Visual Enterprise





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Document History

Caution

Before you start the implementation, make sure you have the latest version of the document. You can find the latest version at the following location: <http://help.sap.com>  *SAP 3D Visual Enterprise Generator* .

The following table provides an overview of the most important document changes.

Version	Date	Description
1.00	2013-12-17	First version
1.10	2013-12-20	The following sections were updated: <ul style="list-style-type: none">• Naming Conventions• SAP ERP Integration with SAP 3D Visual Enterprise Generator with Upload Client• Configuring Authentication• SAP 3D Visual Enterprise Integration• Visual Data Integration Upload Client
1.20	2014-06-26	Minor updates for Service Pack.
1.30	2014-12-10	Updates to Installing and Configuring SAP 3D Visual Enterprise Generator on a Master Computer section. Added farm certificate information
1.40	2015-05-21	Updates for SP03
1.50	2015-11-12	Updates for SP04
1.60	2016-03-10	Minor updates for SP05
2.00	2016-06-23	Major updates for 9.0. The following sections were updated: <ul style="list-style-type: none">• Planning• Installation
2.10	2016-11-24	Minor updates for 9.0 FP01
2.20	2017-04-27	Minor updates for 9.0 FP02

Version	Date	Description
		The following sections were updated: <ul style="list-style-type: none"> • Configuring Authentication • SAP 3D Visual Enterprise Integration
2.30	2017-09-07	Minor updates for 9.0 FP03
2.40	2017-12-15	Minor updates for 9.0 FP04

1 Introduction

1.1 About this Document

Purpose

This Installation Guide is the central source of information for the technical implementation of SAP 3D Visual Enterprise Generator 9.0. It provides cross-scenario implementation information as well as scenario-specific information.

SAP 3D Visual Enterprise Generator can be installed in standalone mode to support a third party workflow or can be integrated with SAP DMS.

In an integrated scenario, SAP 3D Visual Enterprise Generator is used to convert CAD files managed by DMS into lightweight viewable files; for example, .VDS, .RH, .JPG, .GIF, .PDF, which are then stored in the DMS alongside CAD original files. You can then use standalone or embedded SAP 3D Visual Enterprise Viewer to view and interact with these lightweight viewable outputs.

This guide specifies the components that must be installed to support Integration of DMS with SAP 3D Visual Enterprise Generator and how these components are to be configured. The Installation section consists of two parts: the first part describes the installation process for SAP 3D Visual Enterprise Generator and the second part describes the necessary steps for integrating the SAP 3D Visual Enterprise Generator installation with DMS.

You use the Installation Guide to get an overview of SAP 3D Visual Enterprise Generator and its software units from a technical perspective. The Installation Guide is a planning tool that helps you to design your system landscape and it refers you to the detailed documentation that is required, mainly:

- Installation guides for single software units
- SAP Notes
- Configuration documentation
- SAP Library documentation

This Installation Guide is a single source of information for the documentation that is available to support the installation of SAP 3D Visual Enterprise Generator. Therefore, this Installation Guide contains all of the following:

- Planning Information

The first two sections of the Installation Guide provide you with the most important information regarding the implementation of SAP 3D Visual Enterprise Generator including an overview of the related planning information, its software units, the system landscape and the overall implementation sequence.

- Installation Information

This section gives you an overview of the installation components and the sequence in which they are installed.

Integration

The installation, post-configuration, and customizing completes the integration of DMS with SAP 3D Visual Enterprise Generator that provides the functionality of conversion. DMS may need the installation of a content server that serves as the storage location for the files to be attached to DMS. NetWeaver Business Client 3.5 (NWBC) enables you to have a side panel for SAP GUI in which the thumbnail and viewer can be embedded.

Table 1:

Area	Description
SAP 3D Visual Enterprise Generator	Converts a CAD file into light weight viewable files
NWBC 3.5	Required to have side panel for SAP GUI transactions
SAP 3D Visual Enterprise Viewer	Required to display lightweight viewable files to the user, can be installed as a standalone application or an embedded object.
DMS	Manages original files that are submitted to SAP 3D Visual Enterprise Generator for conversion, as well as the lightweight files produced by the conversion process

Constraints

This Installation Guide discusses the overall technical implementation of SAP 3D Visual Enterprise Generator and the overall technical implementation of Integration of DMS with SAP 3D Visual Enterprise Generator, 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.

1.2 Introduction to SAP 3D Visual Enterprise Generator

Benefits

SAP 3D Visual Enterprise Generator is a graphical processing client-server application that allows you to automate the processing of CAD and other 2D and 3D graphics.

With SAP 3D Visual Enterprise Generator, you can create enterprise solutions that enable nontechnical users to search, access, manipulate, and integrate complex graphical data into any business or office application across an organization.

Key Features

SAP 3D Visual Enterprise Generator comprises the following parts:

- SAP 3D Visual Enterprise Generator Configuration: Used to start and stop SAP 3D Visual Enterprise Generator, and to establish configuration settings for SAP 3D Visual Enterprise Generator during and after installation
- SAP 3D Visual Enterprise Generator Administration: Used to manage configurable server procedures, monitor and manage the SAP 3D Visual Enterprise Generator server farm and control security within SAP 3D Visual Enterprise Generator
- SAP 3D Visual Enterprise Generator Web API: Used to explore and manage assets and their derivatives stored in the SAP 3D Visual Enterprise Generator database.
- SAP 3D Visual Enterprise Generator Integration API: Used by third party systems that use SAP 3D Visual Enterprise Generator as a conversion server and processing cache for assets and derivatives stored in that third party system
- SAP 3D Visual Enterprise Generator Visual Data Integration Upload Client: Used in specific integration scenarios to submit CAD assets from a third party to SAP 3D Visual Enterprise Generator for processing and subsequent storage in a configured third party repository

1.3 New Features

Table 2:

Area	Description
VDS file format	<p>Support for the new VDS4 file format.</p> <p>SAP 3D Visual Enterprise Generator 9.0 by default uses the new <code>vds4</code> file format as the default visualization file format instead of <code>rh</code>. <code>vds4</code> has advantages over <code>rh</code> as follows:</p> <ul style="list-style-type: none">• Data-model that is easily stored in a database• Support for change management and change propagation• Enhanced method of representing the identifiers• The ability to store assemblies in multiple files, such as CAD packages (shattered)• Dynamic viewing of assemblies with assembly level features; supported by HTML5 viewer
Shattered Assemblies	<p>You can now store shattered “viewable assemblies” in a similar fashion to CAD files.</p> <p>All SAP 3D Visual Enterprise Generator 9.0 ERP integrated workflows will by default store shattered <code>vds4</code> files. It is now possible to configure workflows to build and store monolithic <code>rh</code>.</p>

Area	Description
CAD Processing	<p>There have been significant changes to CAD processing as follows:</p> <ul style="list-style-type: none"> • SAP 3D Visual Enterprise Generator 9.0 only stores the conversion top-level document visualization; shattered or monolithic. This brings significant optimizations to the status change triggered batch processing. • Improved caching of CAD originals and viewables that should, together with storing only top-level documents, bring significant speed optimizations • New ERP CDESK variant APIs allow SAP 3D Visual Enterprise Generator to store variant viewables on the source CAD document BOM. In the case of an external PDM system, the VDI workflow can still create and maintain document BOMs but this is no longer required for SAP PLM scenarios. • New CDESK services variant APIs to create variants in ERP if this is necessary • SAP 3D Visual Enterprise Generator 9.0 stores all assembly level modification-related visualizations in a special <code>VDS4_ALF</code> file, and this enables dynamic viewing of assemblies with assembly level modifications in different explosion modes.
TCO	<p>SAP 3D Visual Enterprise Generator 9.0, when configured to work as an ERP integrated conversion server, no longer requires a separate MS SQL instance - only SAP 3D Visual Enterprise Generator needs to be installed</p>
Configurator	<p>The configurator has been re-designed to include the "Rapid Configuration" feature. This enables a user who is configuring SAP 3D Visual Enterprise Generator to complete the configuration through the configuration wizard so that at the end of the setup process, the conversion server is ready to run – no additional manual configuration steps are necessary.</p> <ul style="list-style-type: none"> • Tool that enables third parties/partners to automatically configure SAP 3D Visual Enterprise Generator using a script. This is handy in VM and testing environments • Configuration copy feature – configuration can be copied from one running instance of SAP 3D Visual Enterprise Generator to another

1.4 SAP Notes for the Installation

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 at <http://service.sap.com/notes>.







Table 3: SAP Notes

SAP Note Number	Title	Description
2237061	Information relating to the latest Service Pack	Information regarding this service pack, including new features and installation instructions
2208206	Windows Server 2012 R2 support	Information relating to Windows Server 2012 R2 support
1787261	SAP 3D Visual Enterprise: Corrections to Online Documents	Description of corrections made to online documentation after delivery to the customer
1896319	Solidworks CAD config to create fully resolved viewables	Solidworks Integration specific, SolidWorks configuration to create fully resolved viewables
2334827	File Formats Supported by SAP 3D Visual Enterprise Generator	Clarification on the full list of 2D and 3D file formats supported by SAP 3D Visual Enterprise Generator, by version

1.5 Information Available on the SAP Help Portal

More information is available as follows on the SAP Help Portal.

Table 4: Help Documentation

Description	Internet Address	Title
SAP 3D Visual Enterprise Generator	http://help.sap.com/  SAP 3D Visual Enterprise Generator  SAP 3D Visual Enterprise Generator [Version Number] 	Application Help for SAP 3D Visual Enterprise Generator Application Help for SAP 3D Visual Enterprise Generator Configuration
SAP 3D Visual Enterprise Author	http://help.sap.com/  SAP 3D Visual Enterprise Author  SAP 3D Visual Enterprise Author [Version Number] 	Application Help for SAP 3D Visual Enterprise Author





















Description	Internet Address	Title
SAP 3D Visual Enterprise Link	http://help.sap.com/  SAP 3D Visual Enterprise Link > SAP 3D Visual Enterprise Link [Version Number] 	Application Help for SAP 3D Visual Enterprise Link
SAP Visual Enterprise Access	http://help.sap.com/  SAP Visual Enterprise Access > SAP Visual Enterprise Access [Version Number] 	Application Help for SAP Visual Enterprise Access
SAP 3D Visual Enterprise Viewer	http://help.sap.com/  SAP 3D Visual Enterprise Viewer > SAP 3D Visual Enterprise Viewer [Version Number] 	Application Help for SAP 3D Visual Enterprise Viewer

Table 5: User Guides

Description	Internet Address	Title
Security Guide for SAP 3D Visual Enterprise Generator	http://help.sap.com/  SAP 3D Visual Enterprise Generator > SAP 3D Visual Enterprise Generator [Version Number] 	Security Guide for SAP 3D Visual Enterprise Generator
Application Operations Guide for SAP 3D Visual Enterprise Generator	http://help.sap.com/  SAP 3D Visual Enterprise Generator > SAP 3D Visual Enterprise Generator [Version Number] 	Application Operations Guide for SAP 3D Visual Enterprise Generator
SAP 3D Visual Enterprise structure manager	http://help.sap.com/  SAP 3D Visual Enterprise structure manager 	Administrator's Guide for SAP 3D Visual Enterprise structure manager
SAP 3D Visual Enterprise Viewer	http://help.sap.com/  SAP 3D Visual Enterprise Viewer > SAP 3D Visual Enterprise Viewer [Version Number] 	Administrator's Guide for SAP 3D Visual Enterprise Viewer
SAP 3D Visual Enterprise Viewer for iPad	http://help.sap.com/  SAP 3D Visual Enterprise Mobile 	Administrator's Guide for SAP 3D Visual Enterprise Viewer for iPad
SAP 3D Visual Enterprise Viewer for Android	http://help.sap.com/  SAP 3D Visual Enterprise Viewer > SAP 3D Visual Enterprise Viewer [Version Number] 	Administrator's Guide for SAP 3D Visual Enterprise Viewer for Android
SAP 3D Visual Enterprise Author	http://help.sap.com/  SAP 3D Visual Enterprise Author > SAP 3D Visual Enterprise Author [Version Number] 	Administrator's Guide for SAP 3D Visual Enterprise Author









Description	Internet Address	Title
SAP 3D Visual Enterprise Access	http://help.sap.com  <i>SAP Visual Enterprise Access</i>  <i>SAP 3D Visual Enterprise Viewer [Version Number]</i> 	Administrator's Guide for SAP Visual Enterprise Access

Table 6: General Quick Links

Title	Internet Address
SAP Notes	http://service.sap.com/notes 
Product Availability Matrix	http://service.sap.com/pam 
Sizing	http://service.sap.com/sizing 
Security	http://service.sap.com/security 
SAP Help Portal	http://help.sap.com 

1.6 Naming Conventions

Throughout this document the following naming conventions apply.

Terminology

The following terms and terminology is used in this documentation:

Variables

Table 7:

Variables	Description
<share>	A shared directory used as a local processing cache and for communication and file sharing between servers in a farm configuration
<VEGLogicalPort>	Logical port name

Variables	Description
<VEGServiceUser>	This is a Microsoft Windows user account that allows this service to run when no other user is logged in to the machine hosting SAP 3D Visual Enterprise Generator and to enable network file transfers and other communication while running (if required). This user is also used as the application pool user in IIS.
<VEGCommunicationUser>	This is the Microsoft Windows user account configured to allow access to the <SAPIntegrationService> from remote systems.
<SAPIntegrationService>	This is a Microsoft IIS Hosted Web Service that is used to accept uploaded assets and processing instructions from remote clients and pass these on to SAP 3D Visual Enterprise Generator for processing.
<SAPERPCCommunicationUser>	This is a user configured in the SAP ERP that is used by SAP 3D Visual Enterprise Generator to obtain data and content from the SAP ERP and to submit data and content back to the SAP ERP.
<SAPVisualDataIntegrationService>	This is the Web service created during an Integrated mode configuration that is used in the SAP ERP Integration with SAP 3D Visual Enterprise Generator system landscape.
<SAPERPCCommunicationUserAuthRole>	This is a role created in SAP ERP to manage authorizations for the <SAPERPCCommunicationUser>.
<VEG_Instance>	The 'VEG Instance' configuration in SAP ERP is mapped to a <VEGLogicalPort> and is used in downstream configurations to dictate which SAP 3D Visual Enterprise Generator service to connect to for various operations.
<SAPERPAdministrativeUser>	SAP ERP user that has sufficient rights to create new users and execute SOAMANAGER to configure SAP ERP connection to SAP 3D Visual Enterprise Generator
<deepserver>	This is an SQL Server user created during the installation of SAP 3D Visual Enterprise Generator using a password you specify.
<VEGAdministrator>	The default <code>SecurityAdministrator</code> account in a combined Security and Project administration scenario (the default) will suffice for this role. If you chose to separate security and project administration then you may need to create another project administrator to cover all administration actions.

2 Planning

This section provides you with the most important information regarding the implementation of SAP 3D Visual Enterprise Generator including an overview of the related planning information, its software units, the system landscape and the overall implementation sequence.

You may also require the following reference material:

- SAP 3D Visual Enterprise Viewer: See Administrator's Guide for SAP 3D Visual Enterprise Viewer
- Content Server: See ► [Installation Guide](#) ► [SAP Content Server for UNIX and Installation](#) ► [Gateway on Windows](#) ► [NW 7.0](#) ► at <http://service.sap.com/instguides> ► ► [Installation And Upgrade Guides](#) ► [SAP NetWeaver® SAP NetWeaver 7.0 \(2004s\)](#) ► [Installation](#) ► [Installation](#) ► [Standalone Engines](#) ►.
- NWBC 3.5: See Installation and Maintenance Guide for NWBC 3.5 at <http://service.sap.com/instguides> ►. SAP 3D Visual Enterprise Generator is designed to integrate with other software applications, including databases and Web servers. We recommend that you consult the relevant application documentation, as SAP SE cannot make recommendations on requirements for any optional applications.

2.1 Standalone Setup

2.1.1 Standalone Setup - System Landscape

See below the system landscape for SAP 3D Visual Enterprise Generator with the required software units and the required business functions for a standalone configuration:

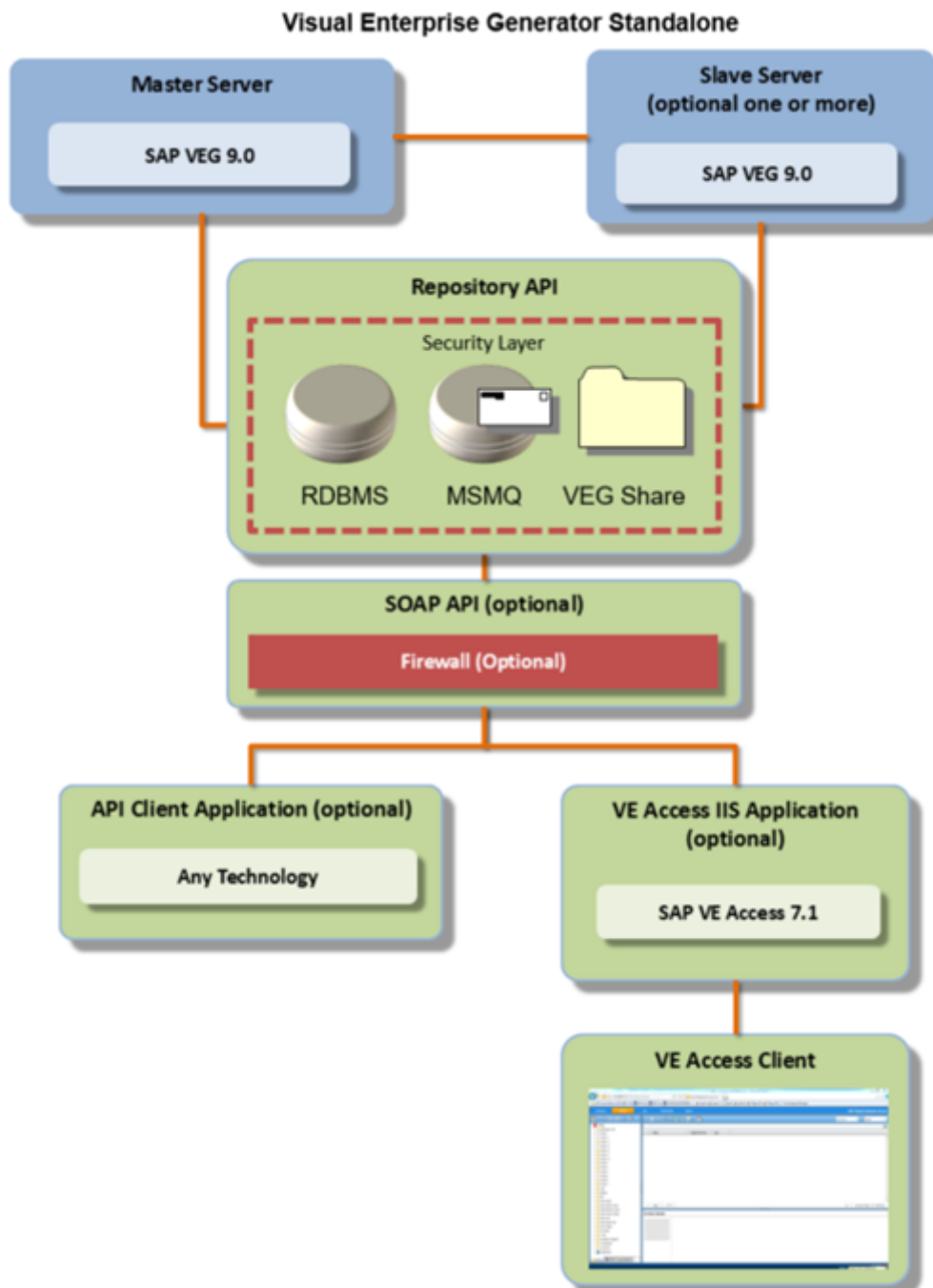



Figure 1: Standalone System Landscape

To install SAP 3D Visual Enterprise Generator, you need the following:

- Microsoft Windows Server 2008 R2, 2012 R2, 2016 with
- Internet Information Server (IIS)
- Microsoft Message Queuing (MSMQ)
- Microsoft .NET Framework 4.6
- Microsoft SQL Server 2008 R2, 2012 R2, 2014

 **Caution**

The Microsoft SQL Server instance should be configured with **Accent-Sensitive, Case-Insensitive Collation**, and **Mixed Mode Authentication**.

- File Sharing enabled


2.1.2 Standalone Setup - Overall Implementation Sequence

The following table describes the overall installation sequence for SAP 3D Visual Enterprise Generator for a standalone implementation (with optional slave servers):

Procedure

Table 8:

Step	Action
1	Install and configure all required Microsoft Windows components
2	Install SQL database
3	Install and configure SAP 3D Visual Enterprise Generator on the master computer
4	Activate purchased SAP 3D Visual Enterprise Generator modules on the master computer
5	Install SAP 3D Visual Enterprise Generator Administration on any client computers to administer SAP 3D Visual Enterprise Generator remotely
6	Install and configure SAP 3D Visual Enterprise Generator on additional computers as required if you are setting up a server farm. These are called the slave computers: computers that are added to the farm for additional processing capacity.

 **Note**

As an alternative to adding a slave computer for extra processing capacity, additional processors and memory can be added to the master computer.

The following table can be used as a step-by-step guide to installing and configuring SAP 3D Visual Enterprise Generator in a standalone or server farm configurations. This table is divided into two columns and separates a SAP 3D Visual Enterprise Generator Master setup from SAP 3D Visual Enterprise Generator Slave installation.

i Note

- Decide whether you are implementing a standalone (master) or server farm (slave) system landscape and then work through the ordered steps in the table completing every item in required columns in the order they appear.
- The rows of the table are divisions representing prerequisites that have been fulfilled by steps in the previous rows. You must complete all the steps in the columns of each row before proceeding on to the next row.

Each box in the table represents a configuration step. It corresponds directly to a section within this document. When working through sections, complete all contained sections and referenced sections.

