

StarTeam 2009 Datamart  
User Guide

Borland® StarTeam®

**Borland®**

Borland Software Corporation  
8310 N Capital of Texas Hwy  
Bldg 2, Ste 100  
Austin, Texas 78731  
<http://www.borland.com>

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## Introduction

Borland's StarTeam Datamart is a complementary product to the StarTeam server. StarTeam Datamart uses the StarTeam SDK to communicate with the StarTeam server to create a reporting database that you can use with popular third party reporting applications such as Crystal Reports and Business Objects (reporting applications are not included with StarTeam Datamart).

StarTeam Datamart extracts data from a StarTeam server and places the data into a relational database, where reporting tools can access it. The data is stored in meaningful text instead of IDs.

StarTeam Datamart can extract information from every project, every view in each project, every folder in each view, and every item in each folder, as well as labels, links, and history for each item. You can restrict the extracting to a particular project and view, and also restrict to extract only for certain tables.

A sample Business Objects universe and sample reports in both Business Objects and Crystal Reports formats are included. These samples can be used as a basis for creating custom user-defined reports.

There are two main components to StarTeam Datamart:

**Datamart Extractor:** Extracts the data from a StarTeam server and puts the data into a relational database. For StarTeam Administrator use.

**Datamart Synchronizer:** Opens the universe and synchronizes the data to reflect any field changes. For StarTeam Administrator use.

**Note** The Synchronizer works with Business Objects 6.5 or above universes and reports.

# About This Release

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The current release is Borland StarTeam 2009 Datamart.

## What's New

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Some of the major changes in this release are:

- Datamart has been re-written on top of a new library that accesses the StarTeam database directly.
- A new tab has been added to the StarTeam Repository Extractor Edit Property File dialog box which enables you to specify the connection information to the StarTeam database.
- The new library uses queries that have been optimized for Datamart.
- Significant improvements in Datamart extraction speed has been made.
- Support has been added for change packages and traces (external linking). Datamart will now extract change packages and traces.

## Documentation

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The documentation provided for StarTeam 2009 Datamart is listed below. You can access the documents using the Windows Start Menu (**Start > Programs > Borland StarTeam > StarTeam Datamart > Documentation**).

**Table 1.1** StarTeam 2009 Datamart Documentation Set

Document	Contains
<i>StarTeam 2009 Datamart User Guide</i> (this manual)	<ul style="list-style-type: none"><li>■ Overview of StarTeam Datamart</li><li>■ Installation instructions</li><li>■ What's New</li><li>■ How to work with StarTeam Datamart</li><li>■ Schema reference information</li></ul>
<i>StarTeam 2009 Datamart Release Notes</i> (readme_Datamart_en.html)	<ul style="list-style-type: none"><li>■ System requirements</li><li>■ Known Issues</li><li>■ Limitations</li><li>■ Contacting Borland support</li></ul>

## Support

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Borland is committed to providing world class services in the area of consulting and technical support. We have over 15 years of experience in supporting developers and enterprise customers. Our qualified technical support engineers are prepared to handle your support needs on a case-by-case basis or in an ongoing partnership. Borland provides support worldwide, delivering timely, reliable service to ensure every customer's business success.

For more information about Borland support services, please see our web site at <http://support.borland.com>.

From the Web site, you can also access many newsgroups where users exchange information, tips and techniques. See <http://info.borland.com/newsgroups/> for the latest list of free product newsgroups. Also, available on the Internet is the Borland Developer Network site at <http://community.borland.com>. This Borland Community provides access to product specific information, articles, code examples, and news.

When contacting support, be prepared to provide complete information about your environment, the version of the product you are using, and a detailed description of the problem.

For support on third-party tools or documentation, contact the vendor of the tool.





# Installation

## Installing StarTeam Datamart Extractor

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StarTeam Datamart Extractor is typically installed on a dedicated machine, not the same machine where StarTeam server is installed, or where the extracted database is. Refer to the Release Notes (*readme\_Datamart\_en.html*) for information about system requirements.

To install StarTeam Datamart:

- 1 Close all running Windows applications.
- 2 Insert the StarTeam installation CD into your CD-ROM drive.
- 3 If the installation menu does not display automatically,
  - a From the Windows **Start** menu, select **Run**.
  - b Enter:  
**X:\setup.exe**  
where **X** is the drive letter of your CD-ROM drive.
- 4 Click **OK**.
- 5 Click **Install StarTeam Datamart**.
- 6 From the **Introduction** window, read the information, and click **Next**.
- 7 From the **License Agreement** window:
  - a Read the agreement.
  - b Select the **I accept...** option button.
  - c Click **Next**.
- 8 From the **Choose Install Folder** window:
  - a Enter or browse to the location you want to use as the installation folder (the default location is C:\Program Files\Borland\StarTeam Datamart).
  - b Click **Next**.
- 9 From the **Choose Shortcut Folder** window:

- a Select the default setting (the **Other** option button, set to C:\Documents and Settings\All Users\Start Menu\Programs\Borland StarTeam\StarTeam Datamart.
  - b Click **Next**.
- 10 From the **Pre-Installation Summary** window, review the settings and click **Install**. If you need to change a setting, click **Previous** one or more times and make any necessary changes. Then return to the **Pre-Installation Summary** window and click **Install**.
- 11 From the **Install Complete** window, select the **Yes** option button, then click **Done**.

StarTeam Datamart is installed in the specified folder, and the StarTeam\_Datamart\_Extractor\_InstallLog.log file in that folder documents all of the events that occurred during the installation process.

**Note** The Microsoft SQL Server 2005 Driver for JDBC is available for download at <http://www.microsoft.com/downloads>. Download the JDBC Driver for Oracle at [http://www.oracle.com/technology/software/tech/java/sqlj\\_jdbc/index.html](http://www.oracle.com/technology/software/tech/java/sqlj_jdbc/index.html).

## Installing StarTeam Datamart Synchronizer

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- 1 Close all running Windows applications.
- 2 Insert the StarTeam installation CD into your CD-ROM drive.
- 3 If the installation menu doesn't appear automatically,
  - a From the Windows **Start** menu, select **Run**.
  - b Enter:  
**X:\setup.exe**  
where **X** is the drive letter of your CD-ROM drive.
- 4 Click **OK**.
- 5 Click **Install StarTeam Datamart Synchronizer**.
- 6 From the **Introduction** window, read the information, and click **Next**.
- 7 From the **Choose Install Folder** window:
  - a Enter or browse to the location you want to use as the installation folder (the default location is C:\Program Files\Borland\StarTeam Datamart).
  - b Click **Next**.
- 8 From the **Choose Shortcut Folder** window:
  - a Select the default setting (the **Other** option button, set to C:\Documents and Settings\All Users\Start Menu\Programs\Borland StarTeam\StarTeam Datamart.
  - b Click **Next**.
- 9 From the **Pre-Installation Summary** window, review the settings and click **Install**. If you need to change a setting, click **Previous** one or more times and make any necessary changes. Then return to the **Pre-Installation Summary** window and click **Install**.
- 10 From the **Install Complete** window, select the option button to restart your system, and then click **Done**.

# StarTeam Datamart

## Overview of Using StarTeam Datamart

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In general, you will perform the following actions when working with StarTeam Datamart:

- 1 Create a database to store the information extracted by StarTeam Datamart. You can use one database for multiple server configurations.
- 2 Create extraction properties file(s) in StarTeam Datamart Extractor. You can be quite specific when creating these properties files. You can specify a single project or all projects for a server configuration and when specifying a single project, you can specify a single view or all views in that project.
- 3 Run Datamart Extractor to populate the designated database with information from the project(s) and view(s) specified in your extraction properties files.
- 4 If using Business Objects 6.5 or above, run Datamart Synchronizer to synchronize the Business Objects universe. If using Crystal Reports 10 or above, there is no need to synchronize anything; you can run Crystal Reports to view your reports.

## StarTeam Extractor

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StarTeam Datamart Extractor reads an extraction file to initialize. The file details the connection and login parameters for the database and StarTeam server. It also has the list of tables to extract, the project and view to extract, and an update option.

Supported Databases for the Extractor are: Microsoft SQL Server 2005, Microsoft SQL Server Express (SSE), Oracle 10.2 or above.

Notes:

- You can place information from multiple servers into one database by defining multiple extraction properties files. You do not need to create a new database for each properties file.
- When a table is created, it includes all existing custom fields for that type. However, if a custom field is created after the utility is running in update mode, the new custom field is skipped.

- If you have requested specific access rights within a type, and want to extract the container access rights for a particular item type, you must request that item type as well.
- It is recommended that a StarTeam user with full access rights to all StarTeam items run StarTeam Datamart Extractor. If there are access rights limitations, the data extracted reflects only what the user has access to.

When launched, the Datamart Extractor displays a dialog box that enables you to run, edit, or remove a property file, purge the database contents for the selected property file, and to refresh the list of files displayed.

StarTeam Datamart Extractor also has an **update mode**. In this mode, the data from previous extractions is not refreshed. The tool compares what is in the existing database with what is in StarTeam and makes changes only when there are differences. If the extraction is stopped before reaching the end, the next time you run the extraction file, it will resume from where it stopped.

**Note** When in update mode, StarTeam Datamart Extractor adds a column to the correct tables after a custom field is added in StarTeam. It does not delete a column when a custom field is deactivated. StarTeam Datamart Synchronizer adds the new column to the universe and uses the same display name that is used in StarTeam.

## Extraction Files

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You create the extraction properties files using StarTeam Datamart Extractor. You can specify a subset of projects to extract from a server and if extracting a single project, you can specify a subset of views to extract from the project.

