Micro Focus Solutions Business Manager 11.5 Database Schema

Reference Guide

Last Modified: November 28, 2018

Dear Customer,

This document describes the Solutions Business Manager (SBM) database schema. This database was also known as the TeamTrack database before SBM 7.0 and Serena Business Manager database before 11.3. Through SBM, important information is captured in the database. Companies may have unique needs to gather, organize, and analyze this data. While keeping in mind the schema may change with new releases of the product, it is safe to use this information to read and display data from the database. For example, you may wish to write a custom report that processes issues in a special way. This document will aid you in creating reports of this nature and more.

The SBM database is stored in an underlying relational database. This document describes the tables, columns, and relationships of the database. This information should be used cautiously. *Please note: Customer Support does not support backend modifications*. Additionally, changes, deletions, and modifications performed directly to the database are not recommended as Micro Focus reserves the right to modify the schema when necessary to implement new features. Hence, changes made directly to the database may not be upward compatible. If a new table or column is added in a future version, any code written to a prior version will not have knowledge of the new tables or columns, and thus may not perform correctly.

Micro Focus recommends performing database modifications through the SBM System Administrator or by creating an application that uses the Application Programming Interface, henceforth API. Alterations that cannot be performed through the SBM System Administrator should be performed through the API. Micro Focus strives to ensure upward compatibility should database changes be performed in this manner. The API is available to all SBM customers.

The SBM API is written in C++. Using the API, modifications to the database can now be done safely. Applications can be written to this API, which import and export data between SBM applications and other application programs. C++ programming experience is required to create an application using this class library. *Please note: Micro Focus does not support the API through its standard Customer Support contract*. API support will be available in time-blocks through our Professional Services Group (PSG). PSG staffs expert C++ developers who are available to support and/or develop these applications to meet your needs. Should assistance be required in creating or understanding API classes, please contact your sales executive.

For more information about securing PSG services to support and/or develop API applications to meet your needs, contact your account manager.

Thank you,

Micro Focus

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Introduction

The SBM data is stored in an underlying relational database. This document describes the tables, columns, and relationships of the database.

The reader should use this information cautiously to maintain compatibility with future versions of SBM. The SBM schema will be modified from time to time when necessary to implement new features. In most cases, the only schema changes are table and column additions in the database. Our intent is to leave the semantics of existing tables and columns unchanged whenever possible. The existing semantics should change only in rare circumstances.

Because of this philosophy, it should be relatively safe to use this information to read and display data out of the database. For example, you may wish to write a custom report that processes the issues in a special way for your organization. If no semantic changes are made to the existing tables and columns, your report should run unmodified even if a future version of SBM performs a database modification. Writing to an SBM database is more dangerous. If a new table or column is added in a future version, any code written to a prior version will not have knowledge of the new tables or columns, and thus may not perform correctly. Please keep these issues in mind when using this document for programming purposes.

Database Versions

As mentioned above, the SBM database is occasionally modified to accommodate new features added to SBM products. For example, Version 2.0 included a new feature that allowed a file or URL link to be attached to an issue. To store this information, a TS_ATTACHMENTS table was added.

SBM always maintains backward compatibility with previous databases. When you connect to a database using the SBM System Administrator, the value of TS_DBVER is checked. If it is not equal to the current version, you are offered the ability to upgrade the database to the current version. If you choose to upgrade, the appropriate database changes are made, and TS_DBVER is then set to the current value. However, once the database is upgraded, you can no longer use any older versions of SBM. Therefore, it is a good idea to use the 'Copy Database' feature of the SBM System Administrator to copy the current database before performing any upgrade.

In the documentation that follows, the 'DbVer' column indicates in which database revision the table or column first appeared. If the column is blank, the entity has existed since the first version.

As of SBM 10.1, a new versioning scheme was introduced for the 'DbVer' value. For example, in version 1001000302 the 'DbVer' is composed of the following two-digit groupings:

- 10 – Major release number
- 01 – Minor release number
- 00 – Patch number (where 00 is the GA version)
- 03 – Turnover/Sprint number
- 02 – Build number

Revision History

[Click on a link (hand icon) to jump to the revision details.]

Date	Author Initials	DbVer	Description
02/08/02	LF	55100	Added column TS_NOTIFICATIONMESSAGES.**TS_CONTENTTYPE**.
03/04/02	DB	55102	Values for **TS_TIMEPREFERENCE** column in TS_USERS table: Changed definition for time format from TS_TIME_FORMAT_MILITARY to TS_TIME_FORMAT_24HOUR. Same effect, better name. The old name is retained as a deprecated option.
03/04/02	SL	55102	Support for the Subtasks section in the details frame. Controlled by the **TS_FLDMASK_SUBTASKS** user preference in the TS_USERS table and the TS_USRPRJPRIV_VIEWSUBTASKS privilege.
03/28/02	SL	55104	Added system setting: '**AutoExternalTableId**'.
04/25/02	DB	55107	Values for **TS_SUBTYPE** column in TS_ATTACHMENTS table: For file attachments, this column will contain the size of the file, in bytes, making use of the existing unused column, rather than creating a new column.
05/29/02	SL	55200	Numbered attachments feature added. This involved adding the **TS_SEQUENCE** column to the TS_ATTACHMENTS table, the new **TS_ATTACHMENTSEQUENCES** table, and three new systems settings: '**NumberedAttachments**', '**NumberedNotesFormat**', and '**NumberedAttachmentsFormat**' in the TS_SYSTEMSETTINGS table.
05/29/02	SL	55200	Unrestricted attachments feature introduced, adding the **TS_ACCESSTYPE** column to the TS_ATTACHMENTS table.
05/15/02	DB	55201	Added system setting: '**HTMLNotes**' in the TS_SYSTEMSETTINGS table.
6/25/02	SL	57000	Added **TS_ALTNAME** column in the TS_PROJECTS table.
6/25/02	RES	57000	Added OWA tables: **TS_BRIDGES**, **TS_FIELD_MAP**, **TS_TOOLS**, **TS_USER_MAP**, and **TS_XREF**.
7/22/02	LF	56003	**TS_CHAR1** field and **TS_REPORTS** field in the TS_VCACTIONS table are now being used by the VersionBridge for ClearCase integration to store the Version Identifier of the file.
8/8/02	MHP	57001	Added the following: **TS_TEMPPATH** column in the TS_TOOLS table, **TS_TEMPPATH** column in the TS_BRIDGES table, **TS_TABNAME** column in the TS_XREF table, **TS_CREATELOGINDATE** column in the TS_USERS table, and **TS_MEMO** column in the TS_GROUPS table.

Date	Author Initials	DbVer	Description
8/29/02	LF	57002	Added **TS_URL** field in the TS_VCACTIONS table. This is to hold a URL or a link into the Version Control system for this Version Control Action.
8/29/02	SL	57002	Added system setting: **UnrestrictedDefault** in the TS_SYSTEMSETTINGS table as part of the unrestricted attachments default logic.
8/29/02	SL	57002	Added numerous LDAP Tool system settings beginning on page Error! Bookmark not defined..
9/3/02	LER	57002	**TS_MULTIUSERUSAGES** and multiple-selection user/group fields.
9/5/02	DB	57002	Added table **TS_CONCURRENTLOGINS**.
9/5/02	DB	57002	Added system setting: **ConcurrentLoginRefreshInterval** in the TS_SYSTEMSETTINGS table.
9/5/02	DB	57002	Added system setting: **eWebEditPro** in the TS_SYSTEMSETTINGS table.
9/5/02	DB	57002	Added system setting: **CharSet** in the TS_SYSTEMSETTINGS table.
9/23/02	RES	57003	Added **TS_REFERENCEID** column in the TS_FIELD_MAP table.
10/16/02	SL	57004	Added **TS_PROPERTIES** column in the TS_FIELD_MAP table.
11/25/02	LER	57006	Added index to TS_GROUPENABLER on TS_PREFIX called **TI_PREFIX_GROUPENABLER**.
12/13/02	GKG	57007	Added new data value to TS_QUERYABLE member of the TS_FIELDS table called **TS_LOOKUP_SEARCHABLE**.
12/15/02	LVM	57007	Added **TS_ATTRIBUTES** column in the TS_BRIDGES table.
12/15/02	LVM	57007	Added **TS_ATTRIBUTES** column in the TS_TOOLS table.
12/15/02	LVM	57007	Added **TS_ATTRIBUTES** column in the TS_USER_MAP table.
01/14/03	SL	60002	Added **TS_LABELS** table to allow unique section labels and report levels for each table.
01/14/03	SL	60002	Added **TS_TRANSORDERINGS** table to support ordering of transition buttons on a per state basis.
01/14/03	TL	60002	Removed the unused TS_FOLDERCOLUMS table. "TS_TBLID_FOLDERCOLUMNS = 22" is retained in the API as a deprecated value.
01/15/03	LF	60002	Added the **TS_VCURLFORMATS** table to support dynamically generated URL's that link to file differences in the Version Control system.
01/16/03	TL	60002	Removed the unused m_browser masks: TS_FLDMASK_EMAIL_OWNER, TS_FLDMASK_EMAIL_STATE, TS_FLDMASK_EMAIL_CLOSED, TS_FLDMASK_EMAIL_ALLSUBMIT, TS_FLDMASK_EMAIL_ALLOWNER, TS_FLDMASK_EMAIL_ALLSTATE, TS_FLDMASK_EMAIL_ALLCLOSED, TS_FLDMASK_MASTRANS from the **TS_BROWSERMASK** column in the TS_USERS table.
01/17/03	LF	60002	Added **TS_LOGMESSAGE** column in the TS_VCACTIONS table.

Date	Author Initials	DbVer	Description
02/14/03	DBM	60002	Added **TS_CACHEACTIONS** table.
02/19/03	SDF	60002	Added **TS_USERQUICKLINKS** and **TS_USERSOLUTIONDATA** tables.
02/20/03	RES	60002	Added **TS_SECONDARYOWNER** to TS_STATES table. Added **TS_SYSFLD_MULTIUSER_SECONDARYOWNER** to list of fields for a primary table.
02/24/03	DB	60004	Added **TS_FLDOPTION_RENDER_HTML** to values of TS_OPTIONS column of TS_FIELDS table.
02/26/03	PJD	60003	Added **TS_TABNAME** to TS_SOLUTIONS table.
03/14/03	DB	60006	Added **TS_FOLDERPROFILE** to TS_USERSOLUTIONDATA table.
4/10/03	LF	60010	Added **TS_LICENSING** to TS_CONCURRENTLOGINS table.
4/11/03	LER	60003	Replaced **TS_REPORTS** with new structure.
5/7/03	SDF	60011	Added **TS_SUMITID** to TS_TRANSITIONS and TS_BRIDGES.
7/30/03	DB	60004	Added **TS_FLDOPTION_ALLOW_HUGE** to values of TS_OPTIONS column of TS_FIELDS table.
8/27/03	RES	61018	Added **TS_URLINTEGRATIONS** and **TS_URLUSAGES**.
8/27/03	PJD	61019	Moved **AnonymousKnowledgeBaseAccess** from the TS_SYSTEMINFO table to the TS_SYSTEMSETTINGS table for performance reasons.
12/1/03	SL	61017	Create **TS_TRANSATTRS** and **TS_TRANSATTRUSAGES** tables.
11/18/03	SL	62001	Added **TS_LANGUAGES**, **TS_STRINGIDENTIFIERS**, and **TS_STRINGS** tables, and the TS_USERS.**TS_LANGUAGEID** column for I18n support.
12/5/03	SL	62002	Added **TS_FIELDS.TS_LABEL3** column to support trinary fields.
12/5/03	SL	62002	Field option **TS_FLDOPTION_CHECKBOXES** replaced with overridable property, **TS_FLDPROP_CHECKBOXES**.
1/2/04	DI	62002	Added **TS_MACROS.TS_BLOBID** column to support longer script contents.
1/23/04	SL	62002	Added **TS_SEARCHSUPPRESS**, **TS_IMAGEACTIVE**, AND **TS_IMAGEINACTIVE** to TS_TABLES.
1/23/04	SL	62002	Added **TS_ORIGFIELDID** and **TS_POSTFIELDID** to TS_TRANSITIONS.
1/23/04	SL	62002	Obsoleted **TS_TRANSTRIGGERSTATES** and **TS_TRANSTRIGGERTRANSITIONS**.
1/23/04	SL	62002	Added the **TS_STACTIONS** table.
1/27/04	LM	62003	Added the **TS_SELECTIONUSAGES** table.
1/27/04	LF	62003	Reset the values in the previously unused **TS_PRIORITY** column for the **TS_NOTIFICATIONS** and **TS_NOTIFICATIONMESSAGES** tables for their new usage as the value of the *X-Priority* internet message header field.
2/26/04	PJD	62004	Added **TS_TABLEID** to **TS_NOTIFICATIONFIELDS**.
4/19/04	RES	62010	Added **TS_LASTMODIFIEDDATE** and **TS_FILESIZE** to **TS_BLOBS**.

Date	Author Initials	DbVer	Description
8/12/04	SL	63001	Added **TS_LASTMODIFIEDDATE**, **TS_LASTMODIFIER**, and **TS_LASTEXECDATE** to **TS_REPORTS**.
9/27/04	DI	63004	Added **TS_VCURLFORMAT** to **TS_VCACTIONS**, **TS_VCINTEGRATION** to **TS_VCURLFORMATS**
10/15/04	LER	63002	Added **TS_DBSOURCES**, **TS_IMPORTOPTIONSETS**, augmented **TS_USER_MAP**, **TS_FIELD_MAP**, **TS_XREF**.
10/25/04	LER	63006	Added **TS_CONSTANTSTR** to **TS_FIELD_MAP**.
11/24/04	SL	63004	Added **TS_ORDERINDEX** to **TS_TRANSATTRUSAGES**.
12/02/04	DI	63008	Added new values to **TS_GROUPS.TS_TYPE** for the TRACKER_ADMIN and TRACKER_ALL groups (part of the Tracker migration).
06/28/05	DSB	65001	Added new values to **TS_SYSTEMSETTINGS** that represent the new password and security options. Added **TS_USERS.TS_CHECKOLDPASSWORDS** and **TS_USERS.TS_SPECIALCHAR**.
07/12/05	LER	65001	Added new tables **TS_CHANGEACTIONS** and **TS_CHANGETEXT**, added new column to **TS_CHANGES**.
07/13/05	PJD	65001	Added new column **TS_PREFERREDPROJECTS** to **TS_USERSOLUTIONDATA**.
08/22/05	SMD	65003	Added new change action types for subtasks to **TS_CHANGES**.
01/12/06	SMD	66001	Added new table, **TS_TRANSSIGNS**.
03/15/06	DDM	66003	Added new column **TS_SERVERTYPE** to **TS_CONCURRENTLOGINS**.
04/18/06	SMD	66003	Added new tables to support Web services: **TS_WSDESCRIPTIONS**, **TS_WSCALLS**, **TS_WSDATAMAPPINGS**, **TS_WSSELECTIONMAPPINGS**, and TS_EXECTYPE, TS_PREWSCALLID, TS_POSTWSCALLID (TS_WSCALLID) columns to TS_STATES, TS_TRANSITIONS, (and TS_NOTIFICATIONS).
03/21/06	SMD	66004	Changed the behavior of **TS_FLDACTION_ATTRIBUTES** in the TS_RPOPERTIES table.
3/28/06	DI	66005	Added **TS_USERS.TS_LOCALE** and **TS_USERS.TS_TIMEZONE**. Added new values for **TS_USERS.TS_DATEPREFERENCE** and deprecated values for **TS_USERS.TS_TIMEPREFERENCE**.
6/30/06	RES	66012	Removed TS_EXECTYPE columns from TS_STATES, TS_TRANSITIONS, and TS_NOTIFICATIONS.
9/6/06	RES	66016	DEF102085 schema document not up to date. Numerous changes throughout the entire document.
10/06.06	SMD	66101	Added **TS_IMPSET_TEXTMATCHING** constant for TS_IMPORTOPTIONSETS.TS_OPTIONS
1/11/07	RES	71004	Added **TS_PRIVTYPE_ADMCON** value for TS_TYPE field in the TS_PRIVILEGES table.
1/13/07	GKG	71005	Added **TS_UUID** column to tables that contain UUIDs.
1/23/07	SMD	71005	Description of the new mirror tables for advanced trend reports.

Date	Author Initials	DbVer	Description
1/24/07	PJD	71005	Tables added to support Hour of Operation. **TS_CALENDARS**, **TS_CALENDAROVERRIDES**, **TS_CALENDARWEEKDAYS**, **TS_CALENDARTIMERANGES**, **TS_TIMEINSTATE**. Also added the following columns to existing tables: **TS_USERS.TS_CALENDARID**, **TS_NOTIFICATIONS.TS_CALENDARTYPE**, and **TS_NOTIFICATIONS.TS_REPEATCALENDARTYPE**
1/26/07	GKG	71005	Added **TS_ROLEID** column to **TS_SELECTIONS** table. Added **TS_VERSION** column to **TS_SOLUTIONS** table.
7/7/08	SMD	71005	**TS_USERQUICKLINKS** are replaced by records in **TS_FOLDERITEMS** and **TS_URLSTORE** that implement the same behavior.
2/5/07	GKG	71006	Change Role and Permission table names. Put columns in new order and changed column names where applicable. Added missing Table Ids.
2/13/07	BAB	71006	Added new tables to support Forms: **TS_FORMS**, **TS_FORMUSAGES**, and **TS_FORMUSERPREF**.
2/18/07	GKG	71006	Added new columns to **TS_ROLEPERMISSIONS** table to handle privileges to various tables and workflows (TS_CONTEXTTYPE and TS_CONTEXTID). Changed name of column in TS_PERMISSIONS from TS_LEGACYPERM to TS_PROJECTPRIVID and TS_TABLEPRIVID. Changed name of column in TS_PERMISSIONCONDITIONS from TS_FIELDID to TS_FIELDSYSCODE.
3/7/07	SMD	71007	**TS_TRANSGROUPS** now supports Roles.
3/13/07	GKG	71007	Added new syscodes for Company and Contact fields. Update the description of the TS_UUID column in the TS_TABLES and TS_FIELDS tables to reflect the new format.
3/19/07	GKG	71007	Added TS_TYPE column to the TS_FORMS table.
4/05/07	PJD	71008	Added TS_INTEGERS table. Its an empty table used as a template for some of our new graphical reports for 7.0.
4/7/07	GKG	71008	Added TS_AUTHTYPE column to the TS_WSDESCRIPTIONS table.
4/16/07	GKG	71008	Added TS_APPLICATIONS table and TS_APPLICATIONID column to the TS_SOLUTIONS table.
4/26/07	JWS	71008	Convert date fields from integers to database native types. Add date related comments to TS_CHANGES and TS_FIELDS tables. Add TS_VALUEREAL column to TS_NOTIFICATIONCONDITIONS table.
05/01/07	SDT	71008	Added information about the new report types and how the data is stored in TS_REPORTS.
09/18/07	SMD	71008	Added **TS_MULTISELECTSIZE** column to TS_FIELDS and TS_PROPERTIES.
05/14/07	BAB	71009	Added new column **TS_LASTREPOSITORYID** to **TS_TABLES**.

Date	Author Initials	DbVer	Description
05/16/07	BAB	71009	Updated description of **TS_WSDATAMAPPINGS**. Listed values for the **TS_CONTEXTPARAM** column.
05/17/07	SMD	71009	Added new table, **TS_DELETEDOBJECTS**.
05/21/07	BAB	71009	Added new column **TS_LAYOUTBLOBID** to **TS_FORMS**.
5/21/07	GKG	71009	Added new columns to TS_APPLICATIONS to store Application version information.
5/24/07	PJD	71009	Added columns to the TS_CALENDARS table to support soft delete and collect better Time in State data.
5/27/07	GKG	71009	Added TS_PROCESSMODELS and TS_APPLICATIONPROCESSMODELS tables. Removed TS_APPLICATIONID column from the TS_SOLUTIONS table. Added TS_HEADERHTML, TS_FOOTERHTML and TS_STYLE columns to the TS_SOLUTIONS table. Added the TS_SOLUTIONID column to the TS_STRINGIDENTIFIERS table.
06/01/07	SDT	71009	Added information about the new Advanced Distribution report type and how data is stored for this new report type in TS_REPORTS.
06/11/07	DDM	71009	Added new tables, **TS_ALFEVENTS** and **TS_ALFEVENTCALLS**. Added new **TS_ALFCALLID** column to **TS_WSDATAMAPPINGS**. Added new **TS_SERVICENAME** and **TS_PORTNAME** columns to **TS_WSDESCRIPTIONS**.
6/19/07	PJD	71009	Added **TS_REPORTDISPLAYFORMATS.** This was added to support Drill-Down format capability.
06/25/07	SMD	71010	Added **TS_ROLES.TS_APPROLEUUID** to support application-level roles.
06/29/07	BAB	71010	Added new column **TS_STYLEBLOBID** to **TS_SOLUTIONS**.
07/11/07	DI	71010	Updated data type information to reflect Unicode conversion.
07/27/07	JWS	71011	Update date field types for primary and aux tables
08/06/07	SMD	71012	TS_USER.TS_OTHERUSER column is obsolete.
9/27/07	GKG	71015	Added TS_MULITSELECTSIZE and TS_SELECTIONORDER column to TS_FIELDS table.
11/26/07	JAY	71018	Brand change, BPEL and JBPM explanations, and mirror table corrections.
12/17/07	Arun	71019	Branding changes
03/12/08	SMD	71052	Added **TS_NAMESPACES** table and **TS_NAMESPACEID** columns to support SaaS.
06/13/08	SMD	71056	Describe new columns for referenced applications in **TS_APPLICATIONPROCESSMODELS**.
06/16/08	Dave M	71056	Added **TS_REVISION** column to **TS_APPLICATIONS** table.
7/16/08	GKG	71057	Added **TS_TYPEATTR** and **TS_STUDIODATABLOBID** columns to the **TS_WSDESCRIPTIONS** table.
9/18/08	GKG	71101	Added **TS_TERMSACCEPTED** column to the **TS_USERS** table.

