



ENOVIA SmarTeam

SMARTTEAM PROCEDURE FOR UPGRADING TO V5R19

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Part Number: GEN-A7-190208

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CHAPTER 1: OVERVIEW

General

SmarTeam V5R19 provides a powerful set of services and tools to facilitate the centralized administration of the SmarTeam environment, in order to reduce costs and to make it easier to configure, manage and maintain the SmarTeam environment introduced in V5R19 versions.

This document will guide you through the upgrade process; from SmarTeam V5R17/V5R18 to SmarTeam V5R19. It is the same upgrade process for V5R17 to V5R19 as V5R18 to V5R19. It is recommended that you read the entire document before proceeding with the hands-on migration.

The target audience is technical personnel, such as application engineers and technical consultants who are conducting the migration of existing customers to SmarTeam V5R19.

This information herein is intended only for those who are upgrading a previous installation, and is not intended for new customers who are installing SmarTeam V5R19 on a 'clean' system.

The latest version of this document is available on the ENOVIA SmarTeam Program Directory.

Notes:

When upgrading to V5R19 from a version prior to V5R17 you must first upgrade to V5R17 or V5R18. For further details refer to relevant SmarTeam Procedure for Upgrading to V5R17 or V5R18.

When upgrading from V5R19 GA to a later Service Pack, run the upgrade Wzsrc and then run the DMD.

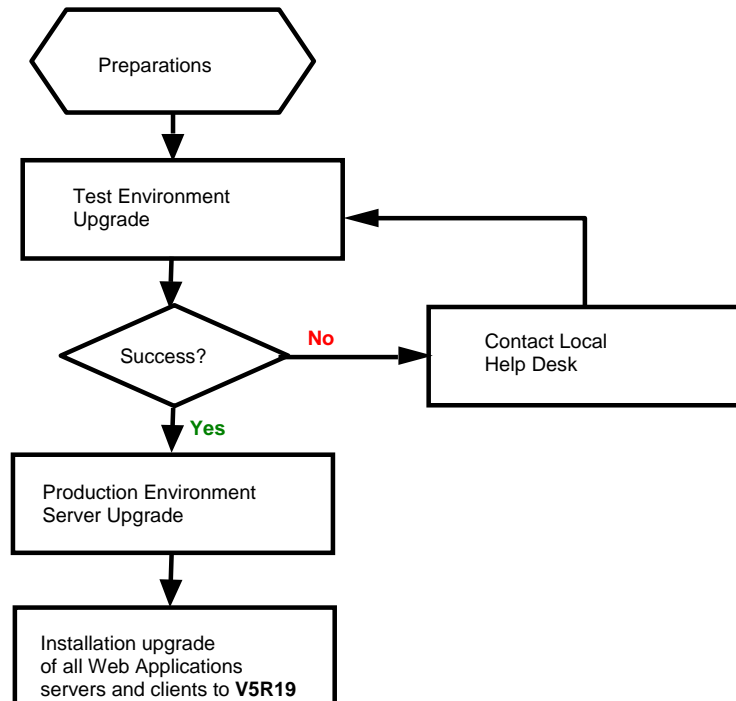
Hardware and Software

Before starting the actual upgrade process, make sure your hardware and software are compatible with SmarTeam V5R19 requirements. Refer to SmarTeam V5R19 Hardware and Software Requirements for latest updates and changes, such as:

- Supported Servers and Clients Operating Systems.
- Supported CAD versions
- Supported database versions
- Supported LUM versions

CHAPTER 2: MIGRATION PROCESS PRINCIPLES

Process Flowchart



The overall migration process is divided into two main stages:

- **Stage 1 - Test Environment upgrade:** SmarTeam Corporation highly recommends running the upgrade on the Test environment first, in order to verify SmarTeam system integrity in an isolated environment, and to avoid possible impact on the functioning of the Production environment. This test phase also allows you to familiarize yourself and gain experience with the step-by-step technical procedures of the upgrade. For further details refer to [Stage 1: Test Environment](#).
- **Stage 2 - Production Environment upgrade:**
 - ❑ **Phase 1 - Production Server Upgrade.** After the Test Environment upgrade has been completed successfully; proceed with the upgrade of the Production Environment.
 - ❑ **Phase 2 - Web Servers Upgrade.** After the SmarTeam data has been migrated in production, then proceed with the installation upgrade of all the SmarTeam Web servers when applicable (i.e. SmarTeam – Web Editor and/or SmarTeam – Community Workspace servers)
 - ❑ **Phase 3: Client Machines Upgrade.** Then proceed with the installation upgrade of all clients' applications, such as SmarTeam – Editor, CAD Integrations and SmarTeam – BOM.

For further details refer to [Stage 2: Production Environment](#).

Machines Required for Upgrade Process

In order to simplify and regulate the whole process of the Test and Production stages of the migration procedure, it is highly recommended to use dedicated computer(s). They should be in the same location where they can access all the required data and software necessary for a successful migration.

In the test environment the following machines should be used:

1 - SmarTeam Core Service Server Machine

This machine hosts the SmarTeam V5R19 Core Services, including:

- Session Management service, which enables a centralized authentication of SmarTeam users
- System Configuration service, which enables centralized control of all SmarTeam configuration settings
- Vault Service
- Workflow Service

2 - Client Machine with Administration Tools

This machine is required in order to perform:

- Install SQL Server 2005 Express Edition (pre-requisite for WizSrc and Data Model Designer utility). This installation is available on the SmarTeam SmDemo CD.
- Upgrade the Client Machine with Administration Tools
- Upgrade of the WizSrc database to V5R19
- Run the SmarTeam Data Model Designer utility

3 - Client Machine

- Upgrade of the SmarTeam Client Applications

Stage 1: Test Environment

Summary of the Upgrade Process

This section contains a brief summary of the migration activities required in the Test Environment.

Prerequisites:

As every Web Server has SmarTeam – Editor installed on it, if you are going to upgrade the Web Server, you must reset IIS before the SmarTeam – Editor Upgrade process.

Upgrade Procedure:

You must complete all the stages in the order listed in this table to successfully upgrade SmarTeam in the Test Environment to V5R19. This table also includes links to the detailed explanation of each activity, which are provided later in this document.

| Upgrade Stage | Machine to Use | Activities Required |
|---|--|--|
| Core Services Upgrade | Core Services Server | Install SmarTeam – Foundation V5R19 with the latest Service Pack including Core Services (Session Management Service and System Configuration Service) |
| Client Machine Upgrade | Client Machine | Install SmarTeam – Editor & additional applications installed at the customer site |
| WizSrc Upgrade | Client Machine with Administration Tools | Run the SmarTeamWizSrcUpgradeWizard tool (this utility actually extends the customer's current database to support the new features added in V5R19) |
| Running the Data Model Designer Utility | Client Machine with Administration Tools | Create SmarTeam Database using the SmarTeam Data Model Designer |

Stage 2: Production Environment

Summary of the Upgrade Process

This section contains a brief summary of the migration activities required in the Production Environment.

Prerequisites:

1. As every Web Server has SmarTeam – Editor installed on it, if you are going to upgrade the Web Server, you must reset IIS before the SmarTeam – Editor Upgrade process.
2. Backup the SmarTeam script directory.
3. Backup the configuration settings files, which are located under SmarTeam Home Directory/ConfigurationSettings directory.
4. Backup your CAD templates if they are part of your SmarTeam Environment. The Upgrade process will delete all CAD templates from the default location in the SmarTeam installation.