### Creating an Extraction File

- 1 Select **Programs > StarTeam > StarTeam Datamart > StarTeam Datamart Extractor** from the Windows **Start** menu. The **StarTeam Repository Extractor** window displays.
- 2 Click **New**. The **Edit Property File** dialog box is displayed.
- 3 On the StarTeam tab:
  - a Enter a **File Name** for the extraction.
  - b Enter the **IP address** (or host name) of the StarTeam server that contains the data you want to extract, and the **Endpoint** for that machine.
  - c Enter your StarTeam **User Name** and **Password**.
  - d The **All Projects** check box is selected by default. Click the **Browse** button to select a subset of projects from which to extract the data.
  - e If only one project is selected, the Views section of the **Edit Property File** dialog box will be enabled and the **All Views** check box selected by default. Click the **Browse** button to select a subset of views from which to extract the data.
- 4 Select the **StarTeam Database** tab.
  - a Select the **Database Type**.
  - b Enter the **Server** name or IP address.
  - c Enter the **Database** name.
  - d Enter your **User Name** and **Password** for the database
- 5 Select the **Database** tab.
  - a Select the **Database Type**.
  - b Enter the **Server** name or IP address.

- c Enter the **Database** name.
- d Enter your **User Name** and **Password** for the database.

- e Select the **Update** check box to set the Extractor to **update mode**. Update mode only updates the data for any changes since the last extract. The alternative is full extract mode, in which all tables are removed, recreated and filled. Update mode is much faster.
- 6 Select the **Tables** tab.
- a Select the tables you want to include in the extraction file. You can select them individually, use the **Shift** key to select a range of groups, or the **Ctrl** key to select additional groups. Some tables are contingent upon others.  
**Note:** Labels and links take the most time to extract.
  - b Click the **Add** button, or click the **Add All** to add all of the tables.
  - c Click **Ok**. The data is stored in a file at C:/Program Files/ Borland/StarTeam Datamart (or wherever you installed StarTeam Datamart) with the extension **.stxtract** that contains the extraction information.

## Editing an Extraction File

In the **StarTeam Repository** window, select the file you want to edit and click **Edit**. The **Edit Property File** dialog box appears. Make any necessary changes and click **Ok**.

## Removing an Extraction File

In the **StarTeam Repository** window, select the file you want to delete and click **Remove**. The **Edit Property File** dialog box appears, asking if you are sure you want to delete the file. Click **Yes** to delete it, or **No** to keep it.

**Note** You cannot recover a deleted file.

## Running an Extraction

**Note** Labels and links take the most time to extract.

- 1 Select **Programs > StarTeam > StarTeam Datamart > Datamart Extractor** from the Windows **Start** menu. The **StarTeam Repository Extractor** window displays.
- 2 Select a file and click **Run**. A status box displays indicating when the extraction is complete.

## Stopping an Extraction

You can halt an extraction and restart it at a later time.

- 1 Click the **Stop Extract** button to stop the extraction.

The extraction is interrupted and closes the database connection, the StarTeam connection, and completes the log including metrics, any exceptions, and other notes. If the status box is closed, the extract stops immediately without completing the log.

If, at a later time, you select the file and click **Run**, the extraction resumes where it left off. If you simply close the window, it will also pick up where it left off, but the log file may not include the summary information.

- 2 Click **Close**. An HTML log file is created at C:/Program Files/ Borland/StarTeam Datamart (or wherever you installed StarTeam Datamart) that contains the extraction details.

## Purging an Extraction

Datamart Extractor enables you to purge data from the database from the tables that you specified in a properties file. If you want to only purge a subset of the data specified in the properties file, you need to create one or more additional properties files to correctly identify the subset.

- 1 Select the desired properties file from the list.
- 2 Click **Purge**. Datamart Extractor deletes the data in the tables defined in the selected the properties file.

## Command Line Parameters

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Each time an extraction file is edited, a **.stjava** file with the same name prefixed with **StarTeamDatamart\_** is created. Within this file, the name of the extraction file is used as a parameter, so executing this file immediately runs the extraction file.

For the command line, the parameter is added into the .stjava file. For example,

[StJava]

```
class=com.starbase.extractor.Main "Local.stxtract" -nostatus
```

```
starteam=11.0
```

```
test=0
```

[Java VM]

```
name=Sun1.6.0_10
```

```
classpath=stxtract.jar;C:\Program Files\Microsoft SQL Server 2005 JDBC Driver\sqljdbc_1.1\enu\sqljdbc.jar;c:\app\Administrator\product\11.1.0\db_1\jdbc\lib\ojdbc6.jar;lib\xercesImpl.jar
```

```
options=-Xmx256m
```

There are additional parameters that you can include:

**-detail:** More detailed messages are shown within the status box and the log file.

**-debug:** Debug messages are included in the log file.

**-monitor:** A log file called monitor.log logs server commands to the StarTeam server.

**-nostatus:** The status box is not displayed.

You can run the .stjava file as a Scheduled Task. This is best performed during off-peak hours, or at night, to obtain the most up-to-date information.

**Important** If you plan to reuse \*.stjava files from a previous release, be sure to update the files to use the latest StarTeam SDK.

For example: [StJava]

```
class=com.starbase.extractor.Main
```

```
starteam=11.0
```

## StarTeam Datamart Synchronizer

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StarTeam Datamart Synchronizer opens the universe file and synchronizes the data to reflect any field changes, ensuring that you always have the most up-to-date information. You only need to run StarTeam Datamart Synchronizer after an extraction when custom fields have been modified or added in StarTeam.

Notes:

- The Synchronizer only works if Business Objects 6.5 or above is installed on the same machine.

- You must set the Connection parameter in the Universe Parameters dialog so your Business Objects Universe is connected to your database before you run the StarTeam Datamart Synchronizer.
- 1 Select **Programs > StarTeam > StarTeam Datamart > StarTeam Datamart Synchronizer** from the Windows **Start** menu. The **StarTeam Datamart Synchronizer** opens.
  - 2 Enter the name of the universe you want to synchronize, or click the **Browse** button to locate the universe.
  - 3 Click the **Synchronize** button. The **Login** screen displays.
  - 4 Enter your **User Name** and **Password** for the universe and click **OK**. StarTeam Datamart Synchronizer begins processing and synchronizing the universe data and displays the **Status**.
  - 5 When complete, click **Close**.

## Viewing Reports

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To use Crystal Reports 10 or above to view a Datamart sample report:

- 1 Open Crystal Reports.
- 2 Open the Datamart report that you wish to view. The reports are located under the StarTeam Datamart > Reports > Crystal Reports folder.
- 3 Update the database location to point to the database holding the Datamart extracted information.
- 4 Click Refresh to review the data.

There are also reports for use with Business Objects 6.5 or above. For more information about available sample reports, see “[Business Objects Reports](#)” on [page 17](#) and “[Crystal Reports](#)” on [page 18](#).

You can also view StarTeam Datamart reports with the Crystal Reports Viewer. Refer to the links below for more information:

- For an evaluation copy of the Crystal Reports Viewer: <http://www.businessobjects.com/products/reporting/crystalreports/eval.asp>
- Crystal Reports for Borland Delphi: <http://www.businessobjects.com/products/reporting/crystalreports/net/delphi/default.asp>
- Crystal Reports for Microsoft Visual Studio .NET: <http://www.businessobjects.com/products/reporting/crystalreports/net/vsnet.asp>
- Crystal Reports for Borland C#Sharp Builder: <http://www.businessobjects.com/products/reporting/crystalreports/net/csharpbuilder.asp>
- Crystal Reports for Borland JBuilder: <http://www.businessobjects.com/products/reporting/crystalreports/java/jbuilder.asp>



# StarTeam Datamart Reports

StarTeam Datamart has a series of pre-defined report templates that are included when you install the product. These report templates are intended for use as the starting point for developing more complete and detailed reports. The standard queries are defined below. These reports are located at C:/Program Files/Borland/StarTeam Datamart/Reports (or wherever you installed StarTeam Datamart).

Some of the reports require some additional database scripts that you need to run. You can find these scripts at C:\Program Files\Borland\StarTeam Datamart\Reports\DBScripts (or wherever you installed StarTeam Datamart).

## Business Objects Reports

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**CR Dashboard.rep:** Displays Change Requests across the server in graphs versus various properties

**CRs by Project.rep:** Displays Change Requests by project and type

**File Dashboard.rep:** Displays Files across the server in graphs versus various properties

**File History.rep:** Displays all File revisions between two dates by folder, view and project

**Files X Projects.rep:** Displays all Files and the project, view, and folder where they exist

**Groups.rep:** Displays all groups and the users in each group

**Requirement Dashboard.rep:** Displays Requirements across the server in graphs versus various properties

**StarTeam Admin Report.rep:** Displays all users with information about each user and the groups of which the user is a member

**Task Dashboard.rep:** Displays Tasks across the server in graphs versus various properties

**Topic Dashboard.rep:** Displays Topics across the server in graphs versus various properties

# Crystal Reports

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**ACLSierarchy.rpt:** Lists all access rights in the server by server, project, view, folder, and item

**BuildReport.rpt:** Lists all changes between two build labels

**CRs.rpt:** Displays Change Requests across the server in graphs versus various properties

**FileRevisions.rpt:** Displays all File revisions between two dates by folder, view and project

**Files X Project.rpt:** Displays all Files and the project, view, and folder where they exist

**FolderHierarchy.rpt:** Displays a complete hierarchy of items across the server by project, view, and folder

**Groups.rpt:** Displays all groups and the users in each group

**SwampReport.rpt:** Displays by month the number of new CRs, the number of closed CRs and the number still open

**UserACL.rpt:** Lists all access rights in the server by group or user

**Users.rpt:** Displays all users with information about each user and the groups of which the user is a member

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
<b>ST_AUDITS</b> List of Audits					
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Audit ID
3	ParentFolderID	int	4	N	ItemID of parent folder
4	ViewID	int	4	N	ID of view
5	ProjectID	int	4	N	ID of project
6	EventID	varchar	254	N	Event
7	CreatedTime	datetime	8	N	Time for audit
8	UserID	varchar	254	N	User
9	ClassID	int	4	N	
10	ClassName	varchar	254	N	Class name of audited item
11	ObjectID	int	4	N	Object ID of audited item
12	Info	varchar	254	N	
13	RevisionTime	datetime	8	N	
14	ClassID2	int	4	N	
15	Class Name 2	text	16	N	
16	ObjectID2	int	4	N	
17	Info2	varchar	254	N	
18	RevisionTime2	datetime	8	N	
19	ClassID3	int	4	N	
20	Class Name 3	text	16	N	
21	ObjectID3	int	4	N	
22	Info3	varchar	254	N	
23	RevisionTime3	datetime	8	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST VIEWMEMBER	ServerID	ST AUDITS	ServerID
	2	ST VIEWMEMBER	ItemID	ST AUDITS	ParentFolderID