Date	Author Initials	DbVer	Description
10/16/08	AM		Added CL and EM tables.
11/18/08	GKG	72004	Added **TS_DESCRIPTION** column to **TS_WORKFLOWS**, **TS_STATES** and **TS_TRANSITIONS** tables. Also added **TS_LABELPOSX** and **TS_LABELPOSY** columns to the **TS_GWETRANSITIONS** table.
11/26/08	PG	72004	Removed concurrent licensing settings.
12/29/08	GKG	901000504	Added **TS_ESTABLISHEDBY** column to **TS_MEMBERS** table.
02/06/09	SMD	71056	Corrected the descriptions of columns for referenced applications in **TS_APPLICATIONPROCESSMODELS**.
03/16/09	DI	901000902	Corrected the description of **TS_BLOB** column in **TS_BLOBS**.
5/20/09	PG	901000902	Fixed Typo in TS_SYSTEMSETTINGS section.
05/22/09	Vinoo	902000201	Updating the Index Documentation. Related CR DEF153619
7/06/09	DI	902000301	Added indexes to TS_PROJECTS, TS_MULTIUSERUSAGES, and to all primary tables.
7/22/09	AV	902000401	Updated description of TS_TABLEID and TS_POSTISSUEPROJECTID column in TS_TRANSITIONS table to include Copy/Subtask transitions and deprecated status, respectively. Added TS_TRANSPOSTPROJECTS table description.
8/18/09	SD	902000504	Added TS_FLDQUERY_ALLOWINACTIVE bit to TS_FIELDS.TS_QUERYABLE
8/20/09	GKG	902000601	Added **TS_PROCESSMODELREFERENCES** table.
11/12/09	GKG	902000904	Added the new unresolved object (shadow) tables for those objects that may not be instantiated due to unresolved references. Also added the **TS_UNRESOLVEDOBJECTS** and **TS_UNRESOLVEDOBJECTREFS** tables to keep track of unresolved objects and references to those objects.
11/22/09	GKG	902001002	Added TS_NAMESPACEID column to the **TS_PROCESSMODELREFERENCES** table.
11/30/09	GKG	902001101	Added comment to TS_TABLEID column in **TS_FIELDPRIVILEGES** table because the column is no longer used.
3/1/10	GKG	903000503	Added TS_NAMEDTYPELIBRARY column in **TS_SOLUTIONS** table to store information needed by SBM Composer.
3/26/10	GKG	903000610	Added more detail to the TS_SOLUTIONID column of the **TS_UNRESOLVEDOBJECTREFS** table.
4/16/10	EJR	903000506	Added SharePoint Sys Aux tables: **TS_SHAREPOINTPROJECTSERVERS** and **TS_SHAREPOINTSERVERS** and some SysField values used for the SharePoint integration.

Date	Author Initials	DbVer	Description
4/29/10	GKG	903000801	Added TS_COPYRIGHT column in **TS_APPLICATIONS** table to store information needed by SBM Composer.
9/21/10	GKG	904000504	Added Visual Based Routing tables: **TS_APPVARIABLES**, **TS_APPVARIABLEVALUES**, **TS_DECISIONRULES**, **TS_DECISIONRULETOKENS**.
9/25/10	GKG	904000505	Added notes on unresolved object (shadow) tables for: **TS_APPVARIABLES**, **TS_DECISIONRULES**, **TS_DECISIONRULETOKENS**. Also added **TS_NAMESPACEID** columns for **TS_APPVARIABLES** and **TS_DECISIONRULES**. Added **TS_SOLUTIONID** and **TS_OVERRIDESCOPE** coluds to **TS_APPVARIABLES**.
10/13/10	GKG	904000601	Added **TS_VALUETABLEID** column to **TS_APPVARIABLEVALUES** table. Added **TS_OTHERWISETRANSID** to **TS_STATES** table. Added **TS_DECISIONRULEID** to **TS_TRANSITIONS** table.
11/8/10	DI	904000707	Added **TS_USERSETTINGS, TS_CALENDARDENORM, TS_PROJECTANCESTRYDENORM**, and **TS_WORKFLOWANCESTRYDENORM** tables.
11/30/10	GKG	904000801	Added **TS_GWEBANDS** table and **TS_INACTIVESTATETYPE** column to the **TS_STATES** table.
4/11/11	PJD	1000000302	Added **TS_INTERNALNAME** column to **TS_TRANSITIONS, TS_STATES, TS_WORKFLOWS** and **TS_PROJECTS** tables
07/22/11	LT	1000000904	Added TS_TRACEWORKS table.
08/30/11	MM	10	Added: NS_REGISTRY, NS_INSTANCES, TS_DUEDATECONDITIONS tables and new columns to TS_CHANGEACTIONS, TS_NOTIFICATONEVENTS, TS_NOTIFICATIONMESSAGES
09/07/11	JV	1001000302	Added Invalid and Restricted Field Names section
10/03/11	EF	1000001112	Added TS_AVATARRESOURCEID to TS_USERS table
10/04/11	PJD	1000001121	Added TS_TRANSEXCLUSIONS table
11/03/11	DK	1000001114	Added TS_PREDEFINED column to TS_GROUPS table Added TS_NAMESPACEID column to TS_MEMBERS table
11/15/11	KRB	1000001404	Added **TS_TARGETTABLEID** column to **TS_FORMS** table.
12/14/11	SB	1000000302	Corrected mistake and moved TS_THREADID from TS_CACHEACTIONS to TS_CHANGEACTIONS.

Date	Author Initials	DbVer	Description
12/20/11	DI	1000001512	Changed TS_USERSETTINGS.TS_STRINGVALUE from varchar(255) to longvarchar, added value 16 to TS_USERSETTINGS.TS_OPTIONID
01/04/12	JV	1000001403	Added new TS_SYSTEMSETTINGS entries for the Social Widget.
01/05/12	PJD	1000001512	Added new TS_SYSTEMSETTINGS entries for HTTPBasicAuthnDomain and HeaderNameForPreAuthnPrincipal.
02/17/12	IK	1011010101	Added TS_PRINTFORMID column to TS_FORMUSAGES table, added possible value TS_FORMTYPE_PRINT=4 for TS_FORMS.TS_TYPE column.
09/21/12	PJD	1011040102	Added TS_PAUSEDITEMS and TS_PAUSEDREASONS tables. Also added new TS_CHANGES / TS_CHANGEACTIONS TS_ACTION TYPES to support the action of pausing/unpausing items. And added a new TS_FIELDS.TS_FLDTYPE and TS_FIELDS.TS_SYSCODE values to support the new Pause Status system field.
10/01/12	GS	1011040103	Added TS_TRUSTED_CERT column to TS_NAMESPACES table
05/21/12	JV	1011010101	Added missing details from TS_NOTIFICATIONEVENTS. Clarified TS_PASSWORDSETDATE.
05/23/12	DK	1012000000	Changed type of column TS_DESCRIPTION in tables TS_APPLICATIONS, TS_APPVARIABLES, TS_DECISIONRULES, TS_FIELDS, TS_PROCESSMODELS, TS_RESOURCES, TS_ROLES, TS_TRANSTRIGGERS, TS_SOLUTIONS, and type of column TS_COMMENT in table TS_REPORTS from varchar(255) to longvarchar
06/19/12	EF	1012000201	Added new tables: TS_IMPORTDATAFIELDMAPS, TS_IMPORTDATAFIELDMAPITEMS
12/10/12	DK	1012010110	Added TS_FOLLOWERNOTIFICATIONS table
12/20/12	EF	1012010121	Added TS_FOLLOWED column to TS_ITEMNOTIFICATIONS table
01/04/13	DK	1012010127	Added TS_TBLID_SYSTEMSETTINGSNAMESPACED table
01/10/13	PJD	1012010112	Added TS_TIMECAPTURE, TS_TIMECAPTURE_DENORM, TS_TIMECAPTURE_ROLLUP, TS_WF_PRJ_OVERRIDES tables. Added in new TS_CHANGE Action types for Time capture.
01/12/13	AS	1012010111	Added TS_NOTIFICATIONCHANNELS, TS_CHANNELS, TS_PLUGINS, TS_PLUGINCONTEXT, TS_PLUGINVARS, TS_TRANSITIONDATAMAPPINGS. TS_CHANNELID added to TS_ITEMNOTIFICATIONS and TS_NOTIFICATIONSUBSCRIPTIONS. TS_CHANNELID and TS_PLUGINUUID added to TS_NOTIFICATIONEVENTS and TS_NOTIFICATIONMESSAGES. TS_SHELLTYPE, TS_TRANSITIONID, TS_INITIALSTATEID, TS_TRANSUSERFLDID added to TS_NOTIFICATIONS.

Date	Author Initials	DbVer	Description
01/14/13	DB	1012010109	Added TS_DELEGATEDITEMS and TS_DELEGATIONS tables. Added new TS_CHANGES action type and new TS_SYSTEMSETTING value for Out Of Office.
01/15/13	DH	904000205	Added TS_PROJECTNAME, TS_REPORTURL, TS_REPORTID, TS_SAVECOPYLOCALLY, TS_ATTACHOUTPUTTOEMAIL columns to TS_NOTIFICATIONS table. Added possible value TS_TYPE=-2 for scheduled reports notifications – TS_NOTIFICATIONS table. Added possible value TSN_SEND_REPORT=0x0100 for TS_NOTIFICATIONS.TS_SENDTYPE. Added possible value TS_RESTYPE_SCHEDULED_REPORTS_TEMPLATE=15 for TS_RESOURCES.TS_TYPE.
01/16/13	DB	1012010107	Added TS_LDAPCONFIGURATIONS table.
03/29/13	DB	1012101001	Added TS_THEMES table.
04/09/13	PJD	1012101004	Added TS_STATEID and TS_TRANSITIONID for the TS_WF_PRJ_OVERRIDES table to support state/workflow specific overrides.
07/17/13	IK	1013000002	Changed type of TS_USERIP and TS_WEBSERVERIP columns of TS_CONCURRENTLOGINS table from INT to VARCHAR(65)
10/30/13	PJD	1013000025	Added TS_APPLICATION_GROUPREFS, TS_APPLICATION_GROUPS, TS_BUSINESS_SOLUTION_REFS, TS_BUSINES_SOLUTIONS, TS_USER_SUBMITHISTORY, TS_USER_VIEWHISTORY tables.
04/14/14	GS	1013000042	Added CLIENTCERTSSLAuthnCertThumbprint system setting.
05/06/14	GS	1014000021	Added CLIENTCERTSSLAuthnCertFilename & CLIENTCERTSSLAuthnCertPassword system settings.
05/06/14	PJD	1014000000	Added TS_PROFILECARDOVERRIDES table and additional TS_USERS (TS_TITLE, TS_MOBILEPHONE, TS_PREFERREDCONTACTMETHOD) columns.
9/16/14	TWC		Added TS_RESTYPE_FORM_EXTENSION (17) as a new value for TS_TYPE column of TS_RESOURCES table.
11/05/14	DK	1015000000	Added TS_GROUPPREFERENCES, TS_GROUPSETTINGS, TS_GROUPSOLUTIONDATA tables. Added TS_GROUPID column to SWC_USER_DATA.
15/9/14	SK	1015000001	Added TS_TEMPLATELINKS and TS_TEMPLATES
24/11/14	AS	1015000034	Added TS_VIEWSTATUSNOTIFICATION Added system setting: 'DisplayItemViewNotification' in the TS_SYSTEMSETTINGS table.
04/30/15	IK	1100000005	Added TS_SLAVEDEFAULTS column to TS_MSSELECTION table.

Date	Author Initials	DbVer	Description
06/08/15	DK	1100000012	Added TS_RULETYPE and TS_AUTHORID columns to TS_DECISIONRULES table
06/09/15	EF	1100000013	Added TS_USEDEFAULTIFEMPTY and TS_VALUESEPARATOR columns to TS_IMPORTDATAFIELDMAPS table
07/08/15	JV	1100000017	Added a link to KB article that contains a list of TS_PRIVILEGES bitmasks.
08/19/15	JV	1100000017	Added description of TS_ACTIONS to TS_AGILE_CHANGEACTIONS table.
09/02/15	DM	1100000017	Added description of for TS_ENTITIES, TS_ENTITYPROPERTIES and TS_ENTITYVALUES tables.
09/30/15	VT		Removed BPEL_, JBPM_, WSDL_ (used by JBPM) tables description, added new BPEL_ (used by ODE), corrected CL_, EL_ tables
11/13/15	IK	1100000042	The TS_TRANS_FLG_RESET_COPY_SUBMITTER flag was added.
02/17/16	ER	1110000005	Added SSF_IDXTABLEINFO table
03/16/16	IK	1110000016	The TS_NAMESPACEID column was added into TS_ADMINCHANGES table.
03/28/16	CA	1110000011	Added TS_TIMED column to TS_USERS. Added TS_USERTIMES table.
04/21/16	IK	1110000028	Added TS_PASSWORD_EXPIRESNOW_FLAG to be used with existing TS_USERS.TS_PASSWORDPRIVILEGEOPTIONS.
06/03/16	PJD	1110000017	Added TS_LOCALES, TS_LOCALE_ANCESTRYDENORM, TS_MLS_OBJS, TS_MLS_OBJ_STRINGS tables.
09/24/16	EF	1120000010	Added SWC_MENUITEM_SEQ_ADMIN and SWC_MENUITEM_INH_ORDER tables
10/15/16	PJD	1120000016	Added TS_FILE_OBJS, TS_FILE_OBJS_CHANGE, TS_FILE_OBJS_TEMP tables.
11/16/16	MMN	1130000005	Added TS_VALUETYPE column to TS_APPVARIABLEVALUES table.
03/16/17	EF	1130000009	Added TS_FOLDERSHARES table
05/16/17	PJD	1130000011	Added TS_PRESCRIPTID, TS_POSTSCRIPTID and TS_ACTASUSERID columns to the TS_IMPORTOPTIONSET table.
05/16/17	DPI	1130000016	Added TS_TYPE to TS_MACROS table
12/14/17	MH	1131000001	Added TS_PROCESS_MAIL_BODY to the TS_MAILBOX table.
05/02/18	MH	1140000010	Added TS_LASTTRIGGEREDDATE to the TS_NOTIFICATIONS table.

Date	Author Initials	DbVer	Description
05/02/18	MH	1140000021	Added TS_LASTTRIGGEREDSTATUS to the TS_NOTIFICATIONS table.
05/09/18	DI	1140000004	Added TS_BASETYPE and TS_ACTUALFILENAME to the TS_ATTACHMENTS table.
11/20/18	DI	1150000000	Converted all TS_ID columns to bigint. DBUpgrade will not do this for MSSQL, but System Admin can be used to convert MSSQL TS_ID columns to bigint.

Additional Notes

Prefixing of Table and Field Names

As of TeamTrack 3.0, all new databases have their table and field names prefixed and all names are in upper case. The prefix 'TS_' is used for table and field names. An upgraded database will still use the non-prefixed names, but creating a new database or copying an existing database will use prefixes and uppercase characters for all table and field names. The new names allow for easier interaction with the database from outside of SBM. When copying a database, only alphanumeric characters and '_' (underscore) are allowed. Any blank characters in existing field names will be replaced with '_' (underscore) and any other non-alphanumeric character will be removed from the database name. This document contains the table and column names with the prefixes and conversion. If you are using a database without prefixed names, the field name 'TS_NEXTID' shown in this document will be 'nextid' in your database. Since all new names are guaranteed to be uppercase and not to clash with any reserved words, ts_nextid without quotes will also work.

As of TeamTrack 5.0, database versions 500 and higher, users can create tables that will not be in this schema document. New user tables will be created with two or three letter prefixes, the system mandating that the first letter be a 'U'.

System Tables

There are some tables that are used by SBM internally. Those tables, with certain prefixes, are not to be read or updated by customers.

- BPEL_*: Tables used by orchestration workflows for runtime. Because SBM utilizes in-memory runtime mode, these tables are not used.

  BPEL_ACTIVITY_RECOVERY

  BPEL_CORRELATION_PROP

  BPEL_CORRELATION_SET

  BPEL_CORRELATOR

  BPEL_CORRELATOR_MESSAGE_CKEY

  BPEL_EVENT

  BPEL_FAULT

  BPEL_INSTANCE

BPEL_MESSAGE

BPEL_MESSAGE_EXCHANGE

BPEL_MEX_PROPS

BPEL_PLINK_VAL

BPEL_PROCESS

BPEL_SCOPE

BPEL_SELECTORS

BPEL_UNMATCHED

BPEL_XML_DATA

OE_SETTING

OE_RUNTIME_SETTINGS: Used to reassing orchestration jobs to active node in cluster.

- STORE_*, VAR_*: Tables used by orchestration workflows to store deployed process data.

STORE_DU

STORE_PROCESS

STORE_PROCESS_PROP

STORE_VERSIONS

VAR_PROPERTY

ODE_SCHEMA_VERSION: Contains current ODE schema version.

ODE_WORKFLOW: Used for storing zipped workflow folder and used to sync deployment data.

ODE_JOB: Used by orchestration workflows in runtime to store all started orchestations and rerun them after server restart.

OE_SETTING: Contains Orchestration Engine settings that are used for upgrade, renew, and ODE deployments sync.

- EL_*: Tables used by SBM Application Repository for event logging.

EL_EVENT

EL_EVENT_LOG_MESSAGE

EL_EVENT_LOG_SETTING

EL_EVENT_LOG_TEMPLATE

EL_EVENT_PROCSNG_DATA

EL_EVENT_SERVICE_FLOW

EL_EVENT_SRVC_FLW_PROCSNG_DATA

- OR_*: Tables used by SBM Application Repository for Object Repository.

Described below.

- QRTZ_*: Tables used by SBM Application Repository for scheduling engine.

QRTZ_ACTIVITY

QRTZ_ACTIVITY_LOG

QRTZ_ACTIVITY_PARAM

QRTZ_BLOB_TRIGGERS

QRTZ_CALENDARS

QRTZ_CRON_TRIGGERS

QRTZ_FIRED_TRIGGERS

QRTZ_JOB_DETAILS

QRTZ_JOB_LISTENERS

QRTZ_LOCKS

QRTZ_PAUSED_TRIGGER_GRPS

QRTZ_SCHEDULER_STATE

QRTZ_SIMPLE_TRIGGERS

QRTZ_TRIGGERS

QRTZ_TRIGGER_LISTENERS

- CL_*: Tables used by Common Logger to log system messages.

    CL_CONFIG

    CL_CONTEXT_TYPE

    CL_CONTEXT_VALUE

    CL_LOG

    CL_SETTING

- EM_*: Tables used by Event Manager to store event maps.

    EM_VERSION

    EM_APPLICATION

CONF_*: Tables used by SBM Configurator and Real-Time Monitoring.

    CONF_RT_MONITOR_SETTINGS: Contains configuration settings for Real-Time Monitoring.

    CONF_RT_FAILURES: Contains history of failures for properties that exceeded a configured threshold.

Depending on the system configuration, not all of these tables may appear in the database.

'Mirror' Tables

As of SBM 7.0, all primary tables, either upon upgrade or when created through the deployment process, will have a "mirror" table created containing a subset of columns defined in the primary table. These tables are hidden in the sense that they are not listed in the TS_TABLES table and their fields are not defined in the TS_FIELDS table. The table "mirrors" the initial values of selection, user, and group fields when a primary item is submitted. These tables are not used yet, and are reserved for the potential future usage.

The mirror of an active primary table is named by prepending a 'TM' to the name of the primary table it mirrors. For example, the "TTT_ISSUES" table is mirrored by the "TMTTT_ISSUES" table.