Table 9:

Prerequisites	SAP 3D Visual Enterprise Generator Master	SAP 3D Visual Enterprise Generator Slave
	Install and configure Windows Server and any updates Install and configure IIS (see the Installing and Configuring IIS section of Configuring Microsoft Windows Server [page 39])	Install and configure Windows Server and any updates
IIS installed	Microsoft .NET Framework 4.6 – Installation and Verification (see the Installing and Verifying Microsoft .NET Framework 4.6 section of Configuring Microsoft Windows Server [page 39]) Create and configure SAP 3D Visual Enterprise Generator Service User (see the Creating and Configuring SAP 3D Visual Enterprise Generator Service User section of Configuring Microsoft Windows Server [page 39]) Install and configure MSMQ (see the Installing and Configuring MSMQ section of Configuring Microsoft Windows Server [page 39]) Install SQL Server (see Installing Microsoft SQL Server [page 43]) Create and Configure the SAP 3D Visual Enterprise Generator Network Share (see the Creating and Configuring SAP 3D Visual Enterprise Generator Network Share section of Configuring Microsoft Windows Server [page 39]) Install and Configure SAP 3D Visual Enterprise Generator on a Master Computer (see Installing and Configuring an SAP 3D Visual Enterprise Generator [page 49])	Microsoft .NET Framework 4.6 – Installation and Verification (see the Installing and Verifying Microsoft .NET Framework 4.6 section of Configuring Microsoft Windows Server [page 39])

Prerequisites	SAP 3D Visual Enterprise Generator Master	SAP 3D Visual Enterprise Generator Slave
SAP 3D Visual Enterprise Generator Master Installed and Configured	Licensing CAD Modules (see Licensing CAD Modules [page 79])	Install and Configure SAP 3D Visual Enterprise Generator Slave Computers (see Installing SAP 3D Visual Enterprise Generator on Slave Computers [page 66])
CAD Modules Licensed	Install and configure SAP 3D Visual Enterprise Access 7.1 and SAP 3D Visual Enterprise Viewer as per the instructions in the respective guides	

2.2 SAP ERP Integration Setup

2.2.1 SAP ERP Integration Setup - System Landscape

The graphic below shows the system landscape for SAP 3D Visual Enterprise Generator with the required software units and the required business functions for an ERP Integrated workflow (including the Visual Data Integration Upload Client):

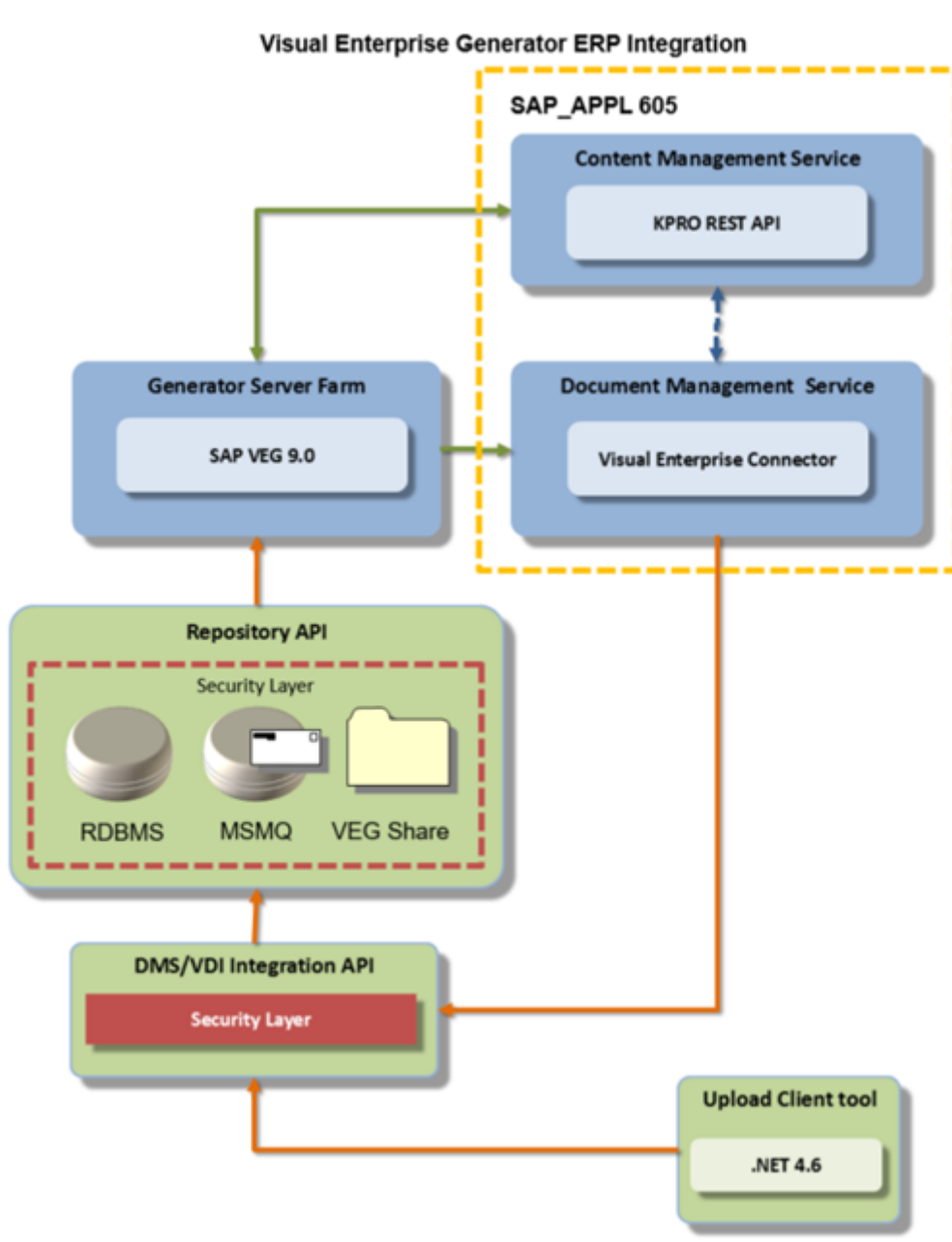


Figure 2: ERP Integration Landscape

Caution

The landscape depicted in the above graphic requires Windows Server 2008 R2, Windows Server 2012 R2, or Windows 2016, and does not fully support some CAD formats. Before attempting to implement this landscape, see SAP Note [1945814](#) for details of supported CAD format features.

2.2.1.1 DMS Integration with SAP 3D Visual Enterprise Generator

SAP 3D Visual Enterprise Generator

The installation of SAP 3D Visual Enterprise Generator contains a Web service that is triggered from DMS through a consumer proxy.

The installation of SAP 3D Visual Enterprise Viewer enables you to view the 3D visualization of models.

DMS

Software units involved are `SAP_BS_FND` and `SAP_APPL`. `SAP_APPL` is dependent on the objects from `SAP_BS_FND`.

2.2.1.1.1 DMS Integration - Software Component Matrix

This section provides an overview of which business scenario of Integration of DMS with SAP 3D Visual Enterprise Generator uses which software unit:

Table 10:

Business Scenario	Software Units	
	Key: X = mandatory (X) = optional	
	<code>SAP_BS_FND</code>	<code>SAP_APPL</code>
Conversion of registered Object	X	X
Direct Conversion	X	X
JobLogMonitor	X	X
PDF Conversion	X	X
Batch Job Conversion	X	X

The graphic below shows the system landscape for SAP 3D Visual Enterprise Generator with the required software units and the required business functions for a DMS Integration scenario:

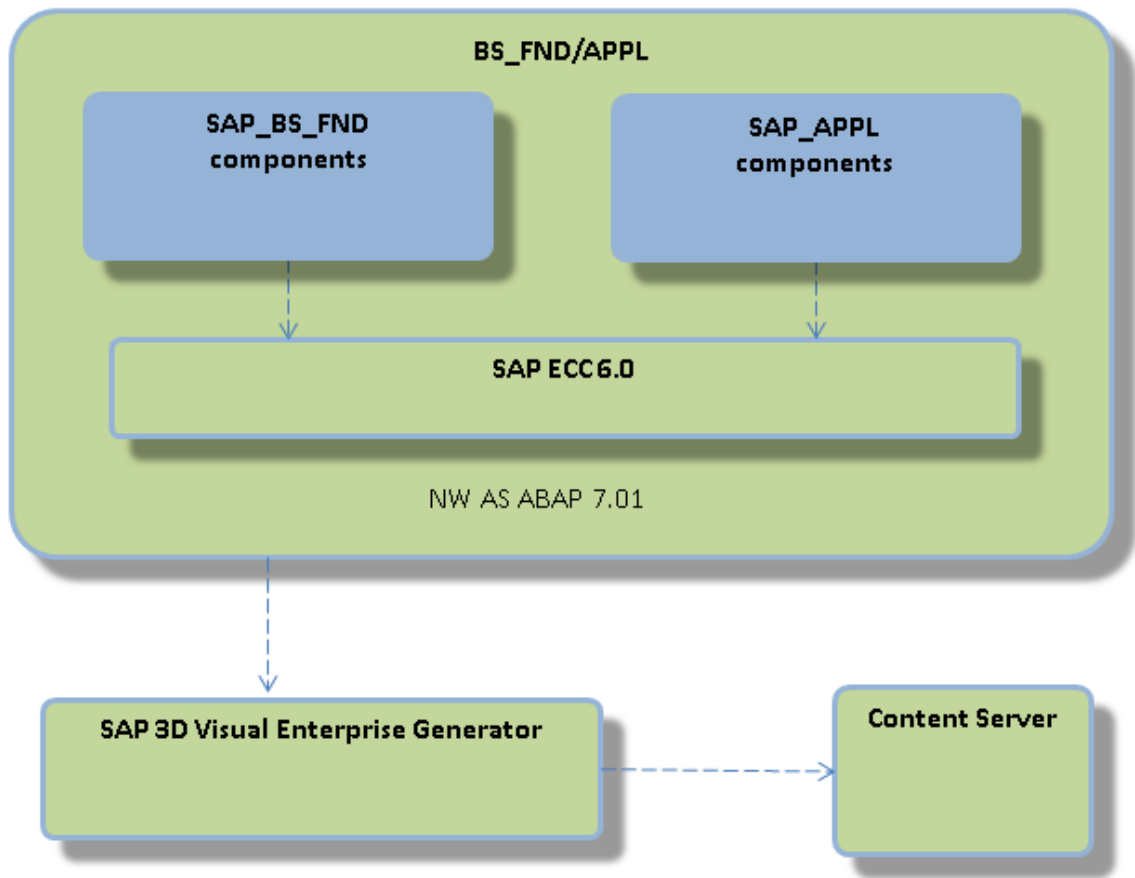


Figure 3: DMS Integration scenario

For the conversion process, the communication starts from `SAP_APPL` to `SAP_BS_FND` which then communicates with SAP 3D Visual Enterprise Generator for the actual process to be performed. SAP 3D Visual Enterprise Generator stores the files in the content server.

2.2.1.1.2 DMS Integration - System Landscape

To install SAP 3D Visual Enterprise Generator in an SAP DMS integrated system landscape, you need the following:

- Microsoft Windows Server 2008 R2, 2012 R2, or 2016 with
- Internet Information Server (IIS)
- Microsoft Message Queuing (MSMQ)
- Microsoft .NET Framework 4.6
- File Sharing enabled

2.2.1.1.3 DMS Integration - Overall Implementation Sequence

SAP 3D Visual Enterprise Generator integration with SAP DMS requires customization in both systems, and requires that the connection between the two systems is secured appropriately. Two authentication schemes are explicitly supported and documented in the [Installation > Integrated Mode > Post-Installation > Configuring Authentication](#) section; these are Username and Password authentication and Certificate Exchange. Although it is possible to configure the system landscape for both schemes, this document only describes the configuration steps for each scheme separately.

Procedure

The following table describes the overall installation sequence for a SAP DMS Integration with SAP 3D Visual Enterprise Generator:

Table 11:

Step	Action	Remarks/Subsequent Steps
1	Install SAP 3D Visual Enterprise Generator	This installs SAP 3D Visual Enterprise Generator and needs some post installation steps.
2	Configuration steps after installation of SAP 3D Visual Enterprise Generator	Mandatory configuration needs to be maintained.
3	Install content server	Place where originals are created and documents are created
4	Create logical ports for the proxy class CO_VEG_CONVERSION_SERVER_V3 in SOAMANAGER of DMS	Required to enable the communication to Web services created in SAP 3D Visual Enterprise Generator from DMS.
5	Create simple configurations for DocFileLinkInformation_Out, DocFileLinkCheckInRequest_In, VEGTaskRequest_In, VEGObjects_Information_In in SOAMANAGER of DMS	Run the transaction DMS_SERDEPLOY to enable the service binding for the communication of services created in DMS from SAP 3D Visual Enterprise Generator.
6	Make necessary settings in Customizing under Cross Applications > Document Management > Visual Enterprise Generator	Required for the conversion

The following table can be used to plan integration between SAP 3D Visual Enterprise Generator and an SAP DMS. The table is divided into four columns and separates the SAP 3D Visual Enterprise Generator steps from SAP DMS Configuration. The authentication schemes occupy the two central columns.

The rows of the table are divisions representing prerequisites. You must complete all the steps in the columns of each row before proceeding on to the next row.

Each box in the table represents a configuration step and corresponds directly to a section within this document.

➔ Recommendation

We recommend that you start your planning by deciding which authentication scheme you will follow. You should then work through all the corresponding steps/sections in the order in which they appear in the table.

⚠ Caution

You must complete all the steps in the columns of each row before proceeding on to the next row.

Table 12:

Prerequisite	SAP 3D Visual Enterprise Generator	Username and Password Authentication	Certificate Exchange	SAP ERP Configuration
	Configure Windows Server (see Configuring Microsoft Windows Server [page 39]) Install and Configure IIS (see the <i>Installing and Configuring IIS</i> section of Configuring Microsoft Windows Server [page 39])		Obtain valid SSL certificate from a trusted authority	Troubleshooting: Explicitly Trusting a Self-Signed Certificate (see Application Operations Guide for SAP 3D Visual Enterprise Generator)
IIS Installed	Microsoft .NET Framework 4.6 – Installation and Verification (see the <i>Installing and Verifying Microsoft .NET Framework 4.6</i> section of Configuring Microsoft Windows Server [page 39])	Create a Windows user for SAP ERP to SAP 3D Visual Enterprise Generator Service calls (see Configuring Authentication [page 82])	Import Server Certificate into IIS (see the <i>Import Server Certificate into IIS</i> section of Configuring Authentication [page 82])	Create a Communication User in SAP ERP (see the <i>Create a Communication User in SAP ERP</i> section of Configuring Authentication [page 82])
	Create and Configure SAP 3D Visual Enterprise Generator Service User (see the <i>Creating and Configuring SAP 3D Visual Enterprise Generator Service User</i> section of Configuring Microsoft Windows Server [page 39])	Configure IIS to Use Basic Authentication (see the <i>Configure IIS to Use Basic Authentication</i> section of Configuring Authentication [page 82])	Activate SSL Binding in IIS with Server Certificate (see the <i>Activate SSL Binding in IIS with Server Certificate</i> section of Configuring Authentication [page 82])	Create and Assign Authorization Role for SAP ERP Communication User (see the <i>Create and Assign Authorization Role for SAP ERP Communication User</i> section of Configuring Authentication [page 82])

Prerequisite	SAP 3D Visual Enterprise Generator	Username and Password Authentication	Certificate Exchange	SAP ERP Configuration
	Install and Configure MSMQ (see the Installing and Configuring MSMQ section of Configuring Microsoft Windows Server [page 39])		Import SAP 3D Visual Enterprise Generator Client Authentication Certificate into Local Machine store (see the Import SAP 3D Visual Enterprise Generator Client Authentication Certificate into Local Machine store section of Configuring Authentication [page 82])	
			Import SAP 3D Visual Enterprise Generator Client Authentication Certificate into SAP System (see the Import SAP 3D Visual Enterprise Generator Client Authentication Certificate into SAP System section of Configuring Authentication [page 82])	
	Install and Configure an SAP 3D Visual Enterprise Generator Master Computer (see Installing and Configuring an SAP 3D Visual Enterprise Generator [page 49])		Export SAP System Client Authentication Certificate (see the Export SAP System Client Authentication Certificate section of Configuring Authentication [page 82])	
Integration Service User Available			Import SAP System Client Authentication Certificate into SAP 3D Visual Enterprise Generator System and Map to Integration Service User (see the Import SAP System Client Authentication Certificate into SAP 3D Visual Enterprise Generator System and Map to Integration Service User section of Configuring Authentication [page 82])	

Prerequisite	SAP 3D Visual Enterprise Generator	Username and Password Authentication	Certificate Exchange	SAP ERP Configuration
			Map Communication User to SAP 3D Visual Enterprise Generator Client Authentication Certificate (see the <i>Map Communication User to SAP 3D Visual Enterprise Generator Client Authentication Certificate</i> section of Configuring Authentication [page 82])	
Integration Service Created	Licensing CAD Modules (see Licensing CAD Modules [page 79])	Grant SAP 3D Visual Enterprise Generator Communication User Basic Authentication rights to SAP Integration Service (see the <i>Grant SAP 3D Visual Enterprise Generator Communication User Basic Authentication rights to SAP Integration Service</i> section of Configuring Authentication [page 82])		
Integration Service Security Mechanism Configured		Perform Simplified Web Service Configuration for Username and Password Authentication (see the <i>Perform Simplified Web Service Configuration for Username and Password Authentication</i> section of SAP 3D Visual Enterprise Integration [page 96])	Perform Simplified Web Service Configuration for Certificate Exchange Authentication (see the <i>Perform Simplified Web Service Configuration for Username and Password Authentication</i> section of SAP 3D Visual Enterprise Integration [page 96])	

Prerequisite	SAP 3D Visual Enterprise Generator	Username and Password Authentication	Certificate Exchange	SAP ERP Configuration
		Create Logical Port for Integration Service Consumer Proxy for Username and Password (see the <i>Create Logical Port for Integration Service Consumer Proxy for Username and Password</i> section of SAP 3D Visual Enterprise Integration [page 96])	Create Logical Port for Integration Service Consumer Proxy (see the <i>Create Logical Port for Integration Service Consumer Proxy for Username and Password</i> section of SAP 3D Visual Enterprise Integration [page 96])	
Consumer Proxy Configuration Complete				Activating Service Bindings (see the <i>Activating Service Bindings</i> section of SAP 3D Visual Enterprise Integration [page 96])
				Configure SAP 3D Visual Enterprise Generator Instance (see the <i>Configure SAP 3D Visual Enterprise Generator Instance</i> section of SAP 3D Visual Enterprise Integration [page 96])
Workflows Configured	Set up local project to act as a processing cache (see the <i>Set up local project to act as a processing cache</i> section of SAP 3D Visual Enterprise Integration [page 96])			Configuring Conversion Trigger (see the <i>Configuring Conversion Trigger</i> section of SAP 3D Visual Enterprise Integration [page 96])
	Set Up Username and Password Mapping to Local Project using Communication User (see the <i>Set Up Username and Password Mapping to Local Project using Communication User</i> section of SAP 3D Visual Enterprise Integration [page 96])			

Prerequisite	SAP 3D Visual Enterprise Generator	Username and Password Authentication	Certificate Exchange	SAP ERP Configuration
	Test connectivity between SAP 3D Visual Enterprise Generator and SAP System (see the Test connectivity between SAP 3D Visual Enterprise Generator and SAP System section of SAP 3D Visual Enterprise Integration [page 96])			

2.2.1.2 Visual Data Integration with SAP 3D Visual Enterprise Generator

The system landscape described in this section focuses on functionality delivered through the Visual Data Integration workflow controller of SAP 3D Visual Enterprise Generator.

The Visual Data Integration workflow is used to analyze and convert CAD assets managed by an external Product Data Management system (PDM) into a configured DMS Document type. Visual Enterprise Document (VED) is the default document type. The default VED output contains the following viewables :

- A VDS file
- A JPG file
- A GIF file

Note

The 3D viewable format can be switched from VDS to RH by specifically configuring the workflow.

The workflow can be configured in SAP 3D Visual Enterprise Generator to create additional derivatives. Processes and child workflows can be configured based on the Workflow Controller settings.

Caution

See the supported CAD file formats in SAP Note [1945814](#) to ensure that your preferred CAD format is appropriately supported by the Visual Data Integration workflow.

Document Info Records (DIR), document BOM and viewables (generated visual representations of the asset) are the primary output of the workflow. The workflow stores outputs in the appropriate structure in the configured system.

There are two mechanisms that can be used to trigger the VDI Workflow:

- **External PDM system:** Triggered or manual submission of CAD assets managed by an external PDM system via the VDI API service
- **Visual Data Integration Upload Client:** A new client installable upload utility that connects to the Visual Data Integration API. The Upload Client utility gives a user the ability to manually upload 3D CAD data from a local

file system into SAP ERP (using SAP 3D Visual Enterprise Generator) and is intended for customers who do not require an automated integration with their Product Data Management System.

For more information about the Visual Data Integration Workflow and detailed instructions of how to customize the default configuration or create your own custom implementation, see Application Help for SAP 3D Visual Enterprise Generator for this feature.

2.2.1.2.1 Visual Data Integration - System Landscape

To install SAP 3D Visual Enterprise Generator in a Visual Data Integration system landscape, you need the following:

- Microsoft Windows Server 2008 R2, 2012 R2, or 2016 with
- Internet Information Server (IIS)
- Microsoft Message Queuing (MSMQ)
- Microsoft .NET Framework 4.6
- File Sharing enabled

2.3 Minimal Setup (Generic Conversion)

2.3.1 Minimal Setup - About Generic Conversion

You can use a Minimal setup to set the server for generic conversion only.

The Generic Conversion workflow is a streamlined SAP 3D Visual Enterprise Generator workflow focused on conversion of input data into supported output formats. It does not impose any requirements on where it gets input data from. Instead, the caller transfers all of the input data to SAP 3D Visual Enterprise Generator before initiating conversion. In addition, no requirements are imposed on where output files are stored. Output files are available after conversion has completed, until the caller is able to successfully retrieve them; they are not kept long-term.

For further information on Generic Conversion, see the following wiki page:

Related Information

<https://wiki.scn.sap.com/wiki/display/SVE/Generic+Conversion+-+API+Reference>

2.3.2 Minimal Setup - System Landscape

The following graphic shows the system landscape for minimal SAP 3D Visual Enterprise Generator with the required software units and the required business functions.

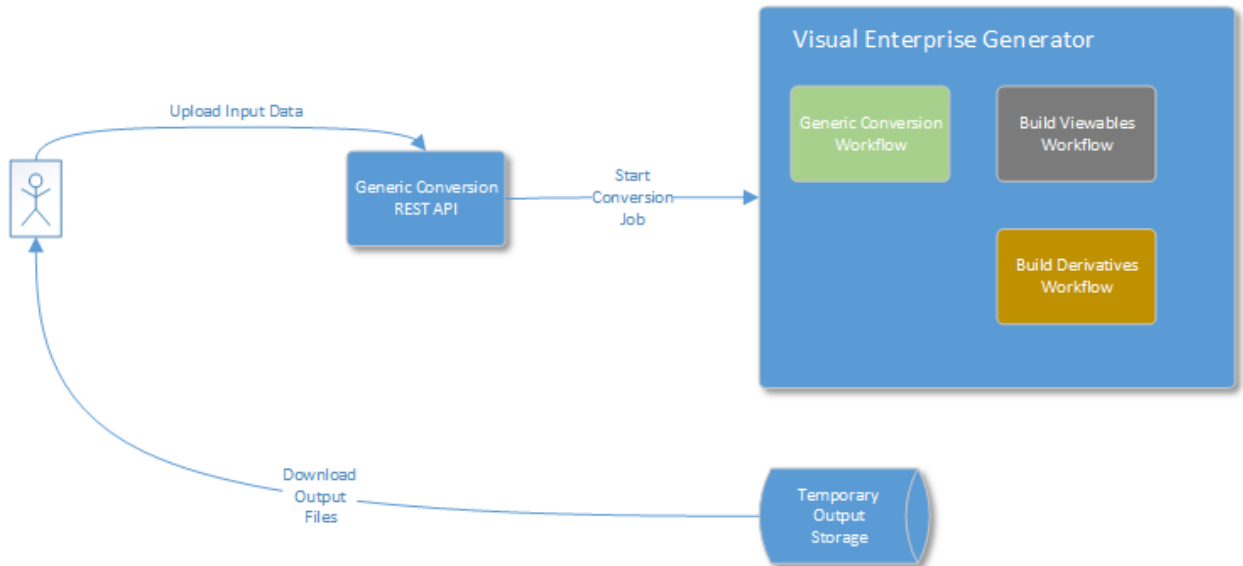


Figure 4: 3D Visual Enterprise Generator 9.0 Minimal mode

To use SAP 3D Visual Enterprise Generator in minimal mode, you need the following:

- Microsoft Windows Server 2008 R2, 2012 R2, or 2016 with Internet Information Server (IIS)
- Microsoft Message Queuing (MSMQ)
- Microsoft .NET Framework 4.6
- File Sharing enabled

Conversion Process

The conversion process is controlled by the client interacting with the Generic Conversion API. SAP 3D Visual Enterprise Generator stores the converted files locally for a period of time, allowing the client to download the data.

2.3.3 Minimal Setup - Overall Implementation Sequence

The following table describes the overall installation sequence for SAP 3D Visual Enterprise Generator for a minimal implementation (with optional slave servers):

Procedure

Table 13:

Step	Action
1	Install and configure all required Microsoft Windows components
2	Install and configure SAP 3D Visual Enterprise Generator on the master computer
3	Activate purchased SAP 3D Visual Enterprise Generator modules on the master computer
4	Install SAP 3D Visual Enterprise Generator Administration on any client computers to administer SAP 3D Visual Enterprise Generator remotely
5	Install and configure SAP 3D Visual Enterprise Generator on additional computers as required if you are setting up a server farm. These are called the slave computers: computers that are added to the farm for additional processing capacity.
	<p>i Note</p> <p>As an alternative to adding a slave computer for extra processing capacity, additional processors and memory can be added to the master computer.</p>

The following table can be used as a step-by-step guide to installing and configuring SAP 3D Visual Enterprise Generator in a minimal configuration. This table is divided into two columns and separates a SAP 3D Visual Enterprise Generator Master setup from SAP 3D Visual Enterprise Generator Slave installation.

i Note

- Decide whether you are implementing a standalone (master) or server farm (slave) system landscape and then work through the ordered steps in the table completing every item in required columns in the order they appear.
- The rows of the table are divisions representing prerequisites that have been fulfilled by steps in the previous rows. You must complete all the steps in the columns of each row before proceeding on to the next row.

Each box in the table represents a configuration step. It corresponds directly to a section within this document. When working through sections, complete all contained sections and referenced sections.