<b>ST_CHANGEPACKAGECHANGES</b> List of Changes for a Change Package					
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Object ID
3	ViewID	int	4	N	View ID
4	ChangePackageID	int	4	N	Change Package ID
5	ChangeType	varchar	254	N	Type of Change
6	Action	varchar	254	N	Action
7	ItemType	varchar	254	N	Type of Item
8	SourceID	int	4	N	Object ID of source item
9	Source	varchar	254	N	Descriptor of source
10	SourceVersion	varchar	254	N	Revision of source
11	TargetID	int	4	N	Object ID of target
12	Target	varchar	254	N	Descriptor of target
13	TargetVersion	varchar	254	N	Revision of target

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST CHANGEPACKAGES	ServerID	ST CHANGEPACKAGECHANG	ServerID
	2	ST CHANGEPACKAGES	ID	ST CHANGEPACKAGECHANG	ChangePackageID

<b>ST_CHANGEPACKAGEHISTORY</b> Change Package History - One record for every revision					
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Object ID
3	RevisionNumber	int	4	Y	Revision Number
4	CreatedTime	datetime	8	N	Created Time
5	CreatedUserID	varchar	254	N	Created User
6	ModifiedTime	datetime	8	N	Modified Time
7	ModifiedUserID	varchar	254	N	Modified User
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	Name	varchar	762	N	Name
11	Description	text	16	N	Description
12	SessionType	varchar	254	N	Type of Session

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
13	Responsibility	varchar	254	N	Responsible User
14	SourceViewID	int	4	N	View of Source
15	TargetViewID	int	4	N	View of Target
16	State	varchar	254	N	State of Change Package
17	CommitTime	datetime	8	N	Commit Time for Change Package
18	CommitUserID	varchar	254	N	Commit user
19	TransactionID	int	4	N	Transaction ID
20	CommittedInBuild	varchar	254	N	Committed Build
21	PreCommitViewLabel	varchar	254	N	Pre commit view label
22	PreCommitRevisionLabel	varchar	254	N	Pre commit revision label
23	PostCommitViewLabel	varchar	254	N	Post commit view label
24	PostCommitRevisionLabel	varchar	254	N	Post commit revision label
25	AttachmentCount	int	4	N	Attachment Count
26	AttachmentNames	text	16	N	Attachment Names

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST_CHANGEPACKAGEHIS	ServerID	ST_VIEWMEMBER	ServerID
	2	ST_CHANGEPACKAGEHIS	ID	ST_VIEWMEMBER	ID
	3	ST_CHANGEPACKAGEHIS	RevisionNumber	ST_VIEWMEMBER	RevisionNumber
	1	ST_CHANGEPACKAGES	ServerID	ST_CHANGEPACKAGEHISTOR	ServerID
	2	ST_CHANGEPACKAGES	ID	ST_CHANGEPACKAGEHISTOR	ID

## ST\_CHANGEPACKAGES

### List of Change Packages

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Object ID
3	CreatedTime	datetime	8	N	Created Time
4	CreatedUserID	varchar	254	N	Created User
5	ModifiedTime	datetime	8	N	Modified Time
6	ModifiedUserID	varchar	254	N	Modified User
7	RevisionNumber	int	4	N	Revision Number
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	Name	varchar	762	N	Name
11	Description	text	16	N	Description
12	SessionType	varchar	254	N	Type of Session
13	Responsibility	varchar	254	N	Responsible User
14	SourceViewID	int	4	N	View of Source
15	TargetViewID	int	4	N	View of Target
16	State	varchar	254	N	State of Change Package
17	CommitTime	datetime	8	N	Commit Time for Change Package
18	CommitUserID	varchar	254	N	Commit user
19	TransactionID	int	4	N	Transaction ID
20	CommittedInBuild	varchar	254	N	Committed Build
21	PreCommitViewLabel	varchar	254	N	Pre commit view label
22	PreCommitRevisionLabel	varchar	254	N	Pre commit revision label
23	PostCommitViewLabel	varchar	254	N	Post commit view label
24	PostCommitRevisionLabel	varchar	254	N	Post commit revision label
25	AttachmentCount	int	4	N	Attachment Count
26	AttachmentNames	text	16	N	Attachment Names

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST_CHANGEPACKAGES	ServerID	ST_CHANGEPACKAGECHANG	ServerID
	2	ST_CHANGEPACKAGES	ID	ST_CHANGEPACKAGECHANG	ChangePackageID
	1	ST_CHANGEPACKAGES	ServerID	ST_CHANGEPACKAGEHISTOR	ServerID
	2	ST_CHANGEPACKAGES	ID	ST_CHANGEPACKAGEHISTOR	ID
	1	ST_CHANGEPACKAGES	ServerID	ST_OBJECTACLS	ServerID
	2	ST_CHANGEPACKAGES	ID	ST_OBJECTACLS	ObjectID

## ST\_CRHISTORY

### Change Request History - One record for every revision

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
3	RevisionNumber	int	4	Y	Number of revisions since branching
4	CreatedTime	datetime	8	N	Creation time
5	CreatedUserID	varchar	254	N	Creation user
6	ModifiedTime	datetime	8	N	Time last modified
7	ModifiedUserID	varchar	254	N	User who last modified
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	RootObjectID	int	4	N	ObjectID of the root object
11	ParentObjectID	int	4	N	Object ID of item from which this item is branched from
12	ParentRevision	int	4	N	
13	PathRevision	int	4	N	Revision of branching (0 means no branching)
14	ViewID	int	4	N	View ID
15	DotNotation	varchar	254	N	Dot notation
16	ChangeNumber	int	4	N	Change Request Number
17	Synopsis	text	16	N	Synopsis
18	Type	varchar	254	N	Type
19	Status	varchar	254	N	Status
20	Severity	varchar	254	N	Severity
21	Platform	varchar	254	N	Platform
22	Category	varchar	64	N	Category
23	Component	varchar	64	N	Component
24	ExternalReference	varchar	64	N	External Reference
25	AddressedIn	varchar	254	N	Addressed In
26	AddressedBy	varchar	254	N	Addressed By
27	LastBuildTested	varchar	254	N	Last Build Tested
28	Responsibility	varchar	254	N	Responsibility
29	Priority	varchar	254	N	Priority
30	Description	text	16	N	Description
31	TestCommand	varchar	762	N	
32	WorkAround	text	16	N	Work Around
33	Fix	text	16	N	Fix
34	ClosedOn	datetime	8	N	Time closed
35	AttachmentCount	int	4	N	Attachment Count
36	AttachmentNames	text	16	N	Names of all attachments
37	ResolvedOn	datetime	8	N	Time resolved
38	VerifiedOn	datetime	8	N	Time verified
39	AddressedInView	int	4	N	
40	EnteredOn	datetime	8	N	Time when CR entered
41	EnteredBy	varchar	254	N	User who entered CR
42	Usr StarFlowStatus	varchar	254	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST CRHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST CRHISTORY	ID	ST VIEWMEMBER	ID
	3	ST CRHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST CRS	ServerID	ST CRHISTORY	ServerID
	2	ST CRS	ID	ST CRHISTORY	ID

## ST\_CRS

### List of Change Requests

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	CreatedTime	datetime	8	N	Creation time
4	CreatedUserID	varchar	254	N	Creation user
5	ModifiedTime	datetime	8	N	Time last modified
6	ModifiedUserID	varchar	254	N	User who last modified
7	RevisionNumber	int	4	N	Number of revisions since branching
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	RootObjectID	int	4	N	ObjectID of the root object
11	ParentObjectID	int	4	N	Object ID of item from which this item is branched from
12	ParentRevision	int	4	N	

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
13	PathRevision	int	4	N	Revision of branching (0 means no branching)
14	ViewID	int	4	N	View ID
15	DotNotation	varchar	254	N	Dot notation
16	ChangeNumber	int	4	N	Change Request Number
17	Synopsis	text	16	N	Synopsis
18	Type	varchar	254	N	Type
19	Status	varchar	254	N	Status
20	Severity	varchar	254	N	Severity
21	Platform	varchar	254	N	Platform
22	Category	varchar	64	N	Category
23	Component	varchar	64	N	Component
24	ExternalReference	varchar	64	N	External Reference
25	AddressedIn	varchar	254	N	Addressed In
26	AddressedBy	varchar	254	N	Addressed By
27	LastBuildTested	varchar	254	N	Last Build Tested
28	Responsibility	varchar	254	N	Responsibility
29	Priority	varchar	254	N	Priority
30	Description	text	16	N	Description
31	TestCommand	varchar	762	N	
32	WorkAround	text	16	N	Work Around
33	Fix	text	16	N	Fix
34	ClosedOn	datetime	8	N	Time closed
35	AttachmentCount	int	4	N	Attachment Count
36	AttachmentNames	text	16	N	Names of all attachments
37	ResolvedOn	datetime	8	N	Time resolved
38	VerifiedOn	datetime	8	N	Time verified
39	AddressedInView	int	4	N	
40	EnteredOn	datetime	8	N	Time when CR entered
41	EnteredBy	varchar	254	N	User who entered CR
42	Usr StarFlowStatus	varchar	254	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST CRS	ServerID	ST CRHISTORY	ServerID
	2	ST CRS	ID	ST CRHISTORY	ID
	1	ST CRS	ServerID	ST LINKS	ServerID
	2	ST CRS	ID	ST LINKS	ParentObjectID
	1	ST CRS	ServerID	ST LINKS	ServerID
	2	ST CRS	ID	ST LINKS	ChildObjectID
	1	ST CRS	ServerID	ST OBJECTACLS	ServerID
	2	ST CRS	ID	ST OBJECTACLS	ObjectID