Unresolved Object (Shadow) Tables

As of SBM 2009 R2, some of the system tables have an Unresolved Object (Shadow) table that contains the exact same set of columns as the real table. When an object is deployed into the system, we may not be able to immediately instantiate the object because it references an object in another process app that hasn't been deployed yet. The simplest example of this would be a relational field. If Process App A has a relational field that references a table that is defined in Process App B, the relational field cannot be instantiated in the runtime until both Process App A and Process App B are deployed. So, if Process App A is deployed before Process App B, the relational field is put into an Unresolved Object (TU_FIELDS) table until Process App B is deployed. The current set of table that have an Unresolved Object table are:

```
TS_ADMINGROUPS              (TU_ADMINGROUPS)
TS_ADMINTABLES              (TU_ADMINTABLES)
TS_APPVARIABLES                 (TU_APPVARIABLES)
TS_DECISIONRULES                (TU_DECISIONRULES)
TS_DECISIONRULETOKENS           (TU_DECISIONRULETOKENS)
TS_FIELDPRIVILEGES          (TU_FIELDPRIVILEGES)
TS_FIELDS               (TU_FIELDS)
TS_MSSELECTION             (TU_MSSELECTION)
TS_NOTIFICATIONCONDITIONS    (TU_NOTIFICATIONCONDITIONS)
TS_NOTIFICATIONPERMISSIONS    (TU_NOTIFICATIONPERMISSIONS)
TS_NOTIFICATIONRULES        (TU_NOTIFICATIONRULES)
TS_NOTIFICATIONS            (TU_NOTIFICATIONS)
TS_NOTIFICATIONSUBSCRIPTIONS  (TU_NOTIFICATIONSUBSCRIPTIONS)
TS_PRIVILEGES              (TU_PRIVILEGES)
TS_REPORTS              (TU_REPORTS)
TS_SECURITYCONTROLS         (TU_SECURITYCONTROLS)
TS_SELECTIONS               (TU_SELECTIONS)
TS_STACTIONS               (TU_STACTIONS)
TS_TRANSGROUPS             (TU_TRANSGROUPS)
TS_TRANSITIONS             (TU_TRANSITIONS)
TS_TRANSPOSTPROJECTS        (TU_TRANSPOSTPROJECTS)
TS_WSSELECTIONMAPPINGS       (TU_WSSELECTIONMAPPINGS)
```

Data Types

int - refers to a 32 bit signed integer.

varchar(n) – refers to a variable length string that will hold *n* Unicode characters.

- SQL Server will use nvarchar as the type and multiply the size by two to support surrogate pairs.

- Oracle will use varchar as the type and multiply the size by 4 (UTF-8 can use up to 4 bytes per Unicode character).

char(n) - refers to a fixed length string that can store *n* Unicode characters.

- SQL Server will use nchar as the type and multiply the size by two to support surrogate pairs.

- Oracle will use char as the type and multiply the size by 4 (UTF-8 can use up to 4 bytes per Unicode character).

longvarchar - refers to a long variable length string up to the maximum length allowed by the underlying database.

- SQL Server will use nvarchar(max).

- Oracle will use clob.

date - refers to the DBMS specific date data type.

- SQL Server will use datetime as the type.

- Oracle will use date as the type.

Value Definitions

Many columns will have possible values listed below the table definition. The values will have C/C++ symbolic names as well as their numeric values. Any symbolic name that starts with 'TS_' is available through the SBM API. A full listing of SBM definitions can be found in TSDef.h.

Inserting Rows Into Tables

When inserting a row into a table, increment the TS_LASTID column of TS_LASTIDS table. Below is pseudo-code for inserting a row into a non-primary-item table. The SBM API methods, Submit, for primary items such as issues, and AddRecord, for other tables, should be used for inserting rows since the API automatically updates the last id.

Begin Transaction

Update Lastids set TS_LASTID = TS_LASTID+1 where TS_ID = 1

Select TS_LASTID from TS_LASTIDS where TS_ID = 1

Use TS_LASTID as the primary key to insert into the non-Primary-Item table

Commit Transaction

Invalid and Restricted Field Names

This section describes field names that cannot be used in SBM Composer.

Invalid Fields

The following fields are considered invalid database names, so they cannot be used for non-system fields or non-Sub-Relational fields:

ACCESS, ADD, ALL, ALTER, AND, ANY, ARRAYLEN, AS, ASC, AUDIT, BETWEEN, BY, CHAR, CHECK, CLUSTER, COLUMN, COMMENT, COMPRESS, CONNECT, CREATE, CURRENT, DATE, DECIMAL, DEFAULT, DELETE, DESC, DISTINCT, DROP, ELSE, EXCLUSIVE, EXISTS, FILE, FLOAT, FOR, FROM, GRANT, GROUP, HAVING, IDENTIFIED, IMMEDIATE, IN, INCREMENT, INDEX, INITIAL, INSERT, INTEGER, INTERSECT, INTO, IS, LEVEL, LIKE, LOCK, LONG, MAXEXTENTS, MINUS, MODE, MODIFY, NOAUDIT, NOCOMPRESS, NOT, NOTFOUND, NOWAIT, NULL, NUMBER, OF, OFFLINE, ON, ONLINE, OPTION, OR, ORDER, PCTFREE, PRIOR, PRIVILEGES, PUBLIC, RAW, RENAME, RESOURCE, REVOKE, ROW, ROWID, ROWLABEL, ROWNUM, ROWS, START, SELECT, SESSION, SET, SHARE, SIZE, SMALLINT, SQLBUF, SUCCESSFUL, SYNONYM, SYSDATE, TABLE, THEN, TO, TRIGGER, UID, UNION, UNIQUE, UNUSED, UPDATE, USER, VALIDATE, VALUES, VARCHAR, VARCHAR2, VIEW, WHENEVER, WHERE, WITH

Restricted Fields

SBM Composer checks for "reserved" database names for non-system fields that have never been published. If any are found, validation fails.

The following field names are restricted in both primary and auxiliary tables:

- ISSUEID
- ACTIVEINACTIVE
- TITLE
- DESCRIPTION
- LASTMODIFIER
- LASTMODIFIEDDATE
- SUBMITTER
- SUBMITDATE
- ID
- UUID

The following field names are restricted in primary tables, but not in auxiliary tables:

- PROJECTID
- STATE
- LASTSTATECHANGEDATE
- CLOSEDATE
- OWNER
- LASTSTATECHANGER
- ISSUETYPE
- SECONDARYOWNER
- RESOLUTIONSUMMARY
- RESOLUTIONDESC
- COMPANY
- CONTACT

- INCIDENT_ID

User Data Tables

User tables are created by the Create New Solution Wizard, which was deprecated with version 7.0.

Table Name	DbVer	Description
TTS_ASSETS		For the Incident Management solution. Contains a row for independent asset configurations. Customized fields may be added to this table.
TTS_CUSTOMERCONFIGURATIONS		For the Incident Management solution. Contains information about customer equipment configurations. Customized fields may be added to this table.
TTS_INCIDENTS (TS_INCIDENTS)	10	For the Incident Management solution. Contains a row for each incident submitted into the database. Customized fields may be added to this table.
TTS_PRODUCTS (TS_PRODUCTS)	10	For the Incident Management solution. Contains a row for each supported product. Customized fields may be added to this table.
TTS_SERVICEAGREEMENTS (TS_SERVICEAGREEMENTS)	10	For the Incident Management solution. Contains information specifically about merchandise, e.g. warranty terms. Customized fields may be added to this table.
TTT_ISSUES (TS_CASES)		For the Issue Management solution. Contains one row for each issue, or case, submitted into the database. An issue is a bug report, enhancement request, change request, etc. Customized fields may be added to this table.
TS_MERCHANDISE (Deprecated)	10	(Deprecated) Created for the Incident Management solution by the 4.0 Create Wizard. Contains a row for each instance of a product purchased by a company. Customized fields may be added to this table.

Standard Index Generation

All Tables

Every table in the database is generated with a primary index upon the TS_ID attribute. In Oracle, a constraint is used. In MS SQL Server, this is a clustered index. This index is generated with a name of TK_[table-root-name]. For instance, TS_USERS has a primary index of TK_USERS. All user tables get a primary index also, but the index is generated with a name of TK_[full-table-name]. For instance, TTT_ISSUES gets an index of TK_TTT_ISSUES.

Index Generation for Performance

A few system tables get an additional index for better performance, or to enforce uniqueness. To ensure uniqueness of index names, these indexes are always generated with the same names and usually take the form of:

TI_[attribute-1]_[table-root-name]_[attribute-2].

Depending upon your DBMS, the index names may be truncated to shorter strings. The following table lists all the tables that get any additional index created:

Table	Index	Attributes/Note
TS_ADMINGROUPS	TI_USERID_ADMINGROUPS	TS_USERID
TS_ADMINGROUPS	TI_GROUPID_ADMINGROUPS	TS_GROUPID
TS_ADMINTABLES	TI_USERID_ ADMINTABLES	TS_USERID
TS_ADMINTABLES	TI_ GROUPID_ ADMINTABLES	TS_GROUPID
TS_ATTACHMENTS	TI_CASEID_ATTACHMENTS_SRCTABLE	TS_CASEID, TS_SRCTABLEID
TS_ATTACHMENTS	TI_DESTTABLEID _ATTACHMENTS_DES	TS_DESTRECID TS_DESTTABLEID
TS_CACHEACTIONS	TI_TABLEID_CACHEACTIONS	TS_TABLEID
TS_CALENDARDENORM	TI_CALID_CALENDARDENORM_SD_ED_ET	TS_CALENDARID TS_STARTDATE TS_ENDDATE TS_ELAPSEDTIME
TS_CHANGEACTIONS	TI_ITEMID_CHANGEACTIONS	TS_ITEMID
TS_CHANGEACTIONS	TI_TIME_CHANGEACTIONS	TS_TIME
TS_CHANGES	TI_CASEID_CHANGES	TS_CASEID
TS_CHANGES	TI_CASEID_CHANGES	TS_FLDID
TS_CHANGES	TI_TIME_CHANGES	TS_TIME
TS_CHANGES	TI_ACTIONSTAMP_CHANGES	TS_ACTIONSTAMP

Table	Index	Attributes/Note
TS_CHANGETEXT	TI_CHANGEDETAILID_CHANGETEXT	TS_CHANGEDETAILID
TS_CONCURRENTLOGINS	TI_LASTACCESSTIME_CONCURRENTLOGINS	TS_LASTACCESSTIME
TS_CONCURRENTLOGINS	TI_USERID_CONCURRENTLOGINS	TS_USERID
TS_CONTACTS	(System Generated)	TS_COMPANYID
TS_CONTACTS	(System Generated)	TS_CONTACTFIRSTNAME
TS_CONTACTS	(System Generated)	TS_CONTACTLASTNAME
TS_CONTACTS	(System Generated)	TS_CONTACTMIDDLENAME
TS_FOLDERITEMS	TI_FOLDERID_FOLDERITEMS	TS_FOLDERID
TS_FOLDERITEMS	TI_FOLDERID_FOLDERITEMS_TABLEID	TS_FOLDERID, TS_TABLEID
TS_FORMSTRINGS	TI_FORMID_FORMSTRINGS	TS_FORMID
TS_FOLDERS	TI_OWNER_FOLDERS	TS_OWNER
TS_FOLDERS	TI_PARENTID_FOLDERS	TS_PARENTID
TS_FILE_OBJS	TI_FLDRECADDDT_FILEOBJS	TS_FIELDID, TS_RECORDID, TS_ADDDATE, TS_ID
TS_FILE_OBJS	TI_NSID_FILE_OBJS	TS_NAMESPACEID, TS_ID
TS_FILE_OBJS	TI_TBLREC_FILEOBJS	TS_TABLEID, TS_RECORDID, TS_ID
TS_FILE_OBJS_CHANGE	TI_CHGADDDT_FILEOBJSCHG	TS_CHANGEID, TS_ADDDATE, TS_ID
TS_FILE_OBJS_CHANGE	TI_FILEOBJID_FILEOBJSCHG	TS_FILEOBJID, TS_ID
TS_FILE_OBJS_TEMP	TI_FILEOBJID_FILEOBJSTEMP	TS_FILEOBJID, TS_ID
TS_FILE_OBJS_TEMP	TI_FLDRECRECLOCK_FILEOBJSTEMP	TS_FIELDID, TS_RECORDID, TS_RECORDLOCKID, TS_ID
TS_FILE_OBJS_TEMP	TI_FLDRECUSER_FILEOBJSTEMP	TS_FIELDID, TS_RECORDID, TS_USERID, TS_ID
TS_FILE_OBJS_TEMP	TI_TBLRECRECLOCK_FILEOBJSTEMP	TS_TABLEID, TS_RECORDID, TS_RECORDLOCKID, TS_ID
TS_FILE_OBJS_TEMP	TI_TBLRECUSER_FILEOBJSTEMP	TS_TABLEID, TS_RECORDID, TS_RECORDLOCKID, TS_ID
TS_GROUPENABLER	TI_PREFIX_GROUPENABLER	Unique TS_PREFIX
TS_LANGUAGES	TI_NAME_LANGUAGES	Unique TS_NAME
TS_LASTIDS	TI_TABLEID_LASTIDS	TS_TABLEID
TS_LOCALE_ANCESTRYDENORM	TI_LOCDEPTHANCEST_LOCANCDENORM	TS_LOCALEID, TS_DEPTH, TS_ANCESTORID, TS_ID

Table	Index	Attributes/Note
TS_MEMBERS	TI_USERID_MEMBERS	TS_USERID
TS_MEMBERS	TI_GROUPID_MEMBERS	TS_GROUPID
TS_MLS_OBJ_STRINGS	TI_LASTMODDATE_MLSOBJSTRINGS	TS_LASTMODIFIEDDATE, TS_ID
TS_MLS_OBJ_STRINGS	TI_LOCALE_MLSOBJSTRINGS	TS_LOCALEID, TS_ID
TS_MLS_OBJ_STRINGS	TI_OBJECTLOC_MLSOBJSTRINGS	TS_OBJECTID, TS_LOCALEID, TS_ID
TS_MLS_OBJS	TI_TBLFLDREC_MLSOBJS	TS_TABLEID, TS_FIELDID, TS_RECORDID, TS_ID
TS_MLS_OBJS	TI_TBLIDENTREC_MLSOBJS	TS_TABLEID, TS_IDENTIFIER, TS_RECORDID, TS_ID
TS_MULTIUSERUSAGES	TI_SOURCERECORDID_MULTIUSERUSA	TS_SOURCERECORDID
TS_MULTIUSERUSAGES	TI_SOURCEFIELDID_MULTIUSERUSAG	TS_SOURCEFIELDID
TS_MULTIUSERUSAGES	TI_USERID_MULTIUSERUSAGES	TS_USERID
TS_MULTIUSERUSAGES	TI_GROUPID_MULTIUSERUSAGES	TS_GROUPID
TS_MULTIUSERUSAGES	TI_SR_MULTIUSERUSAGES_SF_U_G	TS_SOURCERECORDID, TS_SOURCEFIELDID, TS_USERID, TS_GROUPID
TS_OBJATTRS	TI_TABLEID_OBJATTRS_RECORDID	TS_RECORDID TS_TABLEID
TS_OLDPASSWORDS	TI_USERID_OLDPASSWORDS	TS_USERID
TS_PROBLEMS	TI_FOLDERID_PROBLEMS	TS_FOLDERID
TS_PROJECTANCESTRYDENORM	TI_AID_PROJECTANCESTRYDENORM_ALL	TS_ANCESTORID TS_TABLEID TS_PROJECTID TS_DEPTH
TS_PROJECTANCESTRYDENORM	TI_PID_PROJECTANCESTRYDENORM_ALL	TS_PROJECTID TS_TABLEID TS_ANCESTORID TS_DEPTH
TS_PROJECTS	TI_PARENTID_PROJECTS	TS_PARENTID
TS_PROJECTS	TI_ID_PROJECTS_SEQUENCE	TS_ID, TS_SEQUENCE
TS_PROJECTSELECTIONS	TI_PROJECTID_PROJECTSELECTIONS	TS_PROJECTID
TS_PROJECTSELECTIONS	TI_WORKFLOWID_PROJECTSELECTION	TS_WORKFLOWID
TS_REPORTS	TI_AUTHORID_REPORTS	TS_AUTHORID

Table	Index	Attributes/Note
TS_REPORTS	TI_PROJECTID_REPORTS	TS_PROJECTID
TS_RECORDLOCKS	TI_RECORDID_RECORDLOCKS_TABLEI	Unique TS_RECORDID, TS_TABLEID
TS_RESOLUTIONS	(System Generated)	TS_TITLE or TS_ITEMID
TS_RESOLUTIONS	(System Generated)	TS_UPDATEDATE
TS_RESOLUTIONS	(System Generated)	TS_PROBLEMID
TS_RESOURCES	TI_NAME_RESOURCES	TS_NAME
TS_RESOURCES	TI_TYPE_RESOURCES	TS_TYPE
TS_SELECTIONS	TI_PREFIX_SELECTIONS	TS_PREFIX
TS_SELECTIONUSAGES	TI_RECORDID_SELECTIONUSAGES	TS_RECORDID
TS_SELECTIONUSAGES	TI_FIELDID_SELECTIONUSAGES	TS_FIELDID
TS_SELECTIONUSAGES	TI_SELECTIONID_SELECTIONUSAGES	TS_SELECTIONID
TS_SHAREPOINTPROJECTSERVERS	(System Generated)	TS_PROJECTID
TS_SHAREPOINTPROJECTSERVERS	(System Generated)	TS_SITENAME
TS_SHAREPOINTPROJECTSERVERS	(System Generated)	TS_UPDATEDATE
TS_SHAREPOINTSERVERS	(System Generated)	TS_TITLE
TS_SHAREPOINTSERVERS	(System Generated)	TS_UPDATEDATE
TS_STRINGIDENTIFIERS	(System Generated)	Unique TS_NAME
TS_STRINGS	(System Generated)	TS_LASTMODIFIEDDATE
TS_STRINGS	(System Generated)	Unique TS_LANGID, TS_STRID
TS_STACTIONS	TI_STATEID_STACTIONS	TS_STATEID
TS_STACTIONS	TI_TRANSITIONID_STACTIONS	TS_TRANSITIONID
TS_SUBTASKS	TI_SUBITEMID_SUBTASKS_SUBTABLE	TS_SUBITEMID TS_SUBTABLEID
TS_SUBTASKS	TI_MASTERITEMID_SUBTASKS_MASTE	TS_MASTERITEMID TS_MASTERTABLEID
TS_TEMPLATES	TI_NAMESPACEID_TS_TEMPLATES	TS_NAMESPACEID TS_ID
TS_TIMEINSTATE	TI_ENTERCHGACTION	TS_ENTERCHGACTIONID
TS_URLINTEGRATIONS	TI_DISPLAYTYPE_ URLINTEGRATIONS	TS_DISPLAYTYPE
TS_USAGES	TI_FIELDID_USAGES_SOURCERECORD	TS_SOURCERECORDID TS_FIELDID

Table	Index	Attributes/Note
TS_USAGES	TI_FIELDID_USAGES_RELATEDRECOR	TS_RELATEDRECORDID TS_FIELDID
TS_USERQUICKLINKS	TI_USERID_USERQUICKLINKS	TS_USERID
TS_USERSETTINGS	TI_OPTIONID_USERSETTINGS_USERID	TS_USERID TS_OPTIONID
TS_USERSOLUTIONDATA	TI_USERID_USERSOLUTIONDATA	TS_USERID
TS_VCACTIONS	TI_TABLEID_VCACTIONS_RECID	TS_RECID TS_TABLEID
TS_VIEWSTATUSNOTIFICATION	TI_TABLEID_ACTIONSTAMP_ITEMID	TS_ACTIONSTAMP TS_TABLEID TS_ITEMID
TS_WF_PRJ_OVERRIDES	TI_TYPE_WFPRJOVR_VAL_NSID_PID_	TS_TYPE, TS_VALUE, TS_WFBASE_NSID, TS_PROJECTID, TS_WORKFLOWID, TS_ID
TS_WORKFLOWANCESTRYDENORM	TI_AID_WORKFLOWANCESTRYDENORM_ALL	TS_ANCESTORID TS_WORKFLOWID TS_DEPTH
TS_WORKFLOWANCESTRYDENORM	TI_WID_WORKFLOWANCESTRYDENORM_ALL	TS_WORKFLOWID TS_ANCESTORID TS_DEPTH
TS_WORKFLOWS	TI_PARENTID_WORKFLOWS	TS_PARENTID

User Primary Tables

- Primary tables are given an additional index on each of the following system-coded fields, i.e. fields which have TS_SYSCODE > 0

    - TS_ISSUETYPE

    - TS_ISSUEID

    - TS_SUBMITTER

    - TS_SUBMITDATE

    - TS_ACTIVEINACTIVE

    - TS_PROJECTID

    - TS_STATE

    - TS_ID

    - TS_OWNER

- o TS_LASTMODIFIEDDATE

- o TS_UUID

- o TS_ID

- o TS_SUBMITTINGAGENT, TS_COMPANY, TS_CONTACT (if these fields are manually added to the table in SBM Composer)

- Also, an index is created with the following columns for improving listing report sorting:

  - o TS_ID, TS_OWNER, TS_ISSUEID, TS_PROJECTID

User Auxiliary Tables

Auxiliary tables, those referenced through foreign keys, or relational fields, are given an additional index on the attribute that is system-coded to be the 'title' or 'name.'