Table 14:

Prerequisites	SAP 3D Visual Enterprise Generator Master	SAP 3D Visual Enterprise Generator Slave
	Install and configure Windows Server and any updates	Install and configure Windows Server and any updates

Prerequisites	SAP 3D Visual Enterprise Generator Master	SAP 3D Visual Enterprise Generator Slave
	Install and configure IIS (see the <i>Installing and Configuring IIS</i> section of Configuring Microsoft Windows Server [page 39])	
IIS installed	<p>Microsoft .NET Framework 4.6 – Installation and Verification (see the <i>Installing and Verifying Microsoft .NET Framework 4.6</i> section of Configuring Microsoft Windows Server [page 39])</p> <p>Create and configure SAP 3D Visual Enterprise Generator Service User (see the <i>Creating and Configuring SAP 3D Visual Enterprise Generator Service User</i> section of Configuring Microsoft Windows Server [page 39])</p> <p>Install and configure MSMQ (see the <i>Installing and Configuring MSMQ</i> section of Configuring Microsoft Windows Server [page 39])</p> <p>Create and Configure the SAP 3D Visual Enterprise Generator Network Share (see the <i>Creating and Configuring SAP 3D Visual Enterprise Generator Network Share</i> section of Configuring Microsoft Windows Server [page 39])</p> <p>Install and Configure SAP 3D Visual Enterprise Generator on a Master Computer (see Installing and Configuring an SAP 3D Visual Enterprise Generator [page 49])</p>	Microsoft .NET Framework 4.6 – Installation and Verification (see the <i>Installing and Verifying Microsoft .NET Framework 4.6</i> section of Configuring Microsoft Windows Server [page 39])
SAP 3D Visual Enterprise Generator Master Installed and Configured	Licensing CAD Modules (see Licensing CAD Modules [page 79])	Install and Configure SAP 3D Visual Enterprise Generator Slave Computers (see Installing SAP 3D Visual Enterprise Generator on Slave Computers [page 66])

3 Preparation

3.1 System Requirements

3.1.1 Hardware Requirements

You must have the following hardware installed for the SAP Visual Enterprise Generator master and client computers to function correctly. The administrator or a user with administrative rights must perform all installations:

i Note

The SAP 3D Visual Enterprise Generator computer refers to the computer where the processing engine and SAP 3D Visual Enterprise Generator Administration is installed. The SAP 3D Visual Enterprise Generator client computer refers to the computer where only SAP 3D Visual Enterprise Generator Administration is installed.

i Note

- The speed and number of processors depend on the number of models to be processed and the desired response time.
- More RAM may be required for large model and texture sizes
- The required amount of working disk space depends on the number of graphics to be processed simultaneously and the average size of the graphics files.

Minimum Hardware Requirements

Table 15:

Hardware	SAP 3D Visual Enterprise Generator Computer	SAP 3D Visual Enterprise Generator Client Computer
Processor	Xeon 64-bit or AMD equivalent	64-bit Intel or AMD processor
Number of cores	4	2
Operating System	64-bit	64-bit
RAM	16 GB (4GB per core)	4 GB
Hard disk space	200 GB	5 GB
Graphics card	N/A	3D hardware accelerator with 128 MB of RAM

Recommended Hardware Requirements

Table 16:

Hardware	SAP 3D Visual Enterprise Generator Computer	SAP 3D Visual Enterprise Generator Client Computer
Processor	Xeon 64-bit or AMD equivalent	Pentium 4 3.6 GHz or higher
Number of cores	16	2
Operating System	64-bit	64-bit
RAM	16 GB (4GB per core)	8 GB
Hard disk space	1000 GB	20 GB
Graphics card	N/A	3D hardware accelerator with 1 GB of RAM

3.1.2 Software Requirements

Install the following software in order for SAP 3D Visual Enterprise Generator master and client computers to function correctly..

Prerequisites

- You have ensured that there are no previous SAP 3D Visual Enterprise Generator installations on the machine.
- For the SAP 3D Visual Enterprise Generator production system landscape, you have installed the following applications and applied all recommendations and best practices for SAP 3D Visual Enterprise Generator products and Microsoft applications as described in the following table:

Software Requirements

i Note

The **SAP 3D Visual Enterprise Generator computer** refers to the computer where the processing engine and SAP 3D Visual Enterprise Generator Administration is installed. The **SAP 3D Visual Enterprise Generator client computer** refers to the computer where only SAP 3D Visual Enterprise Generator Administration is installed.

Table 17:

Recommended	SAP 3D Visual Enterprise Generator Computer	Web Server	Database Server (not required for Minimal installation scenario)	SAP 3D Visual Enterprise Generator Client Computer
<p>Microsoft Windows Server 2012 R2 (with latest service pack) operating system</p> <p>i Note Windows 2012 R2 (64-bit) is required for an SAP integrated configuration of SAP 3D Visual Enterprise Generator. Visual Enterprise Generator is compatible with Windows Server 2008 R2, 2012 R2, and 2016.</p>	X	X	X	X
<p>Internet Information Services (IIS) 7.0 or later, configured to run ASP.NET applications using the .NET Framework 4</p> <p>i Note The default application pool (IIS) should not use the network service account. It is configured to run with the user account which has been granted access to MSMQ, and SAP 3D Visual Enterprise Generator Share. IIS should have the HTTP Redirect feature switched on.</p>		X		

Recommended	SAP 3D Visual Enterprise Generator Computer	Web Server	Database Server (not required for Minimal installation scenario)	SAP 3D Visual Enterprise Generator Client Computer
<p>Microsoft Message Queuing (MSMQ) (version supplied with your operating system)</p> <p>i Note For message queues to be created correctly, the name of each computer running SAP 3D Visual Enterprise Generator must be 15 characters or less.</p>	X	X	X	X
<p>Microsoft SQL Server 2012 R2 Instance (with latest service pack, SQL Agent) with collation set to Accent Sensitive, Case Insensitive, and Mixed Mode Authentication.</p> <p>i Note SAP 3D Visual Enterprise Generator is compatible with SQL Server 2008 R2, 2012 R2, and 2014.</p> <p>i Note SQL Server is only required for a stand-alone installation.</p>			X	
Microsoft .NET Framework 4.6	X	X		X
Microsoft DirectX 9.0c	X			X
Microsoft Internet Explorer 8 and up				X

Recommended	SAP 3D Visual Enterprise Generator Computer	Web Server	Database Server (not required for Minimal installation scenario)	SAP 3D Visual Enterprise Generator Client Computer
SAP 3D Visual Enterprise Author				X
<p>i Note</p> <p>See the SAP 3D Visual Enterprise Author Administrator Guide for more information.</p>				
SAP 3D Visual Enterprise Viewer				X
<p>i Note</p> <p>See the SAP 3D Visual Enterprise Viewer Administrator Guide for more information.</p>				
Microsoft Windows Messaging Instrumentation (WMI) Service			X	

Create a Windows account with local administrative privileges for each user who maintains configuration or administers the SAP 3D Visual Enterprise Generator service. This account must have full modification control permissions on the remote administration or <share> directory.

➔ Recommendation

We recommend creating a specific Windows user group for SAP 3D Visual Enterprise Generator administrators.

If components are installed on separate machines, use a **domain account**. Use a local account only when all components are installed on the same computer.

3.1.3 ERP Prerequisites

The following table shows minimum service pack levels required when integrating with SAP ERP to take advantage of the features and capabilities available in SAP 3D Visual Enterprise Generator.

Minimum (Manual actions required)

- ECC 6.0 EHP6 SP10
- ECC 6.0 EHP6 HANA SP04
- ECC 6.0 EHP7 SP03
- ECC 6.0 EHP8 SP00
- S/4HANA OP SP00

Recommended

- ECC 6.0 EHP6 SP17
- ECC 6.0 EHP6 HANA SP10
- ECC 6.0 EHP7 SP12
- ECC 6.0 EHP8 SP03
- S/4 HANA OP SP03

3.2 Obtaining License Keys for SAP 3D Visual Enterprise Generator

The process for acquiring a license key can be summarized as follows:

1. Get access to the license key system
2. Get license key from the license key system

Getting Access to License Key System

Prerequisites

Before you can proceed, ensure that you have the contact details of your Account Executive.

Procedure

If you do not already have access to the license key system, the process for getting access is as follows:

- Liaise with your Account Executive to request a login to the license key system.
- Your Account Executive will liaise with the Contracts Team to arrange for you to have access to the license key system.
- The Contracts Team will grant you access to the license key system, and let your Accounts Executive know when this is done. Your Account Executive will then let you know when you have access to the license key system.

Getting License Keys from the License Key System

Prerequisites

Ensure you have access to the license key system before attempting to get the license keys.

Procedure

1. Log in to <https://launchpad.support.sap.com/#/licensekey>.
2. Click the + button. The *Add New System* window displays.
3. In the *Add New System* window, enter the following values:


Table 18:

Field	Value
<i>Product</i>	<i>SAP 3D Visual Enterprise Generator</i>
<i>Version</i>	<i>SAP 3D Visual Enterprise Generator 9.0</i>

Once you have entered these values, additional fields will display in the *Add New Systems* window.

4. Enter the following values:

Table 19:

Field	Value
<i>System ID</i>	VEG  Caution You must enter VEG in this field. Failing to do so results in an unusable license.
<i>System Name</i>	<your choice of name for the system>
<i>System Type</i>	<i>Productive System</i>

5. Click *Continue*. The license key will navigate to the *Details* tab.
6. Click the + button under the *License Keys* section. The *Create License Key Request* window will display.
7. Enter the following values in the *Create License Key Request* window:

Table 20:

Field	Value
<i>License Type</i>	<i>Visual Enterprise Generator</i>
<i>Hardware Key</i>	The hardware key can be found in the Visual Enterprise Generator Configurator application, either on the <i>Licensing</i> tab, or in the <i>Configure Licensing</i> page of the configuration wizard.
<i>Quantity</i> (of CPUs)	The number of CPUs for which the license should be entitled
<i>Valid until</i>	The license key expiry date

8. Click *Add*. The license key details will display under the *License Keys* section.

9. Click [Generate](#) to generate the license key.

3.3 Configuring Microsoft Windows Server

The following sections describe how to install required Microsoft Windows Server Components.

Specific steps are provided for the operating system (in this case Microsoft Windows Server 2008 R2) or component. For more information, see the table in the [Preparation](#) section of this Guide.

Prerequisites

You have installed Microsoft Windows Server and all the applicable service packs and updates.

Procedure

Creating and Configuring the SAP 3D Visual Enterprise Generator Network Share

Create a network shared directory <share> that SAP 3D Visual Enterprise Generator can use for file sharing (in a farm environment) and a processing cache. Give full access to this share for the <VEGServiceUser> and any other Windows users that may be required to make configuration changes to SAP 3D Visual Enterprise Generator.

1. Create a directory anywhere on your local file system by right clicking on the directory in Microsoft Windows Explorer and choosing **► Properties ► Sharing ► Share**.
2. Give full control over the share to <VEGServiceUser> account and Microsoft Windows account that is configuring SAP 3D Visual Enterprise Generator.
3. Give write access to the share to any additional users that might be authoring SAP 3D Visual Enterprise Generator processes or modifying the configuration.

i Note

The <share> is used to store working folders while processing, and in default configuration all working data is deleted once processing job has completed.

Creating and Configuring SAP 3D Visual Enterprise Generator Service User

The core component of SAP 3D Visual Enterprise Generator is a Windows service application. To allow this service to run when no other user is logged in to the machine hosting SAP 3D Visual Enterprise Generator and to enable network file transfers and other communication while running, create a Windows User specifically for the server. Depending on your desired system landscape this user may need to be a domain user account. However, the demands of your chosen system landscapes may only require this user to be a local machine user.

Once you have created the <VEGServiceUser> account, configure this account with the following settings (as a minimum):

- The ability to write to the Microsoft Windows Event log
- If you want to configure SAP 3D Visual Enterprise Generator to send e-mails, the ability to connect to an SMTP server (port 25)
- Use the same account for all servers if running an SAP 3D Visual Enterprise Generator farm configuration
- The `Logon as a Service` and `Logon as Batch` rights granted through Security Policy for all computers on which SAP 3D Visual Enterprise Generator engines run

Installing and Configuring IIS

IIS is supplied with the Microsoft Windows Server family of operating systems and is a critical component of SAP 3D Visual Enterprise Generator. Client applications communicate with SAP 3D Visual Enterprise Generator using web services hosted by IIS.

Note

There are multiple versions of IIS, depending on which operating system you are using. Each version has different installation options and features. For more information, see the Microsoft IIS documentation at <http://www.iis.net/ConfigReference>.

1. Open the Control Panel and choose **Programs and Features > Turn Windows Features on or off**. The Server Manager is displayed listing the currently installed roles and features.
2. Choose **Roles > Add Roles**. The *Add Roles Wizard* opens.
3. Choose *Next* and *Check the Application Server* checkbox. The *Required Features* screen is displayed, choose *Add Required Features*.
4. Check the *Web Server (IIS)* checkbox.

Caution

Windows Server 2012 has different default settings for Web Server (IIS) to Windows Server 2008 R2. When configuring IIS in Windows Server 2012, ensure that in the **Add Roles and Features Wizard > Roles > Web Server (IIS) > Web Server > Application Development** you select all the *.NET Extensibility* and *ASP.NET* options and explore the feature tree for Web Server node to ensure that all of the features specified in this section are installed. For more information and functional equivalents, see the Microsoft documentation at <http://go.microsoft.com/fwlink/?LinkID=216771>.

5. Choose *Next*. The Introduction to *Application Server* screen is displayed.
6. Choose *Next*. The *Select Role Services* screen for Application Server is displayed.
7. Select from the list to install the following features:
 - .NET Framework 4.6
 - Web Server (IIS) Support. (The Add role services and features required for Web Server (IIS) Support dialog is displayed. Choose to Add Required Role Services)
 - COM (+) Network Access
 - Distributed Transactions
 - Incoming Remote Transactions
 - Outgoing Remote Transactions
 - WS-Atomic Transactions

Note

Application Server requires Message Queuing. To support SSL, you require `WS_Atomic Transactions`.

Some versions of Windows server may display a hierarchy of checkboxes for the Web Server (IIS) required components instead of the *Add Required Role Services* window. If presented with this alternative, ensure that the features stated above are configured.

8. Choose *Next*. The *Server Authentication Certificate* screen is displayed.
9. Select the option that is best for your environment.

➔ Recommendation

We recommend that you create a self-signed certificate for testing locally. You can then choose an existing certificate at a later time.

10. Choose *Next*. The *Introduction to Web Server (IIS)* is displayed.
11. Choose *Next*. The *Select Role Services* screen for Web Server (IIS) is displayed.
12. Confirm that the following role services are flagged for installation:
 - Common HTTP Features (Install all unless local policy prohibits)
 - HTTP Redirection (required)
 - WebDAV Publishing (optional)
 - Application Development (Install all unless local policy prohibits)
 - ASP (optional)
 - CGI (optional)
 - Server Side Includes (optional)
 - Health and Diagnostics (Install all unless local policy prohibits)
 - Custom Logging (optional)
 - ODBC Logging (optional)
 - Security (Install all unless local policy prohibits)
 - Basic Authentication (Required)
 - Performance (optional)
 - Web Server
 - Management Tools (Install all unless local policy prohibits)
 - IIS Management Compatibility (optional)
 - FTP Server (optional)
 - IIS Hostable Web Core (optional)
13. Choose *Next* and then choose *Install* to confirm the components that you want to install. The selected components are installed and the *Installation Progress* screen is displayed.
14. Choose *Close* when the installation is complete.

Installing and Configuring IIS for Windows Server 2016

1. Start the Server Manager and choose *Adds Role and Features*. The Server Manager is displayed listing the currently installed roles and features.
2. Choose **Role based or feature-based installation** as the *Installation Type*.
3. Select the current Windows Server from *Server Pool*.
4. Check the *Web Server (IIS)* checkbox, and choose **Add Feature** to add accompanying features.
5. Choose *Next*. The *Select Features* screen is displayed.
6. Select from the list to install the following features:
 - .NET Framework 4.6 (include all subfeatures)
 - Message Queuing

7. Choose *Next*. The *Select Role Services* screen is displayed.
8. Confirm that the following role services are flagged for installation:
 - Common HTTP Features
 - Default Document
 - Directory Browsing
 - HTTP Errors
 - Static Content
 - Health and Diagnostics
 - HTTP Logging
 - Performance
 - Static Content Compression
 - Security
 - Request Filtering
 - Basic Authentication
 - Client Certificate Mapping Authentication
 - Windows Authentication
 - Application Development
 - Management Tools
 - IIS Management Console
9. Choose *Next* and then choose *Install* to confirm the components that you want to install. The selected components are installed and the *Installation Progress* screen is displayed.
10. Choose *Close* when the installation is complete.

Installing and Configuring MSMQ

MSMQ is supplied with the Microsoft Windows Server family of operating systems and is a critical component of SAP 3D Visual Enterprise Generator: MSMQ passes instructions to SAP 3D Visual Enterprise Generator to begin processing files.

i Note

There are multiple versions of MSMQ, depending on which operating system you are using. Each version has different installation options and features. For more information, see the Microsoft MSMQ documentation at <http://msdn.microsoft.com/en-us/library/ms711472%28v=VS.85%29.aspx> .

For message queues to be created correctly, the name of each computer running SAP 3D Visual Enterprise Generator must be 15 characters or less.

1. Open the *Control Panel* and choose ► *Programs* ► *Programs and Features* ► *Turn Windows Features on or off* ►. The Server Manager is displayed listing the currently installed roles and features.
2. Choose ► *Features* ► *Add Features* ►. The *Add Features Wizard* is displayed.
3. Expand ► *Message Queuing* ► *Message Queuing Services* ► checkbox nodes.
4. Select the *Message Queuing Server* checkbox for installation, and select to install the required features when prompted.

i Note

Disregard any checkboxes relating to applications that are already installed.

5. Choose *Next*. The confirm installation selections screen is displayed.
6. Choose *Install*. The system installs the selected components.

i Note

Microsoft Windows may prompt you to provide the installation CD to complete this part of the MSMQ installation depending on your Windows installation configuration. Follow the instructions on the screen if this occurs.

7. Choose *Close*.

Installing and Verifying Microsoft .NET Framework 4.6

Microsoft .NET Framework 4.6 should already be installed on your system. However, depending on the installation sequence and version of Windows Server you are using, key components of the .NET Framework may not be configured correctly.

Verify that Microsoft .NET Framework 4.6 is installed on the SAP 3D Visual Enterprise Generator server as follows:

1. Navigate to `%windir%\Microsoft.NET\`.
2. Expand the `Framework64` directory if it exists.
3. Look for a folder named `v4.0.30319`. If the folder exists, the .NET Framework 4.6 is installed on your server. If this folder does not exist, obtain and run the .NET Framework 4.6 Installer from <http://www.asp.net>.

Configure Web Server (IIS) .NET Framework 4.6 components as follows:

1. Navigate to **Control Panel** > **Administrative Tools** > **Internet Information Services (IIS) Manager**.
2. Select the **Root Node (Server Node)** on the **Connections** panel. The **Server Home** pane opens in the center panel of the Microsoft Management Console.
3. In the **IIS** section, double-click the **ISAPI and CGI Restrictions** icon. A list of ISAPI and CGI components is displayed.
4. Verify that at least one item named **ASP.NET v4.0.30319** is present and ensure that all items with this name are allowed.
5. If the ASP.NET 4 component is not visible in the list, do the following:
 1. Open a command prompt (Run as Administrator).
 2. Navigate to `%windir%\Microsoft.NET\Framework64\v4.0.30319`.
 3. Run `aspnet_regiis -i`.
 4. When `aspnet_regiis` reports that it has finished, execute `iisreset` or restart IIS from the Internet Information Services (IIS) Manager.
6. Repeat steps 2 to 4 if required, to configure all ASP.NET components.

3.4 Installing Microsoft SQL Server 2008 R2

➔ Remember

SQL Server is required only if you are configuring using **Standalone Mode**.

This section provides a detailed example of preparing the SAP 3D Visual Enterprise Generator Database Server with the following:

- Microsoft Windows Server 2008 R2 x64
- Microsoft SQL Server 2008 Web, Standard or Enterprise Edition R2 x64
- No Failover cluster
- Microsoft SQL Server 2008 workstation components
- English language

For more information, see How to: Installing SQL Server 2008 R2 (Setup) at <http://msdn.microsoft.com/en-us/library/ms143219.aspx> .

Prerequisites

- You have reviewed the Microsoft SQL Server 2008 R2 product documentation and the Planning a SQL Server Installation guide at <http://msdn.microsoft.com/en-us/library/bb500442.aspx> .
- You have installed the required software for Microsoft SQL Server 2008 R2. For more information, see <http://msdn.microsoft.com/en-us/library/ms143506.aspx> .

Procedure

Installing Microsoft SQL Server 2008 R2

i Note

Installation differences may be encountered, depending on the current operating system.

1. Log on the physical database server as a user who is a member of the local Administrators group.
2. Obtain the Microsoft SQL Server installer from Microsoft.
3. Choose `setup.exe` to start the SQL Server database software installation.
4. Choose the *Installation* link in the left screen of the SQL Server Installation Center.
5. Choose *New SQL Server* standalone installation or add features to an existing installation.
6. On the *Product Key* screen, enter the license key and choose *Next*.
7. On the *License Terms* screen, accept the Microsoft software license terms and choose *Next*.
8. On the *Setup Support Files* screen, choose *Install*.
9. If there are no failed operations or warnings, choose *Next*. Otherwise, first check the warnings on the *Setup Support Rules* screen.
10. On the *Setup Role* screen, select the *SQL Server Feature Installation* and choose *Next*.
11. On the *Feature Selection* screen, select *Database Engine Services and Management Tools – Complete*.

i Note

Modify the Shared Feature directories if required.

12. Choose *Next*. The *Installation Rules* screen displays and automatically runs diagnostics. If there are no failed items, choose *Next*.

13. On the *Instance Configuration* screen, select the *Default* instance type and choose *Next*.
14. On the *Disk Space Requirements* screen, review the disk usage and choose *Next*.
15. On the *Server Configuration* screen, enter a domain account for the SQL Server Agent.

➔ Recommendation

Microsoft recommends the use of a domain account that is not a Windows administrator for the SQL Server services.

16. Ensure that all the service startup types are set to *Automatic*.
17. Choose the *Collation* tab page to verify the default Microsoft SQL Server collation setting.
18. Ensure that the case-insensitive collation setting is selected.

⚠ Caution

The default collation setting is determined by the Regional and Language Options of the server. Ensure that SAP 3D Visual Enterprise Generator uses the same collation setting.

19. Choose *Next*.
20. On the *Database Engine Configuration* screen, select *Mixed Mode (SQL Server authentication and Windows Authentication) Authentication Mode* option on the *Account Provisioning* tab page.
21. Enter a password for the SQL Server Systems Administrator account.

i Note

Ensure the password is strong enough to pass the SQL Server authentication. You will need this password for the installation and administration of the SQL Server instance.

22. Do one of the following:
 - Choose *Add Current User* to add the current user to the account as an administrator.
 - Choose *Add* to add a different Windows account as an administrator, and then choose *OK*.

i Note

This account will also have Systems Administrator privilege on the SQL Server instance.

23. Choose the *Data Directories* tab page and verify the database file locations.
24. Choose *Next*. The *Error Reporting* screen is displayed. Choose the error reporting option appropriate to your organization.
25. Choose *Next*. The *Installation Configuration Rules* screen is displayed and automatically run diagnostic tests. Ensure that the all installation rules have passed.
26. Choose *Next* and verify the components to be installed.
27. On the *Ready to Install* screen, choose *Install* and wait for the setup process to complete. The *Installation Progress* screen is displayed showing the installed components.
28. On the *Complete* screen, choose *Close* to finish the installation.
29. Choose **▶ Control Panel ▶ Administrative Tools ▶ Services ▶** and verify that the SQL Server Services are running.

Enabling Remote Connections for Microsoft SQL Server 2008 R2

SAP 3D Visual Enterprise Generator can be configured to access a Microsoft SQL Server instance that is on a remote machine; however, Microsoft SQL Server does not allow remote connections by default. If you try to

connect to Microsoft SQL Server from a remote computer which has not been manually enabled for remote connections, you may receive an error.

Enabling remote connections for remote servers is a three-stage process consisting of the following steps:

1. Enable remote connections on each instance of Microsoft SQL Server to which you want to connect from a remote computer.
2. Ensure the Microsoft SQL Server Browser service is running.

i Note

The service should have been enabled during the Microsoft SQL Server 2008 R2 installation.

3. Configure the firewall to allow network traffic that is related to Microsoft SQL Server and to the SQL Server Browser service.

Enabling Remote Access

1. Choose **All Programs > Microsoft SQL Server 2008 > SQL Server Management Studio** on the Start menu. The Microsoft SQL Server Management Studio is displayed.
2. Log onto the server using authentication option you require (Windows Authentication or SQL Server Authentication), and choose **Connect**.
3. Right-click the **Database Engine** node (this is the root node of the tree) and choose **Facets**. The **View Facets** screen is displayed.
4. On the **View Facets** screen, select the **Server Configuration** option from the **Facet** drop-down list.
5. Navigate to the **RemoteAccessEnabled** facet property and ensure it is set to **True**.
6. Choose **OK** to save your changes.

Checking the SQL Server Browse Service (Optional)

1. In the Windows Start menu, choose **All Programs > Microsoft SQL Server 2008 > Configuration Tools > SQL Server Configuration Manager**. The SQL Server Configuration Manager is displayed.
2. Select the **SQL Server Services** node and ensure that the browser service is running.
3. Close the SQL Server Configuration Manager.

Creating Firewall Exceptions for SQL Server

If you are running a firewall on the computer with Microsoft SQL Server 2008 R2 or 2012 R2, external connections to Microsoft SQL Server are blocked unless Microsoft SQL Server and the SQL Server Browser service can communicate through the firewall. To ensure that communication through the firewall is possible, you must create an exception for each instance of Microsoft SQL Server that you want to accept remote connections. You must also create an exception for the SQL Server Browser service.