## ST\_ENUMVALUES

### List of Enumerated Values

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	TypeID	int	4	Y	Type ID
3	PropertyID	int	4	Y	Property ID
4	Code	int	4	Y	Enumerated Value
5	DisplayValue	varchar	254	N	Display Value for Enumerated Value
6	Enabled	int	4	N	Whether Enum value is enabled

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST PROPERTIES	ServerID	ST ENUMVALUES	ServerID
	2	ST PROPERTIES	TypeID	ST ENUMVALUES	TypeID
	3	ST PROPERTIES	ID	ST ENUMVALUES	PropertyID

## ST\_FILEHISTORY

### File History - One record for every revision

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	RevisionNumber	int	4	Y	Number of revisions since branching
4	CreatedTime	datetime	8	N	Creation time
5	CreatedUserID	varchar	254	N	Creation user
6	ModifiedTime	datetime	8	N	Time last modified

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
7	ModifiedUserID	varchar	254	N	User who last modified
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	RootObjectID	int	4	N	ObjectID of the root object
11	ParentObjectID	int	4	N	Object ID of item from which this item is branched from
12	ParentRevision	int	4	N	
13	PathRevision	int	4	N	Revision of branching (0 means no branching)
14	ViewID	int	4	N	View ID
15	DotNotation	varchar	254	N	Dot notation
16	Name	varchar	254	N	File name
17	Description	varchar	254	N	Description
18	VaultVersion	int	4	N	Vault Branch Version
19	ContentVersion	int	4	N	Content Revision
20	Modified	datetime	8	N	Time stamp of file
21	FileSize	int	4	N	File size
22	EOL	int	4	N	EOL character
23	Type	varchar	254	N	
24	ArchivePath	varchar	762	N	
25	ProjectID	int	4	N	
26	PVCSRev	varchar	192	N	
27	Charset	varchar	254	N	File Type (Binary, ASCII, or Unicode)
28	StorageType	varchar	254	N	Storage Type (Full Versions or Delta)
29	Compression	varchar	254	N	Compression Level
30	Executable	int	4	N	
31	HiveID	int	4	N	
32	ArchiveFormat	varchar	254	N	
33	KeywordFlag	varchar	254	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST FILEHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST FILEHISTORY	ID	ST VIEWMEMBER	ID
	3	ST FILEHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST FILES	ServerID	ST FILEHISTORY	ServerID
	2	ST FILES	ID	ST FILEHISTORY	ID

## ST\_FILES

### List of Files

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	CreatedTime	datetime	8	N	Creation time
4	CreatedUserID	varchar	254	N	Creation user
5	ModifiedTime	datetime	8	N	Time last modified
6	ModifiedUserID	varchar	254	N	User who last modified
7	RevisionNumber	int	4	N	Number of revisions since branching
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	RootObjectID	int	4	N	ObjectID of the root object
11	ParentObjectID	int	4	N	Object ID of item from which this item is branched from
12	ParentRevision	int	4	N	
13	PathRevision	int	4	N	Revision of branching (0 means no branching)
14	ViewID	int	4	N	View ID
15	DotNotation	varchar	254	N	Dot notation
16	Name	varchar	254	N	File name
17	Description	varchar	254	N	Description
18	VaultVersion	int	4	N	Vault Branch Version
19	ContentVersion	int	4	N	Content Revision
20	Modified	datetime	8	N	Time stamp of file at checkin
21	FileSize	int	4	N	File size
22	EOL	int	4	N	EOL character
23	Type	varchar	254	N	
24	ArchivePath	varchar	762	N	
25	ProjectID	int	4	N	

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
26	PVCSRev	varchar	192	N	
27	Charset	varchar	254	N	File Type (Binary, ASCII, or Unicode)
28	StorageType	varchar	254	N	Storage Type (Full Versions or Delta)
29	Compression	varchar	254	N	Compression Level
30	Executable	int	4	N	
31	HiveID	int	4	N	
32	ArchiveFormat	varchar	254	N	
33	KeywordFlag	varchar	254	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST FILES	ServerID	ST FILEHISTORY	ServerID
	2	ST FILES	ID	ST FILEHISTORY	ID
	1	ST FILES	ServerID	ST LINKS	ServerID
	2	ST FILES	ID	ST LINKS	ParentObjectID
	1	ST FILES	ServerID	ST LINKS	ServerID
	2	ST FILES	ID	ST LINKS	ChildObjectID
	1	ST FILES	ServerID	ST OBJECTACLS	ServerID
	2	ST FILES	ID	ST OBJECTACLS	ObjectID

## ST\_FOLDERHISTORY

Folder History - One record for every revision

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	RevisionNumber	int	4	Y	Number of revisions since branching
4	CreatedTime	datetime	8	N	ObjectID of the root object
5	CreatedUserID	varchar	254	N	Creation time
6	ModifiedTime	datetime	8	N	Creation user
7	ModifiedUserID	varchar	254	N	Time last modified
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	RootObjectID	int	4	N	ObjectID of the root object
11	ParentObjectID	int	4	N	Object ID of item from which this item is branched from
12	ParentRevision	int	4	N	
13	PathRevision	int	4	N	Revision of branching (0 means no branching)
14	ViewID	int	4	N	View ID
15	DotNotation	varchar	254	N	Dot notation
16	Name	varchar	254	N	Folder name
17	Description	varchar	254	N	Description
18	WorkingFolder	varchar	254	N	Working Folder
19	ExcludeFlags	varchar	254	N	Files to be Excluded
20	ExcludeSpec	varchar	254	N	Exclude Spec
21	CreateProjectID	int	4	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST_FOLDERHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST_FOLDERHISTORY	ID	ST VIEWMEMBER	ID
	3	ST_FOLDERHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST FOLDERS	ServerID	ST_FOLDERHISTORY	ServerID
	2	ST FOLDERS	ID	ST_FOLDERHISTORY	ID

## ST\_FOLDERS

List of Folders

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	CreatedTime	datetime	8	N	ObjectID of the root object
4	CreatedUserID	varchar	254	N	Creation time
5	ModifiedTime	datetime	8	N	Creation user
6	ModifiedUserID	varchar	254	N	Time last modified
7	RevisionNumber	int	4	N	Number of revisions since branching
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	RootObjectID	int	4	N	ObjectID of the root object



# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
11	ParentObjectID	int	4	N	Object ID of item from which this item is branched from
12	ParentRevision	int	4	N	
13	PathRevision	int	4	N	Revision of branching (0 means no branching)
14	ViewID	int	4	N	View ID
15	DotNotation	varchar	254	N	Dot notation
16	Name	varchar	254	N	Folder name
17	Description	varchar	254	N	Description
18	WorkingFolder	varchar	254	N	Working Folder
19	ExcludeFlags	varchar	254	N	Files to be Excluded
20	ExcludeSpec	varchar	254	N	Exclude Spec
21	CreateProjectID	int	4	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST FOLDERS	ServerID	ST FOLDERHISTORY	ServerID
	2	ST FOLDERS	ID	ST FOLDERHISTORY	ID
	1	ST FOLDERS	ServerID	ST LINKS	ServerID
	2	ST FOLDERS	ID	ST LINKS	ParentObjectID
	1	ST FOLDERS	ServerID	ST LINKS	ServerID
	2	ST FOLDERS	ID	ST LINKS	ChildObjectID
	1	ST FOLDERS	ServerID	ST OBJECTACLS	ServerID
	2	ST FOLDERS	ID	ST OBJECTACLS	ObjectID

## ST\_GROUPS

### List of Groups

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Group ID
3	Name	varchar	254	N	Group Name
4	Description	varchar	254	N	Description
5	Parent	varchar	254	N	Name of Parent group
6	IsBuiltIn	int	4	N	Whether this is a built in group
7	IsRoot	int	4	N	Whether this is the root group
8	IsDeleted	int	4	N	Whether this is deleted
9	SubGroups	text	16	N	List of all subgroups
10	Users	text	16	N	List of all user names in this group

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST_GROUPS	ServerID	ST GROUPUSERS	ServerID
	2	ST_GROUPS	ID	ST GROUPUSERS	GroupID
	1	ST_GROUPS	ServerID	ST OBJECTACLS	ServerID
	2	ST_GROUPS	ID	ST OBJECTACLS	ID
	1	ST SERVER	ServerID	ST_GROUPS	ServerID

## ST\_GROUPUSERS

### Group User Relationship

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	GroupID	int	4	Y	Group ID
3	UserID	int	4	Y	User ID

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST_GROUPS	ServerID	ST GROUPUSERS	ServerID
	2	ST_GROUPS	ID	ST GROUPUSERS	GroupID
	1	ST USERS	ServerID	ST GROUPUSERS	ServerID
	2	ST USERS	ID	ST GROUPUSERS	UserID

## ST\_ITEMLABELS

### Item Label Relationship

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Label ID
3	ItemID	int	4	Y	Item ID
4	ClassID	int	4	N	Class ID of item type
5	ObjectID	int	4	N	Object ID of item
6	ViewID	int	4	N	View ID
7	RevisionTime	datetime	8	N	Time of the revision label is attached to