Upgrade Procedure:

You must complete all the stages in the order listed in this table to successfully upgrade SmarTeam in the Production Environment to V5R19. This table also includes links to the detailed explanation of each activity, which are provided later in this document.

| Upgrade Stage | V5R19 Machine to Use | Activities Required |
|--|----------------------|---|
| Phase 1 - Production Server Upgrade | | |
| Core Services Upgrade | Core Services Server | Install SmarTeam – Foundation V5R19 with the latest Service Pack including Core Services (Session Management Service and System Configuration Service). |

| Upgrade Stage | V5R19 Machine to Use | Activities Required |
|---|--|--|
| WizSrc Upgrade | Client Machine with Administration Tools | Conduct an upgrade of the WizSrc database once for each database. Copy to V5R19 using the SmarTeamWizSrcUpgradeWizard tool. |
| Running the Data Model Designer Utility | Client Machine with Administration Tools | Create SmarTeam Database using the SmarTeam Data Model Designer |
| Phase 2 - Web Servers Upgrade | | |
| Upgrade Web Servers | Web Server | Proceed with upgrade of SmarTeam - Web Editor & Web Navigator Server if relevant and/or proceed with upgrade of SmarTeam - Community Workspace Server if relevant |
| Phase 3 - Installation upgrade | | |
| Upgrade all Client Machines | All Client Machines | Proceed with upgrade of all SmarTeam V5R19 applications, which are installed on the clients in the following order: <ul style="list-style-type: none">• SmarTeam – Editor, which includes CAD Integrations, SmarTeam-BOM |

CHAPTER 3: MIGRATION ACTIVITIES

Core Services Upgrade

This section needs to be performed for both Test & Production Environments.

In order to upgrade SmarTeam – Foundation, perform the following steps:

1. Insert SmarTeam – Foundation Installation CD and select **SmarTeam - Foundation**.
2. In the Welcome window click **Next**.
3. In the User Name and Password window enter your User Name and Password. It should be the same login that was used during SmarTeam Installation. Click **Next**.
4. In the Ready to Install the Program window click **Install**.
Note: During the upgrade process the status of the progress will be shown in the Installing SmarTeam – Foundation window (the process may take a few minutes).
5. When the upgrade process has finished the InstallShield Wizard Completed window will appear. Click **Finish**.
6. In the Restarting Windows window; select “Yes, I want to restart my computer now” and click **OK**.
7. Your machine will be rebooted. The Core Services that you stopped at the beginning of this process will be started automatically.
8. Make sure that you have a backup of the configuration settings files, which are located under SmarTeam Home Directory/ConfigurationSettings directory.
9. The upgrade of the Core Services is completed.
10. Reconfigure the Workflow Server. The database connections of the Workflow Server service must be redefined through the Workflow Server Setup tool.
11. Reconfigure the Vault Server. After installing Vault Server component of SmarTeam – Foundation V5R19, activate the Vault Server Setup application and reconfigure the hostname (when using NetBIOS) or IP Address (when using TCP/IP) of the machine where the Vault Server Service is installed.
12. If you have additional Vault/Workflow Foundation servers, now you can run the upgrade procedure on them. During the upgrade of these servers, uncheck the option to install the Core Services on the same machine with Vault/Workflow, and indicate the dedicated computer on which the Core Services were installed.

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| Note: If the Core Services are installed on a dedicated computer separately from the Vault and/or Workflow server, the Core Services installation must be run first. |
|--|

Client Machine Upgrade

This section needs to be performed only for the Test Environment.

The V5R19 Client Upgrade Machine will be used for the upgrade of:

- **WizSrc:** To allow previously prepared custom templates to be saved into the upgraded database.
- **Running the Data Model Designer Utility:** To apply the modifications that were added in V5R19
- **Test the client:** Server connection

In addition, this machine will be used for verification of the SmarTeam authentication mechanism.

To upgrade the client machine:

1. Verify that the V5R19 Client Machine has access to the V5R19 Core Services Server.
Note: If you have MSDE 2000, with a SmarTeam database attached to it, on the Client machine, you need to delete the connection string using the SmarTeam Database Connection Manager.
2. Verify that the Data Model Designer has been installed on the client machine where the SmarTeam – Editor upgrade will be performed.
3. Install SQL Server 2005 Express Edition (and pre-requisites).
Note: SQL Server 2005 Express Edition and pre-requisites are automatically installed as part of the SmDemo installation process.
4. Insert SmarTeam – Editor Installation CD and select SmarTeam – Editor.
5. In the Welcome Window click **Next** to display the Location window (this may take a few minutes).
6. In the SmarTeam – Foundation Core Services Server Location window, enter the name of the test server and click **Next**.
7. In the Database Server window, select the name of SQL 2005 server; to where you want to **attach** the database to. Enter login and password and then click **Next**.
8. In the Database Server window, select the name of SQL 2000 server; from where you need to **detach** the database from. Enter login and password and then click **Next**.
9. In the Ready to Install the Program window click **Install**.

Note: During the upgrade process the status of the progress will be shown in the Installing SmarTeam – Editor window (the process may take a few minutes).

10. When the upgrade process has finished the InstallShield Wizard Completed window will appear. Click **Finish**.
11. In the Restarting Windows window; select “Yes, I want to restart my computer now” and click **OK**.
12. Your machine will be rebooted.
13. Copy all your existing SmarTeam scripts into the <SmarTeam home>\Script directory on the V5R19 Client Machine.
14. The client machine upgrade process has been completed.

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| <p>Note: When upgrading SmarTeam – Editor, the installation process identifies the existing installed integrations as well as other components, and automatically upgrades them to V5R19.</p> |
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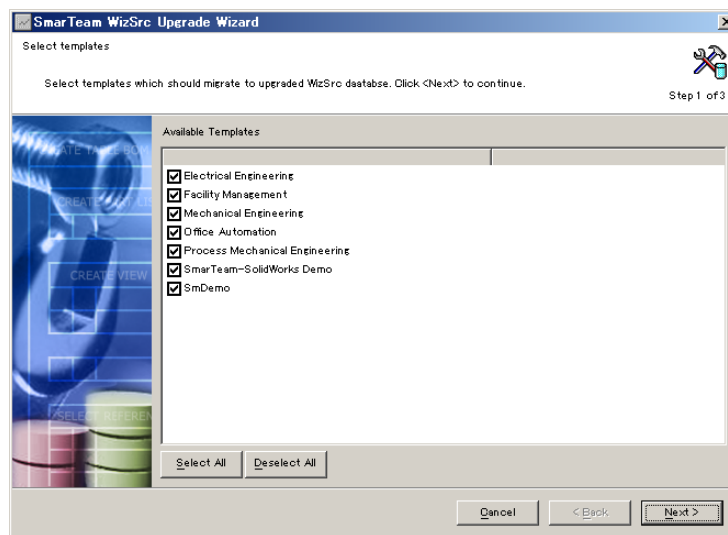
WizSrc Upgrade

This section needs to be performed for both Test & Production Environments.