TS_ADMINCHANGES

This table contains one record for each change made by the user in the SBM System Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	55001	Unique numeric id for the record.
TS_TABLEID	int	55001	Foreign key to the TS_ID column of the TS_TABLES table indicating the table affected.
TS_RECORDID	int	55001	Foreign key to the TS_ID column of the table that was changed, indicating which record in that table was affected.
TS_ACTION	int	55001	Indicates whether the affected record was added, updated, or deleted. For records in the TS_USERS table only, a bit more detail will be recorded when a User record is marked as deleted, undeleted, disabled, or enabled. See notes below.
TS_TIMESTAMP	bigint	55001	Timestamp denoting when the change was made.
TS_USERID	int	55001	Foreign key to the TS_ID column of the TS_USERS table indicating which user authored the change. Changes made through Remote Administrator will record the ID of the user who is logged in. ODBC Administrator does not require an SBM login ID, so the user ID will be recorded as 0.
TS_NAME	varchar(255)	55001	Name of the affected record, depending on the type of record; i.e., from which table. For instance, when a record in the TS_USERS table is modified, the name recorded is the full name of the user. When a record in the TS_SYSTEMSETTINGS table is modified, the name is the value of the TS_NAME column in that table. Some types of record have no meaningful name, and will leave this value empty. This column is intended as a convenience when viewing or searching this table. Any information here can also be constructed by examining the affected record itself.
TS_NAMESPACEID	Int	1110000016	If not zero, a foreign key to the TS_NAMESPACES table

TS_TIMESTAMP2	bigint	1110000030	Timestamp value after change was succefully complete.

Values for `TS_ACTION` column:

TS_CHGACTION_SUBMIT	0	The affected record was added to the database.
TS_CHGACTION_UPDATE	1	The affected record was modified.
TS_CHGACTION_DELETE	2	The affected record was deleted.
TS_CHGACTION_MARK_USER_DELETED	13	The TS_STATUS column of the affected record in the TS_USERS table was set to 1 (TS_USERSTATUS_DELETED).
TS_CHGACTION_UNDELETE_USER	14	The TS_STATUS column of the affected record in the TS_USERS table was changed from 1 (TS_USERSTATUS_DELETED) to 0 (TS_USERSTATUS_ENABLED).
TS_CHGACTION_DISABLE_USER	15	The TS_STATUS column of the affected record in the TS_USERS table was set to 2 (TS_USERSTATUS_DISABLED), e.g. after too many failed login attempts.
TS_CHGACTION_ENABLE_USER	16	The TS_STATUS column of the affected record in the TS_USERS table was changed from 2 (TS_USERSTATUS_DISABLED) to 0 (TS_USERSTATUS_ENABLED).

TS_ADMINCHANGESVALUES

This table contains one record for each changed value made by the user in the SBM System Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1140000030	Unique numeric id for the record.
TS_ADMINCHANGEID	int	1140000030	Foreign key to the TS_ID column of the TS_ADMINCHANGES table indicating the change affected.
TS_FIELDNAME	varchar(100)	1140000030	DBNAME of the field affected.
TS_PRIORSTRINGVALUE	varchar(max)	1140000030	String representation of prior value of the affected field
TS_NEWSTRINGVALUE	varchar(max)	1140000030	String representation of prior value of the affected field.

TS_ADMINGROUPS

This table contains one row for each group that a particular user or group has management privileges for. These records are created only on behalf of groups or users having an Administrator license.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	500	Unique numeric id for the record.
TS_USERID	int	500	Foreign key to the TS_USERS table indicating the id of the user having administrative privileges for the group specified by TS_ACCESSGROUP. If 0, then the TS_ACCESSGROUP is manageable by the group in TS_GROUPID.
TS_GROUPID	int	500	Foreign key to the TS_GROUPS table indicating the id of the group that can manage the group specified in TS_ACCESSGROUP. If 0, then the TS_ACCESSGROUP is manageable by the user in TS_USERID.
TS_ACCESSGROUP	int	500	Foreign key to the TS_GROUPS table indicating the group that is accessible by either TS_USERID or TS_GROUPID.

TS_ADMINLOCKS

This table contains one row for each item locked by an administrator using the SBM System Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	528	Unique numeric id for the record.
TS_TABLEID	int	528	Foreign key to the TS_TABLES table indicating the table that is locked, or in which a specific record is locked.
TS_RECORDID	int	528	If 0, the entire table indicated by TS_TABLEID is locked. If not 0, then this is the id of the record within that table that is locked.
TS_USERID	int	528	Foreign key to the TS_USERS table indicating the id of the remote administrator who currently has the object locked, or 0 if locked by an ODBC administrator.
TS_TIMESTAMP	bigint	528	GMT Time from Jan 1, 1970 in seconds the time the record was locked.

TS_ADMINTABLES

This table contains one row for each table that a particular user or group has management privileges for. These records are created only on behalf of groups or users having an Administrator license.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	504	Unique numeric id for the record.
TS_USERID	int	504	Foreign key to the TS_USERS table indicating the id of the user having administrative privileges for the table specified by TS_TABLEID. If 0, then the TS_TABLEID is manageable by the group in TS_GROUPID.
TS_GROUPID	int	504	Foreign key to the TS_GROUPS table indicating the id of the group that can manage the table specified in TS_TABLEID. If 0, then the TS_TABLEID is manageable by the user in TS_USERID.
TS_TABLEID	int	504	Foreign key to the TS_TABLES table indicating the table that is accessible by either TS_USERID or TS_GROUPID.

TS_AGILE_BACKLOGS

This table stores information about Work Center agile backlogs.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10.1.4	Unique numeric id for the record.
TS_NAME	varchar(255)	10.1.4	Agile backlog name.
TS_DESC	longvarchar	10.1.4	Agile backlog description.
TS_STARTDATE	datetime	10.1.4	Agile backlog start date.
TS_ENDDATE	datetime	10.1.4	Agile backlog end date.
TS_FEEDAGGREGATIONID	int	10.1.4	A foreign key to the TS_FEEDAGGREGATION table to which it is related.
TS_UUID	varchar(128)	10.1.4	The Universally Unique Identifier (UUID) that applies to this record
TS_NAMESPACEID	int	10.1.4	If not zero, a foreign key to the TS_NAMESPACES table

TS_AGILE_CHANGEACTIONS

This table stores information about the Work Center agile change actions. This table is used in notification server for tracking actions under agile backlogs and their agile items.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10.1.4	Unique numeric id for the record.
TS_ACTION	int	10.1.4	Action identification information.
TS_BACKLOGID	int	10.1.4	A foreign key to the TS_AGILE_BACKLOGS table indicating backlog to which the change action belong.
TS_TABLEID	int	10.1.4	Foreign key to the TS_TABLES table indicating the table id of the item to which the change action belong.
TS_ITEMID	int	10.1.4	Unique id of the item to which the change action belong.
TS_USERID	int	10.1.4	A foreign key to the TS_USERS table indicating user who did the action.
TS_TIMESTAMP	bigint	10.1.4	Timestamp of the change action.

Values for TS_ACTION column:

CREATE_ACTION_CODE	0	New backlog created.
UPDATE_ACTION_CODE	1	Backlog updated (Name, Description or Date was changed)
DELETE_ACTION_CODE	2	Backlog was deleted.
ADDITEM_ACTION_CODE	3	SBM Item added to backlog
REMOVEITEM_ACTION_CODE	4	SBM Item removed from backlog

TS_AGILE_ITEMS

This table stores information about Work Center agile items.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10.1.4	Unique numeric id for the record.
TS_FEEDMAPPINGID	int	10.1.4	A foreign key to the TS_FEED_MAPPINGS table.
TS_ITEMID	int	10.1.4	Unique id of the item to which the agile item belong.
TS_TABLEID	int	10.1.4	Foreign key to the TS_TABLES table indicating the table id of the item to which the agile item belong.
TS_PRIORITY	int	10.1.4	Agile item priority.
TS_BACKLOGID	bigint	10.1.4	A foreign key to the TS_AGILE_BACKLOGS table indicating backlog to which agile item belong.
TS_KEEP	int	10.1.4	1 – Agile item is available in UI even if this item is not in backlog feeds. 0 – owervise.

TS_ALFEVENTS

This table holds the descriptions of the ALF Events that can be called by SBM. This is a high level description of the ALF Event.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71009	Unique internal index.
TS_PARENTID	int	71009	ALF Event id of the parent ALF Event. 0 if this is a top-level ALF Event. The top level ALF Event holds the URL, and authentication information used by the child ALF Events.
TS_NAME	varchar(128)	71009	The name of the Web service as specified by the administrator.
TS_LOCATION	longvarchar	71009	The URL (or filename) that the WSDL originally came from. Start the filename reference with "file://" to differentiate a file from a Web reference.
TS_CREATEDATE	bigint	71009	Date the WSDL was imported into SBM. This may be important for tracking down problems related to changes in Web service definitions that may be causing Web service invocation failures.
TS_SERVICENAME	varchar(256)	71009	Service name for the ALF Event. Only specified for the parent ALF Event.
TS_PORTNAME	varchar(256)	71009	Port name for the ALF Event. Only specified for the parent ALF Event.
TS_DESCRIPTION	longvarchar	71009	Description of the Web service as defined in the WSDL.
TS_AUTHTYPE	int	71009	Type of authentication to use. See notes below. Used only by parent ALF Event.
TS_USERNAME	varchar(256)	71009	Username for authentication to the ALF Event Web service. Used only by parent ALF Event.
TS_PASSWORD	varchar(256)	71009	Password for authentication to the ALF Event Web service. This will be encrypted using SBM's weaker encryption due to the fact that we need to decode it in order to send it in the http header to the Web service. Used only by parent ALF Event.
TS_WSDLBLOBID	int	71009	Foreign key to the TS_BLOBS table which contains the original text of the WSDL.
TS_STUDIODATABLOBID	int	71009	Foreign key to the TS_BLOBS table which contains the original text of the SBM Composer data. Used only by child ALF Event.
TS_XSDBLOBID	int	71009	Foreign key to the TS_BLOBS table which contains the original text of the XSD. Used only

			by parent ALF Event.
TS_WSDLFILENAME	varchar(256)	71009	Filename to use for the wsdl. Only specified for the parent ALF Event.
TS_XSDFILENAME	varchar(256)	71009	Filename to use for the xsd file. Only specified for the parent ALF Event.
TS_ENDPOINT	longvarchar	71009	The endpoint of the ALF Event Web service either as defined in the original WSDL or as specified by the user.
TS_PRODUCTNAME	varchar(256)	71009	Product name. Only specified for the child ALF Event.
TS_PRODUCTVERSION	varchar(256)	71009	Product version. Only specified for the child ALF Event.
TS_PRODUCTINSTANCE	varchar(256)	71009	Product instance. Only specified for the child ALF Event.
TS_EXTENSIONNAME	varchar(256)	71009	Extension name. Only specified for the child ALF Event. This is the name of the Extension data structure where the data mappings start. It is not the type name but the name of the Extension element.
TS_EXTENSIONFIRSTELEMENT	varchar(256)	71009	Extension first element. Only specified for the child ALF Event. This is the name of the first element in the Extension data structure where the data mappings start.
TS_UUID	varchar(64)	71009	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

Values for TS_AUTHTYPE column:

TS_WSAUTHTYPE_NONE	0	No authentication is required.
TS_WSAUTHTYPE_SIMPLE	1	Use the user name (TS_USERNAME) and password (TS_PASSWORD) in this TS_WSDESCRIPTION record as authentication.
TS_WSAUTHTYPE_SSO	2	Use an ALF SSO token for the user calling the Web Service as authentication.

TS_ALFEVENTCALLS

This table describes the calls to the ALF Events described in the TS_ALFEVENTS table. The transition action that needs to make the ALF Event call will reference a record in this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71009	Unique internal index.
TS_ALFEVENTID	bigint	71009	Foreign key to the TS_ALFEVENTS table for ALF Event providing the function we are going to call.
TS_WSFUNCTION	longvarchar	71009	Name of the function to call.
TS_EVENTTYPE	varchar(256)	71009	Event type.
TS_OBJECTTYPE	varchar(256)	71009	Object type.
TS_UUID	varchar(64)	71009	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

TS_APPLICATION_GROUPREFS

This table describes the relationships between Application Groups and individual Applications (TS_SOLUTIONS). These relationships are used in the Work Center UI (SBM 10.1.3).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000025	Unique internal index.
TS_APPLICATION_GROUPID	int	1013000025	Foreign key to the TS_APPLICATION_GROUPS table.
TS_SOLUTIONID	int	1013000025	Foreign key to the TS_SOLUTIONS table. (TS_ID)
TS_TABLEID	int	1013000025	Foreign key to the TS_TABLES table. (TS_ID)
TS_STATUS	int	1013000025	Status of Application Group References: enabled (1) or disabled (0).

TS_APPLICATION_GROUPS

This table describes all the details about Application Groups. Application Groups are used in the Work Center UI (SBM 10.1.3).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000025	Unique internal index.
TS_NAME	varchar(64)	1013000025	Application Group Name
TS_SHORTNAME	varchar(16)	1013000025	Application Group Name seen on the Work Center UI as 'tab'.
TS_DESCRIPTION	varchar(256)	1013000025	Description of the Application Group
TS_CXTTYPE	int	1013000025	Solution (0), User (1)
TS_CXTID	int	1013000025	Only used when TS_CXTTYPE(0) and then it's a Foreign key to the TS_BUSINESS_SOLUTIONS table. (TS_ID)
TS_STATUS	int	1013000025	Status of Application Group: enabled (1) or disabled (0).
TS_USERID	int	1013000025	Original author, Foreign key to the TS_USERS table. (TS_ID)
TS_VISIBILITY	int	1013000025	Future usage.
TS_IMAGE	varchar(256)	1013000025	Internally defined URL for Application Group image seen on the Work Center UI as 'tab'.
TS_NAMESPACEID	int	1013000025	Foreign key to the TS_NAMESPACES table. (TS_ID)
TS_UUID	varchar(64)	1013000025	The Universally Unique Identifier (UUID) that applies to this record.

TS_APPLICATIONPROCESSMODELS

This table is used to store the relationship between Applications, Orchestrations and process apps. A process app is defined as an Application and a set of Orchestrations.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71008	Unique numeric id for the record.
TS_APPLICATIONID	int	71009	Foreign key to the TS_APPLICATIONS table indicating the process app the Application or Orchestration belongs to.
TS_PROCESSMODELID	int	71009	Foreign key to the TS_PROCESSMODELS table indicating the Application or Orchestration that belongs to the process app.
TS_TYPE	int	71053	Indicates whether or not the process model is included (0) in the application, or referenced (1).
TS_NAME	varchar(256)	71053	NULL for included types, otherwise; Conceptually: Name of the referenced application contained in the source process app. Internally: Name of the process model referenced by the referencing application.
TS_SOURCEAPPID	varchar(128)	71053	NULL for included types, otherwise; Conceptually: UUID of the referenced process app. Internally: UUID of the referenced application.
TS_SOURCEAPPNAME	varchar(256)	71053	NULL for included types, otherwise; Conceptually: Name of the referenced process app. Internally: Name of the referenced application.
TS_SOURCEVERSION	varchar(128)	71053	NULL for included types, otherwise; Version number supplied by SBM Composer.
TS_PROCESSMODELUUID	varchar(128)	71053	NULL for included types, otherwise; Conceptually: UUID of the referenced application contained in the source process app. Internally: UUID of the referenced process model in the referencing application.

TS_APPLICATIONS

This table contains one row for every process app in the database. Process apps are composed of at least one application and zero or more Orchestrations that reference each other through the TS_APPLICATIONPROCESSMODELS table. Applications are used in deployment of process apps from SBM Composer to SBM Application Repository to the SBM Application Engine. They are also used by SBM Application Repository to promote process apps and Instance Data (Projects, Notifications, etc) from SBM Application Engine environment (test) to SBM Application Engine environment (production).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71008	Unique numeric id for the record.
TS_NAME	varchar(128)	71008	Name of the process app.
TS_DESCRIPTION	longvarchar	71008	Descriptive text of the process app.
TS_VERSION	varchar(64)	71009	Human readable version of the process app.
TS_VERSIONUUID	varchar(64)	71009	The Universally Unique Identifier (UUID) associated with this version of the process app.
TS_APPDEFUUID	varchar(64)	71008	The Universally Unique Identifier (UUID) that applies to the process app definition in the SBM Application Repository repository.
TS_UUID	varchar(64)	71008	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_REVISION	varchar(64)	71056	Human readable revision of the process app. The TS_VERSION and TS_VERSIONUUID values are no longer used.
TS_COPYRIGHT	varchar(255)	903000801	Optional copyright information associated with the process app.

TS_APPVARIABLES

This table contains one row for every Application Variable that has been defined for an Application. Application Variables can contain values that are associated with a Field. These variables are currently only used in Decision Rules and the Values associated with the variable can be overridden on a project by project basis.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000504	Unique numeric id for the record.
TS_NAME	varchar(128)	904000504	Name of the Application Variable.
TS_UUID	varchar(64)	904000504	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	904000505	If not zero, a foreign key to the TS_NAMESPACES table.
TS_SOLUTIONID	int	904000505	Foreign key to the TS_SOLUTIONS table for the Solution this variable is associated with.
TS_FIELDID	int	904000504	Foreign key to the TS_FIELDS table for the Field that this variable is associated with.
TS_DESCRIPTION	longvarchar	904000504	Descriptive text of the Application Variable.
TS_OVERRIDESCOPE	varchar(64)	904000505	For future use.

TS_APPVARIABLEVALUES

This table contains character, integer or real values associated with either an Application Variable or a "literal" token in a Decision Rule. So, either the Rule Token ID or the Variable ID will be set, but never both. These values can be overridden at either the workflow or project level. So, either the Workflow ID or Project ID will be set, but never both. There may be multiple records for any given combination of Rule Token ID/Variable ID and Workflow ID/Project ID.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000504	Unique numeric id for the record.
TS_RULETOKENID	int	904000504	If not zero, this column contains a foreign key into the TS_DECISIONRULETOKENS table for the Decision Rule Token this value is associated with.
TS_VARIABLEID	int	904000504	If not zero, this column contains a foreign key into the TS_APPVARIABLES table for the Application Variable this value is associated with.
TS_WORKFLOWID	int	904000504	Foreign key to the TS_WORKFLOWS table to reference the workflow where the value is defined or overridden.
TS_PROJECTID	int	904000504	Foreign key to the TS_PROJECTS table to reference the project where the value is overridden.
TS_VALUETABLEID	int	904000601	See notes below. This column stores information about the table the value is related to. For instance, for Relational Fields, it is the relational table id. For Multi-User/Group fields it will be either the table id for the Users or Groups table.
TS_INTVAL	int	904000504	For integer fields. Specifies a value for the variable or token.
TS_REALVAL	double	904000504	For floating point fields. Specifies a value for the variable or token.
TS_CHARVAL	longvarchar	904000504	For string fields. Specifies a value for the variable or token.
TS_VALUETYPE	int	1130000005	For Value Elements. Specifies the field type of a value element. Values for this column are calculated by TS_FIELD.TS_FLDTYPE * 100 + TS_FIELD.TS_ATTRIBUTE.

Values for TS_VALUETABLEID column:

TS_APPVARIABLEVALUE_LITERAL	0	Literal Value no related table.

Values for TS_VALUETABLEID column:

TS_APPVARIABLEVALUE_UNDEFINED	-1	No value is currently defined.
TS_APPVARIABLEVALUE_RELATIONAL	-2	Undefined relational table.
TS_APPVARIABLEVALUE_UNKNOWN	-99	Unknown, (should never be stored in database).

TS_ATTACHMENTS

This table contains one row for each attachment or note. An attachment can be another issue, incident, company, etc., a related file or URL link. The ability to add attachments to issues was a new feature in Version 2.0. The table was added in Database Version 5. The ability to add attachments between any item in the database, issues, incidents, companies, contacts, products, etc., was added in Version 4.0, Database Version 10. Notes are also stored in this table. See notes below.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	5	Unique numeric id for the attachment.
TS_PARENTID	int	5	Reserved for future use. Currently set to 0. Intended to create a hierarchy of attachments.
TS_NEXTID	int	5	Reserved for future use. Currently set to 0. Intended for future implementation of threaded notes.
TS_PREVID	int	5	Reserved for future use. Currently set to 0. Intended for future implementation of threaded notes.
TS_FLDID	int	5	Reserved for future use. Currently set to 0.
TS_CASEID	int	5	Id of the item to which this attachment belongs.
TS_AUTHORID	int	5	Foreign key to the TS_USERS table indicating the person that created the attachment.
TS_TIME	bigint	5	Timestamp when the attachment was added.
TS_TYPE	int	5	Type of attachment. See notes below.
TS_TITLE	varchar(255)	5	Title of attachment. This is displayed to the user.
TS_MIMETYPE	varchar(255)	5	Reserved for future use. Currently set to an empty string.
TS_CONTENTS	longvarchar	5	URL attachments: URL to link to. Memo attachments: memo text. File attachments: filename of the attachment. Based on the original name of the file that was uploaded, but may be modified to make it unique among all attachments, and to remove special characters that could cause problems in database queries. Other types of attachments: not used.
TS_SRCTABLEID	int	10	Foreign key to the TS_TABLES table indicating the table that contains the item to which this attachment belongs.

