

Microsoft Dynamics® AX 2009

Migration of Microsoft Dynamics AX Version Control System content from Microsoft Visual SourceSafe® to Microsoft Team Foundation Server

White Paper

This document describes how to migrate the content of version control from Microsoft Visual SourceSafe® (VSS) to Microsoft Team Foundation Server (TFS) and enable the Microsoft Dynamics AX Client to connect to the new repository.

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<http://www.microsoft.com/dynamics/ax>



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Terminology

- **Source Repository** - the Visual SourceSafe (VSS) Version Control System (VCS) repository that you migrate to Team Foundation Server (TFS).
- **Target Repository** - the TFS repository created from the VSS repository.
- **Global Repository** - the back-end (server) version of the VCS content.
- **Local Repository** - the local (client) version of the VCS content.
- **Team Foundation Client Workspace** - the local repository of TFS. It can have a custom view that maps only the part of the source control content. For example, a sub-tree of the nested folders.

Introduction

The MorphX Integrated Development Environment (IDE) can integrate with various version control systems. In particular, it can integrate with VSS and TFS. Both of these back-ends provide a file-based local repository that is available on the machine on which the Microsoft Dynamics AX client is installed. If you use TFS as a central point of development infrastructure, development teams can better utilize capabilities of Visual Studio Team System.

Note: For Microsoft Dynamics AX 2009, Visual SourceSafe VCS integration includes synchronize to label functionality which is not available through the Microsoft Dynamics AX client when using TFS.

At some point in the development cycle, you may choose to migrate your source from VSS to TFS. This document describes how to perform such a migration for Microsoft Dynamics AX 2009.

The MorphX IDE synchronizes the runtime objects with VCS back-end versions through locally available file representations on the local repository. For example, XPO or ALD files. The folder structure of the local repository groups the objects by layer and type. The local repository structure is the same on all file-based version control systems that are supported by Microsoft Dynamics AX. With this assumption, after the migration of the VCS content the local repository folder structure must stay the same on the target repository as on the source repository.

Migration should include the entire revision history, user information, version labels, and so on.

A typical upgrade process consists of the following steps:

- Migrating the source control back-end content from the VSS repository to the TFS repository.
- Installing Team Explorer (the TFS client) on developer machines.
- Reconfiguring Microsoft Dynamics AX clients to use the TFS back-end.
- Synchronizing the VCS content.

Back-end migration

Basic information

The entire back-end migration process happens outside the Microsoft Dynamics AX client. The administrator who performs the migration task does not need to have Microsoft Dynamics AX installed on the machine on which the conversion happens.

Team Foundation includes a VSSConverter tool that allows you to migrate the files, folders, version history, and user information. The MSDN Library has reference resources for performing the migration process. See the following articles to better understand the conversion process, prerequisites, and tradeoffs that need to be taken into consideration:

- Migration from Visual SourceSafe to TFS for Visual Studio 2008:
<http://go.microsoft.com/fwlink/?LinkId=188744>
- Migration from Visual SourceSafe to TFS for Visual Studio 2005:
<http://go.microsoft.com/fwlink/?LinkId=188745>

Project mapping

TFS isolates separate development projects into team projects. Despite your own list of work items, documents, reports and team builds, a team project typically contains its own source control root node.

You may not want to keep the same folder structure that is used on the source repository. For example, you may want to keep multiple branches for the source within one team project. With that assumption, it is important to plan the folder structure on the target repository.

When you enable TFS as a VCS on Microsoft Dynamics AX 2009, the default Team Foundation Client Workspace will be created. That workspace will, by default, be mapped to the root of the team project source control node. This mapping cannot be changed through the Microsoft Dynamics AX client, but may be modified through Visual Studio or the Tf Command-Line Utility that is installed together with Team Explorer. Workspace modification can be performed by the workspace owner or remotely by administrator who has administrator workspaces permissions. It is important to understand that the MorphX IDE expects the root of Team Foundation Client Workspace to be mapped to the root of the Microsoft Dynamics AX VCS project.

The following examples show mapping strategies between a source and target repository and the workspace mappings that need to be taken into consideration.

1. Basic mapping to a root of the Team Project:

VSS root project: \$/MainProject/ProjectModule/<AX root> ¹

TFS Team Project name: ProjectModule_TeamProject

TFS VCS root: \$/ProjectModule_TeamProject/<AX root>

2. Mapping to a subfolder of the Team Project:

VSS root project: \$/MainProject/ProjectModule/<Ax root>

TFS Team Project name: ProjectModule

TFS VCS root: \$/ProjectModule/TeamProject/MainBranch/<Ax
Root>

The mapping for variant 1 does not require any Team Foundation Client Workspace modifications because the Microsoft Dynamics AX client maps the workspace with the project root by default. The mapping for variant 2 requires the workspace to be mapped into `$/ProjectModule/TeamProject/MainBranch/`, because the default workspace will be mapped to `$/ProjectModule/`.

See the following topics to learn more about Team Projects and Team Foundation Client Workspace mappings:

- Team Foundation Team Projects for VS 2008:
<http://go.microsoft.com/fwlink/?LinkId=188750>
- Team Foundation Team Projects for VS 2005:
<http://go.microsoft.com/fwlink/?LinkId=188751>
- Source Control Workspaces for VS 2008:
<http://go.microsoft.com/fwlink/?LinkId=188753>
- Source Control Workspaces for VS 2005:
<http://go.microsoft.com/fwlink/?LinkId=188754>
- Tf Command-Line Utility for VS 2008:
<http://go.microsoft.com/fwlink/?LinkId=188755>
- Tf Command-Line Utility for VS 2005:
<http://go.microsoft.com/fwlink/?LinkId=188756>

¹ <AX root> is the root of Microsoft Dynamics AX VCS content. It should be mapped to the root of the local repository folder on the client machine.