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
8	RevisionNumber	int	4	N	Revision Number of item
9	ViewVersion	int	4	N	View Version of item
10	ProjectID	int	4	N	ProjectID

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST LABELS	ServerID	ST ITEMLABELS	ServerID
	2	ST LABELS	ID	ST ITEMLABELS	ID
	1	ST VIEWMEMBER	ServerID	ST ITEMLABELS	ServerID
	2	ST VIEWMEMBER	ItemID	ST ITEMLABELS	ItemID

## ST\_ITEMLINKS

List of links with the pinned revision and with respect to itemID

1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Link ID
3	ItemID	int	4	Y	
4	LinkEnd	int	4	N	
5	ObjectID	int	4	N	Object ID
6	RevisionNumber	int	4	N	Revision Number
7	IsPinned	int	4	N	Whether link is pinned

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST LINKS	ServerID	ST ITEMLINKS	ServerID
	2	ST LINKS	ID	ST ITEMLINKS	ID
	1	ST VIEWMEMBER	ServerID	ST ITEMLINKS	ServerID
	2	ST VIEWMEMBER	ItemID	ST ITEMLINKS	ItemID

## ST\_LABELS

List of Labels

1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Label ID
3	ViewID	int	4	N	View ID
4	Name	varchar	254	N	Label Name
5	LabelTime	datetime	8	N	Configuration Time for label
6	IsViewLabel	int	4	N	Whether this is a view label or revision label
7	IsBuildLabel	int	4	N	Whether this is a build label
8	IsLocked	int	4	N	Whether this is frozen
9	IsDeleted	int	4	N	Whether this is deleted
10	Description	varchar	254	N	Description
11	ProjectID	int	4	N	ProjectID

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST LABELS	ServerID	ST ITEMLABELS	ServerID
	2	ST LABELS	ID	ST ITEMLABELS	ID
	1	ST VIEWS	ServerID	ST LABELS	ServerID
	2	ST VIEWS	ID	ST LABELS	ViewID

## ST\_LINKS

List of Links

1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Link ID
3	ParentObjectID	int	4	N	Object ID of Parent Item
4	ParentClassID	int	4	N	ClassID of Type of Parent Item
5	ParentType	varchar	254	N	Type of Parent Item
6	ChildObjectID	int	4	N	ObjectID of Child Item
7	ChildClassID	int	4	N	ClassID of Type of Child Item
8	ChildType	varchar	254	N	Type of Child Item
9	CreatedOn	datetime	8	N	Time Link was created
10	CreatedBy	varchar	254	N	User who created Link
11	StComment	varchar	254	N	Comment

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description	
Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST CRS		ServerID	ST LINKS	ServerID
	2	ST CRS		ID	ST LINKS	ParentObjectID
	1	ST CRS		ServerID	ST LINKS	ServerID
	2	ST CRS		ID	ST LINKS	ChildObjectID
	1	ST FILES		ServerID	ST LINKS	ServerID
	2	ST FILES		ID	ST LINKS	ParentObjectID
	1	ST FILES		ServerID	ST LINKS	ServerID
	2	ST FILES		ID	ST LINKS	ChildObjectID
	1	ST FOLDERS		ServerID	ST LINKS	ServerID
	2	ST FOLDERS		ID	ST LINKS	ParentObjectID
	1	ST FOLDERS		ServerID	ST LINKS	ServerID
	2	ST FOLDERS		ID	ST LINKS	ChildObjectID
	1	ST LINKS		ServerID	ST ITEMLINKS	ServerID
	2	ST LINKS		ID	ST ITEMLINKS	ID
	1	ST REQS		ServerID	ST LINKS	ServerID
	2	ST REQS		ID	ST LINKS	ParentObjectID
	1	ST REQS		ServerID	ST LINKS	ServerID
	2	ST REQS		ID	ST LINKS	ChildObjectID
	1	ST TASKS		ServerID	ST LINKS	ServerID
	2	ST TASKS		ID	ST LINKS	ParentObjectID
	1	ST TASKS		ServerID	ST LINKS	ServerID
	2	ST TASKS		ID	ST LINKS	ChildObjectID
	1	ST TOPICS		ServerID	ST LINKS	ServerID
	2	ST TOPICS		ID	ST LINKS	ParentObjectID
	1	ST TOPICS		ServerID	ST LINKS	ServerID
	2	ST TOPICS		ID	ST LINKS	ChildObjectID

## ST\_OBJECTACLS

### Access Control Lists for all Objects

1	ServerID	int	4	Y	Server ID
2	ACLID	int	4	Y	ACL ID
3	ObjectID	int	4	N	ID of object for which ACLs are for
4	ClassID	int	4	N	Class ID of object for which ACLs are for
5	ContainerClassID	int	4	N	Class ID for the container type
6	Container	int	4	N	1 if container, 0 if not
7	Sequence	int	4	N	Order for the group or user
8	PermissionCode	int	4	Y	Permission Code
9	TypeName	varchar	32	N	Type Name of object for which ACLs are for
10	ContainerTypeName	varchar	32	N	Type Name for the container type
11	ID	int	4	N	ID of user or group
12	UserGroup	varchar	32	N	Whether user or group
13	GrantDeny	varchar	32	N	Whether grant or deny

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description	
Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST CHANGEPACKAGES		ServerID	ST OBJECTACLS	ServerID
	2	ST CHANGEPACKAGES		ID	ST OBJECTACLS	ObjectID
	1	ST CRS		ServerID	ST OBJECTACLS	ServerID
	2	ST CRS		ID	ST OBJECTACLS	ObjectID
	1	ST FILES		ServerID	ST OBJECTACLS	ServerID
	2	ST FILES		ID	ST OBJECTACLS	ObjectID
	1	ST FOLDERS		ServerID	ST OBJECTACLS	ServerID
	2	ST FOLDERS		ID	ST OBJECTACLS	ObjectID
	1	ST GROUPS		ServerID	ST OBJECTACLS	ServerID
	2	ST GROUPS		ID	ST OBJECTACLS	ID
	1	ST PERMISSIONS		ServerID	ST OBJECTACLS	ServerID
	2	ST PERMISSIONS		ContainerClassID	ST OBJECTACLS	ContainerClassID
	3	ST PERMISSIONS		PermissionCode	ST OBJECTACLS	PermissionCode
	1	ST PROJECTS		ServerID	ST OBJECTACLS	ServerID
	2	ST PROJECTS		ID	ST OBJECTACLS	ObjectID
	1	ST REQS		ServerID	ST OBJECTACLS	ServerID
	2	ST REQS		ID	ST OBJECTACLS	ObjectID
	1	ST SERVER		ServerID	ST OBJECTACLS	ServerID
	1	ST TASKS		ServerID	ST OBJECTACLS	ServerID
	2	ST TASKS		ID	ST OBJECTACLS	ObjectID
	1	ST TOPICS		ServerID	ST OBJECTACLS	ServerID
	2	ST TOPICS		ID	ST OBJECTACLS	ObjectID
	1	ST TRACES		ServerID	ST OBJECTACLS	ServerID
	2	ST TRACES		ID	ST OBJECTACLS	ObjectID
	1	ST USERS		ServerID	ST OBJECTACLS	ServerID
	2	ST USERS		ID	ST OBJECTACLS	ObjectID
	1	ST VIEWS		ServerID	ST OBJECTACLS	ServerID
	2	ST VIEWS		ID	ST OBJECTACLS	ObjectID

## ST\_PERMISSIONS

List of Permission Codes and text for use with OBJECTACLS

1	ServerID	int	4	Y	Server ID
2	ContainerClassID	int	4	Y	Class ID for the container type
3	PermissionCode	int	4	Y	Permission Code
4	Permission	varchar	254	N	Text for the permission

Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST PERMISSIONS		ServerID	ST OBJECTACLS	ServerID
	2	ST PERMISSIONS		ContainerClassID	ST OBJECTACLS	ContainerClassID
	3	ST PERMISSIONS		PermissionCode	ST OBJECTACLS	PermissionCode
	1	ST SERVER		ServerID	ST PERMISSIONS	ServerID

## ST\_PROJECTS

List of Projects

1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Project ID
3	CreatedTime	datetime	8	N	Creation time
4	CreatedUserID	varchar	254	N	Creation user
5	Name	varchar	254	N	Name
6	Description	varchar	254	N	Description
7	Compaction	int	4	N	
8	Encryption	varchar	254	N	
9	Mail	int	4	N	
10	DefaultViewID	int	4	N	Default view ID
11	ProjectType	varchar	254	N	Project Type
12	ConfigSource1	varchar	762	N	
13	ConfigSource2	varchar	762	N	
14	KWFileExt	varchar	254	N	Keywords File Extensions