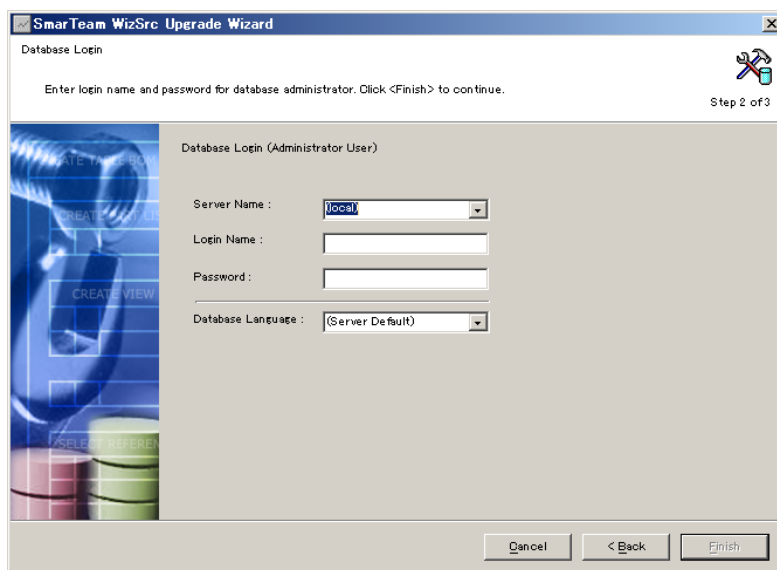
The WizSrc upgrade tool upgrades the user's WizSrc database located on the SmarTeam database server. The V5R19 Data Model Designer cannot be used without executing this tool. While upgrading, custom templates can be saved to the upgraded database. It is highly recommended to backup the current WizSrc database before running this tool.

To upgrade WizSrc:

1. Run SmarTeamWizSrcUpgradeWizard.exe, located under the <SmarTeam>\Upgrade directory.
2. In the Select Templates window select the templates that you want to upgrade for V5R19. Any template that you do not select cannot be used in V5R19. Then click **Next**.



3. In the SQL Server 2005 Express Edition Login window:
 - ❑ Enter the local SQL Server 2005 Express Edition Server Name, User (Login) Name and Password of the administrator of this server.
 - ❑ Click **Finish** to start the WizSrc upgrade process.



The image shows a screenshot of the 'SmarTeam WizSrc Upgrade Wizard' window, specifically the 'Database Login' step. The window has a title bar with the text 'SmarTeam WizSrc Upgrade Wizard' and a close button. Below the title bar, the text 'Database Login' is displayed. A message reads: 'Enter login name and password for database administrator. Click <Finish> to continue.' In the top right corner, there is a small icon of a wrench and a screwdriver, and the text 'Step 2 of 3'. The main area of the window is titled 'Database Login (Administrator User)'. It contains four input fields: 'Server Name' (a dropdown menu with 'local' selected), 'Login Name' (a text box), 'Password' (a text box), and 'Database Language' (a dropdown menu with '(Server Default)' selected). On the left side of the main area, there is a vertical blue bar with a grid pattern and some text that is partially obscured. At the bottom of the window, there are three buttons: 'Cancel', '< Back', and 'Finish'.

SmarTeam WizSrc Upgrade Wizard

Database Login

Enter login name and password for database administrator. Click <Finish> to continue.

Step 2 of 3

Database Login (Administrator User)

Server Name : local

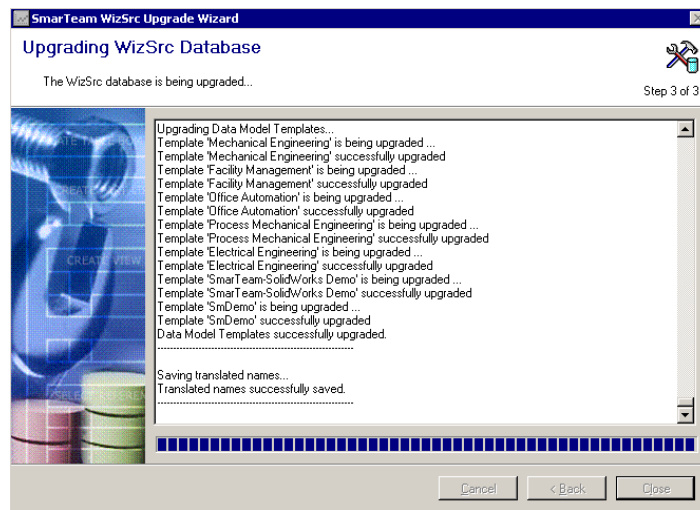
Login Name :

Password :

Database Language : (Server Default)

Cancel < Back Finish

4. The Summary window is generated to indicate that the WizSrc upgrade process is completed.



Running the Data Model Designer Utility

This section needs to be performed for both Test & Production Environments.

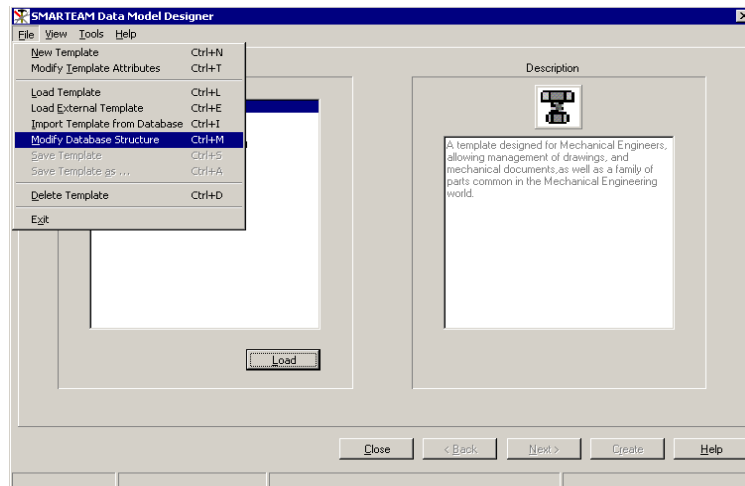
Before running the SmarTeam Data Model Designer Utility:

1. Backup your database.
2. If you use Web, verify that all previous menu items and icons are displayed correctly. The new DMD will not update menu items and icons from previous versions.
3. Verify that the NLS folders are not Read only and they should have shared permissions.

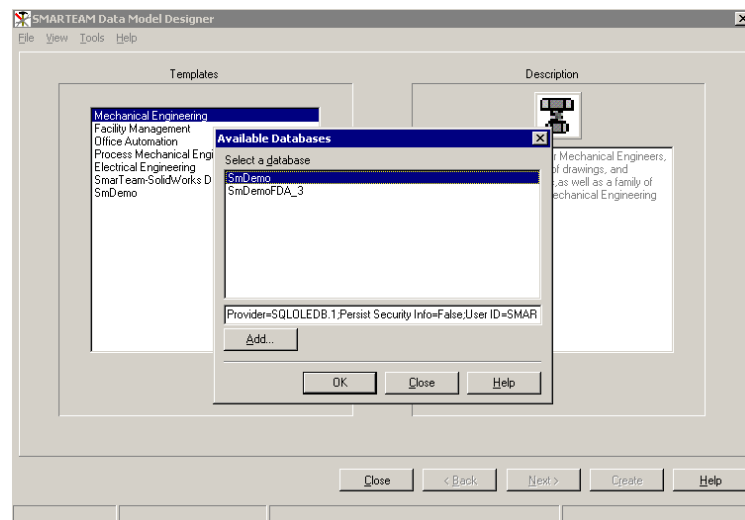
When you run the SmarTeam Data Model Designer utility you will enable the new V5R19 additional functionalities.