The procedures differ depending on the current operating system and the installed version of Microsoft SQL Server. See your system's documentation if you are using a different firewall setup.

SQL Server uses an instance ID to form part of the path when you install its program files. You must identify the correct ID when creating an exception for each instance of SQL Server; described in the following procedure.

The subsections describe how to create a firewall exception for the different system configurations.

Finding the SQL Server Instance ID

1. In the Windows Start menu, choose **All Programs** and choose **Microsoft SQL Server 2008**.
2. Choose **Configuration Tools > SQL Server Configuration Manager**. The SQL Server Configuration Manager is displayed.

3. Select the *SQL Server Services* node, right-click the instance of SQL Server you require, and choose *Properties*. The *SQL Server Properties* screen is displayed.
4. On the *SQL Server Properties* screen, choose the *Advanced* tab page, locate the instance ID in the list, make a note of the name, and then choose *OK*.
5. Repeat the above steps for each instance of SQL Server.
6. Configure SQL Server Browser Service (optional):
 1. Right-click *SQL Server Browser* in the right pane, and choose *Properties*.
 2. On the *SQL Server Browser Properties* screen, choose the *Advanced* tab, locate the dump directory, make a note of the path, and then choose *OK*.
7. Close all property dialogs and the *SQL Server Configuration Connection* screen.
8. Continue at *Enabling Firewall Exceptions for SQL Server 2008 R2*.

Creating Firewall Exceptions for SQL Server 2008 R2

This section describes the procedure for creating an exception for each instance of SQL Server 2008 for which you want to accept remote connections. It also describes the procedures for creating an exception for the SQL Server Browser service.

Note

These procedures apply to Windows Firewall for Windows Server 2008 R2. See your Microsoft Windows documentation if you are using a different system setup.

1. Ensure you have at hand the IDs for each instance of Microsoft SQL Server 2008 for which you want to accept remote connections.
2. In the Windows Start menu, choose **All Programs > Administrative Tools > Server Manager**. The Server Manager is displayed.
3. Expand the *Configuration* node, and then expand the Windows Firewall with *Advanced Security* node.
4. Select the *Inbound Rules* node, right-click the node, and then choose *New Rule*. On the *New Inbound Rule Wizard* screen, the *Rule Type* page is displayed.
5. Select the *Program* option and choose *Next*. The *Program* page is displayed.
6. On the *Program* page, navigate to the instance of SQL Server 2008 R2, for example, `C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\sqlservr.exe`.


Caution

The path may be different depending on where the SQL Server is installed. "MSSQL.1" is a placeholder for the instance ID that you obtained in the previous procedure.

7. Choose *Open* and then choose *Next*.
8. On the *Action* page, choose the *Allow the connection* option and choose *Next*.
9. On the *Profile* page, ensure that all profile types are selected and choose *Next*.
10. On the *Name* page, enter a meaningful name and a description for the exception, for example, **SQL Server 2008**.
11. Choose *Finish*. Check the new rule in the *Inbound Rules* panel.
12. Repeat the above steps for each instance of SQL Server 2008 R2 that requires an exception.
13. Create an exception for the SQL Server 2008 Browser service as described in the section below.

Creating Firewall Exception for the SQL Server 2008 Browser Service

Follow the steps in Enabling Firewall Exceptions for SQL Server 2008 R2 above to create a rule that points to the SQL Server Browser service. For example, `C:\Program Files\Microsoft SQL Server\90\Shared\sqlbrowser.exe`.

 **Caution**

The path may be different depending on where SQL Server is installed. For example, the path will be `C:\Program Files (x86)\Microsoft SQL Server\90\Shared\sqlbrowser.exe` for a 64-bit machine. "90" is a placeholder for the instance ID that you obtained in the previous procedure.

4 Installation

4.1 Installing SAP 3D Visual Enterprise Generator on a Master Computer

This section describes the process of installing SAP 3D Visual Enterprise Generator on a master computer. When installing SAP 3D Visual Enterprise Generator for the first time, it must first be installed on the master computer. If a master is not yet designated, SAP 3D Visual Enterprise Generator nominates the existing computer as the master. If a master has been designated, SAP 3D Visual Enterprise Generator adds the computer as a slave to the existing installed master server.

Prerequisites

- You have created the SAP 3D Visual Enterprise Generator <share> directory.

Note

When you install SAP 3D Visual Enterprise Generator on the master server for the first time, the master initializes the SAP 3D Visual Enterprise Generator shared directory.

- For performance reasons, you may want to consider turning virus scanning off for any SMTP scanning, the SAP 3D Visual Enterprise Generator share, and the folder where SAP 3D Visual Enterprise Generator files are installed (C:\Program Files\SAP\).

Caution

This action will result in a reduction in security.

Procedure

Installing SAP 3D Visual Enterprise Generator on a Master Computer

1. Close all applications and log on with administrative rights to the computer that will be used as the SAP 3D Visual Enterprise Generator computer.
2. Navigate to, and double-click the `SETUP.exe` file in Microsoft Windows Explorer.
3. Choose *Next* when the installer starts.
4. On the *Installer Section* screen, do one of the following:
 - Choose *Select All* to ensure that all features are installed on the local hard drive. This is the recommended option.

- Use the checkboxes to select the features to be installed.

i Note

The Core Server option installs the SAP 3D Visual Enterprise Generator Processing Engine and associated plug-ins, and also installs the SAP 3D Visual Enterprise Generator API.

The Administrative Tools option installs SAP 3D Visual Enterprise Generator Administration.

5. Choose *Next*. The installer location screen is displayed.
6. Do one of the following:
 - Accept the default location in which to install SAP 3D Visual Enterprise Generator.
 - Choose *Browse*, navigate to and select the installation folder you require, and then choose *OK*.
7. Choose *Next*. The installation begins automatically.
8. Choose *Close* when the installation is complete. The SAP 3D Visual Enterprise Generator Configuration Wizard is displayed.

4.2 Configuring SAP 3D Visual Enterprise Generator on a Master Computer

This section describes the process of configuring SAP 3D Visual Enterprise Generator on a master computer. The configuration workflow varies a great deal, depending on your setup, and each setup scenario displays different windows in the Wizard.

The process comprises:

- Configuring the shared directory and database
- Configuring the database and SAP 3D Visual Enterprise Generator engine password
- Configuring security and owner rights
- Configuring the SAP 3D Visual Enterprise Generator service account
- Configuring message queues and logging settings
- Configuring licensing settings
- Configuring file cache settings
- Configuring e-mail settings
- Completing registration and activation
- Choosing an automatic configuration

➔ Recommendation

Depending on the number of processors that comprise the master server, you can configure it to designate any of its own additional processors as processing engines. We recommend that the maximum number of processors to allocate as processing engines is $n-1$ where n is total number of processors on the master server.

Features

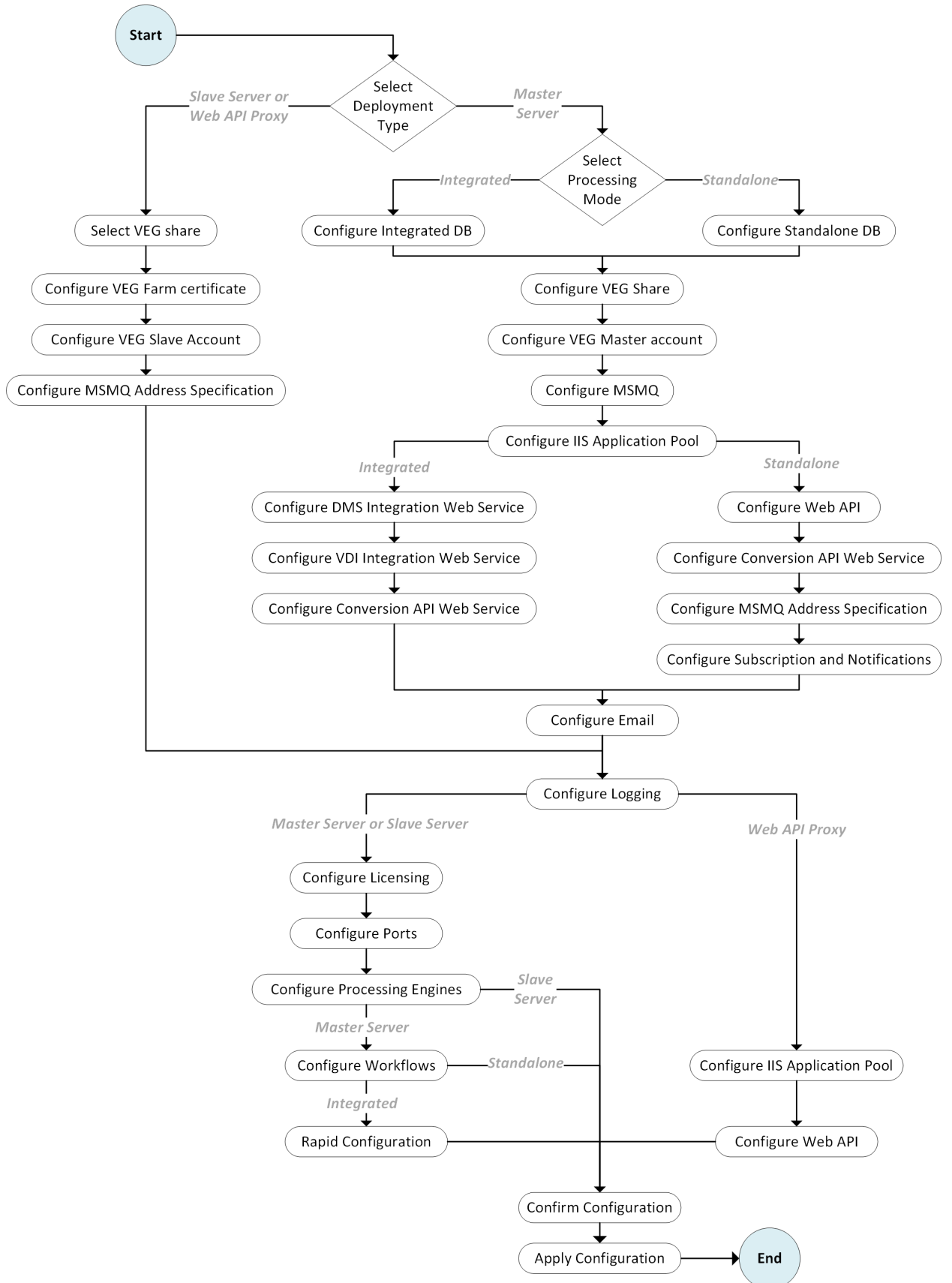


Figure 5: Configuration Workflow

Master Server Setup

When you are configuring a Master Server, the screens described in the following table will display:

Table 21:

Window	Description	Integrated	Standalone
Select Deployment Type	Indicates the deployment type is the following: <ul style="list-style-type: none"> • <i>Master Server</i>: The server is set up as a master of a SAP 3D Visual Enterprise Generator farm 		
Select Processing Mode	The processing mode is the following: <ul style="list-style-type: none"> • <i>Integrated</i>: Server is set up for integration SAP ERP systems • <i>Standalone</i>: Server is set up for standalone data processing 	The processing mode is <i>Integrated</i> : Server is set up for integration SAP ERP systems the following:	The processing mode is <i>Standalone</i> : Server is set up for standalone data processing
Configure database	Configures the database	Configure Integrated DB	Configure Standalone DB
Configure Share Directory	Sets the location of the share directory		
Configure VEG Master Account	Configures the SAP 3D Visual Enterprise Generator service user account		
Configure MSMQ	Configures the message queues		
Configure IIS Application Pool	Sets an application pool name for web services		
Configure Web Service	Selects the appropriate web site	The Integrated windows are as follows: <ul style="list-style-type: none"> • Configure DMS Integration Web Service: Creates a DMS integrated web service virtual directory • Configure VDI Integration Web Service: Creates a VDI integrated web service virtual directory 	The Standalone windows are as follows: <ul style="list-style-type: none"> • Configure Web API • Configure MSMQ Address Specification • Configure Subscriptions and Notifications
Configure E-Mail	Configures email settings		
Configure Logging	Configures settings for logging		

Window	Description	Integrated	Standalone
Configure Licensing	Configures the license settings		
Configure Caching	Configures file cache settings		
Configure Ports	Configures the port numbers for SAP 3D Visual Enterprise Generator		
Configure Processing Engines	Sets the number of engines processors required		
Select Processing Configuration	Runs rapid configuration for an integrated environment	Runs rapid configuration for an integrated environment	
Confirm Configuration	Commits the selected configuration		
Apply Configuration	Applies the selected configuration		

Additional Configuration

Additional configuration options are available from within SAP 3D Visual Enterprise Generator Administration. For example, if you selected to configure SAP 3D Visual Enterprise Generator manually, you can load the operations and processes that you need at a later time. You can also import PDF templates for use with publishing PDF documents, and you can configure SAP 3D Visual Enterprise Generator to authenticate with LDAP.

See the SAP 3D Visual Enterprise Generator application help for further information on manual configuration.

Continue at the section on [Activating Modules](#) if you have modules to activate, or continue at [Installing and Configuring Slave Computers](#) if you want to configure SAP 3D Visual Enterprise Generator to run in a farm configuration; otherwise continue at [Starting and Stopping SAP Visual Enterprise Generator](#).

4.2.1 Configuring Standalone Mode

Context

If you are configuring for a standalone setup, proceed as follows:

Procedure

1. Ensure that the *SAP 3D Visual Enterprise Generator Configuration Wizard* is displayed. Choose *Next*.
2. On the *Select SAP 3D Visual Enterprise Generator Deployment Type* screen, select your deployment type as **Master Server**. The server is set up as a master of a SAP 3D Visual Enterprise Generator farm. Choose *Next*.

3. On the *Select SAP 3D Visual Enterprise Generator Processing Mode* screen, select your processing mode as **Standalone**. The server is set up for standalone data processing. Choose *Next*.

4. **i Note**

Ensure that you use the same user name and password for every computer in the SAP 3D Visual Enterprise Generator farm where you plan to install SAP 3D Visual Enterprise Generator.

➔ **Tip**

Use the same passwords for both fields.

The wizard opens the *Configure Asset Database* screen. Enter a password for the Server user that SAP 3D Visual Enterprise Generator will use to communicate with the database, and a password for the default SAP 3D Visual Enterprise Generator Security Administrator account. Ensure that the password is strong enough to pass authentication and make a note of it for later use. Note that you may choose a different database file placement strategy for performance reasons. We recommend that you significantly increase the size of the Data file Initial size and automatically extend the database by options. The initial size value should be large enough to allow enough space for at least one year's expected data volume.

5. Enter the name of the SQL Server (and Instance ID if applicable) you intend to use or choose the *Browse* button to navigate to a server and instance on your network. If you are using an SQL Server that is on a different machine than the one that will host the SAP 3D Visual Enterprise Generator service then you will need to make sure that the firewall settings and remote administration are configured on the SQL Server machine. For information about how to set this up, refer to the *Installing SQL Server* sections of the preparation part of this guide. The selected database must have mixed (Windows on SQL Server) authentication turned on. For further details, see the Microsoft-provided online information for SQL Server and *Authentication, Mixed Mode*.
6. Choose **OK** to display the *Select Security Options* screen.
7. On the *Select Security Options* screen, select the security and owner rights options you require, and then choose **OK**. Select the *Security Administrator is Project Administrator* option, if you are installing SAP 3D Visual Enterprise Generator in a large organization; for a small business, select the *Separate Security and Project Administrators* option.
8. On the *Configure Share Directory* screen, navigate to, and select the location of the SAP 3D Visual Enterprise Generator <share> directory. Note that the location uses the UNC naming convention. In an upgrade scenario you will be using an existing <share> at this point. SAP 3D Visual Enterprise Generator automatically scans the <share> directory you enter to see whether it has already been initialized. If the share has not been initialized, you will see a message in the validation results text box stating `Uninitialized shared directory. farm.config does not exist in share`. This validation message is normal for a new installation.
9. **i Note**

In an upgrade scenario you will be using an existing <share> at this point. SAP 3D Visual Enterprise Generator automatically scans the <share> directory you enter to see whether it has already been initialized. If the share has not been initialized, you will see a message in the validation results text box stating `Uninitialized shared directory. farm.config does not exist in share`. This validation message is normal for a new installation.

Choose *Next*. When prompted to initialize the share as a SAP 3D Visual Enterprise Generator shared directory, choose *Yes*. An initializing share progress pop-up is displayed. When this completes, the wizard opens the *Configure the SAP 3D Visual Enterprise Generator Service Account* screen.

10. Enter the user account and password that you created during the preparation phase for SAP 3D Visual Enterprise Generator to use as its service account (this is the same account that was given Read/Write access to the <share> directory). Ensure that you use the same user name and password for every computer in the SAP 3D Visual Enterprise Generator farm where you plan to install SAP 3D Visual Enterprise Generator. Choose *Next*. The *Changing Service* account pop-up displays progress. When this completes, the wizard opens the *Configure Message Queues* screen.

11. ➔ **Recommendation**

We recommend that you use the default message queue settings.

The *Configure Message Queues* screen is used to configure the names and locations of the primary default message queues. These are the following:

Message Queue	Functional Description
<i>Incoming Queue</i>	Used by the SAP 3D Visual Enterprise Generator middle tier to add a processing task to the internal processing queue
<i>Engine Queue</i>	A mechanism by which the Processing Engine controller notifies engines of processing tasks to execute. All farm servers monitor this queue for work that is required to be performed
<i>Response Queue</i>	A mechanism by which a slave computer notifies the controller of the status or outcome of a task that it was assigned to execute
<i>Job Manager Queue</i>	A mechanism by which the SAP 3D Visual Enterprise Generator service communicates with the Job Manager

12. Choose *Next*, and if you are prompted to create the message queues, choose *Yes*.

13. **i Note**

You must have read and write access to the file system directory being mapped to the API virtual directory.

On the *Configure IIS Application Pool* screen, enter the Web application pool name, <VEGServiceUser> username and password to create or configure the IIS application pool that will be used by the SAP 3D Visual Enterprise Generator Integration API. Choose *Next*.

14. The *Configure Web API Virtual Directory* screen is displayed. Choose *Next* to accept the default settings, noting that the username must have the privilege set for *Logon as a Batch*. If your Web server does not have SSL certificate installed, do not accept the default settings; instead deselect the *Require SSL* check box to use HTTP instead of HTTPS.
15. The *Configure Conversion API Virtual Directory* screen is displayed. Select the appropriate web site and ensure that the *Require SSL* check box is checked. Choose *Next*.
16. On the *Configure Message Queues Address Specification* screen, accept the specific communication settings for the configured MSMQ: database, connection method, workspace to be used, and Incoming Message queue. If needed, change default network protocol to use for MSMQ. Choose *Next* to test connection to workspace and MSMQ.
17. If you plan to use subscriptions and notifications, select the *Configure Subscriptions and Notifications* check box.
18. Choose *Next*. The *Configure E-Mail Settings* screen is displayed. Enter the e-mail account, to which you want SAP 3D Visual Enterprise Generator to send e-mail notifications, and the fully-qualified hostname of the SMTP server from which you want SAP 3D Visual Enterprise Generator to send e-mail notifications.

19. The *Configure Logging* screen is displayed. You must configure SAP 3D Visual Enterprise Generator with a certain level of logging to ensure that administrative messages (warnings, errors, general information, and debug messages) are saved. Choose one of the following options:

Option	Functional Description
<i>Trace</i>	Logs errors, warning and informational messages and to create additional detailed log file used for diagnostic purposes
<i>Errors, Warnings and Information</i>	Logs errors, warnings and informational messages
<i>Errors and warnings</i>	Logs errors and warnings
<i>Errors only</i>	Logs only errors

20. Choose *Next* to display the *Configure Licensing* screen. Choose one of the following to register and activate SAP 3D Visual Enterprise Generator:

Option	Functional Description
<i>Import License</i>	If you already have a license file, choose <i>Import License</i> button, navigate to and select the file, and then choose Open. SAP 3D Visual Enterprise Generator is activated.
<i>Create 90 Day Temporary License</i>	If you have not yet requested your permanent license, choose the <i>Create 90 Day Temporary License</i> button to generate a 90 day license for SAP 3D Visual Enterprise Generator. This temporary license allows 90 days in which to arrange a permanent license.

Once you have imported a license file or generated a temporary license, the *Active license details* field will display information regarding the selected license.

21. Choose *Next* to display the *Configure Caching* screen. Tick the checkbox and enter your caching information if you wish to use file caching.
22. Choose *Next* to display the *Configure Ports* screen. The port numbers default to the following values:

Field	Functional Description
<i>Lock Manager Port</i>	Used by internal SAP 3D Visual Enterprise Generator components when communicating with the lock manager component. The default value for <i>Lock Manager Port</i> is 8099.
<i>Slave Port</i>	Used by the master server when communicating with slave servers. The default value for <i>Slave Port</i> is 8087.
<i>Master Port</i>	Used by slave servers when communicating with the master server. The default value for <i>Master Port</i> is 8086.
<i>Legacy Administration Port</i>	Used by the legacy SAP 3D Visual Enterprise Generator administration application when communicating with the master server (deprecated). The default value for <i>Legacy Administration Port</i> is 8085.
<i>Administration Port</i>	Used by the SAP 3D Visual Enterprise Generator administration application when communicating with the master server. The default value for <i>Administration Port</i> is 8091.
<i>File Transfer Port</i>	Used by the SAP 3D Visual Enterprise Generator administration application when transferring files to and from the master server. The default value for <i>File Transfer Port</i> is 8090.

You can leave the port settings to use the default values. If you need to change the port numbers, ensure that the port numbers are between 1024 and 49151 (inclusive), and that each port does not have the same value as the other ports listed on this [Configure Ports](#) screen.

23. Choose [Next](#) to display the [Configure Processing Engines](#) screen. Set the required number of engine processors and choose [Next](#).

24. On the [Select Processing Configuration](#) screen, choose one of the following to select a configuration type:

Configuration Type	Functional Description
Standard	Automatically configures SAP 3D Visual Enterprise Generator to allow basic asset and assembly workflow processing, building of secondary derivatives during workflow processing, and building derivatives from a collection
Conversion Server	Configures SAP 3D Visual Enterprise Generator with the default conversion server configuration and allows workflow processing when SAP 3D Visual Enterprise Generator is used with a PLM system
Manual	Configures the system manually at a later time

When you select [Standard](#), SAP 3D Visual Enterprise Generator is connected and ready to run basic asset and assembly workflows.

25. Having selected a configuration type, choose [Commit](#). The [Configuration Complete](#) appears. When complete, the [Finish](#) button will be enabled. Choose [Finish](#) to exit the configuration wizard. The [SAP 3D Visual Enterprise Generator Configuration](#) screen is displayed.

Next Steps

To complete your installation, proceed as follows:

1. Open the [Configurator](#) screen if it is not displayed already.
2. Ensure that the [SAP 3D Visual Enterprise Generator Service](#) field on the [General](#) tab shows the [Started](#) status. Choose [Start](#) if the service has not started automatically. The SAP 3D Visual Enterprise Generator Processing Engine is started.
3. To export the farm certificate, click the [Farm Certificate](#) tab on the [SAP 3D Visual Enterprise Generator Configurator](#) screen and choose [Export Farm Certificate](#). Specify the folder path and file name, specify a password for the certificate file, and choose [OK](#).
4. Copy the file and store it in a safe folder.

Caution

It is extremely important to keep the file in a safe location, and to remember the password. If this service password is lost, or any other user has to be given rights to configure SAP 3D Visual Enterprise Generator at a later time, the certificate must be imported into that user account. If you do not have a backed up certificate in this scenario, SAP 3D Visual Enterprise Generator must be totally re-configured. See "Importing Farm Certificate" in the SAP 3D Visual Enterprise Generator Application Operations Guide for details on how to import a certificate.

- Choose *OK* to close the screen. The configuration is completed and you can now begin to use SAP 3D Visual Enterprise Generator.

4.2.2 Configuring Integrated Mode

Context

As a part of the configuration process for integrated mode, you can rapidly configure the workflows relating to DMS and VDI integration. The relevant workflows are: “Convert Assembly CAD” for DMS Integration, and “Visual Data Integration (VDI)” for VDI Integration.

Rapid Configuration

If you opt for rapid configuration, you are presented with an additional four screens in the configurator to assist you in setting your workflow options. The screens are the following:

Table 22: Rapid Configuration Screens

Screen	Functional Description
<i>Configure SAP System Connections</i>	Sets your SAP system connection for integration. SAP system connections are used by the VDI integration workflows to connect to the SAP ERP system.
<i>Configure SAP System Users</i>	Sets your SAP system users for integration. SAP system users are used by the DMS and VDI integration workflows to connect to the SAP ERP system.
<i>VDI Integration Workflow Settings</i>	Establishes your settings for using the VDI Integration workflow. These settings are used by this workflow to connect to SAP ERP systems, and also for storing data in DMS.
<i>DMS Integration Workflow Settings</i>	Establishes your settings for building default viewables in the Convert Assembly CAD workflow.