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
15	UseKeywords	int	4	N	Use Keywords
16	ForceCheckinReason	int	4	N	Force Checkin Reason
17	RequireLockForCheckin	int	4	N	Require Lock For Checkin
18	MarkUnlockedFilesReadO	int	4	N	Mark Unlocked Files Read Only
19	ProcessRequired	int	4	N	Process Required
20	ProcessSelectCR	int	4	N	Permit selection of Change Request as Process Item
21	ProcessShowCROpen	int	4	N	Restict Change Request status to Open for Process Item
22	ProcessShowCRInProgres	int	4	N	Restict Change Request status to In Progress for Process Item
23	ProcessSelectTask	int	4	N	Permit selection of Task as Process Item
24	ProcessShowTaskReady	int	4	N	Restict Task status to Ready for Process Item
25	ProcessShowTaskInProgre	int	4	N	Restict Task status to In Progress for Process Item
26	DisplayAltCREditor	int	4	N	Use alternate property editor for Change Requests
27	AltCREditorPath	varchar	254	N	Alternate property editor for Change Requests
28	DisplayAltFileEditor	int	4	N	Use alternate property editor for Files
29	AltFileEditorPath	varchar	254	N	Alternate property editor for Files
30	DisplayAltReqEditor	int	4	N	Use alternate property editor for Requirements
31	AltReqEditorPath	varchar	254	N	Alternate property editor for Requirements
32	DisplayAltTaskEditor	int	4	N	Use alternate property editor for Tasks
33	AltTaskEditorPath	varchar	254	N	Alternate property editor for Tasks
34	DisplayAltTopicEditor	int	4	N	Use alternate property editor for Topics
35	AltTopicEditorPath	varchar	254	N	Alternate property editor for Topics
36	ProcessSelectRequirement	int	4	N	Permit selection of Requirement as Process Item
37	ProcessShowReqApprove	int	4	N	Restict Requirement status to Approved for Process Item
38	ProcessLinks	varchar	254	N	Process Links info
39	DefaultTypes	text	16	N	Default types for project
40	GUID	varchar	192	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST PROJECTS	ServerID	ST OBJECTACLS	ServerID
	2	ST PROJECTS	ID	ST OBJECTACLS	ObjectID
	1	ST PROJECTS	ServerID	ST VIEWS	ServerID
	2	ST PROJECTS	ID	ST VIEWS	ProjectID
	1	ST SERVER	ServerID	ST PROJECTS	ServerID

## ST\_PROMOTIONS

### List of Promotion States

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ViewID	int	4	Y	View ID
3	ID	int	4	Y	Promotion state ID
4	Name	varchar	64	N	Name
5	CreatedTime	datetime	8	N	Creation time
6	CreatedUserID	varchar	254	N	Creation user
7	LabelID	varchar	254	N	Linked label
8	Description	varchar	254	N	Description

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST VIEWS	ServerID	ST PROMOTIONS	ServerID
	2	ST VIEWS	ID	ST PROMOTIONS	ViewID

## ST\_PROPERTIES

### List of Properties

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	TypeID	int	4	Y	Class ID of type
3	ID	int	4	Y	ID
4	TypeName	varchar	254	N	Name of type that the property is for
5	TypeCode	varchar	254	N	Property type
6	ClassName	varchar	254	N	Class Name when the field type is an object
7	PropertyName	varchar	254	N	Property Name
8	DisplayName	varchar	254	N	Display Name
9	DefaultValue	varchar	254	N	Default Value
10	Enumerations	text	16	N	List of all Enumerations
11	MaxLength	int	4	N	Max Length
12	IsAdvanced	int	4	N	Whether Advanced property

## StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
13	IsCalculated	int	4	N	Whether Calculated
14	IsClientCalculated	int	4	N	Whether Calculated at the client
15	IsDescriptor	int	4	N	Whether Descriptor
16	IsGenericCalculated	int	4	N	Whether Generic Calculated
17	IsHeader	int	4	N	Whether Header
18	IsPrimaryDescriptor	int	4	N	Whether Primary Descriptor
19	IsRequired	int	4	N	Whether Required when editing item
20	IsRestricted	int	4	N	Whether field has restrictions
21	IsServerCalculated	int	4	N	Whether Calculated at the server
22	IsStored	int	4	N	Whether Stored in database
23	IsSystemDefined	int	4	N	Whether System Defined
24	IsTimeTruncated	int	4	N	Whether Time Truncated for date time fields
25	IsUserCustomized	int	4	N	Whether this is a custom field
26	IsUserDefined	int	4	N	Whether User Defined
27	IsUserModifiable	int	4	N	Whether User can Modify
28	Enabled	varchar	4	N	Whether property is enabled

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST PROPERTIES	ServerID	ST ENUMVALUES	ServerID
	2	ST PROPERTIES	TypeID	ST ENUMVALUES	TypeID
	3	ST PROPERTIES	ID	ST ENUMVALUES	PropertyID
	1	ST TYPES	ServerID	ST PROPERTIES	ServerID
	2	ST TYPES	ClassID	ST PROPERTIES	TypeID

### ST\_REQHISTORY

Requirement History - One record for every revision

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	RevisionNumber	int	4	Y	Number of revisions
4	CreatedTime	datetime	8	N	ObjectID of the root object
5	CreatedUserID	varchar	254	N	Creation time
6	ModifiedTime	datetime	8	N	Creation user
7	ModifiedUserID	varchar	254	N	Time last modified
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	ParentRequirementID	int	4	N	ObjectID of Prenet Requirement
11	Name	varchar	254	N	Requirement
12	Description	text	16	N	Description
13	AttachmentCount	int	4	N	Attachment Count
14	AttachmentNames	text	16	N	Names of all attachments
15	Status	varchar	254	N	Status
16	Priority	varchar	254	N	Priority
17	RequirementNumber	int	4	N	Requirement Number
18	ResponsibleCount	int	4	N	Number of Responsible users
19	ResponsibleNames	text	16	N	
20	Disabled	int	4	N	
21	ExternalReference	varchar	254	N	External Reference
22	Type	varchar	254	N	Type
23	Owner	varchar	254	N	Owner
24	RevisedDescription	text	16	N	Revised Description
25	AmbiguitiesFound	int	4	N	Ambiguities Found
26	Comments	text	16	N	
27	HighEffort	int	4	N	High Effort
28	ExpectedEffort	int	4	N	Expected Effort
29	LowEffort	int	4	N	Low Effort
30	Notes	text	16	N	Notes
31	ReviewedByNames	text	16	N	

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description	
Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST REQHISTORY		ServerID	ST VIEWMEMBER	ServerID
	2	ST REQHISTORY		ID	ST VIEWMEMBER	ID
	3	ST REQHISTORY		RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST REQS		ServerID	ST REQHISTORY	ServerID
	2	ST REQS		ID	ST REQHISTORY	ID

## ST\_REQS

### List of Requirements

1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	CreatedTime	datetime	8	N	ObjectID of the root object
4	CreatedUserID	varchar	254	N	Creation time
5	ModifiedTime	datetime	8	N	Creation user
6	ModifiedUserID	varchar	254	N	Time last modified
7	RevisionNumber	int	4	N	Number of revisions
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	ParentRequirementID	int	4	N	ObjectID of Prenet Requirement
11	Name	varchar	254	N	Requirement
12	Description	text	16	N	Description
13	AttachmentCount	int	4	N	Attachment Count
14	AttachmentNames	text	16	N	Names of all attachments
15	Status	varchar	254	N	Status
16	Priority	varchar	254	N	Priority
17	RequirementNumber	int	4	N	Requirement Number
18	ResponsibleCount	int	4	N	Number of Responsible users
19	ResponsibleNames	text	16	N	
20	Disabled	int	4	N	
21	ExternalReference	varchar	254	N	External Reference
22	Type	varchar	254	N	Type
23	Owner	varchar	254	N	Owner
24	RevisedDescription	text	16	N	Revised Description
25	AmbiguitiesFound	int	4	N	Ambiguities Found
26	Comments	text	16	N	
27	HighEffort	int	4	N	High Effort
28	ExpectedEffort	int	4	N	Expected Effort
29	LowEffort	int	4	N	Low Effort
30	Notes	text	16	N	Notes
31	ReviewedByNames	text	16	N	

Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST REQS		ServerID	ST LINKS	ServerID
	2	ST REQS		ID	ST LINKS	ParentObjectID
	1	ST REQS		ServerID	ST LINKS	ServerID
	2	ST REQS		ID	ST LINKS	ChildObjectID
	1	ST REQS		ServerID	ST OBJECTACLS	ServerID
	2	ST REQS		ID	ST OBJECTACLS	ObjectID
	1	ST REQS		ServerID	ST REQHISTORY	ServerID
	2	ST REQS		ID	ST REQHISTORY	ID

## ST\_SERVER

### List of Servers

1	ServerID	int	4	Y	Server ID
2	ServerGuid	varchar	254	N	Server GUID
3	Address	varchar	254	N	Server Address
4	Port	int	4	N	Server port number
5	EncryptionLevel	varchar	254	N	Server encryption
6	Build	varchar	254	N	Server build number

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description	
Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST SERVER		ServerID	ST GROUPS	ServerID
	1	ST SERVER		ServerID	ST OBJECTACLS	ServerID
	1	ST SERVER		ServerID	ST PERMISSIONS	ServerID
	1	ST SERVER		ServerID	ST PROJECTS	ServerID
	1	ST SERVER		ServerID	ST TYPES	ServerID
	1	ST SERVER		ServerID	ST USERS	ServerID

## ST\_TASKHISTORY

Task History - One record for every revision

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	RevisionNumber	int	4	Y	Number of revisions
4	CreatedTime	datetime	8	N	ObjectID of the root object
5	CreatedUserID	varchar	254	N	Creation time
6	ModifiedTime	datetime	8	N	Creation user
7	ModifiedUserID	varchar	254	N	Time last modified
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	StTaskParentID	int	4	N	Object ID of Parent Task
11	StTaskNumber	int	4	N	Task Number
12	StTaskName	varchar	254	N	Task Name
13	StTaskNotes	text	16	N	Notes
14	StTaskPercentComplete	int	4	N	Percent Complete
15	StTaskMilestone	varchar	254	N	Milestone
16	StTaskPriority	varchar	254	N	Priority
17	StTaskStatus	varchar	254	N	Status
18	StTaskResponsibility	varchar	254	N	Responsibility
19	StTaskEstimatedHours	float	8	N	Estimated Hours
20	StTaskEstimatedStart	datetime	8	N	Estimated Start
21	StTaskEstimatedFinish	datetime	8	N	Estimated Finish
22	StTaskActualHours	float	8	N	Actual Hours
23	StTaskActualStart	datetime	8	N	Actual Start
24	StTaskActualFinish	datetime	8	N	Actual Finish
25	StTaskDuration	float	8	N	Duration
26	StTaskNeedsAttention	varchar	254	N	Needs Attention
27	StTaskAttentionNotes	text	16	N	Attention Notes
28	AttachmentCount	int	4	N	Attachment Count
29	AttachmentNames	text	16	N	Names of all attachments
30	StTaskType	varchar	254	N	Type
31	StTaskConstraintType	varchar	254	N	Constraint Type
32	StTaskConstraintDate	datetime	8	N	Constraint Date
33	StTaskGUID	varchar	111	N	
34	StTaskUniqueID	int	4	N	
35	StTaskWBSCCode	varchar	64	N	WBSCCode
36	StTaskMSProjectFileName	varchar	762	N	
37	StTaskMSProjectLastUpda	datetime	8	N	MSProject Last Update
38	StWorkDependencyLastUp	datetime	8	N	Work Dependency Last Update
39	StTaskResourceCount	int	4	N	Resource Count
40	StTaskResourceNames	text	16	N	List of Resource Users
41	StTaskProcessUsage	varchar	254	N	
42	StTaskEstimatedStartVaria	int	4	N	Estimated Start Variance
43	StTaskEstimatedFinishVari	int	4	N	Estimated Finish Variance
44	StTaskEstimatedHoursVari	float	8	N	Estimated Hours Variance



# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description	
Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST TASKHISTORY		ServerID	ST VIEWMEMBER	ServerID
	2	ST TASKHISTORY		ID	ST VIEWMEMBER	ID
	3	ST TASKHISTORY		RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST TASKHISTORY		ServerID	ST WORKRECORDHISTORY	ServerID
	2	ST TASKHISTORY		ID	ST WORKRECORDHISTORY	StWorkTaskID
	3	ST TASKHISTORY		RevisionNumber	ST WORKRECORDHISTORY	RevisionNumber
	1	ST TASKS		ServerID	ST TASKHISTORY	ServerID
	2	ST TASKS		ID	ST TASKHISTORY	ID

## ST\_TASKS

### List of Tasks

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	CreatedTime	datetime	8	N	ObjectID of the root object
4	CreatedUserID	varchar	254	N	Creation time
5	ModifiedTime	datetime	8	N	Creation user
6	ModifiedUserID	varchar	254	N	Time last modified
7	RevisionNumber	int	4	N	Number of revisions
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	StTaskParentID	int	4	N	Object ID of Parent Task
11	StTaskNumber	int	4	N	Task Number
12	StTaskName	varchar	254	N	Task Name
13	StTaskNotes	text	16	N	Notes
14	StTaskPercentComplete	int	4	N	Percent Complete
15	StTaskMilestone	varchar	254	N	Milestone
16	StTaskPriority	varchar	254	N	Priority
17	StTaskStatus	varchar	254	N	Status
18	StTaskResponsibility	varchar	254	N	Responsibility
19	StTaskEstimatedHours	float	8	N	Estimated Hours
20	StTaskEstimatedStart	datetime	8	N	Estimated Start
21	StTaskEstimatedFinish	datetime	8	N	Estimated Finish
22	StTaskActualHours	float	8	N	Actual Hours
23	StTaskActualStart	datetime	8	N	Actual Start
24	StTaskActualFinish	datetime	8	N	Actual Finish
25	StTaskDuration	float	8	N	Duration
26	StTaskNeedsAttention	varchar	254	N	Needs Attention
27	StTaskAttentionNotes	text	16	N	Attention Notes
28	AttachmentCount	int	4	N	Attachment Count
29	AttachmentNames	text	16	N	Names of all attachments
30	StTaskType	varchar	254	N	Type
31	StTaskConstraintType	varchar	254	N	Constraint Type
32	StTaskConstraintDate	datetime	8	N	Constraint Date
33	StTaskGUID	varchar	111	N	
34	StTaskUniqueID	int	4	N	
35	StTaskWBSCCode	varchar	64	N	WBSCCode
36	StTaskMSProjectFileName	varchar	762	N	
37	StTaskMSProjectLastUpda	datetime	8	N	MSProject Last Update
38	StWorkDependencyLastUp	datetime	8	N	Work Dependency Last Update
39	StTaskResourceCount	int	4	N	Resource Count
40	StTaskResourceNames	text	16	N	List of Resource Users
41	StTaskProcessUsage	varchar	254	N	
42	StTaskEstimatedStartVaria	int	4	N	Estimated Start Variance
43	StTaskEstimatedFinishVari	int	4	N	Estimated Finish Variance
44	StTaskEstimatedHoursVari	float	8	N	Estimated Hours Variance

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description	
Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST TASKS		ServerID	ST LINKS	ServerID
	2	ST TASKS		ID	ST LINKS	ParentObjectID
	1	ST TASKS		ServerID	ST LINKS	ServerID
	2	ST TASKS		ID	ST LINKS	ChildObjectID
	1	ST TASKS		ServerID	ST OBJECTACLS	ServerID
	2	ST TASKS		ID	ST OBJECTACLS	ObjectID
	1	ST TASKS		ServerID	ST TASKHISTORY	ServerID
	2	ST TASKS		ID	ST TASKHISTORY	ID
	1	ST TASKS		ServerID	ST WORKRECORDS	ServerID
	2	ST TASKS		ID	ST WORKRECORDS	StWorkTaskID

## ST\_TOPICHISTORY

Topic History - One record for every revision

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	RevisionNumber	int	4	Y	Number of revisions
4	CreatedTime	datetime	8	N	ObjectID of the root object
5	CreatedUserID	varchar	254	N	Creation time
6	ModifiedTime	datetime	8	N	Creation user
7	ModifiedUserID	varchar	254	N	Time last modified
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	ParentTopicID	int	4	N	ObjectID of Parent Topic
11	Title	varchar	254	N	Title
12	Description	text	16	N	Description
13	AttachmentCount	int	4	N	Attachment Count
14	AttachmentNames	text	16	N	Names of all attachments
15	Status	varchar	254	N	Status
16	Priority	varchar	254	N	Priority
17	TopicNumber	int	4	N	Topic Number
18	RecipientCount	int	4	N	Number of Recipients
19	RecipientNames	text	16	N	List of all Recipients

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST TOPICHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST TOPICHISTORY	ID	ST VIEWMEMBER	ID
	3	ST TOPICHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber

## ST\_TOPICS

List of Topics

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	ObjectID
3	CreatedTime	datetime	8	N	ObjectID of the root object
4	CreatedUserID	varchar	254	N	Creation time
5	ModifiedTime	datetime	8	N	Creation user
6	ModifiedUserID	varchar	254	N	Time last modified
7	RevisionNumber	int	4	N	Number of revisions
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	ParentTopicID	int	4	N	ObjectID of Parent Topic
11	Title	varchar	254	N	Title
12	Description	text	16	N	Description
13	AttachmentCount	int	4	N	Attachment Count
14	AttachmentNames	text	16	N	Names of all attachments
15	Status	varchar	254	N	Status
16	Priority	varchar	254	N	Priority
17	TopicNumber	int	4	N	Topic Number
18	RecipientCount	int	4	N	Number of Recipients
19	RecipientNames	text	16	N	List of all Recipients

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description	
Table Joins	Column	Primary Table		Primary Field	Foreign Table	Foreign Field
	1	ST TOPICS		ServerID	ST LINKS	ServerID
	2	ST TOPICS		ID	ST LINKS	ParentObjectID
	1	ST TOPICS		ServerID	ST LINKS	ServerID
	2	ST TOPICS		ID	ST LINKS	ChildObjectID
	1	ST TOPICS		ServerID	ST OBJECTACLS	ServerID
	2	ST TOPICS		ID	ST OBJECTACLS	ObjectID

## ST\_TRACEHISTORY

Trace History - One record for every revision

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Object ID
3	RevisionNumber	int	4	Y	Revision Number
4	CreatedTime	datetime	8	N	Created Time
5	CreatedUserID	varchar	254	N	Created User
6	ModifiedTime	datetime	8	N	Modified Time
7	ModifiedUserID	varchar	254	N	Modified User
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	RootObjectID	int	4	N	Root object ID
11	ParentObjectID	int	4	N	Parent object ID
12	ParentRevision	int	4	N	Parent revision
13	PathRevision	int	4	N	Path Revision
14	ViewID	int	4	N	View ID
15	DotNotation	varchar	254	N	Dot Notation
16	Description	text	16	N	Description
17	Type	varchar	254	N	Type of Trace
18	AttachmentCount	int	4	N	Attachment Count
19	AttachmentNames	text	16	N	Attachment Names
20	SourceltemID	int	4	N	Item ID of source item
21	SourceltemType	varchar	254	N	Source type
22	SourceVersion	varchar	254	N	Source version
23	Source	varchar	254	N	Source descriptor
24	TargetExternalID	varchar	254	N	Target ID
25	TargetItemtype	varchar	254	N	Target Type
26	TargetVersion	varchar	254	N	Target version
27	Target	varchar	254	N	Target descriptor

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST TRACEHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST TRACEHISTORY	ID	ST VIEWMEMBER	ID
	3	ST TRACEHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST TRACES	ServerID	ST TRACEHISTORY	ServerID
	2	ST TRACES	ID	ST TRACEHISTORY	ID

## ST\_TRACES

List of Traces

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Object ID
3	CreatedTime	datetime	8	N	Created Time
4	CreatedUserID	varchar	254	N	Created User
5	ModifiedTime	datetime	8	N	Modified Time
6	ModifiedUserID	varchar	254	N	Modified User
7	RevisionNumber	int	4	N	Revision Number
8	RevisionFlags	int	4	N	Revision Flags
9	StComment	text	16	N	Comment
10	RootObjectID	int	4	N	Root object ID
11	ParentObjectID	int	4	N	Parent object ID
12	ParentRevision	int	4	N	Parent revision
13	PathRevision	int	4	N	Path Revision
14	ViewID	int	4	N	View ID
15	DotNotation	varchar	254	N	Dot Notation