To run the SmarTeam Data Model Designer utility perform the following steps:

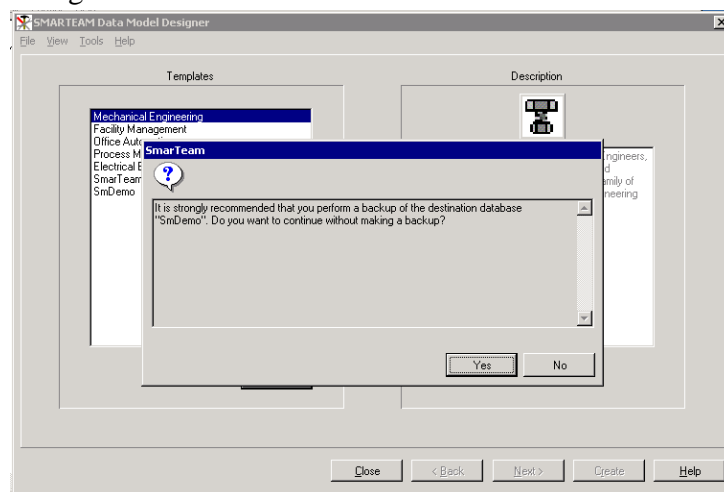
1. On the machine with the database, open the SmarTeam Data Model Designer utility, which is in Administration Tools. Select **File** menu and then **Modify Database Structure**.



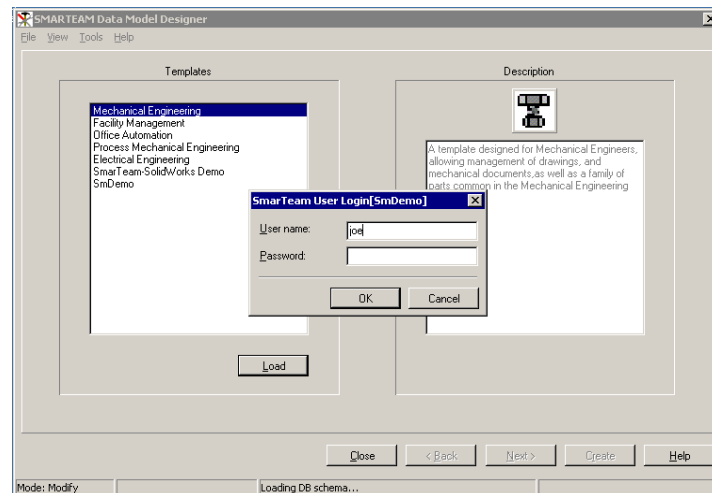
2. In the Available Databases window select the Database that needs to be upgraded and click **OK**.



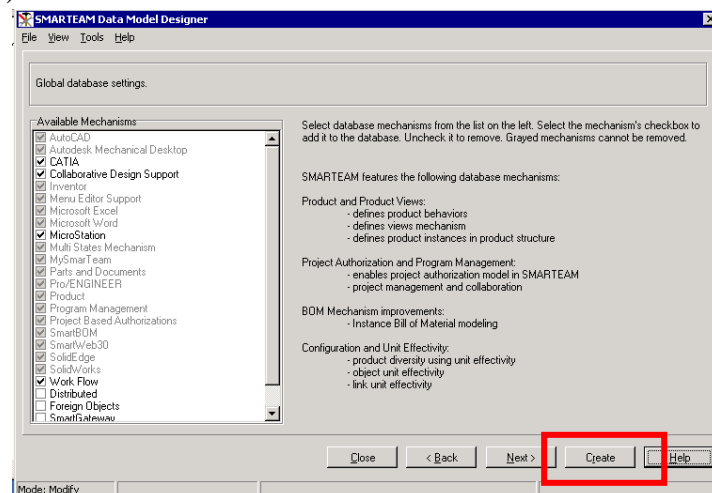
3. In the message window click **Yes**.



4. It will take few moments until the login window will appear. Enter your login (which must be Administrator) and click **OK**.



5. In the SmarTeam Data Model Designer window wait until the database structure has been downloaded (may take a few minutes) and then click **Create**. This operation will automatically add all modifications required for V5R19 (this may also take a few minutes).



Upgrade Web Servers

As every Web Server has SmarTeam – Editor installed on it, before starting any upgrade procedure on the Web Server, you must reset IIS before the SmarTeam – Editor Upgrade process.

Before upgrading the Web Applications verify that your Hardware & Software meet the requirements. Refer to the V5R19 Hardware and Software Requirements Guide for further details. In addition, you must perform the SmarTeam – Editor upgrade process on the Web Server before you start the Web Application upgrade process.

SmarTeam – Web Editor & SmarTeam – Navigator

SmarTeam – Web Navigator will be automatically upgraded during the SmarTeam – Web Editor upgrade process.

To upgrade SmarTeam – Web Editor:

1. Run the installation process as is described in the SmarTeam – Web Editor Installation Guide (the prerequisites and post installation are not required unless specified otherwise in this document). The following steps will not be available during the upgrade process:
 - ❑ SmarTeam System Requirements Window
 - ❑ SmarTeam Web Viewer Window
 - ❑ Web Server Selection
2. If you have customized the Style sheets files (.CSS), which are used to store some user interface settings of previous SmarTeam – Web Editor Versions, you need to redefine them in V5R19.
3. If you configured Windows Authentication for SmarTeam – Web Editor in a previous SmarTeam release, you need to reconfigure it when upgrading to V5R19. For further details on how to perform this task, refer to Define Microsoft® Windows Authentication Protocol Mode section in the SmarTeam – Web Editor Installation Guide.

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| <p>Note: After upgrading to V5R19, verify that the SmarTeam.std.dynamicTypeMappings.config.xml file does not exist in [SmarTeam HOME]\ConfigurationSettings\Data\Domain. If it exists you must delete it.</p> |
|---|

SmarTeam – Community Workspace

In order to upgrade the SmarTeam – Community Workspace, insert the SmarTeam Web Applications CD. Run the SmarTeam – Community Workspace installation process as described in the SmarTeam – Community Workspace Installation Guide (prerequisites and post installation are not required).

Once you have completed the SmarTeam – Community Workspace Installation process, run the Synchronize Assembly Helper utility installation process, which is available on the same CD.

Upgrade all Client Machines

This section needs to be performed only for the Production Environment.

Products can be upgraded directly, once the minimal version requirements are met, regardless of any Service Packs and/or hot fixes that were subsequently installed.

SmarTeam – Item and BOM

In V5R19 the installation process of SmarTeam – Item and BOM (previously known as SmarTeam – BOM) is included as part of the SmarTeam – Editor Installation process in the Custom Setup screen. SmarTeam – Item and BOM is activated according to licenses.

If you select BOM – Package Briefcase in the SmarTeam – Editor Installation process, after the upgrade process you must also run the Briefcase Administration Wizard. This is available from the SmarTeam Start Menu.