Migration

To migrate the version control content from VSS to TFS, do as follows:

- Analyze the project mapping strategy to create a migration settings file for the VSSConverter tool.
- Prepare the migration machine and perform the migration using one of the following migration tutorials.
 - Migration from Visual SourceSafe to TFS for Visual Studio 2008:
<http://go.microsoft.com/fwlink/?LinkId=188744>
 - Migration from Visual SourceSafe to TFS for Visual Studio 2005:
<http://go.microsoft.com/fwlink/?LinkId=188745>

Configuration update of Microsoft Dynamics AX clients to use TFS workspace

Prerequisites

To enable the TFS version control system on Microsoft Dynamics AX clients, you must ensure that the following is true:

- Your back-end content is migrated to the TFS server.
- You have Team Explorer installed on each developer machine.
- You have Visual Studio installed on each developer machine if customization of the TFS client workspace is needed, unless you rely on Tf.exe (a command line tool) or workspace administrator to perform the workspace update (optional).

Enabling the TFS Version Control System on Microsoft Dynamics AX clients

To enable TFS for version control, follow the steps in the following white paper:

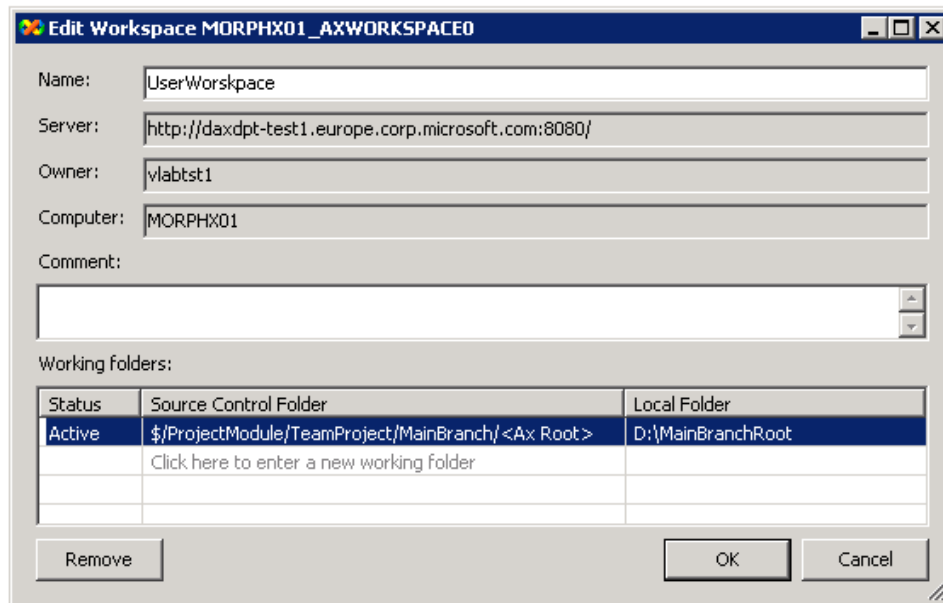
- Microsoft Dynamics AX 2009 White Paper: Team Foundation Server Version Control Setup:
<http://go.microsoft.com/fwlink/?LinkId=152452&clcid=0x409>

At this point, it is assumed that the content of VCS is already migrated. The remaining task is to enable version control on client machines. Perform the following tasks:

1. Use "Version control parameters" form to enable connection with TFS back-end. This action will create a Team Foundation Client Workspace.
2. If you need to modify mappings of your Team Foundation Client Workspace to a subfolder in the TFS folder structure, do as follows:
 - a. Check your workspace name. In the Microsoft Dynamics AX client, click Microsoft Dynamics AX > Tools > Development tools > Version Control > Inquiries > Information. Make a note of the **Display Name** string, as you will need it later.
 - b. Close the Microsoft Dynamics AX client.

- c. Revert all the pending changes on the workspace you created. (Use the `tf undo` command or Source Control Explorer, which is available in the Visual Studio IDE.)
- d. Update your workspace mappings. You can do this in one of the following ways:
 - Use `tf.exe` tool with the following command:
`tf workspace /server:<server URI> <workspace name>`
 for example:
`tf workspace /server:http://MyServer.domain.com:8080/
 UserWorskpace`
 - Use the Visual Studio IDE:
 - Open Source Control Explorer.
 - On the Workspace drop-down, select Workspaces...
 - Select the workspace that has the display name that you noted in step a.
 - Click Edit.

The Edit Workspace dialog displays.



Make sure that the Source Control Folder mapping points to the root of the proper node in your back-end folder structure. After you create a working folder mapping for your VCS root, click OK for the Team Foundation Client Workspace to be created. Because your workspace mapping was changed, you will be asked if you want to synchronize your local folders. Click Yes.

- e. Start the Microsoft Dynamics AX client.

3. Synchronize the VCS content using force flag. In the Microsoft Dynamics AX client, click Microsoft Dynamics AX > Tools > Development tools > Version Control > Synchronize.
4. By default you re-use the Team Server and all the other global settings as they were set up in source repository. Because global settings of the VCS are kept as a definition file in your VCS, these settings will be migrated automatically. To change them, use use the System settings form.

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