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
16	Description	text	16	N	Description
17	Type	varchar	254	N	Type of Trace
18	AttachmentCount	int	4	N	Attachment Count
19	AttachmentNames	text	16	N	Attachment Names
20	SourceItemID	int	4	N	Item ID of source item
21	SourceItemType	varchar	254	N	Source type
22	SourceVersion	varchar	254	N	Source version
23	Source	varchar	254	N	Source descriptor
24	TargetExternalID	varchar	254	N	Target ID
25	TargetItemType	varchar	254	N	Target Type
26	TargetVersion	varchar	254	N	Target version
27	Target	varchar	254	N	Target descriptor

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST TRACES	ServerID	ST OBJECTACLS	ServerID
	2	ST TRACES	ID	ST OBJECTACLS	ObjectID
	1	ST TRACES	ServerID	ST TRACEHISTORY	ServerID
	2	ST TRACES	ID	ST TRACEHISTORY	ID

## ST\_TYPES

### List of Types

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ClassID	int	4	Y	Class ID for type
3	TypeName	varchar	254	N	Type Name
4	DisplayName	varchar	254	N	Display Name
5	PropertyCount	int	4	N	Property Count
6	IsItem	int	4	N	Is an Item type
7	IsComponent	int	4	N	Is a component
8	IsMPXSupported	int	4	N	Is MPX enabled

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST SERVER	ServerID	ST TYPES	ServerID
	1	ST TYPES	ServerID	ST PROPERTIES	ServerID
	2	ST TYPES	ClassID	ST PROPERTIES	TypeID

## ST\_USERS

### List of Users

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	User ID
3	Full Name	varchar	254	N	Full Name
4	Phone	varchar	254	N	Phone
5	VoiceMail	varchar	254	N	Voice Mail
6	Pager	varchar	254	N	Pager
7	Fax	varchar	254	N	Fax
8	Email Address	varchar	254	N	Email Address
9	Address	varchar	254	N	Address
10	AccountStatus	varchar	254	N	Account Status
11	LogonName	varchar	254	N	Logon Name
12	HasFixedLicense	int	4	N	Has a fixed license

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST SERVER	ServerID	ST USERS	ServerID
	1	ST USERS	ServerID	ST GROUPUSERS	ServerID
	2	ST USERS	ID	ST GROUPUSERS	UserID
	1	ST USERS	ServerID	ST OBJECTACLS	ServerID
	2	ST USERS	ID	ST OBJECTACLS	ObjectID

## ST\_VIEWMEMBER

### Shows the folders items are in

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ViewID	int	4	N	View ID
3	ItemID	int	4	Y	Item ID
4	ParentFolderID	int	4	N	Item ID of Parent Folder
5	ProjectID	int	4	N	Project ID

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
6	ClassID	int	4	N	Class ID of Item type
7	TypeName	varchar	254	N	Name of item type
8	ID	int	4	N	Object ID of item
9	ViewVersion	int	4	N	View Version of item
10	RevisionNumber	int	4	N	Revision Number of Item
11	FolderHierarchy	text	16	N	Folder Hierarchy for item

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST CHANGEPACKAGEHIS	ServerID	ST VIEWMEMBER	ServerID
	2	ST CHANGEPACKAGEHIS	ID	ST VIEWMEMBER	ID
	3	ST CHANGEPACKAGEHIS	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST CRHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST CRHISTORY	ID	ST VIEWMEMBER	ID
	3	ST CRHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST FILEHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST FILEHISTORY	ID	ST VIEWMEMBER	ID
	3	ST FILEHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST FOLDERHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST FOLDERHISTORY	ID	ST VIEWMEMBER	ID
	3	ST FOLDERHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST REQHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST REQHISTORY	ID	ST VIEWMEMBER	ID
	3	ST REQHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST TASKHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST TASKHISTORY	ID	ST VIEWMEMBER	ID
	3	ST TASKHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST TOPICHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST TOPICHISTORY	ID	ST VIEWMEMBER	ID
	3	ST TOPICHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST TRACEHISTORY	ServerID	ST VIEWMEMBER	ServerID
	2	ST TRACEHISTORY	ID	ST VIEWMEMBER	ID
	3	ST TRACEHISTORY	RevisionNumber	ST VIEWMEMBER	RevisionNumber
	1	ST VIEWMEMBER	ServerID	ST AUDITS	ServerID
	2	ST VIEWMEMBER	ItemID	ST AUDITS	ParentFolderID
	1	ST VIEWMEMBER	ServerID	ST ITEMLABELS	ServerID
	2	ST VIEWMEMBER	ItemID	ST ITEMLABELS	ItemID
	1	ST VIEWMEMBER	ServerID	ST ITEMLINKS	ServerID
	2	ST VIEWMEMBER	ItemID	ST ITEMLINKS	ItemID
	1	ST VIEWMEMBER	ServerID	ST VIEWMEMBERHISTORY	ServerID
	2	ST VIEWMEMBER	ItemID	ST VIEWMEMBERHISTORY	ItemID
	1	ST VIEWS	ServerID	ST VIEWMEMBER	ServerID
	2	ST VIEWS	ID	ST VIEWMEMBER	ViewID

## ST\_VIEWMEMBERHISTORY

View Member History includes deleted and moved items

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ViewID	int	4	N	View ID
3	ItemID	int	4	Y	Item ID
4	ItemRevisionNumber	int	4	Y	
5	CreatedTime	datetime	8	N	Created Time
6	CreatedUserID	varchar	254	N	Created User
7	ModifiedTime	datetime	8	N	Modified Time
8	ModifiedUserID	varchar	254	N	Modified User
9	DeletedTime	datetime	8	N	Deleted Time
10	DeletedUserID	varchar	254	N	Deleted User
11	EndModifiedTime	datetime	8	N	End time for revision
12	ParentFolderID	int	4	N	Item ID of Parent Folder
13	ProjectID	int	4	N	Project ID

# StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
14	ClassID	int	4	N	Class ID of Item type
15	TypeName	varchar	254	N	Name of item type
16	ID	int	4	N	Object ID
17	ConfigType	int	4	N	Configuration type
18	ConfigData	datetime	8	N	

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST VIEWMEMBER	ServerID	ST VIEWMEMBERHISTORY	ServerID
	2	ST VIEWMEMBER	ItemID	ST VIEWMEMBERHISTORY	ItemID

## ST\_VIEWS

### List of Views

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	View ID
3	CreatedTime	datetime	8	N	Creation time
4	CreatedUserID	varchar	254	N	Creation user
5	Name	varchar	254	N	Name
6	Description	varchar	254	N	Description
7	ProjectID	int	4	N	Project ID
8	ParentViewID	int	4	N	View ID of Parent view
9	RootMemberID	int	4	N	
10	WorkingFolder	varchar	762	N	
11	BaseConfigType	int	4	N	Base configuration type from when view was created
12	BaseConfigData	datetime	8	N	Base configuration data from when view was created
13	Flags	int	4	N	
14	ShareFlags	int	4	N	
15	IsViewPurged	int	4	N	
16	IsBranchOnShare	int	4	N	Whether items are Branch on Share
17	IsReadOnly	int	4	N	Whether view is read only
18	ISReference	int	4	N	Whether view is reference
19	ViewHierarchy	text	16	N	View Hierarchy for view

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST PROJECTS	ServerID	ST VIEWS	ServerID
	2	ST PROJECTS	ID	ST VIEWS	ProjectID
	1	ST VIEWS	ServerID	ST LABELS	ServerID
	2	ST VIEWS	ID	ST LABELS	ViewID
	1	ST VIEWS	ServerID	ST OBJECTACLS	ServerID
	2	ST VIEWS	ID	ST OBJECTACLS	ObjectID
	1	ST VIEWS	ServerID	ST PROMOTIONS	ServerID
	2	ST VIEWS	ID	ST PROMOTIONS	ViewID
	1	ST VIEWS	ServerID	ST VIEWMEMBER	ServerID
	2	ST VIEWS	ID	ST VIEWMEMBER	ViewID

## ST\_WORKRECORDHISTORY

### Work Record History - lists work records for every task revision

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID
2	ID	int	4	Y	Workrecord ID
3	StWorkTaskID	int	4	N	ObjectID of Task
4	RevisionNumber	int	4	Y	Revision number of task
5	StWorkDate	datetime	8	N	Date
6	StWorkHours	float	8	N	Hours
7	StWorkRemainingHours	float	8	N	Remaining Hours
8	StWorkUserID	varchar	254	N	User Name
9	StWorkComment	text	16	N	Comment

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST TASKHISTORY	ServerID	ST WORKRECORDHISTORY	ServerID
	2	ST TASKHISTORY	ID	ST WORKRECORDHISTORY	StWorkTaskID
	3	ST TASKHISTORY	RevisionNumber	ST WORKRECORDHISTORY	RevisionNumber

## ST\_WORKRECORDS

### Lists work records for every task

Column	Field	Type	Length	Primary	Description
1	ServerID	int	4	Y	Server ID

## StarTeam Datamart Schema

Column	Field	Type	Length	Primary	Description
2	ID	int	4	Y	Workrecord ID
3	StWorkTaskID	int	4	N	ObjectID of Task
4	StWorkDate	datetime	8	N	Date
5	StWorkHours	float	8	N	Hours
6	StWorkRemainingHours	float	8	N	Remaining Hours
7	StWorkUserID	varchar	254	N	User Name
8	StWorkComment	text	16	N	Comment

Table Joins	Column	Primary Table	Primary Field	Foreign Table	Foreign Field
	1	ST TASKS	ServerID	ST WORKRECORDS	ServerID
	2	ST TASKS	ID	ST WORKRECORDS	StWorkTaskID

# StarTeam Datamart Entity Relationship Diagram

Note that this diagram continues on the following page.