If you are configuring for an integrated setup, proceed as follows:

Procedure

- Ensure that the *SAP 3D Visual Enterprise Generator Configuration Wizard* is displayed. Choose *Next*.
- On the *Select SAP 3D Visual Enterprise Generator Deployment Type* screen, select your deployment type as **Master Server**. The server is set up as a master of a SAP 3D Visual Enterprise Generator farm. Choose *Next*.
- On the *Select SAP 3D Visual Enterprise Generator Processing Mode* screen, select your processing mode as **Integrated**. The server is set up for integrated data processing. Choose *Next*.

4. **i** Note

Ensure that you use the same user name and password for every computer in the SAP 3D Visual Enterprise Generator farm.

➔ Tip

Use the same passwords for both fields.

The wizard opens the *Configure Processing Configuration Database* screen. Enter a password for the server user that SAP 3D Visual Enterprise Generator uses to communicate with the database, and a password for the default SAP 3D Visual Enterprise Generator Security Administrator account. Ensure that the password is strong enough to pass authentication and make a note of it for later use. You use it in the VEG Admin application as a password for the **SecurityAdministrator** user. Note that you may choose a different database file placement strategy for performance reasons. We recommend that you significantly increase the size of the Data file Initial size and automatically extend the database by options. The initial size value should be large enough to allow enough space for the expected data volume for at least one year .

5. On the *Configure Share Directory* screen, navigate to, and select the location of the SAP 3D Visual Enterprise Generator <share> directory. Note that the location uses the UNC naming convention.

6. **i** Note

In an upgrade scenario, you are using an existing <share> at this point. SAP 3D Visual Enterprise Generator automatically scans the <share> directory you enter to see whether it has already been initialized. If the share has not been initialized, you see a message in the validation results text box stating `Uninitialized shared directory. farm.config does not exist in share`. This validation message is normal for a new installation.

Choose *Next*. When prompted to initialize the share as an SAP 3D Visual Enterprise Generator shared directory, choose *Yes*. An initializing share progress window is displayed. When completed, the wizard opens the *Configure the SAP 3D Visual Enterprise Generator Service Account* screen.

7. Enter the user account and password that you created during the preparation phase for SAP 3D Visual Enterprise Generator to use as its service account (the same account that was given Read and Write access to the <share> directory). Ensure that you use the same user name and password for every computer in the SAP 3D Visual Enterprise Generator farm where you plan to install SAP 3D Visual Enterprise Generator. Choose *Next*. The *Changing Service* account window displays progress. When completed, the wizard opens the *Configure Message Queues* screen.

8. ➔ Recommendation

We recommend that you use the default message queue settings.

The *Configure Message Queues* screen is used to configure the names and locations of the primary default message queues as follows:

Message Queue	Functional Description
<i>Incoming Queue</i>	Used by the SAP 3D Visual Enterprise Generator middle tier to add a processing task to the internal processing queue

Message Queue	Functional Description
<i>Engine Queue</i>	A mechanism by which the Processing Engine controller notifies engines of processing tasks to execute. All farm servers monitor this queue for work that is required to be performed
<i>Response Queue</i>	A mechanism by which a slave computer notifies the controller of the status or outcome of a task that it was assigned to execute
<i>Job Manager Queue</i>	A mechanism by which the SAP 3D Visual Enterprise Generator service communicates with the Job Manager

9. Choose *Next*, and if you are prompted to create the message queues, choose *Yes*.

10. **i Note**

You must have read and write access to the file system directory being mapped to the API virtual directory.

In the *Configure IIS Application Pool* screen, enter the Web application pool name, <VEGServiceUser> username, and password to create or configure the IIS application pool that is used by the SAP 3D Visual Enterprise Generator Integration API. Choose *Next*.

11. The *Configure DMS Integrated Web Service Virtual Directory* screen is displayed. Choose the appropriate Web site and ensure that the *Require SSL* checkbox is checked. Note that to use SSL, you must have a Web site SSL certificate installed. Choose *Next*.
12. The *Configure VDI Integrated Web Service Virtual Directory* screen is displayed. Choose the appropriate Web site and ensure that the *Require SSL* checkbox is checked. Note that to use SSL, you must have a Web site SSL certificate installed. Choose *Next*.
13. The *Configure Conversion API Virtual Directory* screen is displayed. Select the appropriate Web site and ensure that the *Require SSL* checkbox is checked.
14. Choose *Next*. The *Configure E-Mail Settings* screen is displayed. Enter the e-mail account to which you want SAP 3D Visual Enterprise Generator to send e-mail notifications, and the fully qualified hostname of the SMTP server from which you want SAP 3D Visual Enterprise Generator to send e-mail notifications. Choose *Next*.
15. The *Configure Logging* screen is displayed. Configure SAP 3D Visual Enterprise Generator with a certain level of logging to ensure that administrative messages (warnings, errors, general information, and debug messages) are saved. Choose one of the following options:

Option	Functional Description
<i>Trace</i>	Logs errors, warning, and informational messages and to create additional detailed log file used for diagnostic purposes
<i>Errors, Warnings and Information</i>	Logs errors, warnings, and informational messages
<i>Errors and warnings</i>	Logs errors and warnings
<i>Errors only</i>	Logs only errors

16. Choose *Next* to display the *Configure Licensing* screen. Choose one of the following to register and activate SAP 3D Visual Enterprise Generator:

Option	Functional Description
Import License	If you already have a license file, choose Import License button, navigate to and select the file, and then choose Open. SAP 3D Visual Enterprise Generator is activated.
Create 90 Day Temporary License	If you have not yet requested your permanent license, choose the Create 90 Day Temporary License button to generate a 90 day license for SAP 3D Visual Enterprise Generator. This temporary license allows 90 days in which to arrange a permanent license.

Once you have imported a license file or generated a temporary license, the [Active license details](#) field displays information regarding the selected license.

17. Choose [Next](#) to display the [Configure Caching](#) screen. Tick the checkbox and enter your caching information if you wish to use file caching.
18. Choose [Next](#) to display the [Configure Ports](#) screen. The port numbers have the following default values:

Field	Functional Description
Lock Manager Port	Used by internal SAP 3D Visual Enterprise Generator components when communicating with the lock manager component. The default value for Lock Manager Port is 8099.
Slave Port	Used by the master server when communicating with slave servers. The default value for Slave Port is 8087.
Master Port	Used by slave servers when communicating with the master server. The default value for Master Port is 8086.
Legacy Administration Port	Used by the legacy SAP 3D Visual Enterprise Generator administration application when communicating with the master server (deprecated). The default value for Legacy Administration Port is 8085.
Administration Port	Used by the SAP 3D Visual Enterprise Generator administration application when communicating with the master server. The default value for Administration Port is 8091.
File Transfer Port	Used by the SAP 3D Visual Enterprise Generator administration application when transferring files to and from the master server. The default value for File Transfer Port is 8090.

You can leave the port settings to use the default values. To change the port numbers, make sure that the port numbers are between 1024 and 49151 (inclusive), and that each port does not have the same value as the other ports listed on this [Configure Ports](#) screen.

19. Choose [Next](#) to display the [Configure Engine Processors](#) screen. Set the required number of engine processors and choose [Next](#).
20. On the [Select Processing Configuration](#) screen, choose one of the following to select a configuration type:

Configuration Type	Functional Description
Integrated	Automatically configures SAP 3D Visual Enterprise Generator workflows for DMS and VDI integrated workflows, based on the information provided in the substeps
Manual	Configures the system manually at a later time.

- a. On the *Configure SAP System Connections* screen, add your SAP system connection for integration and choose *Next*.
- b. On the *Configure SAP System Users* screen, add your SAP system users for integration and choose *Next*.
- c. On the *VDI Integration Workflow Settings* screen, enter your required *Storage Category*, *Instance ID*, and *Viewable Type*. To set additional options, choose *Non-SAP PLM Settings*, and make your required selections. Choose *Next*.
- d. On the *DMS Integration Workflow Settings* screen, enter your required *Viewable Type* and choose *Next*.

When you select *Integrated*, and complete the four rapid configuration substeps, SAP 3D Visual Enterprise Generator is connected and ready to run DMS and VDI integrated workflows.

21. Having selected a configuration type and performed the appropriate actions, choose *Commit*. The *Configuration Complete* appears. When complete, the *Finish* button is enabled. Choose *Finish* to exit the Configuration wizard. The *SAP 3D Visual Enterprise Generator Configurator* screen is displayed.

Next Steps

To complete your installation, proceed as follows:

1. Open the *Configurator* screen if it is not displayed already.
2. Ensure that the *SAP 3D Visual Enterprise Generator Service* field on the *General* tab shows the *Started* status. Choose *Start* if the service has not started automatically. The SAP 3D Visual Enterprise Generator Processing Engine is started.
3. To export the farm certificate, click the *Farm Certificate* tab on the *SAP 3D Visual Enterprise Generator Configurator* screen and choose *Export Farm Certificate*. Specify the folder path and file name, specify a password for the certificate file, and choose *OK*.
4. Copy the file and store it in a safe folder.

Caution

It is important to keep the file in a safe location, and to remember the password. If this service password is lost, or any other user has to be given rights to configure SAP 3D Visual Enterprise Generator at a later time, the certificate must be imported into that user account. If you do not have a backed up certificate in this scenario, SAP 3D Visual Enterprise Generator must be reconfigured. See “Importing Farm Certificate” in the SAP 3D Visual Enterprise Generator Application Operations Guide for details on how to import a certificate.

5. Choose *OK* to close the screen. The configuration is completed and you can now begin to use SAP 3D Visual Enterprise Generator.

4.2.3 Configuring Minimal Mode

Context

You can use a Minimal setup to set the server for generic conversion only.

If you are configuring for an integrated setup, proceed as follows:

Procedure

1. Ensure that the *SAP 3D Visual Enterprise Generator Configuration Wizard* is displayed. Choose *Next*.
2. On the *Select SAP 3D Visual Enterprise Generator Deployment Type* screen, select your deployment type as **Master Server**. The server is set up as a master of a SAP 3D Visual Enterprise Generator farm. Choose *Next*.
3. On the *Select SAP 3D Visual Enterprise Generator Processing Mode* screen, select your processing mode as **Minimal**. The server is set up for generic conversion processing only. Choose *Next*.

4. **i Note**

Ensure that you use the same user name and password for every computer in the SAP 3D Visual Enterprise Generator farm where you plan to install SAP 3D Visual Enterprise Generator.

➔ Tip

Use the same passwords for both fields.

The wizard opens the *Configure Processing Configuration Database* screen. Enter a password for the server user that SAP 3D Visual Enterprise Generator will use to communicate with the database, and a password for the default SAP 3D Visual Enterprise Generator Security Administrator account. Ensure that the password is strong enough to pass authentication and make a note of it for later use. Note that you may choose a different database file placement strategy for performance reasons. We recommend that you significantly increase the size of the Data file Initial size and automatically extend the database by options. The initial size value should be large enough to allow enough space for at least one year's expected data volume.

5. On the *Configure Share Directory* screen, navigate to, and select the location of the SAP 3D Visual Enterprise Generator <share> directory. Note that the location uses the UNC naming convention.

6. **i Note**

In an upgrade scenario you will be using an existing <share> at this point. SAP 3D Visual Enterprise Generator automatically scans the <share> directory you enter to see whether it has already been initialized. If the share has not been initialized, you will see a message in the validation results text box stating `Uninitialized shared directory. farm.config does not exist in share`. This validation message is normal for a new installation.

When prompted to initialize the share as a SAP 3D Visual Enterprise Generator shared directory, choose *Yes*. An initializing share progress pop-up is displayed. When this completes the wizard opens the *Configure the SAP 3D Visual Enterprise Generator Service Account* screen.

7. Enter the user account and password that you created during the preparation phase for SAP 3D Visual Enterprise Generator to use as its service account (this is the same account that was given Read/Write access to the <share> directory). Ensure that you use the same user name and password for every computer in the SAP 3D Visual Enterprise Generator farm where you plan to install SAP 3D Visual Enterprise Generator. Choose *Next*. The *Changing Service* account pop-up displays progress. When this completes, the wizard opens the *Configure Message Queues* screen.

8. ➔ **Recommendation**

We recommend that you use the default message queue settings.

The *Configure Message Queues* screen is used to configure the names and locations of the primary default message queues. These are the following:

Message Queue	Functional Description
<i>Incoming Queue</i>	Used by the SAP 3D Visual Enterprise Generator middle tier to add a processing task to the internal processing queue
<i>Engine Queue</i>	A mechanism by which the Processing Engine controller notifies engines of processing tasks to execute. All farm servers monitor this queue for work that is required to be performed
<i>Response Queue</i>	A mechanism by which a slave computer notifies the controller of the status or outcome of a task that it was assigned to execute
<i>Job Manager Queue</i>	A mechanism by which the SAP 3D Visual Enterprise Generator service communicates with the Job Manager

9. Choose *Next*, and if you are prompted to create the message queues, choose *Yes*.

10. **i Note**

You must have read and write access to the file system directory being mapped to the API virtual directory.

On the *Configure IIS Application Pool* screen, enter the Web application pool name, <VEGServiceUser> username and password to create or configure the IIS application pool that will be used by the SAP 3D Visual Enterprise Generator Integration API. Choose *Next*.

11. The *Configure Conversion API Virtual Directory* screen is displayed. Select the appropriate web site and ensure that the *Require SSL* check box is checked.
12. Choose *Next*. The *Configure E-Mail Settings* screen is displayed. Enter the e-mail account, to which you want SAP 3D Visual Enterprise Generator to send e-mail notifications, and the fully-qualified hostname of the SMTP server from which you want SAP 3D Visual Enterprise Generator to send e-mail notifications. Choose *Next*.
13. The *Configure Logging* screen is displayed. You must configure SAP 3D Visual Enterprise Generator with a certain level of logging to ensure that administrative messages (warnings, errors, general information, and debug messages) are saved. Choose one of the following options:

Option	Functional Description
Trace	Logs errors, warning and informational messages and to create additional detailed log file used for diagnostic purposes
Errors, Warnings and Information	Logs errors, warnings and informational messages
Errors and warnings	Logs errors and warnings
Errors only	Logs only errors

14. Choose [Next](#) to display the [Configure Licensing](#) screen. Choose one of the following to register and activate SAP 3D Visual Enterprise Generator:

Option	Functional Description
Import License	If you already have a license file, choose Import License button, navigate to and select the file, and then choose Open. SAP 3D Visual Enterprise Generator is activated.
Create 90 Day Temporary License	If you have not yet requested your permanent license, choose the Create 90 Day Temporary License button to generate a 90 day license for SAP 3D Visual Enterprise Generator. This temporary license allows 90 days in which to arrange a permanent license.

Once you have imported a license file or generated a temporary license, the [Active license details](#) field will display information regarding the selected license.

15. Choose [Next](#) to display the [Configure Caching](#) screen. Tick the checkbox and enter your caching information if you wish to use file caching.
16. Choose [Next](#) to display the [Configure Ports](#) screen. The port numbers default to the following values:

Field	Functional Description
Lock Manager Port	Used by internal SAP 3D Visual Enterprise Generator components when communicating with the lock manager component. The default value for Lock Manager Port is 8099.
Slave Port	Used by the master server when communicating with slave servers. The default value for Slave Port is 8087.
Master Port	Used by slave servers when communicating with the master server. The default value for Master Port is 8086.
Legacy Administration Port	Used by the legacy SAP 3D Visual Enterprise Generator administration application when communicating with the master server (deprecated). The default value for Legacy Administration Port is 8085.
Administration Port	Used by the SAP 3D Visual Enterprise Generator administration application when communicating with the master server. The default value for Administration Port is 8091.
File Transfer Port	Used by the SAP 3D Visual Enterprise Generator administration application when transferring files to and from the master server. The default value for File Transfer Port is 8090.

You can leave the port settings to use the default values. If you need to change the port numbers, make sure that the port numbers are between 1024 and 49151 (inclusive), and that each port does not have the same value as the other ports listed on this [Configure Ports](#) screen.

17. Choose *Next* to display the *Configure Engine Processors* screen. Set the required number of engine processors and choose *Next*.
18. On the *Select Processing Configuration* screen, choose one of the following to select a configuration type:

Configuration Type	Functional Description
<i>Minimal</i>	Automatically configures SAP 3D Visual Enterprise Generator for generic conversion
<i>Manual</i>	Configures the system manually at a later time.

When you select *Minimal*, SAP 3D Visual Enterprise Generator is connected and ready to run generic conversion workflows.

19. Having selected a configuration type and performed the appropriate actions, choose *Commit*. The *Configuration Complete* appears. When complete, the *Finish* button will be enabled. Choose *Finish* to exit the Configuration wizard. The *SAP 3D Visual Enterprise Generator Configurator* screen is displayed.

Next Steps

To complete your installation, proceed as follows:

1. Open the *Configurator* screen if it is not displayed already.
2. Ensure that the *SAP 3D Visual Enterprise Generator Service* field on the *General* tab shows the *Started* status. Choose *Start* if the service has not started automatically. The SAP 3D Visual Enterprise Generator Processing Engine is started.
3. To export the farm certificate, click the *Farm Certificate* tab on the *SAP 3D Visual Enterprise Generator Configurator* screen and choose *Export Farm Certificate*. Specify the folder path and file name, specify a password for the certificate file, and choose *OK*.
4. Copy the file and store it in a safe folder.

Caution

It is extremely important to keep the file in a safe location, and to remember the password. If this service password is lost, or any other user has to be given rights to configure SAP 3D Visual Enterprise Generator at a later time, the certificate must be imported into that user account. If you do not have a backed up certificate in this scenario, SAP 3D Visual Enterprise Generator must be totally re-configured. See "Importing Farm Certificate" in the SAP 3D Visual Enterprise Generator Application Operations Guide for details on how to import a certificate.

5. Choose *OK* to close the screen. The configuration is completed and you can now begin to use SAP 3D Visual Enterprise Generator.

4.3 Installing SAP 3D Visual Enterprise Generator on Slave Computers

After you install and configure the master server, you may add additional servers or slaves to the server farm, configuring the master server to share its workload with any given number of additional SAP 3D Visual Enterprise

Generator computers. Each additional SAP 3D Visual Enterprise Generator computer (slave) connects to the master server and uses its processes and latest configuration files.

This section describes the process for installing and configuring SAP 3D Visual Enterprise Generator on a slave computer. The installation process comprises:

- Configuring a SAP 3D Visual Enterprise Generator slave service account
- Installing SAP 3D Visual Enterprise Generator on a slave computer
- Configuring SAP 3D Visual Enterprise Generator on a slave computer

Note

For message queues to be created correctly, the name of each computer running SAP Visual Enterprise Generator must be 15 characters or less.

Recommendation

We recommend setting up a server farm in the following order:

1. Install and configure SAP 3D Visual Enterprise Generator on the master computer.
2. Activate SAP 3D Visual Enterprise Generator modules on the master computer
3. Install and configure SAP 3D Visual Enterprise Generator on the slave computers.

Prerequisites

- You have installed, configured, and licensed SAP 3D Visual Enterprise Generator on a master computer.
- You have activated all required modules on a master computer.
- Depending on the number of processors that comprise the master server, you have configured it to designate any of its own additional processors as processing engines. We recommend that the maximum number of processors to allocate as processing engines is $n-1$ where n = total number of processors on the master server.
- For performance reasons, you may want to consider turning virus scanning off for any SMTP scanning, the SAP Visual Enterprise Generator share, and the folder where SAP Visual Enterprise Generator files are installed (`C:\Program Files\SAP\`).

Caution

This action will result in a reduction in security.

- You have exported the share certificate from the master computer and it is available on the slave computer that is going to be installed.

4.3.1 Configuring a Slave Server Account

Context

The user account must have, as a minimum:

- Modification access to the directory and subdirectories where SAP 3D Visual Enterprise Generator is installed, granted directly to that user account or through the appropriate group membership.
- Modification control permissions on the SAP 3D Visual Enterprise Generator shared directory since SAP 3D Visual Enterprise Generator is most likely to run in a farm environment.
- A Windows account with local administrative privileges must be created for each user that will administer SAP 3D Visual Enterprise Generator. This account must have as a minimum, modification control permissions on the remote administration or shared server farm directory.

➔ Recommendation

We recommend creating a specific Windows user group for SAP 3D Visual Enterprise Generator administrators.

Procedure

1. Open the *Computer Management* window from **▶▶ Control Panel ▶ Administrative Tools ▶**.
2. Expand *Local Users and Groups*, right-click *Users* and choose *New User*.

3. **i Note**

Ensure the password is strong enough to pass authentication and make a note of it for use during the installation.

On the *New User* screen, enter the user name and password for the account.

4. Deselect the *User must change password at next logon* checkbox.
5. Select the *User cannot change password* and *Password never expires* checkboxes.
6. Choose *Create*, choose *Close* and then close the *Computer Management* screen.
7. Open the *Local Security Policy* window from **▶▶ Control Panel ▶ Administrative Tools ▶**.
8. Expand **▶▶ Local Policies ▶ User Rights Assignment ▶**.

9. **i Note**

This policy controls permissions for SAP 3D Visual Enterprise Generator.

Navigate to, and right-click *Log on as a service policy*, and then choose *Properties*.

10. Choose *Add User or Group* and choose *Locations*.
11. Select the location in which you created the account and choose *OK*.

12. Enter the name of the new account, and choose *Check Names*. The account directory is displayed.
13. Make a note of this directory for later use and choose *OK* twice.
14. Close the *Local Security Policy* window.

Next Steps

Move to [Installing SAP 3D Visual Enterprise Generator on a Slave Computer \[page 69\]](#)

4.3.2 Installing SAP 3D Visual Enterprise Generator on a Slave Computer

Context

You must first install SAP 3D Visual Enterprise Generator on the master computer before installing it on any slave computers. If a master is not yet designated, SAP 3D Visual Enterprise Generator nominates the existing computer as the master. If a master has been designated, SAP 3D Visual Enterprise Generator adds the computer as a slave to the existing installed master server.

- You can obtain the license file and module authorization codes from your SAP consultant. Otherwise, these can be obtained during SAP 3D Visual Enterprise Generator configuration.
- The master computer is currently running SAP 3D Visual Enterprise Generator so that the slave computers can locate and connect to it.
- The slaves are likely to be separate computers from the master computer. However, they may also be separate processors on the same master server, depending on the number of processors that comprise the master server.
- For performance reasons, you may want to consider turning virus scanning off for any SMTP scanning, the SAP 3D Visual Enterprise Generator share, and the folder where SAP 3D Visual Enterprise Generator files are installed (C:\Program Files\SAP\).

Caution

This action will result in a reduction in security.

Procedure

1. Close all applications and log on with administrative rights to the computer you plan to use as the SAP 3D Visual Enterprise Generator slave.
2. Ensure that the master computer is running.

3. Navigate to, and double-click the `SETUP.exe` file in Windows Explorer.
4. Choose *Next* when the installer starts. The *Installer Selection* dialog is displayed.
5. Select one of the following:

Option	Description
<i>Select All</i>	All features are installed on the local hard drive. This is the recommended option.
corresponding checkboxes	<ul style="list-style-type: none"> ○ <i>Core Server</i>: Installs the SAP 3D Visual Enterprise Generator Processing Engine and associated plug-ins, and also the SAP 3D Visual Enterprise Generator API ○ <i>Administrative Tools</i>: Installs SAP 3D Visual Enterprise Generator Administration

6. Choose *Next*.
7. On the Installer location screen, either accept the default location in which to install SAP 3D Visual Enterprise Generator, or choose *Browse*, navigate to and select the installation folder you require, and then choose *OK*.
8. Choose *Next*. The installation begins automatically.
9. Choose *Close* when the installation is complete. The *SAP 3D Visual Enterprise Generator Configuration Wizard* is displayed after a short time.

Next Steps

Move to [Configuring SAP 3D Visual Enterprise Generator on a Slave Computer \[page 70\]](#)

4.3.3 Configuring SAP 3D Visual Enterprise Generator on a Slave Computer

Prerequisites

- You have identified the computer to use as a slave server.
- The master computer is currently running SAP 3D Visual Enterprise Generator so that the slave computers can locate and connect to it.

Context

To configure slaves, proceed as follows:

Procedure

1. Ensure that the SAP 3D Visual Enterprise Generator Configuration Wizard is displayed.
2. Choose *Next*. On the *Select SAP 3D Visual Enterprise Generator Deployment Type* screen, select your deployment type as **Slave Server**. The server is set up as a slave of a SAP 3D Visual Enterprise Generator farm. Choose *Next*.

3. **Note**

This location uses the UNC naming convention.

On the *Select Share Directory* screen, navigate to, and select the location of the shared directory used by the master computer to which you are connecting.

4. You are asked whether you want to join a server farm. Choose *Yes*. The *Initializing Share* progress dialog is displayed.

5. **Note**

Ensure that you use the same username and password for every computer in the SAP 3D Visual Enterprise Generator farm where you plan to install SAP 3D Visual Enterprise Generator.