If you select Item and BOM Management in the SmarTeam – Editor Installation process, when upgrading SmarTeam – Editor to V5R19, you will automatically upgrade SmarTeam –

BOM to SmarTeam – Item and BOM V5R19. All previous versions of SmarTeam – BOM will be automatically uninstalled.

If the Item Behavior (may be called Part Behavior) mechanism already exists in the SmarTeam database, you must perform this upgrade process. If it does not exist you need to add Item Behavior to the relevant super class in your database and then perform this upgrade process.

SmarTeam – Item and BOM V5R19 has an enhanced data model, therefore it is necessary to perform database upgrade for SmarTeam releases prior V5R19. It requires running the SmarTeam Data Model Designer as a mandatory step of the upgrade process.

When running the SmarTeam Data Model Designer in V5R19 it automatically upgrades the SmarTeam database without an impact on customer's data. All SmarTeam - Item, BOM & Configuration Management functionality features will be immediately available for operation on an existing customer's data.

Note: Customized SmarTeam environments, where customization was done in accordance with SmarTeam implementation methodology, does not require an additional upgrade process or the migration of customer's data. However, it must be reviewed and analyzed in order to evaluate impact of the new functionality.

SmarTeam – Regulatory Compliance Framework

Currently it is not possible to upgrade to SmarTeam – Regulatory Compliance Framework from SmarTeam – FDA Compliance.

SmarTeam – Multi-site

The Upgrade procedure for Multi-site involves a Data Model Change and uses the Data Model Propagation functionality.

SmarTeam – Multi-site V5R19 software is installed as a system. Therefore, it is highly recommended to have a Secondary Site computer located on the same LAN as the Primary Site, subsequently returning the computer to its actual location. The reason is that the Add as OMD stage is performed by Oracle as two-phase commit, which is very bandwidth-dependent.

Note: An expert Oracle Database Administrator (DBA) is required when installing SmarTeam – Multi-site software.

SmarTeam – Multi-site Installations

There are two types of SmarTeam – Multi-site installations:

- ❑ **SmarTeam – Multi-site Client:** The SmarTeam – Multi-site Client software is installed as part of the SmarTeam – Editor installation process.
- ❑ **SmarTeam – Multi-site Admin:** Includes the required components and administrative tools to configure the distributed environment on the SmarTeam – Multi-site server.

Among the multiple sites, the *Primary Site* refers to that site that is set up for managing the other sites; the Primary Site must have the DBSiteManager software installed on either the server or one of its clients.

Upgrade Steps

The following steps are required for upgrading the SmarTeam – Multi-site:

1. Prior to upgrading, perform these pre-upgrade activities (failure to do so may result in database corruption and data loss):
 - ❑ Clean Up Transaction Log: Push all transactions from all sites (failure to do so may result in losing these transactions during the Upgrade procedure).
 - ❑ Delete any Oracle Replication Errors: This helps you to determine if any problems occur after Upgrade.
 - ❑ Back up Databases: You should perform a cold backup of all databases before starting the Upgrade procedure. Backup all sites at the same time to avoid discrepancies. It is not recommended to use a hot backup, since the sites are not available during the Upgrade procedure, and cold backup offers better protection.
2. Install a SmarTeam – Multi-site Administrator at one of the computers at the Primary Site. Set up the configuration servers in the SmarTeam – Multi-site environment.
3. From the SmarTeam – Multi-site Admin, perform the Server Upgrade for the entire Multi-site system. To upgrade the server-side SmarTeam – Multi-site software Run either of the data model change utilities, the SmartDBUpgrade utility or the SmarTeam – Data Model Designer, on SmarTeam – Multi-site Admin at the Primary Site and perform its upgrade.

Note: The SmartDBUpgrade utility is used to upgrade from V5R10 to V5R11 or V5R12. The Data Model Designer utility is used to upgrade from V5R11/V5R12 to V5R13/V5R14/V5R16/V5R17/V5R18/V5R19. This also applies to normal data model changes for the SmarTeam system.

- ❑ Propagate changes to all Secondary Sites using Data Model Propagation utility. Refer to section [Propagating Data Model Changes](#).
- ❑ Complete Propagation at Primary Site using Data Model Propagation utility. Refer to section [Complete Data Model Changes Propagation](#).

Note: After performing this upgrade, SmarTeam – Multi-site preferences policy is set to Global, regardless of policy that existed prior to the upgrade.

4. System Configuration Upgrade: If the change in the SmarTeam – Multi-site system includes changes in the system configuration, you need to synchronize the system configuration at the Secondary Sites in conjunction with the System Configuration on the Primary Site. Specifically, if you upgrade the SmarTeam – Multi-site system from a SmarTeam version where there was no System Configuration (V5R10 or V5R11) you need to migrate the System Configuration at the Primary Site and then distribute it to the Secondary Sites.

Upgrade Existing Data Model

This part describes how to successfully upgrade an existing data model in a SmarTeam – Multi-site environment.

SmarTeam – Multi-site should be installed on all computers in the system; in particular, the SmarTeam – Multi-site Administrator Client software should be installed at the Administrator Client with the Database Replication Options.

One of the main advantages of SmarTeam - Editor is the ability to adjust its Data Model to match a customer's current needs. SmarTeam – Multi-site allows this ability to be applied to all SmarTeam databases in a Multi-site environment. This ability is supported in the SmarTeam Data Model Designer tool.

This part refers only to the SmarTeam Data Model Designer and explains how to upgrade the Data Model in the Primary site and propagate the changes to all Secondary sites.

The SmarTeam Data Model Designer software can be run at the Primary Site only; it is disabled on all secondary sites to prevent data model changes that can conflict with other sites.

SmarTeam – Multi-site captures all changes performed on the data model by the SmarTeam Data Model Designer and dumps them into Oracle export file. This file should be uploaded to all secondary sites to ensure that SmarTeam data model at all sites is identical. This is done by utility called Data Model Propagator.

The Data Model Propagator utility uses this dump file to upload the changed data model to the Secondary Site and perform any other necessary activities.

The process of data model changes causes replication to stop working on all sites, for the entire duration of the process, ensuring Multi-site system integrity. The Multi-site system becomes available for regular processing only after completing the full procedure correctly.

Data Model Upgrade Procedure

There are several stages in the Data Model Upgrade procedure:

1. Changing the Data Model on the Database on the Primary site – using the SmarTeam Data Model Designer tool to introduce the desired changes into the Database
2. Propagating the Primary site Database changes – using the Data Model Propagator tool to:
3. Introduce the changes into the replicated Databases on each of the secondary sites
4. Re-establish coordination between the primary and secondary sites (Propagation Completion).
5. Finish the Data Model Upgrade procedure.

Among the multiple sites, the *Primary Site* refers to that site that is set up for managing the SmarTeam – Multi-site software at all sites.

Overall Upgrade Procedure

The overall Data Model Upgrade procedure consists of the following main stages:

1. Pre-Upgrade
2. Performing Changes in the Primary Database
3. Propagating Data Model Changes

4. Complete Data Model Changes Propagation
5. Finish the Data Model Upgrade Procedure

Notes:

The SmarTeam – Multi-site software will not operate during the Data Model Propagation procedure.

It is recommended to perform a backup of all databases before starting the upgrade procedure.

Preliminary knowledge of SmarTeam – Multi-site and the DBSiteManager application is required.