Column Name	Data Type	DbVer	Description
TS_DESTTABLEID	int	10	Item link attachments: foreign key to the TS_TABLES table indicating the id of the table that contains the linked item.
			Other types of attachments: not used.
TS_SUBTYPE	int	10	Item link attachments: whether (1) or not (0) triggers are allowed off this attachment. If the source item is transitioned and triggers are allowed, a search for transition triggers on the destination table will be launched and the triggers executed.
			File attachments: size of the file, in bytes, or 2147483647 if not yet referenced, calculated, and updated.
			Other types of attachments: not used.
TS_DESTRECID	int	500	Item link attachments: id of the linked item.
TS_LASTACCESS	bigint	523	File attachments: most recent time the file was downloaded by a user. Time is given in seconds since 1 January 1970.
			Other types of attachments: not used. Value is always 0.
TS_FILENAME	varchar(255)	55001	File attachments: original name of the file that was uploaded. Filename may be changed when copied into the SBM attachments folder. See the TS_CONTENTS column.
			Other types of attachments: not used. Value is always empty.
TS_SEQUENCE	int	55200	Per-item id assigned to this attachment.
TS_ACCESSTYPE	int	55200	Access for this attachment. Restricted = 0, unrestricted = 1.
TS_VERSIONID	varchar(255)	903000506	If attachment is stored in SharePoint, this contains the SharePoint version id.
TS_CHECKEDOUTUSER	varchar(255)	903000506	If attachment is stored in SharePoint, this contains the SharePoint userid of the user that has it checked out. If the item is not checked out, then this will be empty.
TS_ISCHECKEDOUT	int	903000506	If attachment is stored in SharePoint, this contains a 1 if the item is checked out and an 0 if the item is not checked out.
TS_ISSPATTACHMENT	int	903000506	If attachment is stored in SharePoint this column will contain a 1. If the attachment is not stored in SharePoint, then this column will contain a 0.

Column Name	Data Type	DbVer	Description
TS_AUTHOREMAIL	varchar(128)	1130000001	Anonymous user email address.
TS_BASETYPE	tiny int	1140000004	Type of attachment, same as TS_TYPE, without extra bits (value will be TS_ATTACHATTRIB_FILE, TS_ATTACHATTRIB_URL, TS_ATTACHATTRIB_ITEM, or TS_ATTACHATTRIB_NOTE).
TS_ACTUALFILENAME	varchar(1000)	1140000004	For file attachments, the identical value to TS_CONTENTS; blank otherwise.

Values for TS_TYPE column:

TS_ATTACHATTRIB_FILE	0x0010	File attachment.
TS_ATTACHATTRIB_URL	0x0020	Link attachment to an URL address.
TS_ATTACHATTRIB_ITEM	0x0040	Link to another SBM item.
TS_ATTACHATTRIB_NOTE	0x0080	Textual note.
TS_ATTACHATTRIB_DESTITEM	0x0100	Clear = source item, set = destination item.
TS_ATTACHATTRIB_POST	0x0200	Link created via a Post Item transition.
TS_ATTACHATTRIB_COPY	0x0400	Link created via a Copy transition.
TS_ATTACHATTRIB_SUBTASK	0x0800	Link created via a Create Subtask transition.
TS_ATTACHATTRIB_SHOWIMAGE	0x1000	Image file.
TS_ATTACHATTRIB_READONLY	0x2000	Properties cannot be edited, e.g., Title, URL.
TS_ATTACHATTRIB_EXTERNAL	0x4000	Created during import from external app, e.g., OWA/TestBridge.
TS_ATTACHATTRIB_EXTERNALLINK	0x8000	Link to item in another database.

TS_ATTACHMENTSEQUENCES

This table contains one row for each primary or auxiliary item that has (or has had) one or more attachments or notes. Conversely, an item that has never had an attachment will not have a record in this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	55200	Unique numeric id for each record.
TS_TABLEID	int	55200	Foreign key to the TS_TABLES table indicating the table id of the item to which the attachments belong. Should match TS_SRCTABLEID in TS_ATTACHMENTS table.
TS_ITEMID	Int	55200	Unique id of the item to which the attachments belong. Should match TS_CASEID in TS_ATTACHMENTS table.
TS_LASTNOTE	int	55200	Last number used to sequence notes.
TS_LASTATTACH	int	55200	Last number used to sequence attachments. If the system setting, 'Numbered Attachments' is set to 2, TS_SEQUENCE_SEPARATE, then both TS_LASTATTACH and TS_LASTNOTE will increment in tandem.

TS_APPUSAGE

This table contains reporting data for the Application Usage from Runtime Statistics.

Column Name	Data Type	DbVer	Description
ID	bigint	11400000	A database generated id for this row
USERID	int	11400000	User that accessed an application.
TABLEID	int	11400000	Table ID of the accessed application.
SOLUTIONID	int	11400000	Accessed application ID.
NAMESPACEID	int	11400000	Namespace for this entry.
TIMESTAMP	datetime	11400000	Time when user accessed an application.
STATUS	tinyint	11400000	Indicates that record is aggregated. 0 – it is not processed.

TS_BRIDGES

This table contains was used by the OWA integration, which is no longer supported.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	57000	Unique numeric id for the bridge record.
TS_NAME	varchar(80)	57000	Name or title for the bridge.
TS_TOOLID	int	57000	Foreign key to the TS_TOOLS table indicating the tool associated with this bridge.
TS_WORKFLOWID	int	57000	Foreign key to the TS_WORKFLOWS table indicating the workflow associated with this bridge.
TS_PROJECTID	int	57000	Foreign key to the TS_PROJECTS table indicating the project associated with this bridge.
TS_FIELD01	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD02	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD03	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD04	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD05	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD06	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD07	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD08	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD09	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD10	varchar(255)	57000	Configuration information for this bridge.
TS_TEMPPATH	varchar(255)	57001	Location of local temporary directory used by the OWA Server for this bridge.
TS_ATTRIBUTES	int	57007	Reserved for future use.
TS_SUBMITID	int	60011	The TS_ID of the Submit Transition used by this bridge to submit items into TeamTrack.

TS_BUSINESS_SOLUTION_REFS

This table describes the relationships between Business Solutions and individual Process Applications (TS_APPLICATIONS).   These relationships are used in the Work Center UI (SBM 10.1.3).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000025	Unique internal index.
TS_BUSINESS_SOLUTIONID	int	1013000025	Foreign key to the TS_BUSINESS_SOLUTIONS table. (TS_ID)
TS_APPLICATIONID	int	1013000025	Foreign key to the TS_APPLCIATIONS table. (TS_ID)

TS_BUSINESS_SOLUTIONS

This table describes all the details about Business Solutions. Current examples of Business Solutions are Service Manager (SSM), Request Center (SRC), Release Manager (SRM), etc.   Business Solutions offers a way to take multiple Process Applications (TS_APPLICATIONS) and give them a singular common label.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000025	Unique internal index.
TS_NAME	varchar(64)	1013000025	Business Solution Name
TS_SHORTNAME	varchar(16)	1013000025	Business Solution Short Name is transferred to the related TS_APPLICATION_GROUPS record and seen on the Work Center UI as 'tab'name.
TS_DESCRIPTION	varchar(256)	1013000025	Description of the Business Solution.
TS_VERSION	varchar(64)	1013000025	Version of Business Solution.
TS_IMAGENAME	varchar(128)	1013000025	Name of the image, that used by the related TS_APPLICATION_GROUPS record.
TS_RESOURCEID	int	1013000025	Foreign key to the TS_NAMESPACES table. (TS_ID), used to store the incoming image for the related TS_APPLICATION_GROUPS record
TS_NAMESPACEID	int	1013000025	Foreign key to the TS_NAMESPACES table. (TS_ID)
TS_UUID	varchar(64)	1013000025	The Universally Unique Identifier (UUID) that applies to this record.

TS_BLOBS

This table contains the binaries that represent resources. Records are accessed indirectly through lookup via the TS_RESOURCES table. Blobs can also be directly accessed as in the case of file attachments.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	504	Unique numeric id for the record.
TS_BLOB	blob	504	Binary image of a file.
TS_LASTMODIFIEDDATE	bigint	62010	Modify timestamp of the file.
TS_FILESIZE	int	62010	Size of the file.
TS_HASH	varchar(40)	1100000030	Contains the SHA1 hash, used to determine if the file on the server matches the binaries in the database.

Note: The TS_BLOB column uses a data type specific to each supported DBMS, which can contain a binary long object (BLOB). On SQL Server, this is an IMAGE data type. On DB2, it is a BLOB. On Access, it is LONGBINARY. On Oracle, it is BLOB.

TS_BRIDGES

This table contains one row for each bridge configured for the OWA. Bridges are defined for either a workflow or a project, but not both for the same bridge. There can be multiple bridges for a given tool. There must be only one bridge per workflow or project for any given tool.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	57000	Unique numeric id for the bridge record.
TS_NAME	varchar(80)	57000	Name or title for the bridge.
TS_TOOLID	int	57000	Foreign key to the TS_TOOLS table indicating the tool associated with this bridge.
TS_WORKFLOWID	int	57000	Foreign key to the TS_WORKFLOWS table indicating the workflow associated with this bridge.
TS_PROJECTID	int	57000	Foreign key to the TS_PROJECTS table indicating the project associated with this bridge.
TS_FIELD01	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD02	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD03	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD04	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD05	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD06	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD07	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD08	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD09	varchar(255)	57000	Configuration information for this bridge.
TS_FIELD10	varchar(255)	57000	Configuration information for this bridge.
TS_TEMPPATH	varchar(255)	57001	Location of local temporary directory used by the OWA Server for this bridge.
TS_ATTRIBUTES	int	57007	Reserved for future use.
TS_SUBMITID	int	60011	The TS_ID of the Submit Transition used by this bridge to submit items into SBM.

TS_BROWSERS

This table contains one record for each supported browser or browser version that requires a template other than the default. Reserved for future use.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	504	Unique numeric id for the record.
TS_NAME	varchar(32)	504	Displayed name of the browser.
TS_USERAGENT	varchar(80)	504	Server variable HTTP_USER_AGENT, that internally identifies the browser. Can be a regular expression to accommodate minor variations in the user agent string, such as minor revision number.
TS_DESCRIPTION	longvarchar	504	Optional descriptive text.

TS_CACHEACTIONS

To cut down on the amount of data transferred between the server and the DBMS, we want to identify only those records which are out of sync between the cache and the database. This table holds one record for every time that a record in a cached table is added, updated or deleted.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	58001	Unique numeric id for the record.
TS_TABLEID	int	58001	Foreign key to the TS_ID column of the TS_TABLES table indicating the table affected.
TS_RECORDID	bigint	58001	Foreign key to the TS_ID column of the table that was changed, indicating which record in that table was affected.
TS_ACTION	int	58001	Indicates whether the affected record was added, updated, or deleted. Refer to the note below for the values allowed in this field.
TS_TIMESTAMP	bigint	58001	Timestamp denoting when the change was made.

Values for TS_ACTION column:

TS_CACHEACTION_SUBMIT	0	The specified record was created/submitted.
TS_CACHEACTION_UPDATE	1	The specified record was modified.
TS_CACHEACTION_DELETE	2	The specified record was deleted.
TS_CACHEACTION_REFRESH	3	Multiple rows have been invalidated and the entire table should be reloaded.
		TS_RECORDID must be –1 in this case.

TS_CALENDARDENORM

Denormalizes the calendar hours of operation in a way that makes it possible to count hours of operation between two moments in time directly in SQL. Each row represents a continuous period of time that is included in the hours of operation in a calendar. To calculate the amount of time that elapsed between tho moments in time, only counting the hours of operation defined by a calendar, simply sum the TS_ELAPSEDTIME column for all records where TS_STARTDATE is greater than or equal to your start date and TS_ENDDATE is less than or equal to your end date, then discover if any records span your start or end date and add in the portion of time that the span includes.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000707	Unique numeric id for the record.
TS_CALENDARID	int	904000707	Foreign key to the TS_ID column of the TS_CALENDARS table indicating which calendar this record is for.
TS_STARTDATE	bigint	904000707	Unix epoch date for when this session of hours of operation begins.
TS_ENDDATE	bigint	904000707	Unix epoch date for when this session of hours of operation ends.
TS_ELAPSEDTIME	bigint	904000707	Number of seconds elapsed between start and end date for this session.

TS_CALENDAROVERRIDES

Calendar overrides were created to override the standard weekday configuration for daily hours of operation.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Unique numeric id for the record.
TS_CALENDARID	int	71005	Foreign key to the TS_CALENDARS table to indicate what calendar this override applies to.
TS_DATE	bigint	71005	The date the override applies to.
TS_REOCCURRENCETYPE	int	71005	Used to determine if the override should be used for only the year defined in TS_DATE or should apply to all years that have this date. No Reoccurrence (0), Yearly (1).
TS_NOTE	varchar(255)	71005	Gives the administrator a place to jot down a few notes about the override.

TS_CALENDARS

Calendars were created to define hours of operation for all time. Hours of operation is represented by a standard work week. Each day of the week will define work hours. Calendars may also define daily overrides for the standard work week.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Unique numeric id for the record.
TS_NAME	varchar(64)	71005	Displayed name of the calendar.
TS_TIMEZONE	varchar(32)	71005	Holds the time zone identifier for this calendar. If blank, the GMT time zone is used.
TS_HOURSDAY	int	71005	When days are the unit time measure, the number of days will be converted into that many hours. The unit stored here is in seconds.
TS_TIMEINSTATE	int	71005	This value is used to determine if TS_TIMEINSTATE records are kept for this calendar as primary items change state. Has Never saved (0), Actively Save (1), Has Saved in the past (2).
TS_DELETED	int	71009	This value is set to 0 while the calendar is active and 1 when the calendar has been deleted.
TS_CREATEDATE	bigint	71009	Date calendar was created.
TS_DELETEDATE	bigint	71009	Date calendar was deleted.
TS_STARTDATACOLLECTION	bigint	71009	Date we started collecting TS_TIMEINSTATE records for this calendar.
TS_STOPDATACOLLECTION	bigint	71009	Date we stopped collecting TS_TIMEINSTATE records for this calendar.
TS_BROKENDATACOLLECTION	tinyint	71009	This value is set to 0 as long as a continuous stream of TS_TIMEINSTATE records are present. It is set to 1 if there is a chance that a gap exists while collecting this data.
TS_UUID	varchar(64)	71009	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	Int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

TS_CALENDARTIMERANGES

Calendar Time Ranges were created to hold a single time span that represents hours of operation.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Unique numeric id for the record.
TS_TYPE	int	71005	TS_TABLEID of either TS_TBLID_CALENDARWEEKDAYS or TS_TBLID_CALENDAROVERRIDES
TS_FOREIGNID	int	71005	Record id of either calendar weekday or override record
TS_STARTTIME	bigint	71005	This is a time value kept in seconds. This value indicates the start of the time range.
TS_ENDTIME	bigint	71005	This is a time value kept in seconds. This value indicates the end of the time range.

TS_CALENDARWEEKDAYS

Calendar Weekdays were created to represent a single weekday. Each defined calendar will contain one calendar weekday that represents each day of the week. Each calendar weekday will use calendar time ranges to represent hours of operation.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Unique numeric id for the record.
TS_CALENDARID	int	71005	Foreign key to the TS_CALENDARS table to indicate what calendar this weekday applies to.
TS_DAY	int	71005	Numeric value that represents a weekday. Sunday(0), Monday(1), Tuesday(2), Wednesday(3), Thursday(4), Friday(5), Saturday(6).

TS_CHANGEACTIONS

For audit purposes, SBM maintains a complete change history of all modifications to issues, incidents, and other customizable records. This table contains one row for each "action" taken by a user against a particular item, while the details for the change are stored in TS_CHANGES and TS_CHANGETEXT. These records could be considered a summary of the action/change, and this table was designed to help customers that want to use 3rd party reporting tools in their auditing. In 6.5, the state change diagram and the change history sections on SBM Work Center are built from this table, but integrations and notifications are still being generated from TS_CHANGES.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	65001	Unique numeric id for the record.
TS_ACTION	int	65001	Indicates whether this record was created during a submission of a new issue, or on a subsequent update. See notes for TS_CHANGES.TS_ACTION (uses same constants).
TS_ITEMID	int	65001	Id for issue, incident or other record to which this record refers.
TS_TABLEID	int	65001	Foreign key to the TS_TABLES table. With the TS_ITEMID, provides the foreign key support necessary to determine if the change action is for an issue, incident, etc.
TS_TIME	bigint	65001	Timestamp when this record was created – will match timestamp used in TS_CHANGES for the whole set of field changes.
TS_USERID	int	65001	Foreign key to the TS_USERS table indicating the id of the user that performed the change.
TS_REALUSERID	int	65001	Real user performing the operation, usually only filled by the API.
TS_PRIORSTATE	int	65001	The state prior to the action
TS_NEWSTATE	int	65001	The state after the action
TS_PRIOROWNER	int	65001	Owner before the action
TS_NEWOWNER	int	65001	Owner after the action
TS_TRANSITIONID	int	65001	ID of the transition for this change set. Zero if this is not a transition (i.e., add of attachment)
TS_TRANSITIONLABEL	varchar(64)	65001	Label used for that transition, *at that time*. Since transitions can be deleted and changed, both in name and usage, this records the label that was currently in use.

Column Name	Data Type	DbVer	Description
TS_THREADID	Varchar(100)	10	Unique key of the thread that was used to process the message. Micro Focus recommends that you do not alter this field without assistance from Support or a Micro Focus developer.

TS_CHANGES

For audit purposes, SBM maintains a complete change history of all modifications to issues, incidents, and other customizable records. This table contains one row for each individual field modification, or individual changes to attachments and notes. Full text field changes are stored in TS_CHANGETEXT. SBM's trend reports also read this table to compute the trend data. Because of the way the trend report algorithm works, the system also stores one row per field when an issue or incident is submitted. Change History records are generated for any tables that use variable fields. All changes for a particular user action can be grouped by the TS_ACTIONSTAMP, which references the record in TS_CHANGEACTIONS.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the change record.
TS_FLDID	int	1	Foreign key to the TS_FIELDS table indicating the field id to which this change record refers.
TS_ACTION	int	1	Indicates whether this record was created during a submission of a new issue, or on a subsequent update. See notes below.
TS_TYPE	int	1	Raw storage type of the field to which this record refers. Stores one of thee possible values. If value is equal to TS_CHGTYPE_INT, TS_PRIORINT and TS_NEWINT columns are valid. If the value is equal to TS_CHGTYPE_REAL, TS_PRIORREAL and TS_PRIORREAL columns are valid. If the value is equal to TS_CHGTYPE_CHAR, TS_PRIORCHAR and TS_NEWCHAR columns are valid. See notes below.
TS_TIME	bigint	1	Time when this record was created.
TS_USERID	int	1	Foreign key to the TS_USERS table indicating the id of the user that authored the change.
TS_PRIORINT	int	1	If this change record refers to an integer field, this column contains the value the record held prior to the change. If this change record refers to a subtask action, then this is the table ID of the linked item. Otherwise, the value is set to 0 and should not be used.

Column Name	Data Type	DbVer	Description
TS_PRIORREAL	real	1	If this change record refers to a floating-point field, this column contains the value the record held prior to the change. If this value refers to a date-only or date-time field, this column contains a floating-point value representing the number of days since Dec 30, 1899. If this value refers to a time-of-day or elapsed-time field, this column contains a floating-point value representing the number of seconds starting at 0. Otherwise, the value is set to 0 and should not be used.
TS_PRIORCHAR	varchar(255)	1	If this change record refers to a string field, this column contains the value the record held prior to the change. Otherwise, the value is set to an empty string and should not be used. If this is a state change, i.e., TS_FLDTYPE is 106 and TS_ACTION is TS_CHGACTION_UPDATE, this column holds the character representation of the owner id when the transition occurred.
TS_NEWINT	int	1	If this change record refers to an integer field, this column contains the value the record held after the change. If this change record refers to a subtask action, then this is the record ID of the linked item. Otherwise, the value is set to 0 and should not be used.
TS_NEWREAL	real	1	If this change record refers to a floating-point field, this column contains the value the record held after the change. If this value refers to a date-only or date-time field, this column contains a floating-point value representing the number of days since Dec 30, 1899. If this value refers to a time-of-day or elapsed-time field, this column contains a floating-point value representing the number of seconds starting at 0. Otherwise, the value is set to 0 and should not be used.
TS_NEWCHAR	varchar(255)	1	If this change record refers to a string field, this column contains the value the record held prior to the change. Otherwise, the value is set to an empty string and should not be used. However, if this is a state change, i.e., TS_FLDTYPE is 106 and TS_ACTION is 1, this column holds the character representation of the transition id.