On the *Configure SAP 3D Visual Enterprise Generator Service Account* screen, enter the service account username and password in the appropriate fields. These are the account details that were used for the shared directory

6. Choose *Next* and you will be prompted to locate farm certificate file and its password.
7. Locate share certificate and its password; choose *OK* to confirm the names and locations of the primary default message queues.

8. **Note**

The address specification setting facilitates communication between the slave computer and master.

On the *Configure Slave Account* screen, enter your required configuration information. Confirm the default address specification as `FormatName : DIRECT=OS :`

9. **Recommendation**

We recommend using the default address setting; however, you can edit this setting depending on your requirements. See the Microsoft MSMQ Documentation at <http://msdn.microsoft.com/en-us/library/ms711472%28v=VS.85%29.aspx> for information on determining the appropriate MSMQ.

On the *Configure Message Queues Address Specification* screen, accept the specific communication settings for the configured MSMQ: database, connection method, workspace to be used, and Incoming Message queue. If needed, change default network protocol to use for MSMQ. Choose *Next* to test connection to workspace and MSMQ.

10. The *Configure Logging* screen is displayed. You must configure SAP 3D Visual Enterprise Generator with a certain level of logging to ensure that administrative messages (warnings, errors, general information, and debug messages) are saved. Choose one of the following options:

Option	Functional Description
<i>Trace</i>	Logs errors, warning and informational messages and to create additional detailed log file used for diagnostic purposes
<i>Errors, Warnings and Information</i>	Logs errors, warnings and informational messages
<i>Errors and warnings</i>	Logs errors and warnings
<i>Errors only</i>	Logs only errors

11. Choose *Next* to display the *Configure Engine Processors* screen. Set the required number of engine processors and choose *Next*.
12. Having performed the appropriate actions, choose *Commit*. The *Configuration Complete* appears. When complete, the *Finish* button will be enabled. Choose *Finish* to exit the Configuration wizard. The *SAP 3D Visual Enterprise Generator Configurator* screen is displayed.

4.3.4 Configuring SAP 3D Visual Enterprise Settings for a Web API Proxy

Prerequisites

- The master computer is currently running SAP 3D Visual Enterprise Generator before installing it on any Web API Proxy

Context

The configuration requirements for a Web API Proxy are as follows:

i Note

Web API Proxy can only be a slave.

Procedure

- Ensure that the SAP 3D Visual Enterprise Generator Configuration Wizard is displayed.

- Choose *Next*. On the *Select SAP 3D Visual Enterprise Generator Deployment Type* screen, select your deployment type as **Web API Proxy**. The server is set up as a slave of a SAP 3D Visual Enterprise Generator farm. Choose *Next*.

3. **i Note**

This location uses the UNC naming convention.

On the *Select Share Directory* screen, navigate to, and select the location of the shared directory used by the master computer to which you are connecting.

- You are asked whether you want to join a server farm. Choose *Yes*. The *Initializing Share* progress dialog is displayed.

5. **i Note**

Ensure that you use the same username and password for every computer in the SAP 3D Visual Enterprise Generator farm where you plan to install SAP 3D Visual Enterprise Generator.

On the *Configure SAP 3D Visual Enterprise Generator Service Account* screen, enter the service account username and password in the appropriate fields. These are the account details that were used for the shared directory

- Choose *Next* and you will be prompted to locate farm certificate file and its password.
- Locate share certificate and its password; choose *OK* to confirm the names and locations of the primary default message queues.

8. **i Note**

The address specification setting facilitates communication between the slave computer and master.

On the *Configure Slave Account* screen, enter your required configuration information. Confirm the default address specification as `FormatName : DIRECT=OS :`

9. **➔ Recommendation**

We recommend using the default address setting; however, you can edit this setting depending on your requirements. See the Microsoft MSMQ Documentation at <http://msdn.microsoft.com/en-us/library/ms711472%28v=VS.85%29.aspx> for information on determining the appropriate MSMQ.

On the *Configure Message Queues Address Specification* screen, accept the specific communication settings for the configured MSMQ: database, connection method, workspace to be used, and Incoming Message queue. If needed, change default network protocol to use for MSMQ. Choose *Next* to test connection to workspace and MSMQ.

- The *Configure Logging* screen is displayed. You must configure SAP 3D Visual Enterprise Generator with a certain level of logging to ensure that administrative messages (warnings, errors, general information, and debug messages) are saved. Choose one of the following options:

Option	Functional Description
<i>Trace</i>	Logs errors, warning and informational messages and to create additional detailed log file used for diagnostic purposes

Option	Functional Description
Errors, Warnings and Information	Logs errors, warnings and informational messages
Errors and warnings	Logs errors and warnings
Errors only	Logs only errors

11. Note

You must have read and write access to the file system directory being mapped to the API virtual directory.

On the [Configure IIS Application Pool](#) screen, enter the Web application pool name, <VEGServiceUser> username and password to create or configure the IIS application pool that will be used by the SAP 3D Visual Enterprise Generator Integration API. Choose [Next](#).

12. The [Configure Web API Virtual Directory](#) screen is displayed. Choose the appropriate web site and ensure that the [Require SSL](#) check box is checked. Note that to use SSL, you will need to have a web site SSL certificate installed. Choose [Next](#).
13. Having performed the appropriate actions, choose [Commit](#). The [Configuration Complete](#) appears. When complete, the [Finish](#) button will be enabled. Choose [Finish](#) to exit the Configuration wizard. The [SAP 3D Visual Enterprise Generator Configurator](#) screen is displayed.

4.4 SAP 3D Visual Enterprise Generator Integrated Mode

Prerequisites




The following EHP releases include the necessary functionality for SAP 3D Visual Enterprise Generator 9.0 Integration without having to apply additional set of notes:

- EHP6 SP17
- EHP6 HANA SP10
- EHP7 SP12
- EHP8 SP03
- S/4 HANA OP SP03

SAP 3D Visual Enterprise Generator 9.0 works on the following systems if a set of additional notes is applied:

- EHP6 SP10
- EHP6 HANA SP04
- EHP7 SP03
- EHP8 SP00
- S/4HANA OP SP00

The following additional notes are required:

1. [2306031](#) 
2. [2181482](#) 
3. [2306611](#) 

-
4. [2256561](#)
 5. [2307725](#)
 6. [2307109](#)
 7. [2308121](#)
 8. [2297293](#)
 9. [2049249](#)
 10. [2149484](#)
 11. [2186082](#)
 12. [2142405](#)
 13. [2149487](#)
 14. [2261146](#)
 15. [2169332](#)
 16. [2222392](#)
 17. [2186083](#)
 18. [2195345](#)
 19. [2189604](#)
 20. [2303612](#)
 21. [2305905](#)
 22. [1978641](#)
 23. [2094632](#)

Process

Process Flow

1. To make the conversion set up work, make the Customizing settings under ► [Cross-Application Components](#) ► [Document Management](#) ► [Visual Enterprise Generator](#) .
2. Install SAP 3D Visual Enterprise Generator in Integrated mode (see [SAP 3D Visual Enterprise Generator Standalone](#) subsection of this Installation Guide section)
3. Install SAP 3D Visual Enterprise Viewer (see Administrator's Guide for SAP 3D Visual Enterprise Viewer).
4. Install Content Server (see ► [Installation Guide](#) ► [SAP Content Server for UNIX and Installation](#) ► [Gateway on Windows- NW 7.0](#) at <http://service.sap.com/instguides> under ► [Installation And Upgrade Guides](#) ► [SAP NetWeaver](#) ► [SAP NetWeaver 7.0 \(2004s\)](#) ► [Installation](#) ► [Installation](#) ► [Standalone Engines](#)).
5. To obtain the external object tagging information for an object, ensure that you have installed the latest patch of NWBC 3.5.

4.5 Visual Data Integration Upload Client

The Visual Data Integration Upload Client is a component of SAP 3D Visual Enterprise Generator used to upload visualization data into an SAP ERP system.

The SAP 3D Visual Data Integration Client uploads base CAD files and stores them as Visual Enterprise documents in the ERP after the SAP 3D Visual Enterprise Generator associated with that ERP system has converted them to the aforementioned format.

This guide documents how to set up a workflow from on an ERP system to be used in conjunction with one or more instances of the SAP 3D Visual Data Integration Client. Will need to add or refer to elsewhere the process of configuring the Upload Client to operate with a SAP 3D Visual Enterprise Generator instance.

Prerequisites

This section describes the requirements for effective usage of the SAP 3D Visual Data Integration Upload client.

i Note

The application can be installed at any time. However, it will not become functional until all the requisite components are installed and configured for correct usage. Please refer to 2.6 SAP ERP Integration with SAP 3D Visual Enterprise Generator with Upload Client for more information about the system landscape that supports the Visual Data Integration Upload Client.

- You have installed SAP GUI (Logon) on the SAP 3D Visual Enterprise Generator server that will be integrated with the SAP ERP.
- You have installed SAP 3D Visual Enterprise Generator on a Windows Server 2008 R2 (or Windows Server 2012) that is configured to support SAP 3D Visual Data Integration Upload client.
- You have created an SAP ERP system communication user that can be used with an instance of the Visual Data Integration Upload Client to authenticate against the target SAP ERP.
- You have obtained the Visual Data Integration Upload Client installer from a system administrator or the SAP Software Center.

Procedure

Installing and Configuring SAP GUI on the SAP 3D Visual Enterprise Generator machine

SAP GUI is needs to be installed on the SAP 3D Visual Enterprise Generator machine that will host the Visual Data Integration Service that your Visual Data Integration upload clients will connect to when submit CAD files to the server for processing and storage. SAP GUI is used to authenticate Upload Client sessions against ERP connections configured in SAP GUI.

1. Log onto <VEGServer> as the <VEGServiceUser>.

i Note

The following steps create user specific configurations for SAP Logon. SAP 3D Visual Enterprise Generator will attempt to access configurations in the security context of the <VEGServiceUser>.

2. Obtain the SAP GUI installer from the SAP Marketplace and install on the <VEGServer> as per SAP GUI installation and configuration instructions.
3. Create a connection to your <SAPERP> in SAP GUI and test that the <SAPERPAdministrativeUser> can log onto the SAP System.

4. Close SAP Logon
5. Open the SAP 3D Visual Enterprise Generator configuration utility and restart the SAP 3D Visual Enterprise Generator service.

Note

SAP 3D Visual Enterprise Generator loads SAP Logon connection configurations as the service is starting.

Configuring an SAP ERP Connection in SAP 3D Visual Enterprise Generator Administration

1. Log onto the SAP 3D Visual Enterprise Generator Administration tool as `<VEGAdministrator>`.
2. Navigate to **SAP Integration** > **Connections**.
3. Choose **New** from the Connections list menu.
4. From the **Type** list, choose **RFC**.
5. In the **SAP System** field, enter the `<SAPERP>` connection you created in the *Install and Configure SAP GUI on the SAP 3D Visual Enterprise Generator Machine* section.
6. Enter a display name for the connection.

Caution

The display name must be unique; multiple connections with the same name are not permitted.

7. In the **Client** field, enter the SAP client ID that `<SAPERPCommunicationUser>` would be expected to use if logging into this system interactively.
8. Choose **OK**.

Installing Visual Data Integration Upload Client

This section describes how to install an instance of the SAP 3D Visual Data Integration Upload Client, and assumes all the prerequisites for installing the application are present on the operating system.

1. Navigate to and double-click the SAP 3D Visual Data Integration Upload Client `Setup.exe` file in windows explorer. The installation wizard will be displayed. Choose **Next**.
2. The **SAP Front End Installer** screen displays. The SAP 3D Visual Data Integration Upload Client full install will be selected by default.

Note

By default, the option to add to the startup applications is enabled. If this option is not needed, the user can deselect it from the drop-down.

When enabled, this option adds the SAP 3D Visual Data Integration Upload Client to the startup applications list, which allows it to run automatically when the user begins a Windows session on that machine. This will not occur when disabled.

Caution

If you disable this feature, uploads that were suspended because of a log out or a shutdown will not resume when the machine is started again. Such uploads will only resume when the client is opened in a new session. See the SAP 3D Visual Enterprise Generator Application Operations Guide for details of the upload processes.

3. Apply the desired installation options. Choose **Next**.

4. Accept the default install location, or browse to select a different location.
5. Choose *Next*. The installation will begin automatically.
6. Choose *Close* once the installation process is complete.

The user can now run the application from the *Start* menu and Windows explorer. If installed as a startup application (the recommended option) the client will run automatically every time the user starts or resumes a Windows session.

Post-Installation

Testing the Visual Data Integration Upload Client System Landscape

If all the required components have been installed and configured correctly, open the application, configure the `<SAPVisualDataIntegrationService>` connection, supply a valid `<UploadClientCommunicationUser>` and start an upload process. If the process completes successfully, the installation was successful.

To test the Upload Client connection in the SAP ERP Integration with SAP 3D Visual Enterprise Generator system landscape, proceed as follows:

1. Open the Visual Data Integration Upload Client application from the Start menu. The *Upload Client* logon screen is displayed.
2. If the target `<SAPVisualDataIntegrationService>` URL is not displayed in the *Web Service URL* list, click on the drop down list and choose the *Use new URL...* Enter and accept the new URL.
3. Choose *Visual Data Integration* from the *Workflow* list.
4. In the *User Name* field, enter the `<SAPERPCCommunicationUser>` user name.
5. Enter the `<SAPERPCCommunicationUser>` password in the *Password* field.
6. Choose *Connect*. The upload monitoring screen is displayed.
7. Choose *Upload*. The *Start New Upload* screen opens.
8. Choose *Select* and locate a suitable test CAD file from your local file system. Select a CAD assembly that has no issues to resolve.

Caution

You must have configured all the required documents during the *Configuring Conversion Trigger* section. If you have not done this, do it now.

9. Choose *Start*. The screen closes and your new upload is displayed on the *Monitoring* screen.

The application should track the upload jobs progress through to completion. You can view more details about the job and its progress and operations in the SAP 3D Visual Enterprise Generator Administration tool.

5 Post-Installation

5.1 SAP 3D Visual Enterprise Generator Standalone

5.1.1 Licensing Modules

Use

SAP 3D Visual Enterprise Generator comes with a number of additional processing modules. By default, most of these modules are automatically configured with valid serial numbers and authorization codes.

However, the JTPMI module is configured with a temporary 90 day trial license only.

Procedure

Obtaining a Valid License for JTPMI Module (Optional)

If you use this module, after the trial license expires, you must obtain a valid license as follows:

1. Create a message at <http://service.sap.com/message> using the component XX-SER-LIKEY.
2. Include the following information in the message:
 - Subject of the message: License Key for SAP 3D Visual Enterprise Module <JT Extension Module>
 - Text: Please provide a license key for SAP 3D Visual Enterprise Module <JT Extension Module>.
 - Installation number is: <Your installation number>

Installing Module Licenses

1. Once you have your server started, start the SAP 3D Visual Enterprise Generator Administration application on the main server and log on as **SecurityAdministrator** using the password you specified during the *Configuring SAP 3D Visual Enterprise Generator on a Master Computer* procedure.
2. Choose **Server Configuration > Activate Modules** to activate your modules.
3. On the *Activate Modules* screen, the modules that have expired, are registered with a non-expired temporary license, or are not yet activated are listed. Choose the *Activate* button for the modules that you have codes for and enter the serial number and authorization code on the *Activation* popup.
4. Restart the server or the whole farm (from *SAP 3D Visual Enterprise Configuration*) after licensing the Modules.

5.1.2 Uninstalling SAP 3D Visual Enterprise Generator

Use

The removal process for SAP 3D Visual Enterprise Generator is performed using the Windows Control Panel.

Caution

Uninstalling removes all of the installed files.

Uninstalling does not remove any database information: the share, licenses, log files and working files.

Module bundles have been installed separately for either application must be removed separately.

Procedure

1. Stop SAP 3D Visual Enterprise Generator from running.
2. Remove the SAP 3D Visual Enterprise Generator and any module bundles that may have been installed separately for SAP 3D Visual Enterprise Generator using Programs and Features (<http://windows.microsoft.com/en-US/windows7/Uninstall-or-change-a-program>):
3. Remove the following:
 - The entire contents of the SAP 3D Visual Enterprise Generator <share>.
 - The following directories:
 - C:\Program Files\SAP\SAP 3D Visual Enterprise Generator\.
 - C:\ProgramData\SAP\Visual 3D Enterprise Generator\.

Note

The Program Data directory is hidden by default in Microsoft Windows.

The Program Files path will be different if you changed this during installation.

4. Open the *Computer Management* screen from **Control Panel > Administrative Tools**.
5. Choose **Services and Applications > Message Queuing > Private Queues** and remove the following queues:
 - Engine
 - Incoming
 - Jobmanager
 - Response

Caution

Removing the queues is especially important if you are going to reinstall SAP 3D Visual Enterprise Generator under a different account, due to the defined account permissions for each queue.

6. Open SQL Server and delete the database used by SAP 3D Visual Enterprise Generator.
7. Restart your computer. SAP 3D Visual Enterprise Generator is now completely removed from the computer.

8. Repeat this process for all slave computers.

i Note

Disregard steps for module bundles as these are only installed on the master computer.

5.2 SAP 3D Visual Enterprise Generator Integrated Mode

Prerequisites

The following EHP releases include the necessary functionality for SAP 3D Visual Enterprise Generator 9.0 Integration without having to apply additional set of notes:

- EHP6 SP17
- EHP6 HANA SP10
- EHP7 SP12
- EHP8 SP03
- S/4 HANA OP SP03

SAP 3D Visual Enterprise Generator 9.0 works on the following systems if a set of additional notes is applied:

- EHP6 SP10
- EHP6 HANA SP04
- EHP7 SP03
- EHP8 SP00
- S/4HANA OP SP00

The following additional notes are required:

1. [2306031](#) 
2. [2181482](#) 
3. [2306611](#) 
4. [2256561](#) 
5. [2307725](#) 
6. [2307109](#) 
7. [2308121](#) 
8. [2297293](#) 
9. [2049249](#) 
10. [2149484](#) 
11. [2186082](#) 
12. [2142405](#) 
13. [2149487](#) 
14. [2261146](#) 
15. [2169332](#) 
16. [2222392](#) 

17. [2186083](#)
18. [2195345](#)
19. [2189604](#)
20. [2303612](#)
21. [2305905](#)
22. [1978641](#)
23. [2094632](#)

Process

Process Flow

1. To make the conversion set up work, make the Customizing settings under [Cross-Application Components](#) [Document Management](#) [Visual Enterprise Generator](#).
2. Install SAP 3D Visual Enterprise Generator in Integrated mode (see [SAP 3D Visual Enterprise Generator Standalone](#) subsection of this Installation Guide section)
3. Install SAP 3D Visual Enterprise Viewer (see Administrator's Guide for SAP 3D Visual Enterprise Viewer).
4. Install Content Server (see [Installation Guide](#) [SAP Content Server for UNIX and Installation](#) [Gateway on Windows- NW 7.0](#) at <http://service.sap.com/instguides> under [Installation And Upgrade Guides](#) [SAP NetWeaver](#) [SAP NetWeaver 7.0 \(2004s\)](#) [Installation](#) [Installation](#) [Standalone Engines](#)).
5. To obtain the external object tagging information for an object, ensure that you have installed the latest patch of NWBC 3.5.

5.2.1 Configuring Authentication

Use

The connection between SAP 3D Visual Enterprise Generator and SAP ERP is secured using the following authentication schemes:

- Username and Password Authentication
This method is based on an SQP System passing the credentials of a Windows user that has granted access to the SAP Integration Service to this service.
- Certificate Exchange
This method is based on the mutual trust of Client Authentication certificates between an SAP System and an SAP 3D Visual Enterprise Generator installation.

Although it is possible to configure the system landscape for both schemes, this document describes the configuration steps for each scheme separately. The following sections detail the steps required to configure either scheme. See the appropriate sections in the [Planning](#) section of this Guide for the recommended sequence for the steps laid out in this section.

5.2.1.1 Username and Password Authentication

This section explains the steps required for username and password authentication.

5.2.1.1.1 Configuring IIS to Use Basic Authentication

Context

Configure IIS to use Basic Authentication and restrict permission to the Web server to the user account created in Create/Designate SAP 3D Visual Enterprise Generator Communication User.

Procedure

1. Open the Internet Information Services (IIS) Manager and navigate to the *Settings* pane for the Web Server instance.
2. Choose *Authentication from the IIS* options.
3. Disable *Anonymous Authentication*.
4. Enable *Basic Authentication*.

5.2.1.1.2 Creating a Microsoft Windows User for SAP ERP to SAP 3D Visual Enterprise Generator Service Calls

Context

You need to create a Microsoft Windows user `<VEGCommunicationUser>` that will be used to authenticate the SAP ERP service calls to SAP 3D Visual Enterprise Generator `<SAPIntegrationService>`. This can be a domain user or a local machine user. To create the `<VEGCommunicationUser>` user, proceed as follows:

i Note

New users are usually added to the *Users* group by default. To check this, expand **Local Users and Groups** **Groups** and double-click the *Users* group. You should find that the `<VEGCommunicationUser>` is listed here. If it is not, click *Add* to locate and add the `<VEGCommunicationUser>` to the list.

Procedure

1. Open Computer Management on the <VEGServer>. Expand *Local Users and Groups*.
2. Right-click *Users* and select *New User*.
3. Fill in the fields of the *New User* screen using the user name <VEGCommunicationUser>. Deselect *User must change password at next logon* and select the *User cannot change password* and *Password never expires* checkboxes.
4. Deselect the *Account is disabled* checkbox. Click *Create* and then click *Close*.

5.2.1.1.3 Granting Communication User Basic Authentication rights to SAP Integration Service

Context

Once the user is created, you must grant basic authentication rights to SAP integration.

i Note

Test the service by browsing to the HTTPS binding of the service. When asked for a user name and password, enter <VEGCommunicationUser> and the password. Successful authentication should result in a blank screen and no errors on the page.

Procedure

1. Open the Internet Information Services (IIS) Manager and navigate to the *Settings* pane for the Web Server instance.
2. Select the <SAPIntegrationService> node under the Web site you installed the service on.
3. From the *Actions* menu for this service, click *Edit Permissions*. A *Properties* screen is displayed.
4. Click the *Security* tab page.
5. Click *Edit* and add user <VEGCommunicationUser> with full access.

5.2.1.2 Certificate Exchange

The SAP system and SAP 3D Visual Enterprise Generator communicate with each other using Web services. The SAP system calls Web services to start and stop conversion jobs on the SAP 3D Visual Enterprise Generator system, and the SAP 3D Visual Enterprise Generator calls Web services to log statuses on the SAP system.

Both sides require authentication to call Web services. This requires client certificates to be mapped to users on both sides. The systems therefore need to identify and authenticate the other side's certificate.

This section explains how the certificates are implemented, exchanged, and mapped to a user.

5.2.1.2.1 Importing Server Certificate into IIS

You import your certificate into IIS for the machine running SAP 3D Visual Enterprise Generator and configure it for use with SSL binding. There are two import options from which to choose, depending on the source format of your certificate. The first option describes importing a .PFX-file, the second one describes importing a .CER-file.

Procedure with .PFX-file

1. Open the Internet Information Services (IIS) Manager from the machine running SAP 3D Visual Enterprise Generator by choosing **Windows Start Menu > All Programs > Administrative Tools > Internet Information Services (IIS) Manager**.
2. In the *Connections* list, select the `<Visual Enterprise Generator hostname>` node.
3. In the IIS section of the *Features View*, select *Server Certificates*.
4. In the *Actions* list, click *Import*. Enter the following data:

Table 23:

Field Name	Input Value
<i>Certificate File (.pfx)</i>	<code><PFX File including full path></code>
<i>Password</i>	<code><Password with which the PFX was encrypted></code>
<i>Allow this certificate to be exported</i>	X

5. Choose *OK*.

Procedure with .CER-file

1. Open the Internet Information Services (IIS) Manager on the machine running SAP Visual Enterprise Generator by choosing **Windows Start Menu > All Programs > Administrative Tools > Internet Information Services (IIS) Manager**.
2. In the *Connections* list, select the `<Visual Enterprise Generator hostname>` node.
3. In the IIS Section of the *Features View*, click *Server Certificates*.
4. In the *Actions* list, click *Complete Certificate Request*.

5. Enter the following data:

Table 24:

Field Name	Input Value
<i>Certification Authority's Response(.cer)</i>	<CER Certificate File including full path>
<i>Friendly</i>	<Display Name for the certificate>

5.2.1.2.2 Activating SSL Binding in IIS with Server Certificate

Context

You activate SSL binding for the default Web site on the IIS of the machine running SAP 3D Visual Enterprise Generator.