Pre-Upgrade

Perform the following steps before performing a Data Model upgrade:

1. Designate one computer at each site, primary and secondary, to be the Data Model Propagation Manager at that site. For each designated computer, perform an Administrator Client installation of the SmarTeam – Multi-site software with the Database Replication support option. For the Primary site, you should use same computer that was already designated to be the SmarTeam – Multi-site Administrator Client; in that case no additional Client installation is required. Each of these computers will now have the tools DBSiteManager and Data Model Propagator software installed.
2. Verify that the Oracle Import /Export utilities are installed at each Data Model Propagation Manager. If these utilities are not installed, install them; the SmarTeam – Database Engine CD or original Oracle installation CD is required. The Export/Import Utilities installation option is located in the Database Utilities section.
3. Verify that the connection between sites exists and is stable. This can be done by "pinging" the sites from any-to-any.
4. Run DBSiteManager to verify that the sites are not corrupted. Check if all flags next to the site names are green.
5. Backup all sites as described in SmarTeam – Multi-site Administration Methodology Guide.

Note: Performing a Data Model Upgrade in a Multi-site environment is a very resource-consuming procedure. Therefore it is recommended to perform it in the time of minimal LAN and WAN workload. The Data Model Upgrade SmarTeam – Multi-site procedure working in everything-or-nothing mode: every step must be completed successfully. Failure of a certain step may require restore from backup for the site being currently upgraded or, in the most critical case, of the entire system.

Performing Changes in the Primary Database

In this section you run the SmarTeam Data Model Designer to perform the required changes in the model.

Note: After performing the procedure in this section, the SmarTeam User Account Management mechanism will not work until the Complete Data Model Changes Propagation procedure has been performed.

Changing the Data Model

1. At the Primary site, run the SmarTeam Data Model Designer on the Data Model Propagation Manager computer at <SmarTeam Home>\bin; a message appears.
2. Click **OK**; the message to back up your database appears. Click **Yes**.
3. Perform your desired changes in the Data Model structure.
4. Click **Create** to apply the selected changes; a message is displayed.
5. Click **OK**.
6. From the SysAdmin window, type the Password of the Oracle System Administrator and click **OK**; the Select RepAdmin window appears.
7. Type the password of the Oracle Replication Administrator and click **OK**. After the SmarTeam Data Model Designer performs the required changes, the following files are produced:

| File | Location | Description |
|---|------------------------|--|
| SmarTeam Data Model Designer .DMP dump file | <SmarTeam>\Replication | Oracle export file with GUID-style name, for example, 4D29DC5B788F11D69185005004240285.DMP (used for Data Model Propagation) |
| Log file | <SmarTeam>\Replication | Log file of Oracle export. For example 4D29DC5B788F11D69185005004240285.TXT (not necessary for Data Model Propagation) |
| MultiSiteWizardLog.log | <SmarTeam>\Replication | Multi-site-related log file Contains error or warning messages (not necessary for Data Model Propagation) |

Note: Usually, the execution time of SmarTeam Data Model Designer in Multi-site environment degrades slightly in comparison to the regular SmarTeam –Editor environment.

Propagating Data Model Changes

Note: Before running the Data Model Propagator, it is highly recommended to backup the Secondary Site Database after the Data Model Change.

1. Copy the Oracle export .DMP file to the <SmarTeam>\Replication directory of the Data Model Propagation Manager computers in each Secondary Site.
Note: To minimize the time required, it is highly recommended to perform the Data Model Changes Propagation from the Data Model Propagation Manager located inside the LAN of the Secondary Site being upgraded.
2. Run the Data Model Propagator at a Secondary site:
<SmarTeam>\bin\DataModelPropagator.exe.
The Data Model Propagator appears.
3. Click **Propagate**.
4. Repeat steps 1-3 for each Secondary Site.
5. After the changes have been successfully propagated to all Secondary Sites go to the Complete Data Model Changes Propagation section.
Note: In the case of failure, restore from backup – for the current secondary site only.

Complete Data Model Changes Propagation

1. Run the Data Model Propagator on the Primary site at:
<SmarTeam>\bin\DataModelPropagator.exe.
The Data Model Propagator appears.
2. Click **Complete Propagation**.
Note: The duration of the Propagation Completion procedure depends on the number of changes performed on the Primary database by the SmarTeam Data Model Designer. For minor changes, for example, adding few attributes, Propagation Completion may take 15-30 minutes; adding a complex mechanism may cause Propagation Completion to take a few hours.

If a system failure occurs at this point for any reason, see the SmarTeam – Multi-site Administration Guide.
3. From the SysAdmin window, type the **Password** of the Oracle System Administrator and click **Ok**; the Select RepAdmin window appears.
4. Type the **Password** of the Oracle Replication Administrator and click **Ok**.

The Data Model Propagator window closes automatically.

After successful completion of the Complete Propagation procedure, the SmarTeam – Multi-site system is available again.
5. Click **OK**.

Finish the Data Model Upgrade Procedure

From the open DMD window, click **OK** to conclude the Data Model Upgrade procedure.

CHAPTER 4: STANDALONE UPGRADE PROCESS

This Upgrade Process is only suitable for Standalone (demonstration environment), when a single, Standalone Upgrade Machine is used for the entire upgrade process.

If both SmarTeam – Foundation and SmarTeam – Editor are installed on one machine, you must upgrade SmarTeam – Foundation services (Vault / Workflow services) first and then upgrade SmarTeam – Editor (includes SmarTeam Integrations). When upgrading SmarTeam – Editor, the installation process identifies the existing installed integrations as well as other components, and automatically upgrades them to V5R19.

If you originally installed SmarTeam – Editor in Standalone mode on each client machine, the V5R19 installation will upgrade to the same mode, which includes the V5R19 Core Services. Therefore, in production environment, it is recommended to uninstall first the original Editor installation and then to proceed with V5R19 installation on each ‘clean’ machine.

This table contains a brief summary of the migration activities required in the Demonstration Environment. It also includes links to the detailed explanation of each activity, which are provided later in this document.

You must complete all the stages in the order listed in this table to successfully upgrade to SmarTeam V5R19 on a Standalone Machine.

| Upgrade Stage | Activities Required |
|---|--|
| Core Services Upgrade | Install SmarTeam – Editor V5R19 in Standalone mode including Core Services (Session Management Service and System Configuration Service), and all SmarTeam Administrator tools. Install the latest Service Pack of SmarTeam – Editor V5R19. |
| WizSrc Upgrade | Conduct an upgrade of the WizSrc database copy to V5R19 using the SmarTeamWizSrcUpgradeWizard tool. |
| Running the Data Model Designer Utility | Perform “Create” on this database using SmarTeam Data Model designer as described above. |

CHAPTER 5: SERVERS MIGRATION TO WINDOWS 2003

All servers must be installed on Windows 2003 for SmarTeam V5R19. The procedures described in this chapter are provided to assist with the migration of servers to Windows 2003 during the upgrade process to V5R19.

Note: SmarTeam - V5R16 was the last release, which supported Windows 2000 as a server platform.