Column Name	Data Type	DbVer	Description
TS_CASEID	int	1	Misnomer. Id for issue, incident or other record to which this record refers.
TS_FLDTYPE	int	1	Type of field to which this record refers. See notes under 'Values for TS_FLDTYPE column' in the TS_FIELDS table.
TS_TABLEID	int	10	Foreign key to the TS_TABLES table. With the TS_CASEID, provides the foreign key support necessary to determine if the change record(s) are for an issue, incident or other record type.
TS_REALUSERID	int	27	Foreign key to the TS_USERS table indicating the actual user who is logged on. Used mainly from the API in cases where the user logged on is submitting and transitioning on behalf of the effective user.
TS_ACTIONSTAMP	bigint	65001	Foreign key to the higher level change (i.e., transition) in TS_CHANGEACTIONS. This will be repeated for all field change records that are part of the higher level change.

Values for TS_ACTION column:

TS_CHGACTION_SUBMIT	0	Created when the record was first submitted.
TS_CHGACTION_UPDATE	1	Created when the record was modified.
TS_CHGACTION_DELETE	2	Created when the record was deleted. The title is stored in the TS_PRIORCHAR field.
TS_CHGACTION_ATTACHMENT_ADD	3	Created when an attachment is added. Attachment name is stored in the TS_NEWCHAR field. Attachment id is stored in the TS_PRIORINT field. TS_FLDID and TS_FLDTYPE fields are left as 0.
TS_CHGACTION_ATTACHMENT_UPDATE	4	Created when attachment updated. Updated attachment name is stored in the TS_NEWCHAR field. Attachment id is stored in the TS_PRIORINT field. TS_FLDID and TS_FLDTYPE fields are left as 0.
TS_CHGACTION_ATTACHMENT_DELETE	5	Created when an attachment is deleted. Id is not stored.
TS_CHGACTION_VC_UPDATE	7	Created with a version control update. TS_FLDID and TS_FLDTYPE fields are left as 0.

`TS_CHGACTION_LINK_SUBTASK`	8	Created when a subtask is linked to the current item, either via a Create Subtask transition or from the Actions drop down. The title of the subtask item is stored in TS_NEWCHAR. TS_PRIORINT contains the table ID of the subtask item. TS_NEWINT contains the record ID of the subtask item. TS_FLDID is 0. TS_FLDTYPE is set to TS_CHGTYPE_INT.
`TS_CHGACTION_LINK_PRINCIPAL`	9	Created when the current item is associated with a principal item from the Actions drop down. The title of the principal item is stored in TS_NEWCHAR. TS_PRIORINT contains the table ID of the principal item. TS_NEWINT contains the record ID of the principal item. TS_FLDID is 0. TS_FLDTYPE is set to TS_CHGTYPE_INT.
`TS_CHGACTION_UNLINK_PRINCIPAL`	10	Created when the current item is disassociated from its principal item from the Actions drop down. The title of the principal item is stored in TS_PRIORCHAR. TS_PRIORINT contains the table ID of the former principal item. TS_NEWINT contains the record ID of the former principal item. TS_FLDID is 0. TS_FLDTYPE is set to TS_CHGTYPE_INT.
`TS_CHGACTION_OOO_DELEGATION`	19	Created when an Out Of Office delegation transfers ownership of an item.
`TS_CHGACTION_PAUSE`	20	Created when the current item is flagged as paused.
`TS_CHGACTION_UNPAUSE`	21	Created when the current item has its paused flag removed.
`TS_CHGACTION_TIMECAPTURE_ADD`	22	Created when a Time capture entry is added on an item.
`TS_CHGACTION_TIMECAPTURE_UPDATE`	23	Created when a Time capture entry is updated on an item.
`TS_CHGACTION_TIMECAPTURE_DELETE`	24	Created when a Time capture entry is removed from an item.

Values for TS_TYPE column

TS_CHGTYPE_INT	0	Modification to an integer field.
TS_CHGTYPE_REAL	1	Modification to a floating point.
TS_CHGTYPE_CHAR	2	Modification to a character string.

TS_CHANGETEXT

This table holds full text snapshots, before and after, of large text fields for auditing purposes. This includes content in notes, memo fields, and any multi-selection/multi-relational field.   There is one record in this table for one qualifying field change in TS_CHANGES.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	65001	Unique numeric id for the record.
TS_CHANGEDETAILID	bigint	65001	The ID of the record in TS_CHANGES that corresponds to this change
TS_PRIORTEXT	longvarchar	65001	Prior value of memo field or multi-selection field.
TS_ NEWTEXT	longvarchar	65001	New value of memo field or multi-selection field.

TS_CHANNELS

This table contains records for notification channels that you create.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010111	Unique numeric ID for the record.
TS_NAME	varchar(255)	1012010111	The display name of the channel.
TS_DESCRIPTION	varchar(max)	1012010111	The description of the channel.
TS_PLUGINID	int	1012010111	A foreign key to the TS_PLUGINS table indicating notification plugin that channel is associated with.
TS_OPTIONS	int	1012010111	Channel options: "0" – None, "1" – Show standard, "2" – Show Advanced, "4" – Show System, "8" – Show User, "10" – Show Manager.
TS_BINDABLE	int	1012010111	Indicates whether the channel is bind-able (1) or not (0).
TS_NAMESPACEID	int	1012010111	If not zero, a foreign key to the TS_NAMESPACES table.

Column Name	Data Type	DbVer	Description
TS_UUID	varchar(64)	`101201011` `1`	The Universally Unique Identifier (UUID) that applies to this record.

TS_COMPANIES

This table stores information about the companies that have purchased supported products. The table uses variable fields and was introduced in Database Version 10. The system fields are shown below. Custom fields are appended to the table in the order they are added.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the company.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(80)	10	Name of the company.
TS_CUSTOMERID	varchar(64)	10	Alternative identifier for the company.
TS_LASTINCIDENTID	int	10	Foreign key to the TTS_INCIDENTS (TS_INCIDENTS) table to reference the last incident submitted for this company. Exists only if the Incident Management Solution wizard has been executed.
The following custom fields can be automatically created during 'Database Create':			
TS_PRIMARYCONTACTID	int	NA	Foreign key to the TS_CONTACTS table to reference the id for the primary contact.
TS_SECONDARYCONTACTID	int	NA	Foreign key to the TS_CONTACTS table to reference the id for the secondary contact.
TS_ADDRESS1	varchar(80)	NA	First line of the company's address.
TS_ADDRESS2	varchar(80)	NA	Second line of the company's address.
TS_CITY	varchar(80)	NA	City in which the company resides.
TS_STATE	varchar(40)	NA	State in which the company resides.
TS_COUNTRY	varchar(80)	NA	Country in which the company resides.
TS_ZIPCODE	varchar(20)	NA	Zip code for the company's address.
TS_FAXNUMBER	varchar(20)	NA	Company's fax number.
TS_PHONENUMBER	varchar(20)	NA	Company's phone number.

TS_CONCURRENTLOGINS

This table maintains a list of concurrent users who have an active login session.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	57002	Unique numeric id for the record.
TS_USERID	int	57002	Foreign key to the TS_ID column of the TS_USERS table, identifying the user for whom this login record was created.
TS_USERIP	varchar(65)	101300 0002	IP address of the user's computer. Should hold biggest literal representation of IPv6 address (i.e. the length is equal to INET6_ADDRSTRLEN)
TS_USERACCESS	int	57002	Access type of the user's license (full user or external user). This is redundant with the TS_ACCESSTYPE column of the TS_USERS table, but is duplicated here to improve performance.
TS_LASTACCESSTIME	bigint	57002	Timestamp of the user's most recent request to the server. Time is given in seconds since January 1, 1970.
TS_ WEBSERVERIP	varchar(65)	101300 0002	IP address of the server.
TS_LICENSING	int	60010	1 if the user is concurrent, 0 if the user is named.
TS_SERVERTYPE	int	66003	0 if the user is logged into the Web server, 1 if the user is logged into Web services.

TS_CONTACTS

This table stores information about individual company contacts. The table uses variable fields and was introduced in Database Version 10. The system fields are shown below. Custom fields are appended to the table in the order they are added.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the contact.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_CONTACTFIRSTNAME	varchar(40)	10	Contact's first name.
TS_CONTACTMIDDLENAME	varchar(20)	10	Contact's middle name.
TS_CONTACTLASTNAME	varchar(40)	10	Contact's last name.
TS_USERID	int	10	Foreign key to the TS_USERS table to reference the user record associated with the contact. Intended to provide a particular contact with an external user license.
TS_EMAIL	varchar(128)	10	Contact's email address.
TS_LASTINCIDENTID	int	10	Foreign key to the TTS_INCIDENTS (TS_INCIDENTS) table to reference the last incident submitted for this contact. Exists only if the Incident Management Solution wizard has been executed.
TS_COMPANYID	int	10	Foreign key to the TS_COMPANIES table to reference the company to which this contact belongs.

The following custom fields can be automatically created during 'Database Create':

Column Name	Data Type	DbVer	Description
TS_PHONENUMBER	varchar(32)	NA	Contact's phone number.
TS_ADDRESS1	varchar(80)	NA	First line of the contact's address.
TS_ADDRESS2	varchar(80)	NA	Second line of the contact's address.
TS_CITY	varchar(80)	NA	City in which the contact resides.
TS_STATE	varchar(40)	NA	State in which the contact resides.
TS_COUNTRY	varchar(80)	NA	Country in which the contact resides.
TS_ZIPCODE	varchar(20)	NA	Zip code for the contact's address.
TS_FAXNUMBER	varchar(20)	NA	Contact's fax number.
TS_MOBILENUMBER	varchar(20)	NA	Contact's pager or cell number.

TS_DBSOURCES

This table stores connection information so that imports can execute one after another without the user having to log into the source databases. These sources are separated into their own table so that it will be easier to group Import Option Sets that use the same sources.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	63002	Unique numeric id for the record.
TS_DATASOURCE	varchar(255)	63002	Name of the ODBC data source
TS_USERLOGIN	varchar(255)	63002	User/Database login name or account
TS_USERPASSWORD	varchar(255)	63002	Encrypted user/account password
TS_TRACKERSERVER	varchar(255)	63002	Tracker-specific identification of database
TS_TRACKERPROJECT	varchar(255)	63002	Tracker-specific identification of database

TS_DECISIONRULES

This table contains one row for every Decision Rule that has been defined for an Application. Decision Rules are a logical condition contained in a specification that includes token placeholders, operations and logical operators. The decision rules are evaluated in Decision nodes that are part of the workflow to determine which path an item will take through the workflow.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000504	Unique numeric id for the record.
TS_NAME	varchar(128)	904000504	Name of the Decision Rule.
TS_UUID	varchar(64)	904000504	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	904000505	If not zero, a foreign key to the TS_NAMESPACES table.
TS_SOLUTIONID	Int	904000504	Foreign key to the TS_SOLUTIONS table for the Solution this rule is associated with.
TS_DESCRIPTION	longvarchar	904000504	Descriptive text of the Decision Rule.
TS_SPECIFICATION	longvarchar	904000504	Rule specification that includes token placeholders, operations and logical operators.
TS_RULETYPE	int	1100000012	Specifies one of the following: a system rule that users can not use in runtime (0), system rule that users can use in runtime (1), private (2) or public (3) rule.
TS_AUTHORID	int	1100000012	If not zero, this is a foreign key to the TS_USERS table. If zero, this is system Decision Rule created from Composer.
TS_LASTMODIFIER	int	1110000005	User who last modified this decision rule, especially when this is a report filter.
TS_CREATEDATE	bigint	1110000005	Date when this decision rule was created, especially when this is a report filter.
TS_LASTMODIFIEDDATE	bigint	1110000005	Date when this decision rule was last modified, especially when this is a report filter.

TS_DECISIONRULETOKENS

This table contains character, integer or real values associated with either an Application Variable or a "literal" token in a Decision Rule. So, either the Rule Token ID or the Variable ID will be set, but never both. These values can be overridden at either the workflow or project level. So, either the Workflow ID or Project ID will be set, but never both. There may be multiple records for any given combination of Rule Token ID/Variable ID and Workflow ID/Project ID.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000504	Unique numeric id for the record.
TS_DECISIONRULEID	int	904000504	This column contains a foreign key into the TS_DECISIONRULES table for the Decision Rule this token is associated with.
TS_SEQUENCE	int	904000504	This is a ordinal (1-based) number to denote the token number within the rule specification.
TS_TYPE	int	904000504	This column describes what type of token this record represents. See table below for values.
TS_FIELDID	int	904000504	Foreign key to the TS_FIELDS table for the Field whose value will be used as this token..
TS_VARIABLEID	int	904000504	Foreign key to the TS_APPVARIABLES table for the Application Variable whose value will be used as this token.

Values for TS_TYPE column:

TS_DECISIONRULETOKENTYPE_FIELD	1	The value of a Field within the current item will be used as this token. The TS_FIELDID column specifies which field will be used.
TS_DECISIONRULETOKENTYPE_VALUE	2	This token is a value that has been specified by the user. The actual value of the token will be read from the TS_APPVARIABLEVALUES table.
TS_DECISIONRULETOKENTYPE_VARIABLE	3	The value of an Application Variable for the current Project will be used as this token. The TS_VARIABLEID column specifies which variable will be used.

TS_DELEGATEDITEMS

This table contains information about items that have been delegated by a Out Of Office delegation that is currently active.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010109	Unique numeric id for the record.
TS_NAMESPACEID	int	1012010109	If not zero, a foreign key to the TS_NAMESPACES table.
TS_DELEGATION	int	1012010109	Foreign key to the TS_DELEGATIONS table, specifying the delegation record that triggered the delegation of the item.
TS_ITEMTABLE	int	1012010109	Foreign key to the TS_TABLES table, specifying the table that the delegated item is in. Will always be a primary table.
TS_ITEMRECORD	int	1012010109	Foreign key to the table that the delegated item is in, specifying the primary item that has been delegated.
TS_STATE	int	1012010109	Foreign key to the TS_STATES table, specifying the state that the delegated item was in at the time it was delegated.

TS_DELEGATIONS

This table contains Out Of Office rules that have been set up to temporarily delegate a user's ownership of primary items, for instance while on vacation.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010109	Unique numeric id for the record.
TS_NAMESPACEID	int	1012010109	If not zero, a foreign key to the TS_NAMESPACES table.
TS_DELEGATEDFROM	int	1012010109	Foreign key to the TS_USERS table, specifying the user from whom items will be delegated (i.e. the user on vacation).
TS_DELEGATEDTO	int	1012010109	Foreign key to the TS_USERS table, specifying the user to whom items will be delegated (i.e. the user covering for the user on vacation).
TS_DELEGATEDBY	int	1012010109	Foreign key to the TS_USERS table, specifying the user who created the delegation (may be the user himself/herself or an administrator).
TS_STARTDATETIME	bigint	1012010109	The start time of the delegation, as seconds since Jan 1, 1970.
TS_ENDDATETIME	bigint	1012010109	The end time of the delegation, as seconds since Jan 1, 1970.
TS_STATUS	int	1012010109	The status of the delegation. 0 = Scheduled, 1 = Active, 2 = Finished.
TS_PROJECTID	int	1012010109	Foreign key to the TS_PROJECTS table, specifying the project for which primary items owned by the TS_DELEGATEDFROM user will be delegated.
TS_SUBPROJECTS	int	1012010109	Specifies whether or not to also delegate from subprojects of the TS_PROJECTID project. 0 = no, 1 = yes.
TS_SUBJECT	varchar(256)	1110000010	E-mail subject.
TS_CONTENT	varchar(max)	1110000010	E-mail content.
TS_CONTENTTYPE	varchar(16)	1110000010	E-mail content type.

TS_DELETEDOBJECTS

This table records information about objects that are truly deleted from the database. This data is exported in the instance.xml file of the Application Definition package so that the intentionally deleted objects will not be unintentionally recreated upon import. The table was introduced in Database Version 71009.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71009	Unique numeric id for the record.
TS_SOLUTIONID	int	71009	The application ID for which the deleted object originally applied. If a Folder, then this value will be 0, the "global" application.
TS_OBJTABLEID	int	71009	The system table ID from which the object was deleted. Currently this can be either TS_TBLID_PROJECTS, TS_TBLID_FOLDERS, TS_TBLID_NOTIFICATIONS, TS_TBLID_NOTIFICATIONRULES.
TS_OBJUUID	varchar(64)	71009	The Universally Unique Identifier (UUID) of the deleted object.
TS_USERUUID	varchar(64)	71009	The Universally Unique Identifier (UUID) of the user that deleted the object. If the deletion occurred via ODBC Administrator, then this will be 0 since we do not have a specific user context in that case.
TS_USERLOGIN	varchar(128)	71009	Login ID of the user who deleted the object, or NULL/blank if unknown (see above).
TS_TIMESTAMP	bigint	71009	The time at which the object was deleted.

TS_DUEDATECONDITIONS

This table contains due date conditions for date time escalations.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_FIELDID	int	10	Foreign key to the TS_FIELDS table to reference which field is involved in the condition.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table to reference the workflow in which the notification rule is defined
TS_COMPARITOR	int	10	See notes below.
TS_DATEENTITY	int	10	See notes below.
TS_DATEVALUE	bigint	10	Date value for due date condition.
TS_NOTIFICATIONID	int	10	Foreign key to the TS_NOTIFICATION table indicating the notification using the condition.

Values for TS_COMPARITOR field:

TS_LESS_THAN	0	The value is less than today.
TS_MORE_THAN	1	The value is more than today

Values for TS_DATEENTITY field:

TS_WEEKS	3	Weeks.
TS_DAYS	2	Days.
TS_HOURS	1	Hours.

TS_ENTITIES

This table contains the storage of generic property / value pairs which is referred to as an "entity" here. Rows in the TS_ENTITYPROPERTIES table contain the actual property name with other details and the values are stored in the TS_ENTITYVALUES table. The table along with TS_ENTITYPROPERTIES and TS_ENTITYVALUES was originally used by SBM but is now unused by the product. We have left the tables and json api in place though as others have found a use for them to store generic data.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1000000702	Unique numeric id for the record.
TS_NAME	varchar(128)	1000000702	
TS_DISPLAYNAME	varchar(128)	1000000702	
TS_ TYPE	int	1000000702	
TS_ PARENTID	int	1000000702	
TS_ STATUS	int	1000000702	
TS_ UUID	varchar(64)	1000000702	The Universally Unique Identifier (UUID) that applies to this record
TS_ NAMESPACEID	int	1000000702	If not zero, a foreign key to the TS_NAMESPACES table
TS_ UNRESOLVED	int	1000000702	

Values for TS_TYPE field:

TS_ENTITYTYPE_CATALOG	1
TS_ENTITYTYPE_CATEGORY	2
TS_ENTITYTYPE_SERVICEDEF	3
TS_ENTITYTYPE_SHELL	4

TS_ENTITYPROPERTIES

This table contains the property definitions with name, display name and type. Values are in the TS_ENTITYVALUES table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1000000702	Unique numeric id for the record.
TS_ENTITYID	int	1000000702	Foreign key to the TS_ENTITIES table.
TS_NAME	varchar(128)	1000000702	
TS_DISPLAYNAME	varchar(128)	1000000702	
TS_ VALUETYPE	int	1000000702	
TS_ LEVELTYPE	int	1000000702	
TS_ LEVELID	int	1000000702	
TS_ UUID	varchar(64)	1000000702	The Universally Unique Identifier (UUID) that applies to this record
TS_ NAMESPACEID	int	1000000702	If not zero, a foreign key to the TS_NAMESPACES table
TS_ UNRESOLVED	int	1000000702	

Values for **TS_VALUETYPE** field:

TS_ENTITYVALUETYPE_TEXT	1
TS_ENTITYVALUETYPE_INTEGER	2
TS_ENTITYVALUETYPE_ENTITYID	3
TS_ENTITYVALUETYPE_RESOURCE_ID	4
TS_ENTITYVALUETYPE_ATTACHMENT_ID	5
TS_ENTITYVALUETYPE_DATETIME	6
TS_ENTITYVALUETYPE_KEYWORD	7
TS_ENTITYVALUETYPE_BOOLEAN	8
TS_ENTITYVALUETYPE_SOLUTION_ID	9
TS_ENTITYVALUETYPE_TABLE_ID	10
TS_ENTITYVALUETYPE_PROJECT_ID	11
TS_ENTITYVALUETYPE_ISSUETYPE_ID	12
TS_ENTITYVALUETYPE_TRANSITION_ID	13
TS_ENTITYVALUETYPE_INTERNALURL	14
TS_ENTITYVALUETYPE_FIELD_ID	15

Values for TS_LEVELTYPE field:

TS_ENTITYVALUELEVELTYPE_GLOBAL   1

TS_ENTITYVALUELEVELTYPE_USER   2

TS_ENTITYVALUES

This table contains generic values for the entity properties.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1000000702	Unique numeric id for the record.
TS_ENTITYPROPERTYID	int	1000000702	Foreign key to the TS_ENTITYPROPERTIES table.
TS_ VALUE	longvarchar	1000000702	

TS_EXTERNAL_USER_RULES

This table contains rules to transition an item from one state to another via external communication feature.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1130000008	Unique numeric id for the record.
TS_PROJECTID	varchar(256)	1130000008	Foreign key to the TS_PROJECTS Table.
TS_NAME	varchar(256)	1130000008	Name of the external rule.
TS_INITIALSTATEID	int	1130000008	Foreign key to the TS_STATES table indicating the current state of the item for transition execution. If the item is not in appropriate state than transition will be not executed. This value could be 0.
TS_TRANSITIONID	int	1130000008	Foreign key to the TS_TRANSITIONS table indicating the id of transition to execute. It should be regular quick transition.