Procedure

1. Open the Internet Information Services (IIS) Manager on the machine running SAP 3D Visual Enterprise Generator by selecting **Windows Start Menu > All Programs > Administrative Tools > Internet Information Services (IIS) Manager**.
2. In the *Connections* list, navigate to **<Visual Enterprise Generator hostname> > Sites > Default Web Site**.
3. Right-click **Default Web Site > Edit Bindings...**
4. Click *Add...* in the *Bindings* window site.
5. In the *Add Site Binding* window, enter the following data:

Field Name	Input Value
<i>Type</i>	<i>https</i>
<i>IP Address</i>	<i>All Unassigned</i>
<i>Port</i>	443
<i>Host Name</i>	N/A
<i>SSL Certificate</i>	<Certificate you imported before>

6. Click *OK*.
7. Exit the *Bindings* window site.
8. Select *SSL Setting*.
9. Set *Require SSL* and *Require Client certificates*.
10. In the *Actions* list, click *Apply*.

5.2.1.2.3 Importing Client Authentication Certificate into Local Machine Store

Context

You install the certificate on the machine running SAP 3D Visual Enterprise Generator to authenticate this system as a client on the SAP system.

Procedure

1. On the machine running SAP 3D Visual Enterprise Generator, choose ► *Windows Start Menu* ► *Run* ► *MMC* ►.
2. Click ► *File* ► *Add/Remove Snap-in* ►.
3. In the Available snap-ins list, select *Certificates* and click *Add*.
4. Select *Computer Account* and click *Next*.
5. Select *Local Computer* and click *Finish*.
6. Choose *OK*.
7. Expand the tree on the left as follows: ► *Console Root* ► *Certificates* ► *Personal* ►.
8. Right-click ► *Personal* ► *All Tasks* ► *Import* ►.
9. Choose *Next*.
10. Choose *Browse* and select your .CER file for the machine running SAP 3D Visual Enterprise Generator.
11. Choose *Next* twice, then *Finish*.
12. Choose *OK* to confirm the success message.

Next Steps

If the certificate has been created correctly, Client Authentication is listed in the Intended Purposes column if you selected Certificates below Personal in the left-hand tree view.

1. Right-click the certificate ► *All Tasks* ► *Manage Private Keys...* ►
2. Add the SAP 3D Visual Enterprise Generator service user with Full control.
3. Choose *OK* to confirm.

5.2.1.2.4 Importing Client Authentication Certificate into SAP System

Context

You import the SAP 3D Visual Enterprise Generator client authentication certificate into the SAP system. This is required for the SAP system to accept connections authenticated with that certificate. For SAP 3D Visual Enterprise Generator, it is required in order to be able to send status messages and transfer files to and from the SAP Content Server.

Procedure

1. Log onto the SAP system from the SAP GUI.
2. Open transaction **STRUSTSSO2**.
3. Expand the node *SSL client SSL Client (Standard)* and double-click `<sap hostname>_<SID>_<Instance number>`.
4. In the *Certificate* section, choose *Import Certificate* (on lower left with green arrow). Enter the following values and click *Input*:

Field Name	Input Value
<i>File Path</i>	Click <i>F4</i> and browse to your .CER file of the Visual Enterprise Generator certificate
<i>File Format</i>	Select <i>Base64</i>

5. Choose *Input*.
6. Choose *Add to Certificate List*.

5.2.1.2.5 Exporting SAP System Client Authentication Certificate

Context

You export the client authentication certificate from the SAP system. This certificate is required by the machine running SAP 3D Visual Enterprise Generator to map the client authentication certificate of the SAP system to the SAP 3D Visual Enterprise Generator Service user. This enables the SAP system to call Web services on the machine running SAP 3D Visual Enterprise Generator.

Procedure

1. Log onto the SAP system from SAP GUI.
2. Enter transaction **STRUSTSSO2**.
3. Expand the node *SSL client SSL Client (Standard)* and choose `<sap hostname>_<SID>_<instance number>`.
4. In the *Own Certificate* section, click *Owner*.
5. In the *Certificate* section, click *Export Certificate*.
6. Enter the following data:

Field Name	Input Value
<i>File Path</i>	Choose <i>F4</i> and specify where you want to store the certificate
<i>File Format</i>	Base64

5.2.1.2.6 Importing SAP System Client Authentication Certificate into SAP 3D Visual Enterprise Generator System and Map to Integration Service User

Context

You import the client authentication certificate of the SAP system into the machine running SAP 3D Visual Enterprise Generator and map it to the SAP 3D Visual Enterprise Generator Service user. This allows the SAP

system to connect to the SAP Visual Enterprise Generator and call Web services on the SAP 3D Visual Enterprise Generator in order to start conversion jobs.

Procedure

1. Open ► *Windows Start Menu* ► *All Programs* ► *Administrative Tools* ► *Internet Information Services (IIS) Manager* ►.
2. Expand the node ► *<SAP 3D Visual Enterprise Generator host name>* ► *Sites* ► and select *Default Web Site*.
3. In the right-hand panel, click *Configuration Editor*.
4. In the *Section* drop-down list, navigate to *system.webServer/security/authentication/iisClientCertificateMappingAuthentication*. Once you have reached the bottom level *MACHINE/WEBROOT/APPHOST/Default Web Site* section, select the *oneToOneMappings* column.
5. Click *Edit Items*.
6. Click the *Add* link on the right side in the *Collection* section.

7. **i Note**

The mapping is a one-to-one mapping. If there is more than one certificate maintained the system will not work correctly.

The certificate string of the certificate file that is maintained here must not include the first (-----BEGIN CERTIFICATE-----) nor the last line (-----END CERTIFICATE-----).

In the *Properties* section on the button enter the following data:

Field Name	Input Value
<i>Certificate</i>	<i><certificate string accessible by opening the certificate in any editor></i>
<i>Enabled</i>	True
<i>Password</i>	Password of <i><VEGServiceUser></i>
<i>username</i>	<i><VEGServiceUser></i>

8. Close the window.
9. Click the *Apply* link on the right side in the *Actions* section.
10. In the *Connections* section on the left, select the node *<SAP Visual Enterprise Generator host name>*.
11. Click the *Restart* link on the right side in the *Actions* section.

5.2.1.2.7 Creating a Communication User in SAP ERP

Context

Create a user that will later be used for communication between the SAP ERP system and SAP 3D Visual Enterprise Generator server as follows:

Procedure

1. Log onto the SAP ERP system from the SAP GUI with `<SAPERPAdministrativeUser>`.
2. Enter transaction code `SU01`.
3. Enter `<SAPERPCommunicationUser>` into the *User* field.
4. Choose *Create*.
5. Enter `<SAPERPCommunicationUser>` into the *Last Name* field.
6. Choose the *Logon Data* tab page.
7. Enter the following data:

<i>Alias</i>	
<i>User Type</i>	<i>Service</i>
<i>Security Policy</i>	
<i>New Password</i>	Choose a secure password
<i>Repeat Password</i>	Repeat the password
<i>User Group</i>	
<i>Valid from</i>	
<i>Valid through</i>	
<i>Account No.</i>	
<i>Cost Center</i>	

8. Save your entries.

5.2.1.2.8 Creating and Assigning Authorization Role for SAP ERP Communication User

Context

The following two Authorization objects are required to enable communication between SAP 3D Visual Enterprise Generator and SAP ERP:

- **S_SERVICE**
- **C_DRAW_DOK**

Caution

You will need to assign the appropriate authorizations to ensure that the `<SAPERPCommunicationUser>` has the right to call web service methods. If the user is not properly configured you will receive an `Authorization missing for service` error in the SAP 3D Visual Enterprise Generator job.

Procedure

1. Enter transaction code **PFCG**.
2. Enter `<SAPERPCommunicationUserAuthRole>` into the *Role* field.
3. Click *Single Role* to create the role.
4. Complete the role description *Visual Enterprise*.
5. Save the role.
6. Go to the *Menu* tab page.
7. Create Menu items for `<SAPERPCommunicationUserAuthRole>`.
8. Click *Create Folder* and enter **Visual Enterprise**.
9. Choose the *Dropdown Button Transaction*. The *Assign Transaction* screen opens.
10. Fill in transaction code **MM03** Display Material.
11. Fill in transaction code **CV03N** Display Document.
12. Fill in transaction code **VEG _JOBMONITOR** Job Log Monitor.
13. Fill in transaction code **DMS _CONV01** Document Start Conversion.
14. Click *Transaction (Assign Transactions)*.
15. Save the role.
16. Switch to the *Authorizations* tab page.
17. Click *Change Authorization Data*. The *Change Role: Authorizations* screen is displayed and the system will ask whether you want to choose a template. Choose *Do Not Select Templates*.
18. Click *Manually* from the toolbar. The *Manual Selection of Authorizations* window is displayed.

Table Row (2) 132 Entries found

Restrictions

Row	Serv. Ty.	External Service
32	WS	DOCFILELINKCHECKINREQUEST_IN/ECC_GET_DOC_TGT_URLS
33	WS	DOCFILELINKCHECKINREQUEST_IN/ECC_SET_DOC_STOR_RPT
34	WS	DOCFILELINKINFORMATION_OUT/ECC_GET_DOC_URL_BY_FILE_ID
58	WS	ECC_BUDGETDOCERPBYBSCDATQR/
59	WS	ECC_BUDGETDOCERPCANCLNCRTRC/
60	WS	ECC_BUDGETDOCUMENTCRTRC/
61	WS	ECC_BUDGETDOCUMENTERPBYIDQR/
62	WS	ECC_BUDGETDOCUMENTERPBYIDQR1/EXECUTE_SYNCHRONOUS
63	WS	ECC_BUDGETDOCUMENTERPCTRTRC2/EXECUTE_SYNCHRONOUS
64	WS	ECC_BUDGETDOCUMENTERPCTRTRC_V1/
66	WS	ECC_BUSDOCFLOWERP001QR2/EXECUTE_SYNCHRONOUS
67	WS	ECC_BUSINESSDOCFLOWERP001QR/
137	WS	ECC_DOCUMENTALWSTIDQR/
138	WS	ECC_DOCUMENTAPVTYPEQR/
139	WS	ECC_DOCUMENTBULKCRTRC/
140	WS	ECC_DOCUMENTBULKCRTRC1/
141	WS	ECC_DOCUMENTBULKUPDRC/
142	WS	ECC_DOCUMENTBULKUPDRC1/
143	WS	ECC_DOCUMENTCNCR/

24. Add the additional service for CDESK_SERVICE by searching **CDESK_SRV***. You will find the following Web Services. Save these web services into the authorization object.

Table Row (1) 8 Entries found

Restrictions

Row	Serv. Type	External Service
1	WS	CDESK_SRV/CDESK_SRV_CONFIRM_FILE_UPLOAD
2	WS	CDESK_SRV/CDESK_SRV_CREATE_VARIANT
3	WS	CDESK_SRV/CDESK_SRV_GET_FILES
4	WS	CDESK_SRV/CDESK_SRV_GET_FILE_UPLOAD_URL
5	WS	CDESK_SRV/CDESK_SRV_GET_FILE_URL
6	WS	CDESK_SRV/CDESK_SRV_GET_VARIANT
7	WS	CDESK_SRV/CDESK_SRV_MODIFY_STRUCTURE
8	WS	CDESK_SRV/CDESK_SRV_MODIFY_VARIANT

25. Add the additional service for DOCFILELINK by searching **DOCFILELINK ***. You will find the following Web Services. Save these web services into the authorization object.

Table Row (1) 3 Entries found

Restrictions

Row Serv. Type External Service

Row	Serv.	Type	External Service
1	WS		DOCFILELINKCHECKINREQUEST_IN/ECC_GET_DOC_TGT_URLS
2	WS		DOCFILELINKCHECKINREQUEST_IN/ECC_SET_DOC_STOR_RPT
3	WS		DOCFILELINKINFORMATION_OUT/ECC_GET_DOC_URL_BY_FILE_ID

26. Give full authorization for the second Authorization Object; that is, *C_DRAW_DOK* if this is required for business.
27. If the authorization tree structure indicates missing values (yellow triangle), double-click the topmost node with missing values. The *Assign Full Authorization for Sub tree* screen is displayed. When prompted to set authorization fields to * (full authorization) for all unmaintained authorizations, choose *Execute*. The authorization structure refreshes to show that no authorizations are missing.
28. Click *Generate*. The *Generate Profile* screen is displayed. Choose *Generate* and then choose *Save*.
29. Click *Back* to return to the main screen.
30. Switch to the *User* tab page.
31. Enter user ID `<SAPERPCommunicationUser>` to the list.
32. Save your entries.
33. Click *User Comparison*.
34. Click *Complete comparison*.
35. Click *Cancel*.

5.2.1.2.9 Mapping Communication User to SAP 3D Visual Enterprise Generator Client Authentication Certificate

Context

You map the `<SAPERPCommunicationUser>` to the certificate you imported into the SAP system from the SAP Visual 3D Enterprise Generator server.

Procedure

1. Log onto the SAP ERP system from the SAP GUI.
2. Enter transaction code **SM30**.
3. Enter **VUSREXTID** into the *Table/View* field and click *Maintain*.
4. In the *External ID type* field, enter **DN** and choose *ENTER*.
5. Click *New Entries* to create the mapping entry.
6. To import the .CER file from SAP 3D Visual Enterprise Generator, click the *Import* button next to the *External ID* field.
7. Enter the following data:

Field Name	
<i>Seq. No.</i>	
<i>User</i>	<SAPERPCommunicationUser>
<i>Min. Date</i>	
<i>Activated</i>	X

5.2.2 SAP 3D Visual Enterprise Integration

Enabling Client Certificate Mapping in IIS for SAP Integration Service

This enables the certificate mapping of the SAP Integration Service on the SAP Visual Enterprise Generator server.

1. Open Windows Start Menu and navigate to **All Programs > Administrative Tools > Internet Information Services (IIS) Manager**.
2. Expand the nodes **<SAP 3D Visual Enterprise Generator host name> > Sites > Default Web Site** and select **SAPIntegrationService**.
3. In the right-hand panel, choose **Configuration Editor**.
4. In the **Section** dropdown list, navigate to **system.webServer/security/authentication/iisClientCertificateMappingAuthentication**.
5. Once you have reached the bottom level **MACHINE/WEBROOT/APPHOST/Default Web Site/SAPIntegrationService** section, enter the following data:

Table 25:

Field Name	Input Value
<i>defaultLogonDomain</i>	<default value>
<i>enabled</i>	True

Field Name	Input Value
<i>logonMethod</i>	<default value>
<i>manyToOneCertificateMappingsEnabled</i>	<default value>
<i>manyToOneMappings</i>	<default value>
<i>oneToOneCertificateMappingsEnabled</i>	True
<i>oneToOneMappings</i>	<default value>

6. On the *Actions* panel, click *Apply*.
7. On the *Connections* panel, select <SAP Visual Enterprise Generator host name>.
8. On the *Actions* panel, choose *Restart*.
9. Exit.

Creating Logical Port for Integration Service Consumer Proxy

Create a Logical Port connected to the Web Service on the SAP 3D Visual Enterprise Server as follows:

1. Download and extract the `WebService_Template_VEG_90.zip` attached to SAP Note [1694219](https://service.sap.com/sap/support/notes/1694219): <https://service.sap.com/sap/support/notes/1694219>.
2. Open the WSDL-File with a text editor and replace every occurrence of `VEG_SERVER_NAME` with the full qualified domain name of your machine running SAP 3D Visual Enterprise Generator.

Note

If you are using SSL (HTTPS) to secure your <SAPIntegrationService>, then you will also need to change the protocol for the service address from `http` to `https`.

Caution

You should test the complete service URL by entering it into a browser. You should see no errors once the page has loaded. If you receive a Request format that is unrecognized, you will need to delete the `<remove name="Documentation"/>` node from the services `web.config`:

```
<webServices>
<protocols>
<remove name="Documentation"/>
</protocols>
</webServices>
```

3. Save the changed file.
4. Log onto your SAP system from the SAP GUI.
5. Enter transaction code **SOAMANAGER**.
6. Choose the *Web Service Configuration* link.
7. Change the *Search Criteria* first line dropdown menu to *Object Type is Consumer Proxy* and for *Object Name* enter the search pattern ***VEG***.

8. Click on the hyperlinked internal name CO_VEG_CONVERSION_SERVER_V3. The *Details of Consumer Proxy* screen is displayed.
9. In the main window, choose the *Configurations* tab page.
10. Click *Create* and select the *WSDL Based Configuration*. A *New WSDL based Configuration of Logical Port for Consumer Proxy* screen is displayed.
11. Proceed through the screens of the logical port configuration accepting defaults and entering the following data as you encounter the fields:

Table 26:

Field Name	Input Value
<i>Logical Port Name</i>	<VEGLogicalPort>
<i>Description</i>	<Logical Port for SAP 3D Visual Enterprise Generator>
<i>Configuration Type</i>	<i>WSDL Based Configuration</i>
<i>Logical Port is Default</i>	X
<i>WSDL Base</i>	<i>Via File</i>
<i>File with WSDL Document</i>	Choose the <i>Browse</i> pushbutton and navigate to the WSDL file you previously downloaded from the SAP Note

12. Make a note of the logical port name for future reference in the subsequent activities of this document.
13. Choose *Apply Settings*.
14. Choose *Apply Settings* on the *Select one single binding out of the list of potential bindings indicated by WSDL document* screen.
15. Enter **DEFAULT** in the *SSL Client PSE* field of transaction **STRUST** in the section *Configuration of Logical Port* <name of port from above>.
16. Switch to the *Transport Settings* tab page.
17. Change the value of the *ESR target Client* field to <your SAP client ID>.
18. Save your entries.

Creating Logical Port for Integration Service Consumer Proxy for Username and Password Authentication

Create a logical port connected to the Web service on the SAP 3D Visual Enterprise Server as follows:

1. Download and extract the `WebService_Template_VEG_90.zip` attached to SAP Note [1694219](https://service.sap.com/sap/support/notes/1694219): <https://service.sap.com/sap/support/notes/1694219>.
2. Open the WSDL-File with a text editor and replace every occurrence of `VEG_SERVER_NAME` with the full qualified domain name of your machine running SAP 3D Visual Enterprise Generator.

i Note

If you are using SSL (HTTPS) to secure your <SAPIntegrationService> then you will also need to change the protocol for the service address from `http` to `https`.

➔ Recommendation

Test the complete service URL by entering it into a browser. You should see no errors once the page has loaded. If you receive an error "Request format is unrecognized", then you will need to delete the `<remove name="Documentation"/>` node from the services web.config.

```
<webServices>
<protocols>
<remove name="Documentation"/>
</protocols>
</webServices>
```

3. Save the changed file.
4. Log onto your SAP system from the SAP GUI.
5. Enter transaction code **SOAMANAGER**.
6. Choose the *Web Service Configuration* link.
7. Change the *Search Criteria* first line dropdown menu to *Object Type is Consumer Proxy* and for *Object Name is* enter the search pattern ***VEG***.
8. Choose the hyperlinked internal name `CO_VEG_CONVERSION_SERVER_V3`. The *Details of Consumer Proxy* screen is displayed.
9. In the main window, choose the *Configurations* tab page.
10. Click *Create* and select the *WSDL Based Configuration*. A *New WSDL Based Configuration of Logical Port for Consumer Proxy* screen is displayed.
11. Proceed through the screens of the logical port configuration (using the *Next* button) accepting defaults and enter the following data in the fields:

Table 27:

Field Name	Input Value
<i>Logical Port Name</i>	<code><VEGLogicalPort></code>
<i>Description</i>	<code><Logical Port for SAP 3D Visual Enterprise Generator></code>
<i>Configuration Type</i>	WSDL Based Configuration
<i>Logical Port is Default</i>	X
<i>WSDL Base</i>	Via File
<i>File with WSDL Document</i>	Choose the Browse pushbutton and navigate to the WSDL file you downloaded previously from the SAP Note
<i>User Name</i>	<code><VEGCommunicationUser></code>
<i>Password</i>	<code><The password you created for this user></code>

12. Choose *Finish* to complete configuration of the logical port.
13. Make a note of the logical port name for future reference in the subsequent activities of this document.

i Note

If you are securing the <SAPIntegrationService> with HTTPS, you may need to make the following changes to your configuration.

14. Choose *Apply Settings* on the *Select one single binding out of the list of potential bindings indicated by WSDL document* screen.
15. Enter **DEFAULT** in the *SSL Client PSE* field of transaction **STRUST** in the section *Configuration of Logical Port* <name of port from above>.
16. Switch to the *Transport Settings* tab page.
17. Change the value of the *ESR target Client* field to <your SAP client ID>.
18. Save your entries.

Perform Simplified Web Service Configuration for Certificate Exchange Authentication

You perform simplified Web service configuration for the SAP Visual Enterprise Web services as follows:

1. Log onto your SAP system from the SAP GUI.
2. Enter transaction code **SOAMANAGER**.
3. Choose *Simplified Web Service Configuration*.
4. Enter search pattern *DocFileLinkCheckInRequest_In* and click *Go*.
5. In the *Configure Service Definitions* list, enter the following:

Table 28:

Field Name	Input Value
<i>Internal Name</i>	DocFileLinkCheckInRequest_In
<i>User Name/Password (Basic)</i>	
<i>X.509 Certificate</i>	X
<i>SAP Logon Ticket</i>	

6. Save your entries.
7. Enter search pattern *DocFileLinkInformation_Out* and click *Go*.
8. In the *Configure Service Definitions* list, enter the following:

Table 29:

Field Name	Input Value
<i>Internal Name</i>	DocFileLinkInformation_Out
<i>User Name/Password (Basic)</i>	
<i>X.509 Certificate</i>	X
<i>SAP Logon Ticket</i>	

9. Save your entries.

10. Enter search pattern `VEGTaskRequest_In` and click [Go](#).
11. In the *Configure Service Definitions* list, enter the following:

Table 30:

Field Name	Input Value
<i>Internal Name</i>	<code>VEGTaskRequest_In</code>
<i>User Name/Password (Basic)</i>	
<i>X.509 Certificate</i>	X
<i>SAP Logon Ticket</i>	

12. Save your entries.
13. Enter search pattern `VEGObjects_Information_In` and click [Go](#).
14. In the *Configure Service Definitions* list edit the following setting:

Table 31:

Field Name	Input Value
<i>Internal Name</i>	<code>VEGObjects_Information_In</code>
<i>User Name/Password (Basic)</i>	
<i>X.509 Certificate</i>	X
<i>SAP Logon Ticket</i>	

15. Save your entries.

Performing Simplified Web Service Configuration for Username & Password Authentication

You perform simplified Web service configuration for the SAP 3D Visual Enterprise Web services.

1. Log onto your SAP system from the SAP GUI.
2. Enter transaction code **SOAMANAGER**.
3. Choose *Simplified Web Service Configuration*.
4. Enter search pattern `DocFileLinkCheckInRequest_In` and click [Go](#).
5. In the *Configure Service Definitions* list, enter the following:

Table 32:

Field Name	Input Value
<i>Internal Name</i>	<code>DocFileLinkCheckInRequest_In</code>
<i>User Name/Password (Basic)</i>	X
<i>X.509 Certificate</i>	
<i>SAP Logon Ticket</i>	

6. Save your entries.

7. Enter search pattern `DocFileLinkInformation_Out` and click [Go](#).
8. In the *Configure Service Definitions* list, enter the following:

Table 33:

Field Name	Input Value
<i>Internal Name</i>	<code>DocFileLinkInformation_Out</code>
<i>User Name/Password (Basic)</i>	x
<i>X.509 Certificate</i>	
<i>SAP Logon Ticket</i>	

9. Save your entries.
10. Enter search pattern `VEGTaskRequest_In` and click [Go](#).
11. In the *Configure Service Definitions* list, enter the following:

Table 34:

Field Name	Input Value
<i>Internal Name</i>	<code>VEGTaskRequest_In</code>
<i>User Name/Password (Basic)</i>	x
<i>X.509 Certificate</i>	
<i>SAP Logon Ticket</i>	

12. Save your entries.
13. Enter search pattern `VEGObjects_Information_In` and click [Go](#).
14. In the *Configure Service Definitions* list, enter the following:

Table 35:

Field Name	Input Value
<i>Internal Name</i>	<code>VEGObjects_Information_In</code>
<i>User Name/Password (Basic)</i>	x
<i>X.509 Certificate</i>	
<i>SAP Logon Ticket</i>	

15. Save your entries.

Activating Service Bindings

You activate the service binding you configured previously. To run the report to activate service bindings, enter the following:

Table 36:

Transaction Code	SPRO
Customizing Menu (SAP Reference Image)	▶ <i>Cross-Application Components</i> ▶ <i>Document Management</i> ▶ <i>Visual Enterprise Generator</i> ▶ <i>Activate Service Binding to</i> <i>Access Web Services</i> ▶

Setting Up Username and Password Mapping to Local Project using Communication User

1. Log onto the SAP 3D Visual Enterprise Generator Administration Tool as `<VEGAdministrator>`.
2. Navigate to ▶ *SAP Integration* ▶ *User Name and Passwords* ▶.
3. Choose *New*. The *Create Username and Password* window is displayed.
4. Select the project you created earlier from the *Project* list.
5. Enter the `<SAPERPCommunicationUser>` user name and password in the fields provided.
6. Enable this configuration.
7. Click *OK*.