Core Services Server

To migrate an existing Core Services Server installed on Windows 2000 to a new server installed on Windows 2003, perform the following procedure:

1. Disconnect the old Core Services server from the Network.
2. Install SmarTeam Foundation V5R19, making sure that you install the Core Services Server V5R19 on a clean Windows 2003 Server machine.
3. In the existing Core Services Server machine (on Windows 2000), go to <SmarTeam Home>\ConfigurationSettings\Data directory and zip all directories (except "Default") that exist in this directory.
4. Copy the Zipped file to the new Core Services Server machine (on Windows 2003) to the <SmarTeam Home>\Configuration\Data directory and then unzip this file.
5. Give all SmarTeam components the new location of the Core Services Server. This can be done in either of the following ways:
 - Change the Network Identification (DNS name, Hostname and IP address) of the new Core Services Server machine (on Windows 2003) to the Network Identification of the old Core Services Server machine (on Windows 2000).
Note: You must first change the Network Identification of the old Core Services Server machine in order to avoid collision in the network
 - During upgrade of SmarTeam – Editor to V5R19, change the location of the SmarTeam – Foundation Core Services Server, in the SmarTeam – Editor Install Wizard screen.
6. Update all other SmarTeam server machines with the new location of Core Services Server (Vault, Workflow, and FTS).

Vault Server

To migrate an existing Core Services Server installed on Windows 2000 to a new server installed on Windows 2003, perform the following procedure:

1. Disconnect the old Core Services server from the Network.
2. Install SmarTeam Foundation V5R19, making sure that you install the Vault Server V5R19 on a clean Windows 2003 Server machine.

3. Upgrade all SmarTeam clients to V5R19.
4. Run the Data Model Designer from a client machine with Administration tool on the database.
5. Copy SmVaults directory from the existing Vault Server to the new V5R19 Vault Server.
6. Change Network Identification (DNS name, Hostname and IP address) of new Vault Server machine (on Windows 2003) to the Network Identification of the old Vault Server machine (on Windows 2000).
Note: You must first change the Network Identification of the old Core Services Server machine in order to avoid collision in the network.

Final Tuning of configuration:

7. Copying of the smVault directory erases all permissions made in the old Vault Server machine. Therefore, you must add the shared authorization to the following directories:
 - Add “smVaultAdmins” and “smVaultUsers” groups to be authorized on SmVault Subdirectories.
8. Run “Vault Server Setup” from a SmarTeam client with Administration tools. This is done by directing SmVault to the existing path (Verify IP address should be the same as the server machine. If not, change protocol from “TCP\IP” to “Named Pipes” and again to “TCP\IP” in order to update the IP Address).

Note: For each vault server, the Generate Key and Import Key operations must be performed. For more information refer to the Vault documentation in the SmarTeam – Foundation Administration Guide.

9. Run the Database Connection Manager from new Vault Server (on Windows 2003) and check “Available for Use in SmarTeam Vault”.

NLS

To migrate the existing customized NLS data to the new server, copy the custom directory from the NLS folder to the NLS folder in the new server.

Full-Text Search (FTS) Server

To migrate an existing Full Text Server installed on Windows 2000 to a new server installed on Windows 2003, perform the following procedure:

1. Install SmarTeam – Foundation V5R19, making sure that you install the Full Text Search on a clean Windows 2003 Server machine.
2. Create indexing according to the guidelines in the SmarTeam – Editor Administrator Guide (Full Text Search Server, Defining a New Catalog and New Index for files directories).
3. If the new Full Text Search Server machine has a different Network Identification, update the following related system configuration keys in the System Configuration Editor:
 - SmartFTS.IndexingServer in SmarTeam.std.legacyPreferences

- SmartFTS.MachineName in SmarTeam.std.legacyPreferences
- SmartFTS.Catalog in SmarTeam.std.legacyPreferences

Workflow Server

To migrate an existing Workflow Server installed on Windows 2000 to a new server installed on Windows 2003 server, perform the following procedure:

1. Install SmarTeam – Foundation V5R19, making sure that you install Workflow, on a clean Windows 2003 Server machine.
2. After installation, run the workflow server setup utility to configure the Workflow Server in the SmarTeam environment.
3. Remove the old Workflow Server services in order for all new workflow processes to work with the new Workflow Server.

Web Editor Server

To migrate an existing SmarTeam – Web Editor Server installed on Windows 2000 to a new SmarTeam – Web Editor Server installed on Windows 2003, perform the following procedure:

1. Install SmarTeam – Web Editor V5R19 on a clean Windows 2003 machine.
2. Copy all customized files that were updated to the new server, e.g. Scripts.
3. Change the following System Configuration key, which relate to the SmarTeam Web – Editor Server location, to the new Network Identification of the new server:
 - WorkflowAlerts.SmartWebServer in SmarTeam.std.legacyPreferences
4. You need to verify that the following System Configuration keys are pointing to the new server, if you changed the values of these System Configuration Keys in a previous release:
 - uploadDirectory in SmarTeam.std.filestoragemanager
 - downloadDirectory in SmarTeam.std.filestoragemanager
 - UploadURL in SmarTeam.std.filestoragemanager
 - Download URL in SmarTeam.std.filestoragemanager

Community Workspace Server

To migrate an existing SmarTeam – Community Workspace Server installed on Windows 2000 to a new SmarTeam – Community Workspace Server installed on Windows 2003, perform the following procedure:

1. Install SmarTeam – Community Workspace V5R19 on a clean Windows 2003 machine.
2. Copy all customized files that were updated to the new server e.g. Scripts.
3. Set the URL/Server Name of the new SmarTeam – Community Workspace Server to point to the new location of the Community Workspace Server. This is performed as described in the “Setting the URL/Server Name for SmarTeam – Community Workspace” section of in the SmarTeam – Community Workspace Installation Guide, Post Installation Chapter.

Web Viewer Server

To migrate an existing SmarTeam – Web Viewer Server installed on Windows 2000 to a new SmarTeam – Web Viewer Server installed on Windows 2003, perform the following procedure:

1. Make sure that all Markup files are copied to the Vault before starting to upgrade to V5R19.
2. Install SmarTeam – Web Viewer V5R19 on a clean Windows 2003 machine.
3. Change the following System Configuration keys, which relate to the SmarTeam – Web Viewer Server location, to the new Network Identification of the new server
 - TemporaryViewerPath in SmarTeam.std.viewers
 - TemporaryViewerURL in SmarTeam.std.viewers
 - JVueViewerDirectory in SmarTeam.std.viewers
 - JVueURL in SmarTeam.std.viewers
 - JVueServer in SmarTeam.std.viewers

Gateway Server

To migrate an existing SmarTeam – Gateway Server installed on Windows 2000 to a new SmarTeam – Gateway Server installed on Windows 2003, install SmarTeam – Gateway V5R19 on a clean Windows 2003 Server machine.

CHAPTER 6: CONFIGURATION FOR SMARTTEAM EXPRESS METHODOLOGY

This section provides all the information necessary for configuring SmarTeam for use with a new SmarTeam Express Database in V5R19 or for upgrading from SmarTeam V5R18 SP2 HF1 Express.

It contains the following topics:

- [Accept or Reject Process](#) – Change admin settings
- [Export/Import XML](#) – Change admin settings
- [Purge Specification Links](#) – Change admin settings
- [Upload Documents](#) – Change admin settings
- [Clean Revision Field](#) – Change script
- [Configuration for Web](#)

Note: An Excel file named Admin_Settings_in_PLMDB.xls is attached to this document. The first sheet, All Admin Settings, contains a list of all the Admin Settings in the V5R19 Express database. The second sheet, New SetFlowStatus Admin Setting, contains the Admin Settings for the SetFlowStatus function.