TS_EXTERNAL_USERS

This table contains external users generated by external submission and external communication features.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1130000008	Unique numeric id for the record.
TS_NAME	varchar(256)	1130000008	External user name. Generated from e-mail.
TS_ EMAIL	varchar(256)	1130000008	E-mail of external user
TS_TABLEID	int	1130000008	Foreign key to the TS_TABLES table indicating the table id of the local item.
TS_RECORDID	int	1130000008	Foreign key to the TS_ID column of the primary/auxillary table.
TS_AUTHORID	int	1130000008	Foreign key to the TS_ID column of the users table.
TS_TIME	int	1130000008	External user creation time.
TS_TYPE	int	1130000008	Type of external user. There are two types of external user. If it is equal to one than it is a submitter type. Otherwise, it is equal to 0.

TS_EXTERNALDATABASES

This table contains information about external databases to which SBM will communicate, e.g. databases that will post items into the SBM database, or databases to which SBM will post items, or both.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	51001	Unique numeric id for the record.
TS_NAME	varchar(32)	51001	Name to visually identify the external database. Not used to communicate with the external database, but serves purely as a way for users to identify the external database before posting to it.
TS_EMAIL	varchar(128)	51001	Email address in which to send post requests for the external database.
TS_MAILBOXID	int	51001	Mailbox that will service the incoming requests from this external database. Once an item has been posted to the external database, SBM will begin receiving updates. Updates will be sent to this mailbox.

TS_EXTERNALPOSTFIELDMAP

This table stores the field mappings for external postings. Fields can be explicitly mapped from the local database to a named field in the external database before the post message is sent. Locally we store the field id of the field to map. For the external database, we store the field name that we want to map so the mapping can be performed locally without any internal knowledge of the foreign database.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	55001	Unique numeric id for the record.
TS_LOCALFIELDID	int	55001	Foreign key to the TS_FIELDS table. Id of the local field that will be mapped when an external post is performed.
TS_EXTERNALFIELDNAME	varchar(64)	55001	Name of the field to which the local field will be mapped.
TS_TRANSITIONID	int	55001	Foreign key to the TS_TRANSITIONS table. Field indicates to which particular post transition this mapping applies.
TS_TABLEID	int	55001	Indicates whether this mapping is applied at the project or workflow level. For version 5.5, this field is always equal to TS_TBLID_WORKFLOW. In the future, this may also be TS_TBLID_PROJECT, etc.
TS_RECID	int	55001	Record id of the TS_TABLEID field.

TS_EXTERNALPOSTINGS

This table keeps track of both items that have been posted externally and external items which have been posted to the local database. In version 5.5, the table only tracks items which have been submitted from an external database. Therefore the TS_INCOMING field is always set to 1 because the item came in from an external database.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	51001	Unique numeric id for the record.
TS_EXTERNALDATABASEID	int	51001	Foreign key to the TS_EXTERNALDATABASES table.
TS_POSTDATE	bigint	51001	Date the item was posted or submitted.
TS_INCOMING	int	51001	Flag to indicate if this item was an external item posted into the SBM database (1), or an SBM item posted externally (0).
TS_ITEMID	int	51001	Item id of the local item.
TS_TABLEID	int	51001	Foreign key to the TS_TABLES table indicating the table id of the local item.
TS_EXTITEMID	int	51001	Item id of the external item.
TS_EXTTABLEID	int	51001	Foreign key to the TS_TABLES table indicating the table of the external item.
TS_SOLUTIONNAME	varchar(32)	51001	Table name of the external item for user level identification purposes.
TS_ISSUEID	varchar(32)	51001	Issue id of the external item for user level identification purposes.
TS_RETURNADDRESS	varchar(32)	51001	Email address in which to send updates for this item, if the item was submitted from an external database.

TS_FEED_MAPPINGS

This table contains one row per feed mapping wich describes relation between feed and values used for resolving agile item properties.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10.1.4	Unique numeric id for the record.
TS_FEEDID	int	10.1.4	Foreign key to the TS_FEED table.
TS_TABLEID	int	10.1.4	Foreign key to the TS_TABILES table.
TS_ESTIMATEFLDID	int	10.1.4	Foreign key to the TS_FIELDS table that is used for calculation of estimate value.
TS_ACTUALFLDID	int	10.1.4	Foreign key to the TS_FIELDS table that is used for calculation of actual value.
TS_ DONESTATEDEF	varchar(512)	10.1.4	String value that describes definition done state of the item.
TS_OWNERSHIPDEF	varchar(256)	1015000004	Owner of this mapping.
TS_OVERRIDEPARAMS	longvarchar	1110000025	XML defined parameters, which may overrided only for External Feeds. TS_TYPE = 150

TS_FEED

This table contains one row per feed. Feeds are defined in Work Center for Activity Views and Calendars.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000028	Unique numeric id for the record.
TS_NAME	varchar(510)	1013000028	Name of the Feed.
TS_DESCRIPTION	longvarchar	1013000028	Description of the Feed.
TS_AUTHORID	int	1013000028	Foreign key to the TS_USER table indicating the userid of the author.
TS_TYPE	int	1013000028	Type of Feed. See below for values.
TS_ACCESS	int	1013000028	Feed Access. See below for values.
TS_SYSCODE	int	1013000028	SYSCODE for Feed. 0 for user defined feeds.
TS_TABLEID	int	1013000028	Foreign key to the TS_TABLES table indicating the table id of the local item. A value of 0 indicates that the feed uses the encapsulating Activity View to define which tables it searches.
TS_PROJECTSPECIFICATION	longvarchar	1013000028	Stores the project filter for the feed. Stored as an integer for the flags (see below) followed by the optional comma separated projects specified for the feed to search.
TS_OWNERSPECIFICATION	longvarchar	1013000028	Stores the owner filter for the feed. Stored as an integer for the flags (see below) followed by the optional comma separated users and groups specified for an ownership filter on the feed.
TS_SPECIFICATIONS1	longvarchar	1013000028	Stores the specifications for the report, i.e., the SQL "where" condition, or some representation of it.
TS_SPECIFICATIONS2	longvarchar	1013000028	Stores additional specification information. Used by calendar feeds to store the extra configuration information like which icons and colors represent which values.
TS_COLUMNS	longvarchar	1013000028	Used by calendar feeds to determine the fields used to display items on the calendar.
TS_CREATEDATE	bigint	1013000028	Date feed was created.
TS_LASTMODIFIEDDATE	bigint	1013000028	Date feed was last modified.
TS_UUID	varchar(128)	1013000028	The Universally Unique Identifier (UUID) that applies to this record.

Column Name	Data Type	DbVer	Description
TS_NAMESPACEID	int	1013000028	If not zero, a foreign key to the TS_NAMESPACES table.
TS_RESTDATASOURCEID	int	1110000012	If not 0 Foreign key to TS_RESTDATASOURCE table

Values for TS_ACCESS column:

TS_RPTACCESS_PRIVATE		1	Private report
TS_RPTACCESS_GUEST		2	Guest-level report

Values for TS_TYPE column:

FEED_TYPE_LISTING		1	Feed associated with a specified application.
FEED_TYPE_GLOBAL		13	Feed which uses the Activity View for application context. Can only filter on system fields.
FEED_TYPE_CALENDAR		26	Feed consumable by Calendar Views.
FEED_TYPE_BACKLOG		51	Feed consumable by Backlog Views
FEED_TYPE_EXTERNAL_DATA		150	Feed based on external data consumable by Kanban board views

Values for TS_SYSCODE column:

FEED_SYSCODE_BUILTIN_MYALL		1	Feed includes all items the user owns or secondary owns.
FEED_SYSCODE_BUILTIN_MYALLPRIMARY		2	Feed includes all items the user is the primary owner of.

Values for TS_PROJECTSPECIFICATION column:

FEED_PROJ_INCLUDESUBPROJECTS		0x01	Valid only when the feed has specific projects to search, indicates that any sub-projects of those projects will be included in the result.
FEED_PROJ_PREFERREDPROJECTS		0x02	Uses the user's preferred projects and only includes items that are in those projects. If the user has no preferred projects on an application, no results will be included for that application.

Values for TS_OWNERSPECIFICATION column:

FEED_OWN_INCLUDE_SECONDARY_OWNER		0x01	Valid only when the feed has specific users and/or groups specified, will include items if the specified users/groups currently own or secondary own the items.

TS_FEEDAGGREGATION

This table contains the runtime data for Work Center Activity Views and Calendars. These are wrappers that execute the feeds associated and return the results.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130 00028	Unique numeric id for the record.
TS_NAME	varchar(510)	10130 00028	Name of feed aggregation (same as the Activity View or Calendar).
TS_DESCRIPTION	longvarchar	10.1.4	Description of feed aggregation.
TS_OWNERID	Int	10130 00028	Foreign key to the TS_USER table indicating the userid of the owner, will be set to the author of the feed aggregation.
TS_TYPE	Int	10130 00028	Type of feed aggregation. See below for values.
TS_ACCESS	Int	10130 00028	FeedAggregation access. See below for values.
TS_TARGETTYPE	Int	10130 00028	FeedAggregation target type. See below for values.
TS_TARGETID	Int	10130 00028	When the TS_TARGETTYPE != FEEDAGG_TARGETTYPE_HOME, this is the identifier to use for the targeted application group (TS_APPLICATION_GROUPS) or application (TS_SOLUTIONS).
TS_UUID	varchar(128)	10130 00028	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	10130 00028	If not zero, a foreign key to the TS_NAMESPACES table.

Values for TS_ACCESS column:

TS_RPTACCESS_PRIVATE	1	Private report
TS_RPTACCESS_GUEST	2	Guest-level report

Values for TS_TYPE column:

FEEDAGG_TYPE_LISTING	13	Activity View
FEEDAGG_TYPE_CALENDAR	27	Calendar
FEEDAGG_TYPE_BACKLOG	52	Backlog
FEEDAGG_TYPE_KANBAN	55	Kanban

FEEDAGG_TYPE_DASHBOARD   99   Dashboard

Values for TS_TARGETTYPE column:

FEEDAGG_TARGETTYPE_HOME   1
FEEDAGG_TARGETTYPE_APPGROUP   2
FEEDAGG_TARGETTYPE_SOLUTION   3

TS_FEEDAGGREGATIONFIELD

This table contains field selections, field filter selections, and settings for the display of Activity Views.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1015000014	Unique numeric id for the record.
TS_TYPE	int	1015000014	Type of feed field: FILTER=1, FIELD=2, SETTINGS=3.
TS_FEEDAGGREGATIONID	int	1015000014	Foreign key to the TS_FEEDAGGREGATION table.
TS_TABLEID	int	1015000014	Foreign key to the TS_TABLES table, or 0 to indicate a system field for all tables in the view.
TS_FIELDID	int	1015000014	Foreign key to the TS_FIELDS table, alternatively -1 to indicate Last Transitioned, -2 to indicate Last Updated.
TS_USERID	int	1015000014	Foreign key to the TS_USERS table. When non-zero, this is a user-specific override.
TS_SECTION	int	1015000014	When type=FIELD, this is the section the field will be displayed in: 1 indicates the field is displayed when the row is collapsed, 2 indicates the field is only displayed when the row is expanded. When type=FILTER, this indicates the filter type: Global=1, APP=2.
TS_ROW	int	1015000014	When type=FIELD, this is the row number (per section). When type=SETTINGS, this is the setting ID (see below). When type=FILTER, this is the order of the filter fields.
TS_COL	int	1015000014	When type=FIELD, this is the column of the field. When type=SETTING, this is the setting value: OFF=0, ON=1.
TS_COLSPAN	int	1015000014	Number of columns this field will span.
TS_LABEL	varchar(256)	1110000004	Field label in Backlog view

Values for TS_ROW field when TYPE=SETTING:

FEEDAGGFIELD_SETTING_SHOWLABELS	1	Indicates if field labels will be displayed in the view.
FEEDAGGFIELD_SETTING_INCLUDE_TITLE	2	Indicates whether the item title will be included in the view.

FEEDAGGFIELD_SETTING_INCLUDE_DESCRIPTION 3 Indicates whether the item description will be included in the view.

TS_FEEDUSAGES

This table tracks the association of Feeds to FeedAggregations.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000028	Unique numeric id for the record.
TS_FEEDAGGREGATION	int	1013000028	Foreign key to the TS_FEEDAGGREGATION table.
TS_FEED	Int	1013000028	Foreign key to the TS_FEED table.
TS_USERID	Int	1013000028	Foreign key to the TS_USER table. A value of 0 indicates this association is true for all users of the Feed Aggregation. Public Feed Aggregations allow users to add extra feeds which only show for them. Non-zero values in this column indicate an override for a specific user to include a desired feed in the feed aggregation.

TS_FIELDORDERINGS

This table stores information about the location and sort order of fields within field sections. The table was introduced in Database Version 10. Either the TS_PROJECTID or the TS_WORKFLOWID columns will have a non-zero value, but never both. If the TS_STATEID column has a value the TS_TRANSID column will be zero and vice-versa. If both the TS_STATEID and TS_TRANSID columns are zero the field ordering record applies to the 'Default Fields' tab in the SBM SystemAdministrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_TABLEID	int	10	Foreign key to the TS_TABLES table indicating the type of entity, e.g. an issue, an incident, a contact, etc.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table to reference the workflow where the field ordering is defined.
TS_PROJECTID	int	10	Foreign key to the TS_PROJECTS table to reference the project where the field ordering is defined.
TS_STATEID	int	10	Foreign key to the TS_STATES table to reference the state where the field ordering is defined.
TS_TRANSID	int	10	Foreign key to the TS_TRANSITIONS table to reference the transition where the field ordering is defined.
TS_SECTIONID	int	10	Field section in which the fields reside. See notes below.
TS_ORDERING	longvarchar	10	Comma-delimited list of field ids, each a foreign key to the TS_FIELDS table, which indicate the order of the fields.

Values for TS_SECTIONID field:

TS_FLDSECT_DEFAULT	0	Default value.
TS_FLDSECT_STANDARD	1	Standard field section.
TS_FLDSECT_USER	2	User field section.
TS_FLDSECT_ADVANCED	3	Advanced field section.
TS_FLDSECT_MANAGER	4	Manager field section.
TS_FLDSECT_SYSTEM	5	System field section.
TS_FLDSECT_NOTUSED	6	Fields in this section are no longer part of the workflow, i.e. they are not read or written.
TS_FLDSECT_NOTES	7	Notes section.

TS_FLDSECT_CHANGEHISTORY	8	Change history section.
TS_FLDSECT_VERSIONCONTROL	9	Version control section.
TS_FLDSECT_ATTACHMENTS	10	Attachments section.
TS_FLDSECT_DELETED	11	Fields in this section are marked as deleted.
TS_FLDSECT_MAX	12	Constant used only internally.
TS_FLDSECT_STATECHANGEHISTORY	13	State change history section.
TS_FLDSECT_ITEMNOTIFICATION	14	Item notification section.
TS_FLDSECT_SUBTASKS	15	Subtasks section.
TS_FLDSECT_HIDDEN	32767	Fields in this section are part of the workflow, i.e. read and written but will not appear on the form.

TS_FIELDPRIVILEGES

This table stores the field-by-field privileges for remote administration. The table was introduced in 6.5.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	65001	Unique numeric id for the field.
TS_PROJECTID	int	65001	The project that the field privilege refers to. If this column is zero, then the privilege set is instead against the workflow recorded in TS_WORKFLOWID.
TS_WORKFLOWID	int	65001	The workflow that the field privilege refers to. If this column is zero, then the privilege set is instead against the project recorded in TS_PROJECTID.
TS_USERID	int	65001	The user to whom the field privilege applies. If this column is zero, then the privilege set is instead applied to the group recorded in TS_GROUPID.
TS_GROUPID	int	65001	The group to which the field privilege applies. If this column is zero, then the privilege set is instead applied to the user recorded in TS_USERID.
TS_FIELDID	int	65001	The field that the privilege set applies to.
TS_TABLEID	int	65001	Not used. Deprecated in version 902001002. It was the table that the field in TS_FIELDID belongs to
TS_TYPE	int	65001	The type of field privilege that this record is.
TS_MASK1	int	65001	A bit mask of the various field privileges that are granted.

Values for TS_TYPE field:

TS_FLDPRIVTYPE_ADMFLD	0x00000030	Default value.

Values for TS_MASK1 field:

TS_ADMFLDPRIV_EDITFIELD	1	Default value.

TS_FIELDS

This table contains one row for each standard or custom field defined for a table that allows custom fields. For each row in this table, there is a corresponding column in another table, e.g., TTT_ISSUES, TTS_INCIDENTS, TS_CONTACTS, that stores the actual data for the field.

As of Database Version 10, fields can be added to several tables. Adding custom fields to tables will result in adding a column to the particular table to which the field is added and a corresponding row in the TS_FIELDS table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the field.
TS_TABLEID	int	1	Used as of Database Version 10. Foreign key to the TS_TABLES table indicating the id of the table to which the field belongs.
TS_PROJECTID	int	1	Not used.
TS_NAME	varchar(64)	1	Logical name of the field as it is displayed to the end user.
TS_DBNAME	varchar(64)	1	Name of the physical database column, without the leading TS_, in the table indicated in TS_TABLEID that stores the data associated with this field.
TS_FLDTYPE	int	1	Indicates the type of field. See notes below.
TS_LEN	int	1	For varchar (string, fixed-text) fields, stores the length of the string. For text (longvarchar, memo) fields, this value is 0. For integer fields, it contains the byte size of the integer.
TS_ATTRIBUTES	int	1	Stores miscellaneous attributes for this field. See notes below.
TS_STATUS	int	1	0 IF THE FIELD IS ACTIVE. 1 IF THE FIELD IS INACTIVE; THAT IS IT HAS BEEN DELETED.
TS_PROPERTY	int	1	Stores the default property for the field. See notes below.
TS_DEFAULTINT	int	1	For integer fields, stores the default value to which the field should be set when a new record is submitted. Otherwise the value is set to 0 and should not be used.
TS_DEFAULTREAL	real	1	For floating point fields, stores the default value to which the field should be set when a new record is submitted. Otherwise the value is set to 0 and should not be used.
TS_DEFAULTCHAR	longvarchar	1	For string fields, stores the default value which the field should be set when a new record is submitted. Otherwise the value is set to an empty string and should not be used.

Column Name	Data Type	DbVer	Description
TS_ACTION	int	1	Reserved for future use. Currently set to 0.
TS_REQUIRED	int	1	0 if the field is not required by default. 1 if the field is required.
TS_SYSCODE	int	1	0 if this is a user-defined field. If non-zero, then this field is one of a set of system fields that are treated special by the system. See notes below.
TS_LABEL1	varchar(32)	1	For binary fields, indicates the value to display when the field value is set to 0.
TS_LABEL2	varchar(32)	1	For binary fields, indicates the value to display when the field value is set to 1.
TS_OPTIONS	int	10	Miscellaneous options on a given field.
TS_MASSTRANSEDIT	int	10	Whether (1) or not (0) this field can have its value changed by a mass transition.
TS_QUERYABLE	int	10	Query and search options for the field. There are three options specified in this column: is the field searchable, does it appear on the lookup form, and is it searchable on the lookup form. The lookup form options are global (they cannot be overridden in projects or workflows via property records). See notes below.
TS_DESCRIPTION	longvarchar	10	Brief description of the field.
TS_DISPLAYPREFIX	varchar(255)	500	When displaying a numeric field, this string is inserted immediately before the value, e.g., the prefix could be '$' for fields representing dollar values.
TS_DISPLAYSUFFIX	varchar(255)	500	When displaying a numeric field, this string is appended immediately after the value, e.g., the suffix could be 'inches' for fields representing that unit of measurement.
TS_MASTERID	int	501	Id of the master that drives the control in a selection field.
TS_RELATIONID	int	504	If this value is non-zero and TS_FLDTYPE is relational (a relational selection field, or a user/group field, etc), then this column is a foreign key into the TS_TABLES table indicating the table from which possible values are obtained. If TS_FLDTYPE is TS_FLDTYPE_SUBRELATIONAL, this column is the relational field that supplies the current selection value allowing for more than one relational field based on the same table.