Testing Connectivity between SAP 3D Visual Enterprise Generator and SAP System

This section explains how to test connectivity between the SAP 3D Visual Enterprise Generator and the SAP System. The *Obtain Service URL from SAP System and Validate* portion tests to see if the SAP System can be accessed and is trusted. The *Extended Connectivity Test* is only applicable to system landscapes that use a username and password to secure the channel between SAP 3D Visual Enterprise Generator and the SAP System. This extended test ensures that SAP 3D Visual Enterprise Generator can authenticate and communicate with the SAP System.

Obtaining Service URL from SAP System and Validating It

1. Log onto target SAP System as `<SAPERPAdministrativeUser>` and execute transaction `SOAMANAGER`. It launches in a browser.
2. Navigate to *Simplified Web Service Configuration*. The *Simplified Service Configuration* screen is displayed.
3. In *Search Service Definitions*, enter `DocFileLinkInformation_Out` and choose *Go*. The *Configure Service Definitions* list displays `DocFileLinkInformation_Out` in the list.
4. Select the `DocFileLinkInformation_Out` entry and click *Show Details*. A *Details* screen opens.
5. In the *Configuration Details* section, make a note of the With WS Policy URL from the *WSDL URLs* section.

6. Choose *OK*. You can now close the browser.
7. Enter the URL into your Web browser. If you receive certificate errors, see Certificate Issues section in Application Operations Guide for SAP 3D Visual Enterprise Generator. If you are prompted to log on, do so using `<SAPERPCommunicationUser>`. A WSDL is displayed. Make a note of the URL displayed in the address bar when the WSDL is visible.

Extended Connectivity Test

If your system landscape uses Certificate Exchange as the security mechanism for SAP 3D Visual Enterprise Generator to SAP System security, then the steps in the previous section should suffice as a communication test. However, if you are using Username and Password authentication to secure the connection then you can use the SAP 3D Visual Enterprise Generator Administration tool to test this connection further. To do this, carry out the following steps:

1. Open SAP 3D Visual Enterprise Generator Administration and log in as `<VEGAdministrator>`.
2. Navigate to **SAP Integration > User Names and Passwords**. Select the entry you created in the section *Setup Username and Password Mapping to Local Project using Communication User*. Choose *Test*. A *Testing <Project>* screen is displayed.
3. Enter the WSDL URL you noted at the end of step 8. Choose *Test*. Success is indicated by the message `Username and password appear to be valid`. If the test is not successful, continue to the next step.
4. If the failure message includes `Could not establish trust relationship for the SSL/TLS secure channel`, refer to the *Untrusted Certificate* section.
5. If the failure message indicates `(401) Unauthorized` it is possible that the username or password entered against this project configuration is incorrect. Check and correct the username and password combination and retest.
6. If you still receive a `(401) Unauthorized` and you can successfully browse to the WSDL as outlined in steps 1 to 8 (without certificate errors), then it is possible that the user does not have sufficient rights to call the Web service. Review the *Create a Communication User in SAP ERP* section. If this does not resolve the issue, see the troubleshooting section *Connections to SAP DMS*.

Configuring SAP 3D Visual Enterprise Generator Instance

You configure the SAP 3D Visual Enterprise Generator instance. This instance name represents SAP 3D Visual Enterprise Generator as the conversion server in SAP.

1. Enter the following:

Table 37:

Transaction Code	SPRO
Customizing Menu	Cross-Application Components > Document Management > Visual Enterprise Generator > Map VEG Instance to Logical Port

- On the *Maintain VEG Instance: Overview* screen, click *New Entries* and enter the following data:

Table 38:

Field Name	Input Value
<i>Instance</i>	<VEG_Instance>
<i>Logical Port</i>	<Name of your logical Port>

- Save your entries.

i Note

Depending on your system, you may have to create or use an existing Customizing request.

Configuring Conversion Trigger

You configure the conversion trigger. This is the main configuration activity to define what can be converted, and how.

Conversion triggers must be defined for all possible application types supported by your chosen CAD Provider. For example, if your CAD Provider is SolidWorks, then you would need to define a conversion trigger for both SWA (assembly) and SWP (Part).

- Navigate to the following:

Table 39:

Transaction Code	SPRO
Customizing Menu	▶ Cross-Application Components > Document Management > Visual Enterprise Generator > Maintain Conversion Trigger >

- On the *DMS VEG Conversion Specifications: Overview* screen, click *New Entries* and enter the following data:

Table 40:

Field Name	Input Value
<i>Document Type</i>	ASM
<i>Sequence No</i>	1
<i>Document Status</i>	
<i>Auto Start</i>	
<i>Application Type</i>	<Your CAD Workstation Application from the list>
<i>Explosion Mode</i>	Single File
<i>VEG Instance</i>	<Your VEG instance defined in <i>Configure SAP 3D Visual Enterprise Generator Instance</i> >

Field Name	Input Value
<i>Configuration ID</i>	<Select From List>

Table 41:

Field Name	Input Value
<i>Document Type</i>	PRT
<i>Sequence No</i>	1
<i>Document Status</i>	
<i>Auto Start</i>	
<i>Application Type</i>	<Your CAD Workstation Application>
<i>Explosion Mode</i>	Single File
<i>VEG Instance</i>	<Your VEG instance defined in <i>Configure SAP 3D Visual Enterprise Generator Instance</i>
<i>Configuration ID</i>	<Select From List>

3. Save your entries

i Note

Depending on your system, you may have to create or use an existing Customizing request.

Enriching 3D Construction Files with Business Data

The tagging approach is to store business data within the 3D file. During conversion from an original CAD file into the 3D RH lightweight model, this data is added to the file.

Before calling SAP 3D Visual Enterprise Generator, check that the document object contains SAP business data, such as a material object link. Irrespective of whether or not there is an object link, changes to the conversion are only triggered when changes are made to the original in the DIR.

Maintaining Tag Category

You define a tag category that represents a metadata category in the converted RH files for metadata from the SAP system.

1. Navigate to the following:

Table 42:

Transaction Code	SPRO
Customizing Menu	▶ Cross-Application Components > Document Management > Visual Enterprise Generator > Maintain Tag Category ▶

2. Confirm the cross-client configuration warning that appears.

- On the *Tag Category: Overview* screen, choose the *New Entries* pushbutton and enter the following data:

Table 43:

Field Name	Input Value
<i>Tag Category</i>	SAP
<i>Category Description</i>	SAP Business Objects

- Save your entries.

Creating Metadata Field Within Tag Category

You create a new metadata field, *MATERIAL*, to display tagged IDs of a linked material master, and place it in a previously created metadata category.

- Navigate to the following:

Table 44:

Transaction Code	SPRO
Customizing Menu	Cross-Application Components > Document Management > Visual Enterprise Generator > Map Tag Name to Tag Category

- Confirm the cross-client configuration warning that appears.
- On the *Tag ID for Metadata: Overview* screen, click *New Entries* and enter the following data:

Table 45:

Field Name	Input Value
<i>Tag Category</i>	SAP
<i>Tag Name</i>	MATERIAL (in upper case only)
<i>Tag Description (+)</i>	<MATERIAL OBJECT>

- Save your entries.

Maintaining Tag Mapping

Any object link of a DIR can be tagged in the RH file generated by SAP 3D Visual Enterprise Generator. In this activity, you define an object link for a material master object to be tagged. This definition has to be made for each document type containing originals to be converted by SAP 3D Visual Enterprise Generator.

- Navigate to the following:

Table 46:

Transaction Code	SPRO
Customizing Menu	Cross-Application Components > Document Management > Visual Enterprise Generator > Maintain Tag Mapping

- On the *Assembly Tagging Customizing Table: Overview* screen, click *New Entries* and enter the following data:

Table 47:

Field Name	Input Value
<i>Ty.</i>	RDS <Assembly Document Type>
<i>SAP object</i>	MARA
<i>Tag Category</i>	SAP
<i>Tag Name</i>	MATERIAL

- Save your entries.

Depending on your system, you may have to create or use an existing Customizing request.

To see SAP Business information, launch an RH assembly file and view the tree structure.

Note that if additional fields need to be tagged, this can be extended by consultants outside of the rapid-deployment solution package.

Creating Variant for Background Job

You create a variant to enable scheduling of a conversion background job for automatic conversion.

- In the *Launch* field in SAP NWBC, enter transaction code **VEG_BATCHJOB**.
- On the *Background Job for Conversion Overview* screen, enter the following data:

Table 48:

Field Name	Input Value
<i>Application Type</i>	DMS
<i>Total No of Jobs</i>	10
<i>Jobs per Block</i>	2

- Navigate to **Go to > Variants > Save as Variant... >**
- On the *Variant Attributes* screen, enter the following data:

Table 49:

Field Name	Input Value
<i>Variant Name</i>	RDS
<i>Description</i>	Variant for Visual Enterprise

Leave all remaining fields unchanged.

- Save your entries.

Creating or Configuring VED Document Type in SAP ERP

The VED document type is required for the SAP ERP Integration with SAP 3D Visual Enterprise Generator with Upload Client to work as describe in this document. Proceed as follows:

1. Log onto your SAP ERP as <SAPERPAdministrationUser>.
2. Execute transaction **SPRO**.
3. Choose *SAP Reference IMG*.
4. Navigate to **► Cross Application Components ► Document Management ► Control Data ► Define Document Types ►**.
5. Create or edit document type VED. Enter the following data:

Table 50:

Field Name	Input Value
<i>Document Type</i>	VED
<i>Attributes</i>	
<i>Doc. Type Desc.</i>	VEG 3D Visuals
<i>Use KPro</i>	Selected
<i>Archiving Authorization</i>	Selected
<i>Change Docs</i>	Selected
<i>Display Object Links</i>	Selected
<i>Use DS Package</i>	Selected
<i>Internal Number Range</i>	02
<i>External Number Range</i>	01
<i>Number Exit</i>	MCDOKZNR
<i>Vers. No. Incr.</i>	1
<i>File Size</i>	0
► Field Selection ► CAD Indicator ►	*

Leave all the fields that not mentioned in the table above blank or deselected.

6. Save your entries.

Creating or Configuring RH, VDS, and VDX Workstation Applications

You need to define workstation application types in the SAP ERP to enable users to open RH, VDS, and VDX files stored in the SAP ERP directly into SAP 3D Visual Enterprise Generator.

1. Log onto your SAP ERP as <SAPERPAdministrationUser>.
2. Execute transaction **SPRO**.
3. Choose *SAP Reference IMG*.

4. Navigate to ► *Cross Application Components* ► *Document Management* ► *General Data* ► *Define Workstation Application* ►.
5. Create or edit Workstation Application RH.
6. Enter the following data:

Table 51:

Field Name	Input Value
<i>WS Application</i>	RH
<i>Description</i>	SAP Product Visualization
<i>Archive Identification</i>	*
<i>File Suffix for appl.</i>	RH
<i>File format</i>	*.rh, *.rhz, *.jt
<i>MIME Type</i>	application/rh
<i>Appl. Icon</i>	@AR@
<i>Start Authorization</i>	Selected
<i>You cannot rename temporary files</i>	Selected
► <i>Original Model</i> ► <i>AddIn Files</i> ►	Selected
► <i>Original Model</i> ► <i>Content version</i> ►	Selected

Leave all the fields that are not mentioned in the table above blank or deselected.

7. Save your entries.
8. Repeat steps 5 - 7 to create a workstation application type for VDS files by entering the following data:

Table 52:

Field Name	Input Value
<i>WS Application</i>	VDS
<i>Description</i>	SAP Product Visualization
<i>Archive Identification</i>	*
<i>File Suffix for appl.</i>	VDS
<i>File format</i>	*.vds
<i>MIME Type</i>	application/vds
<i>Appl. Icon</i>	@AR@
<i>Start Authorization</i>	Selected
<i>You cannot rename temporary files</i>	Selected
► <i>Original Model</i> ► <i>AddIn Files</i> ►	Selected
► <i>Original Model</i> ► <i>Content version</i> ►	Selected

9. Repeat steps 5 - 7 to create a workstation application type for VDX files by entering the following data:

Table 53:

Field Name	Input Value
<i>WS Application</i>	VDX
<i>Description</i>	SAP Product Visualization
<i>Archive Identification</i>	*
<i>File Suffix for appl.</i>	VDX
<i>File format</i>	*.vds
<i>MIME Type</i>	shattered/vds
<i>Appl. Icon</i>	@AR@
<i>Start Authorization</i>	Selected
<i>You cannot rename temporary files</i>	Selected
▶ <i>Original Model</i> ▶ <i>AddIn Files</i> ▶	Selected
▶ <i>Original Model</i> ▶ <i>Content version</i> ▶	Selected

Creating Background Job for Conversion Using Registration

Documents can be sent to SAP 3D Visual Enterprise Generator for conversion in different ways. One possibility is by using a background process to add these documents to a queue when they reach a specific lifecycle status. The job periodically checks this queue and sends the documents it contains to SAP 3D Visual Enterprise Generator for conversion. In this activity, you create this job.

1. In the *Launch* field in SAP NWBC, enter transaction code **SM36**.
2. On the *Define Background Job* screen, enter the following data:

Table 54:

Field Name	Input Value
<i>Job Name</i>	Convert Registered Files
<i>Job Class</i>	B
<i>Status</i>	Scheduled
<i>Exec. Target</i>	<SAP System Server>

3. Press .
4. On the *Create Step 1* screen, enter the following data in ABAB program:

Table 55:

Field Name	Input Value
<i>Name</i>	VEG_CNV_BATCHJOB
<i>Variant</i>	RDS

Field Name	Input Value
<i>Language</i>	EN

5. Save your entries.
6. Go back.
7. On the *Define Background Job* screen, click *Start condition*.
8. On the *Start Time* screen, choose *Immediate*.
9. Select the *Periodic job* checkbox.
10. Click *Periodic values*.
11. Choose *Other period*.
12. Enter 2 in the *Minute(s)* field.
13. Save your entries.
14. Repeat save again three times.

6 Appendix A: Upgrade Information

The SAP 3D Visual Enterprise Generator 9.0 installer supports automatic upgrade from any previous version. You do not need to uninstall previous versions of SAP 3D Visual Enterprise Generator and then install the new version in their place.

The SAP 3D Visual Enterprise Generator 9.0 installer can use and upgrade the database and shares of previous releases of the software.

Caution

Upgrading SAP 3D Visual Enterprise Generator also upgrades the SAP 3D Visual Enterprise Generator API. If you are using SAP Visual Enterprise Access, must upgrade the application to release 7.1.

If you are using SAP 3D Visual Enterprise Viewer, you must upgrade to version 9.0.

Prerequisites

Ensure that you have obtained the following information from the current configuration and performed backup operations recommended:

- Usernames and passwords of all connected systems and components that are going to be reused or upgraded by the new installation.
- SMTP (mail) server that you want to use to send e-mail from the system. You are required to reenter this information during the configuration step.
- The e-mail address to which any Administrative alerts or system default messages is sent.
- Current system log level setting.

Ensure that you have performed the following tasks:

- Stop the SAP 3D Visual Enterprise Generator service and backup the database (recommended)
- Stop the SAP 3D Visual Enterprise Generator service and backup the contents of the share

Note

If the SAP 3D Visual Enterprise Generator service you are upgrading previously used a Windows system user account, ensure that the user `VEGServiceUser` is created and has all required privileges; for example, full access to the share.

Procedure

Upgrade Steps

Installation and Upgrade

1. Start the SAP 3D Visual Enterprise Generator Installation program. The system identifies that you have an existing installation, and rather than installing, upgrades the existing installation to SAP 3D Visual Enterprise Generator 9.0. After the upgrade is completed, close the form.
2. The SAP 3D Visual Enterprise Generator Configuration tool starts automatically. If it does not, run this application from the Windows *Start* menu.

Configuration

At the conclusion of the installation step, you have effectively configured SAP 3D Visual Enterprise Generator as a new installation. Follow the standard configuration instructions for your chosen installation pathway (see Installation section) and refer to the following steps as you work through the steps of the configuration wizard.

If you are upgrading a previous SAP 3D Visual Enterprise Generator Share, then once you have selected and validated this share, many of the subsequent wizard steps is already populated with your old settings.

1. In the *Select Shared Directory* window, use the previously configured SAP 3D Visual Enterprise Generator Share directory. The configuration tool reads previous configuration and uses this information during the following steps.
2. In the *Configure SAP 3D Visual Enterprise Generator Service Account* window, specify the service account used for the previous installation, or the new `VEGServiceUser` account if a Windows system user account was used for the previous installation.
3. In the *Select Database* window, enter the database that was connected to the previous installation.
4. Choose to *UPGRADE* the existing database and enter password for the `deepserver` account. Click *OK*.
5. Choose *Yes* at the upgrade prompt.
6. Accept defaults on subsequent wizard steps.
7. In the *Configure Logging Level* window, set the preferred logging level.
8. In the *Configure E-Mail Settings* window, enter the SMTP server name and Administrative e-mail account. Verify that all other settings on this screen are correct.
9. Accept defaults on subsequent wizard steps.
10. In the *Configure IIS VDIR and Application* window, if you do not want to use SSL encryption or you do not have an SSL certificate for the target server, deselect the *Require SSL* checkbox if it was deselected for previous configuration. If not, leave it selected (default).
11. In the *Select Processing Configuration* window, select **Integrated** when configuring Integrated mode and select **Standalone** when configuring Standalone mode.
12. Accept defaults on subsequent wizard steps.
13. Start SAP 3D Visual Enterprise Service.

Post-Upgrade

Check that Services have been upgraded and initialized correctly:

1. Ensure that the SAP 3D Visual Enterprise Generator Service is running.
2. Open the SAP 3D Visual Enterprise Generator Administration Application and log on using a valid Administrator or `SecurityAdministrator` account.

7 Appendix B: Common Variations to Configuration

Manually running the Default Configuration Scripts

SAP 3D Visual Enterprise Generator ships with a tool for manually running our configuration scripts. This tool can be found in the installation directory for SAP 3D Visual Enterprise Generator and is called `VEGConfigScriptRunner.exe`.

The tool is run from the command line passing arguments as follows:

```
SCRIPTNAME [/Server:HOSTNAME] [/Port:PORT] [/User:USERNAME] [/Password:PASSWORD]
```

Table 56: Argument Descriptions

Argument	Description
SCRIPTNAME	The name of the [Name].ps1 file you wish to run. The tool expects the ps1 file to exist in the [InstallDirectory]/Scripts folder
Server	The host name of the server on which SAP 3D Visual Enterprise Generator is installed
Port	The administration port for the installation. By default this is 8091.
User	An administrative user configured in SAP 3D Visual Enterprise Generator. The default user is SecurityAdministrator, however, any <VEGAdministrator> can be used here.
Password	The <VEGAdministrator> password

Procedure

1. Ensure that the SAP 3D Visual Enterprise Generator is running.
2. Locate the `VEGConfigScriptRunner.exe` in Windows Explorer.
3. Run a Command Prompt as Administrator.
4. Change the current directory to the directory in which you found `VEGConfigScriptRunner.exe`.
5. Run the executable with the input arguments as specified above. For example: `VEGConfigScriptRunner DS_Configuration_Default.ps1 /Server:localhost /Port:8091 /User:SecurityAdministrator /Password:P@ssword.`
6. Your chosen script should execute as if it were run as part of the configuration wizard.

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A Reference

The Main SAP Document Types

The following is an overview of the most important documentation types that you need in the various phases in the life cycle of SAP software.

Cross-Phase Documentation


SAPterm is SAP's terminology database. It contains SAP-specific vocabulary in over 30 languages, as well as many glossary entries in English and German

- Target group:
 - Relevant for all target groups
- Current version:
 - On SAP Help Portal at <http://help.sap.com> > [Glossary](#) >
 - In the SAP system in transaction `STERM`

SAP Library is a collection of documentation for SAP software covering functions and processes.

- Target group:
 - Consultants
 - System administrators
 - Project teams for implementations or upgrades
- Current version:
 - On SAP Help Portal at <http://help.sap.com> (also available as documentation DVD)

The **security guide** describes the settings for a medium security level and offers suggestions for raising security levels. A collective security guide is available for SAP NetWeaver. This document contains general guidelines and suggestions. SAP applications have a security guide of their own.

- Target group:
 - System administrators
 - Technology consultants
 - Solution consultants
- Current version:
 - On SAP Service Marketplace at <http://service.sap.com/securityguides> 

Implementation

The **master guide** is the starting point for implementing an SAP solution. It lists the required installable units for each business or IT scenario. It provides scenario-specific descriptions of preparation, execution, and follow-up of an implementation. It also provides references to other documents, such as installation guides, the technical infrastructure guide and SAP Notes

- Target group:
 - Technology consultants

- Project teams for implementations
- Current version:
 - On SAP Service Marketplace at <http://service.sap.com/instguides>

The **Installation guide** describes the technical implementation of an installable unit, taking into account the combinations of operating systems and databases. It does not describe any business-related configuration

- Target group:
 - Technology consultants
 - Project teams for implementations
- Current version:
 - On SAP Service Marketplace at <http://service.sap.com/instguides>

Configuration Documentation in SAP Solution Manager – SAP Solution Manager is a life-cycle platform. One of its main functions is the configuration of business scenarios, business processes, and implementable steps. It contains Customizing activities, transactions, and so on, as well as documentation

- Target group:
 - Technology consultants
 - Solution consultants
 - Project teams for implementations
- Current version:
 - In SAP Solution Manager

The **Implementation Guide (IMG)** is a tool for configuring (Customizing) a single SAP system. The Customizing activities and their documentation are structured from a functional perspective. (In order to configure a whole system landscape from a process-oriented perspective, SAP Solution Manager, which refers to the relevant Customizing activities in the individual SAP systems, is used.)

- Target group:
 - Solution consultants
 - Project teams for implementations or upgrades
- Current version:
 - In the SAP menu of the SAP system under ► *Tools* ► *Customizing* ► *IMG* ►

Production Operation

The **technical operations manual** is the starting point for operating a system that runs on SAP NetWeaver, and precedes the application operations guides of SAP Business Suite. The manual refers users to the tools and documentation that are needed to carry out various tasks, such as monitoring, backup/restore, master data maintenance, transports, and tests.

- Target group:
 - System administrators
- Current version:
 - On SAP Service Marketplace at <http://service.sap.com/instguides>

The **application operations guide** is used for operating an SAP application once all tasks in the technical operations manual have been completed. It refers users to the tools and documentation that are needed to carry out the various operations-related tasks.

- Target group:
 - System administrators

- Technology consultants
- Solution consultants
- Current version:
 - On SAP Service Marketplace at <http://service.sap.com/instguides>

Upgrade

The **upgrade master guide** is the starting point for upgrading the business scenarios and processes of an SAP solution. It provides scenario-specific descriptions of preparation, execution, and follow-up of an upgrade. It also refers to other documents, such as upgrade guides and SAP Notes

- Target group:
 - Technology consultants
 - Project teams for upgrades
- Current version:
 - On SAP Service Marketplace at <http://service.sap.com/instguides>

The **upgrade guide** describes the technical upgrade of an installable unit, taking into account the combinations of operating systems and databases. It does not describe any business-related configuration.

- Target group:
 - Technology consultants
 - Project teams for upgrades
- Current version:
 - On SAP Service Marketplace at <http://service.sap.com/instguides>

Release notes are documents that contain short descriptions of new features in a particular release or changes to existing features since the previous release. Release notes about ABAP developments are the technical prerequisite for generating delta and upgrade Customizing in the Implementation Guide (IMG).

- Target group:
 - Consultants
 - Project teams for upgrades
- Current version:
 - On SAP Service Marketplace at <http://service.sap.com/releasenotes>
 - In the SAP menu of the SAP system under ► [Help](#) ► [Release Notes](#) ► (only ABAP developments).

Typographic Conventions

Example	Description
<Example>	Angle brackets indicate that you replace these words or characters with appropriate entries to make entries in the system, for example, "Enter your <User Name>".

Example	Description
▶ Example ▶ Example ▶	Arrows separating the parts of a navigation path, for example, menu options
Example	Emphasized words or expressions
Example	Words or characters that you enter in the system exactly as they appear in the documentation
http://sap.com	Textual cross-references to an internet address
/Example	Quicklinks added to the internet address of a homepage to enable quick access to specific content on the Web
123456	Hyperlink to an SAP Note, for example, SAP Note 123456
<i>Example</i>	<ul style="list-style-type: none"> • Words or characters quoted from the screen. These include field labels, screen titles, pushbutton labels, menu names, and menu options. • Cross-references to other documentation or published works
Example	<ul style="list-style-type: none"> • Output on the screen following a user action, for example, messages • Source code or syntax quoted directly from a program • File and directory names and their paths, names of variables and parameters, and names of installation, upgrade, and database tools
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, database table names, and key concepts of a programming language when they are surrounded by body text, for example, <code>SELECT</code> and <code>INCLUDE</code>
EXAMPLE	Keys on the keyboard

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