Accept or Reject Process

The mapping of the Lookup Value by the Response Name is fully defined in the Admin Settings without the need for mapping in the script file.

A DLL function called 'ShowFlowStatusByResponseName' is called from the script function 'PLMDB_ShowFlowStatus' and it replaces the DLL function 'ShowFlowStatus' from the previous release.

Note: If you are upgrading from V5R18 SP2 HF1 and want to remain with the script from V5R18 SP2 HF1 but use the new DLL function, you need to make sure that the DLL function 'PLMDB_ShowFlowStatus' is in the new format. You must then define the new Admin Settings.

Change the Admin Settings as follows:

| Attribute Name | Value | Description |
|----------------------------|-------------------------------------|--|
| Section | SetFlowStatusByResponse | |
| Subject | Global_1 \ Global_2 \ ... | The definitions will be applied to all processes |
| First Value – Fourth Value | <FLOW RESPONSE NAME>;<Lookup Value> | e.g. SEND TO REVIEW;In Review |
| Section | SetFlowStatusByResponse | |

| Attribute Name | Value | Description |
|----------------------------|--|--|
| Subject | <Process Name>_1 \ <Process Name>_2 \ ... | The definitions will be applied to the specified process |
| First Value – Fourth Value | <FLOW RESPONSE NAME>;<Lookup Value> | e.g. INITIATE;Started |

Notes:

If the same Flow Response Name is defined for all processes (Global_1) and a specific process and the Lookup Value is different, the system will use the Lookup Value of the specific process.

For a complete list of settings that replaces the settings from R18 SP2 HF1, see the second sheet of the attached Excel file.

Export/Import XML

The Export XML tool exports items and BOM to an XML file that will be imported to the ERP system.

The Import XML tool imports items from the ERP system to SmarTeam. If the item already exists it is updated, and if it does not exist, it is added.

The Admin Settings contain the definitions of the attributes to be exported to the XML file or imported from the XML file. All the settings for attributes are defined in the Long Value field.

Important: In SmarTeam Express V5R18 SP2 HF1 the Admin Settings definitions were for "Excluded Attributes", i.e., values that will not be included in the Import/Export operation. In V5R19 SP1 they are for "Included Attributes", the Admin Settings definitions are for "Included Attributes", i.e., values that will be included in the Import/Export operation.

Add the Admin Settings as presented in the table below:

| Function | Section | Subject | Mandatory |
|----------|----------------|--------------------------------|-----------|
| Export | Smart XML_ITEM | IncludedItemAttributes | Yes |
| Export | Smart XML_BOM | IncludedHeaderAttributes | Yes |
| Export | Smart XML_BOM | IncludedLineAttributes | Yes |
| Import | Smart XML_ITEM | IncludedImportItemsAttributes | No |
| Import | Smart XML_BOM | IncludedImportLineAttributes | No |
| Import | Smart XML_BOM | IncludedImportHeaderAttributes | No |

Notes:

The previous Excluded Attributes Admin Settings can be deleted.

This functionality is available for SmarTeam – Editor Windows-based only. When running from SmarTeam – Editor Web-based, an error message appears.

For more information on these attributes, refer to the SmarTeam – Editor online help, Database Configuration for SmarTeam Express.

Purge Specification Links

The links to purge (links of minor revisions only or links to minor revisions and previous major releases) are defined by the administrator in a new Admin Setting. In V5R18 SP2 HF1, the user could define which links to purge.

The administrator should add a new Admin Setting as follows:

| Attribute Name | Value | Description |
|----------------|-------------------------|---|
| Section | PurgeSpecificationLinks | |
| Subject | General | |
| First Value | True or False | True - Only latest document revision will be linked to the promoted item False - Purge only the minor revisions |
| Long Value | Item states | Item Mature States – the command will run on items promoted to these states. The list of values should be separated using a semi-colon (e.g. Released; Limited Release) |

| |
|--|
| Note: The script PLMDB_PurgeSpecificationLinks should be assigned using Script Maintenance to the hook After - New Revision in addition to the hook After - Promote. |
|--|

Upload Documents

A second value has been added to the Upload Documents tool to allow you to define the default class. Update the existing Admin Setting as follows:

| Attribute Name | Value | Description |
|----------------|------------------------|---------------------------|
| Section | UploadDocuments | |
| Subject | DefaultFileType | |
| First Value | <File Type Definition> | Exists from V5R18 SP2 HF1 |
| Second Value | Default Class Name> | e.g. Document |

| |
|---|
| Note: If no value defined the default class will be the first class in the Documents Super Class defined in the database. |
|---|

Clean Revision Field

In the function Add as Copy (Hook = After) that appears in the Folder class in the Script Maintenance, change the script as follows:

From: PLMDB_CleanRevisionField

To: Script File = PLMDatabase.bs, Function Name = "PLMDB_CleanRevisionField_After"

Configuration for Web

The Administrator should perform the following steps to ensure that the Express functionality will also work from the Web-based client:

1. Copy Script file: Copy the script file PLMDB_SmarteamWebHooks.wsc from the SDK folder to your script folder.
2. Register Script file: Right-click on PLMDB_SmarteamWebHooks.wsc in your script folder and select Register.
3. Define Server Hooks/Init Key: Open the System Configuration Editor and define the System Configuration Key as follows:
 - Select Miscellaneous Configuration, Server Hooks, Init.
 - Click Add Value.
 - Enter the value PLMDB_SmarteamWebHooks.WSC.
 - Define the level for this setting (Domain \ Site \ ...)
4. Create ECR Folders on Web: For the Engineering Change Request (ECR) process, assign the function PLMDB_CreateECRFoldersWeb in the Start Node of the event On Receive using the Flowchart Designer.
Note: Currently, although it is possible to connect this function, it does not work in SmarTeam – Web Editor.

Important: In many cases, hooks are already used by other scripts, either supplied by SmarTeam or written by the implementer. In these cases, please make sure to contact the implementer of the system in order to correctly merge scripts so that the new functions will be properly applied and used.

Configuring Menus upon Upgrading from V5R18 Express Database

When upgrading from the V5R18 Express database, in order to prevent two different menus appearing (the existing PLMDB menus and the new SmDemo menus), the SmarTeam Express database admin should perform the following steps before upgrading:

1. Open the Menu Editor in V5R18.
2. Create a new profile named Administrator.
3. Add all products to the new profile.
4. Copy the content of all products from the System profile to the new profile.
5. Delete all the contents from the System and User profiles.

APPENDIX A: SDK SCRIPTS

This section is only relevant if you use SDK Scripts.

When you install SmarTeam – Editor without SmDemo, after upgrading to V5R19, all scripts are moved to <SmarTeam>\SDK. Their previous location was <SmarTeam>\Scripts.

If a script provided by SmarTeam is needed for customer's use, it must be copied to <SmarTeam>\Scripts directory.

Examples of such scripts:

- ❑ UpdateDirtyFlag.bs
- ❑ SetDesc.bs
- ❑ DesignCopy.bs - If the Design Copy Script was modified in previous versions you need to add the changes to the Design Copy Script in the new release.