Column Name	Data Type	DbVer	Description
TS_FIELDID	int	504	Id of the non-relational field to be displayed when TS_FLDTYYPE is equal to TS_FLDTYPE_SUBRELATIONAL. To determine the displayed value, data is indirectly acquired from two other records in TS_FIELDS: TS_RELATIONID points to a relational field in this field's table that supplies the currently selected value, TS_FIELDID points to the field in that relational set; e.g., auxiliary table whose value you want to display.
TS_LABEL3	varchar(32)	62002	For trinary fields, indicates the value to display when the field value is set to 2.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record. For fields that have a syscode in System Auxiliary tables, this is the "TableId-Syscode-DatabaseName" of the field.
TS_MULTISELECTSIZE	Int	71008	For fields that allow multiple selections, the number of visible selections to display in the list in the SBM Work Center control.
TS_SELECTIONORDER	varchar(32)	71015	The order selections will be displayed in SBM Composer when viewing/saving selection values.
TS_NAMESPACEID	Int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

Values for TS_FLDTYPE column:

TS_FLDTYPE_NUMERIC	100	Integer or floating-point field.	
TS_FLDTYPE_TEXT	101	Text field up to 255 characters.	
TS_FLDTYPE_DATETIME	103	Date/Time field.	
TS_FLDTYPE_SELECTION	104	Single selection field.	
TS_FLDTYPE_BINARY	105	Binary field.	
TS_FLDTYPE_STATE	106	System-defined state field.	
TS_FLDTYPE_USER	107	User selection field.	
TS_FLDTYPE_PROJECT	108	System-defined project field.	
TS_FLDTYPE_SUMMATION	109	Calculated summation field.	
TS_FLDTYPE_MULTIPLE_SELECTION	110	Multi-selection selection field.	DbVer 10
TS_FLDTYPE_CONTACT	111	Contact selection field.	DbVer 10
TS_FLDTYPE_COMPANY	112	Obsolete.	DbVer 10

TS_FLDTYPE_INCIDENT	113	Incident selection field.	DbVer 10
TS_FLDTYPE_PRODUCT	114	Obsolete.	DbVer 10
TS_FLDTYPE_SERVICEAGREEMENT	115	Obsolete.	DbVer 10
TS_FLDTYPE_FOLDER	116	Folder link selection field.	DbVer 10
TS_FLDTYPE_KEYWORDLIST	117	Obsolete.	DbVer 10
TS_FLDTYPE_PRODUCTLIST	118	Obsolete.	DbVer 10
TS_FLDTYPE_PROBLEM	119	Obsolete.	DbVer 10
TS_FLDTYPE_RESOLUTION	120	Obsolete.	DbVer 10
TS_FLDTYPE_MERCHANDISE	121	Obsolete.	DbVer 10
TS_FLDTYPE_RELATIONAL	122	Single selection relational field.	DbVer 10
TS_FLDTYPE_SUBRELATIONAL	123	Sub-relational selection field.	DbVer 10
TS_FLDTYPE_SYSTEM	124	System field.	DbVer 10
TS_FLDTYPE_MULTIPLE_RELATIONAL	125	Multi-selection relational field.	DbVer 10
TS_FLDTYPE_MULTIPLE_USER	126	Multi-selection field of users.	DbVer 57001
TS_FLDTYPE_MULTIPLE_GROUP	127	Multi-selection field of groups.	DbVer 57001
TS_FLDTYPE_PAUSE_STATUS	135	Pause Status field.	1011040102

Values for TS_ATTRIBUTE column:

Value is set to 0 unless noted below.

For TS_FLDTYPE_TEXT:

TS_FLDATTRIB_MEMO	0
TS_FLDATTRIB_FIXEDTEXT	1
TS_FLDATTRIB_JOURNAL	2
TS_FLDATTRIB_JOURNAL_RO	3

For TS_FLDTYPE_NUMERIC:

TS_FLDATTRIB_INT	0
TS_FLDATTRIB_FLOAT	1
TS_FLDATTRIB_FIXED_PRECISION	2

For TS_FLDTYPE_DATETIME:

If the field is date only or date and time, then the value is stored in a database specific date/time column. If it is a time of day field, the floating point value represents the number of seconds since 12:00:00am. If it is an elapsed time field, the floating point value represents the elapsed time, in seconds.

TS_FLDATTRIB_DT_DATEONLY	0	Date only field.
TS_FLDATTRIB_DT_DATETIME	1	Combined date and time of day.
TS_FLDATTRIB_DT_TIMEOFDAY	2	Time of day only.
TS_FLDATTRIB_DT_ELAPSEDTIME	3	Elapsed time.

For TS_FLDTYPE_BINARY:

Values control the SBM Work Center display of the binary field to the user.

TS_FLDATTRIB_BIN_LISTBOX	0	
TS_FLDATTRIB_BIN_RADIOBUTTON	1	
TS_FLDATTRIB_BIN_CHECKBOX	2	
TS_FLDATTRIB_BIN_TRINARY	0x10	Indicates that this binary field is really trinary.

Values for TS_PROPERTY column:

TS_FLDPROP_NONE	0x0	
TS_FLDPROP_NONEDITABLE	0x1	Field will not be editable; i.e. read-only.
TS_FLDPROP_CALC_BEFORE	0x2	Calculation occurs before the transition form appears.
TS_FLDPROP_CALC_AFTER	0x4	Calculation occurs after the transition form is submitted.
TS_FLDPROP_CALC_ADD_CUR	0x8	Add the calculation to the current value.
TS_FLDPROP_CALC_EMPTY_INVALID	0x00	Empty value results in the field being invalid.
TS_FLDPROP_CALC_EMPTY_SKIP_CALC	0x10	If empty, skip the calculation.
TS_FLDPROP_CALC_EMPTY_TREAT_ZERO	0x20	If empty, use 0 for the field value and complete the calculation.
TS_FLDPROP_CALC_EMPTY_MASK	0x30	Mask for either/both above bits.
TS_FLDPROP_CHECKBOXES	0x100	If field can have multiple values, display the choices as checkboxes.

Values for TS_SYSCODE column:

System fields are fields that have special, application-defined semantics. They are identified by a non-zero TS_SYSCODE value.

System fields for both Issues and Incidents:

TS_SYSFLD_ID	1	Reserved for future use.
TS_SYSFLD_PARENTID	2	Reserved for future use.
TS_SYSFLD_PROJECTID	3	Project field.
TS_SYSFLD_TITLE	4	Title field.
TS_SYSFLD_DESC	5	Description field.
TS_SYSFLD_STATE	6	State field.
TS_SYSFLD_DT_CREATE	7	Submit date field.
TS_SYSFLD_DT_LASTMODIFIED	8	Last modified date field.
TS_SYSFLD_DT_LASTSTATECHANGE	9	Last state change date field.
TS_SYSFLD_DT_CLOSE	10	Close date field.
TS_SYSFLD_DT_REOPEN	11	Reserved for future use.
TS_SYSFLD_USER_OWNER	12	Owner field

TS_SYSFLD_USER_SUBMITTER	13	Submitter field
TS_SYSFLD_USER_LASTMODIFIER	14	Last Modifier. User that last updated the item.
TS_SYSFLD_USER_LASTSTATECHANGER	15	Last state changer. User that changed the state of the item.
TS_SYSFLD_TEXT_DISPLAYID	16	Issue/incident id field displayed to the user.
TS_SYSFLD_SEL_CASETYPE	17	Issue/incident type field.
TS_SYSFLD_BIN_ACTIVEINACTIVE	18	Active/inactive field.
TS_SYSFLD_FOLDERID	19	Folder field.
TS_SYSFLD_LASTINCIDENT	20	Last referenced incident ID
TS_SYSFLD_MULTIUSER_SECONDARYOWNER	21	Secondary owner field.

Additional system fields for Incidents:

TS_SYSFLD_COMPANY	100	Associated company.
TS_SYSFLD_CONTACT	101	Associated contact.
TS_SYSFLD_MERCHANDISE	102	Associated merchandise.
TS_SYSFLD_SERVICEAGREEMENT	103	Associated service agreement.
TS_SYSFLD_PROBLEM	104	Knowledge Base problem related to this incident.
TS_SYSFLD_RESOLUTION	105	Knowledge Base resolution related to this incident.
TS_SYSFLD_RESOLUTIONTITLE	106	Brief description of resolution for this incident.
TS_SYSFLD_RESOLUTIONDESC	107	Full description of resolution for this incident.

System fields for Companies:

TS_SYSFLD_TITLE	4	Company name.
TS_SYSFLD_LASTINCIDENT	20	Last incident field.
TS_SYSFLD_COMPANY_NUMBER	300	Company number field.
TS_SYSFLD_COMPANY_PRICONTACT	301	Company primary contact field.
TS_SYSFLD_COMPANY_SECCONTACT	302	Company secondary contact field.
TS_SYSFLD_COMPANY_ADDRESS1	303	Company first address line.
TS_SYSFLD_COMPANY_ADDRESS2	304	Company second address line.
TS_SYSFLD_COMPANY_CITY	305	Company city.
TS_SYSFLD_COMPANY_STATE	306	Company state.
TS_SYSFLD_COMPANY_COUNTRY	307	Company country.
TS_SYSFLD_COMPANY_ZIPCODE	308	Company zip code.
TS_SYSFLD_COMPANY_FAXNUMBER	309	Company fax telephone number.
TS_SYSFLD_COMPANY_PHONENUMBER	310	Company telephone number.

System fields for Contacts:

TS_SYSFLD_TITLE	4	Contact name.
TS_SYSFLD_LASTINCIDENT	20	Last incident field.
TS_SYSFLD_CONTACT_COMPID	200	Company field.
TS_SYSFLD_CONTACT_FNAME	201	First name.
TS_SYSFLD_CONTACT_MNAME	202	Middle name.
TS_SYSFLD_CONTACT_LNAME	203	Obsolete, use TS_SYSFLD_TITLE.
TS_SYSFLD_CONTACT_USERID	204	User.
TS_SYSFLD_CONTACT_PHONE	205	Phone number.
TS_SYSFLD_CONTACT_EMAIL	206	Email field.
TS_SYSFLD_CONTACT_ADDRESS1	207	Contact first address line.
TS_SYSFLD_CONTACT_ADDRESS2	208	Contact second address line.
TS_SYSFLD_CONTACT_CITY	209	Contact city.
TS_SYSFLD_CONTACT_STATE	210	Contact state.
TS_SYSFLD_CONTACT_COUNTRY	211	Contact country.
TS_SYSFLD_CONTACT_ZIPCODE	212	Contact zip code.
TS_SYSFLD_CONTACT_FAXNUMBER	213	Contact fax telephone number.
TS_SYSFLD_CONTACT_MOBILENUMBER	214	Contact mobile telephone number.

System fields for Problems/Resolutions:

TS_SYSFLD_TITLE	4	Problem title.
TS_SYSFLD_DESC	5	Description field.
TS_SYSFLD_DT_LASTMODIFIED	8	Last modified date field.
TS_SYSFLD_FOLDERID	19	Folder field.
TS_SYSFLD_PROBLEM	104	Knowledge Base problem related to this resolution.
TS_SYSFLD_VISIBILITY	500	Visibility field.
TS_SYSFLD_PRODUCTS	501	Products affected field.

System fields for Service Agreements:

TS_SYSFLD_TITLE	4	Service agreement name field.
TS_SYSFLD_CONTACT	101	Associated company.
TS_SYSFLD_DT_EXPIRATION	400	Expiration date.

System fields for user-created primary tables:

TS_SYSFLD_PROJECTID (required)	3	Project field.
TS_SYSFLD_TITLE (required)	4	Title field.
TS_SYSFLD_DESC (optional)	5	Description field.
TS_SYSFLD_STATE (required)	6	State field.
TS_SYSFLD_DT_CREATE (optional)	7	Submit date field.

TS_SYSFLD_DT_LASTMODIFIED (req.)	8	Last modified date field.
TS_SYSFLD_DT_LASTSTATECHANGE (opt)	9	Last state change date field.
TS_SYSFLD_DT_CLOSE (optional)	10	Close date field.
TS_SYSFLD_USER_OWNER (required)	12	Owner field
TS_SYSFLD_USER_SUBMITTER (required)	13	Submitter field
TS_SYSFLD_USER_LASTMODIFIER (opt.)	14	Last Modifier. User that last updated the item.
TS_SYSFLD_USER_LASTSTATECHANGER (optional)	15	Last state changer. User that changed the state of the item.
TS_SYSFLD_TEXT_DISPLAYID (required)	16	Item id field displayed to the user.
TS_SYSFLD_SEL_CASETYPE (required)	17	Item type field.
TS_SYSFLD_BIN_ACTIVEINACTIVE (req.)	18	Active/inactive field.
TS_SYSFLD_MULTIUSER_SECONDARYOWNER (optional)	21	Secondary Owner field.
TS_SYSFLD_RESOLUTIONTITLE (optional)	106	Brief description of resolution for this item.
TS_SYSFLD_RESOLUTIONDESC (optional)	107	Full description of resolution for this item.
TS_SYSFLD_PAUSE_STATUS (optional)	30	Pause Status field.

System fields for user-created auxiliary tables:

TS_SYSFLD_TITLE (required)	4	Title field.
TS_SYSFLD_DESC (optional)	5	Description field.
TS_SYSFLD_DT_CREATE (optional)	7	Submit date field.
TS_SYSFLD_DT_LASTMODIFIED (opt.)	8	Last modified date field.
TS_SYSFLD_USER_SUBMITTER (optional)	13	Submitter field
TS_SYSFLD_USER_LASTMODIFIER (opt.)	14	Last Modifier. User that last updated the item.
TS_SYSFLD_TEXT_DISPLAYID (optional)	16	Item id field displayed to the user.
TS_SYSFLD_BIN_ACTIVEINACTIVE (opt.)	18	Active/inactive field.

System fields for SharePoint auxiliary tables:

TS_SYSFLD_URL (optional)	800	SharePoint Url field.
TS_SYSFLD_DOC_LIB (optional)	801	SharePoint Document Library field.
TS_SYSFLD_PARENT_SITENAME (optional)	802	SharePoint Parent site name field.
TS_SYSFLD_URL_ADDUSER (optional)	803	SharePoint AddUser Url field.
TS_SYSFLD_SHAREPOINT_USER (optional)	804	SBM proxy SharePoint user id field.
TS_SYSFLD_SHAREPOINT_PASS (optional)	805	SBM proxy SharePoint password field.

Values for TS_OPTIONS column:

The value is set to 0 unless otherwise noted below.

TS_FLDOPTION_SELECT_DEFAULT	0x0000	Default field selection options.

TS_FLDOPTION_SELECT_MULTIPLE	0x0001	Allow multiple selections if set. Otherwise allow only one selection.
TS_FLDOPTION_CHECKBOXES	0x0002	Deprecated. Replaced by overridable property: TS_FLDPROP_CHECKBOXES.
TS_FLDOPTION_FINDFIELD	0x0004	Allow field to be searched during a find.
TS_FLDOPTION_PREFORMATTED_HTML	0x0008	Used to preserve text format on a cut and paste.
TS_FLDOPTION_STOPWATCH	0x0010	Elapsed time field that is to be viewed as a stopwatch.
TS_FLDOPTION_PRECISION_MASK	0x0F00	For fixed precision numeric fields only, i.e. fields of type TS_FLDTYPE_NUMERIC with attribute TS_FLDATTRIB_FIXED_PRECISION. Bits 8 - 11 of the TS_OPTIONS column specify the number of digits to display after the decimal point.
TS_FLDOPTION_PASSWORD	0x0020	For fixed length text fields only. Field will display in SBM Work Center as a password field.
TS_FLDOPTION_NODELETE	0x0040	Can only be set when the field is initially created, and if set, the field cannot subsequently be deleted, e.g. system fields are not deletable.
TS_FLDOPTION_ NOSECONDS	0x0080	Don't show seconds in Elapsed Time fields..
TS_FLDOPTION_GROUPING	0x1000	Shows thousands separators, e.g., 1,000 vs. 1000.
TS_FLDOPTION_BACKFILL	0x2000	Temporary flag indicating the new column should be set to default value upon create. This corresponds to the checkbox 'Backfill to existing items' in the SBM System Administrator Options tab, while adding a field.
TS_FLDOPTION_NODAYS	0x4000	Convert elapsed time to include number of days. Flag corresponds to the check box 'Calculate Days' in the SBM System Administrator Options tab, while adding/editing a date time field. If the checkbox is checked in the options tab, this bit will be cleared.
TS_FLDOPTION_SORT_NEWEST_FIRST	0x8000	Used for journal fields only. Entries will be sorted starting with the newest entry.
TS_FLDOPTION_RENDER_HTML	0x10000	Used for memo fields only. When this flag is set, HTML tags in the field will be passed to SBM Work Center for rendering. Without this flag, HTML tags in the field will be escaped so that the tags will be displayed as plain text.

TS_FLDOPTION_ALLOW_HUGE	0x20000	Used for memo and journal fields in an Oracle database only. When this flag is set, the field will be created as a CLOB column. Without this flag, the field will be created as a VARCHAR column. The flag is not used in SQL Server or Access databases, where all memo and journal fields are created as LONGVARCHAR columns.
TS_FLDOPTION_SPANS_ROW	0x40000	Applicable to all fields, field is displayed on a row by itself.
TS_FLDOPTION_GROUPS_NOT_UNROLLED	0x80000	Indicates the display option for Multi-User or Multi-Group fields. If this bit is set, then groups are left intact in Multi-User and Multi-Group fields. If this bit is not set, then groups are unrolled into a list of users when the field is displayed in the browser.

Values for TS_QUERYABLE column:

TS_FLDQUERY_NONE	0x00	
TS_FLDQUERY_ALLOWQUERY	0x01	Replaces TS_QUERYMASK, allows the field to be on a lookup form.
TS_FLDQUERY_SHOWGO	0x02	Replaces TS_SHOWGOMASK, allows a field to be searchable on a transition/update form.
TS_LOOKUP_SEARCHABLE	0x04	Allows a field to be searchable on the lookup form.
TS_LOOKUP_WILDCARDS	0x08	Allows a text field to be searched with automatic wildcards.
TS_FLDQUERY_REPORT_DISALLOW	0x10	Disallows a field to display in field lists within reports.
TS_FLDQUERY_ADVANCEDSEARCH	0x20	Allows the field on the advanced search.
TS_FLDQUERY_ALLOWINACTIVE	0x40	Allows inactive relations field selections in transition forms and zoom search.
TS_FLDQUERY_GLOBAL_BITMASK	0x7D	A mask for all the global bits.

TS_FIELD_MAP

This table contains one row for each field that the bridge exchanges. As of database version 63002, this table will also be used by the Import Wizard to store field maps established during imports.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	57000	Unique numeric id for the field map record.
TS_BRIDGEID	int	57000	Foreign key to the TS_BRIDGES table.
TS_FLDID	int	57000	Foreign key to the TS_FIELDS table.
TS_REFERENCEID	int	57003	Cross reference information.
TS_EXTERNALFIELD	varchar(255)	57000	External field information.
TS_MAPTYPE	varchar(1)	57000	Type of this field mapping. See notes below.
TS_PROPERTIES	int	57004	Field properties.
TS_IMPORTSETID	int	63002	Foreign key into the TS_IMPORTOPTIONSETS table Unused by bridges.
TS_CONSTANTVALUE	int	63002	Unused, for future use.
TS_CONSTANTSTR	varchar(255)	63006	Fields that can have a constant value assigned to them during a data import will have the constant value specified here. Unused by bridges.

Values for TS_MAPTYPE column:

TS_FLDMAP_DEFAULT	'D'	Default field mapping. Users are not allowed to change/delete this record. Item Bridge exports field only if the value has changed.
TS_FLDMAP_OPTIONAL	'O'	Optional field mapping. Item Bridge exports field only if the value has changed.
TS_FLDMAP_ALWAYS_SEND	'A'	Optional field mapping. Item Bridge always exports the field value.

Values for TS_ PROPERTIES column:

TS_FLDMAP_PROP_KEY	0x01	The relational field will be used to find matching records in the database.

TS_FILEOBJS

This table was created to support the File/URL SBM field types. The records contained within this table represent the individual File/URLs for each primary/auxillary record per field. These field types do not create database columns and rely on the data within this table to represent their values.   These records are only created when transitions are completed.   The in-transition add/update/delete actions are stored within the TS_FILEOBJS_TEMP table, see details below.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1120000016	Unique numeric id for the record.
TS_UUID	varchar(64)	1120000016	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	1120000016	If not zero, a foreign key to the TS_NAMESPACES table.
TS_RECORDID	int	1120000016	Foreign key to the TS_ID column of the primary/auxillary table.
TS_TABLEID	int	1120000016	Foreign key to the TS_TABLES table.
TS_FIELDID	int	1120000016	Foreign key to the TS_FIELDS table.
TS_NAME	varchar(255)	1120000016	User defined UI label for File/URL.
TS_CONTENTS	varchar(max)	1120000016	Unique name for a File or actual URL for URLs.
TS_FILENAME	varchar(255)	1120000016	Original File name. Not used for URLs.
TS_FILESIZE	int	1120000016	Size of File(bytes). Not used for URLs.
TS_RESOURCEID	bigint	1120000016	Foreign key to the TS_RESOURCES table. Only used when Files are stored within the database. Not used for URLs.
TS_BLOBID	bigint	1120000016	Foreign key to the TS_BLOBS table. Only used when Files are stored within the database. Not used for URLs.
TS_ADDER	int	1120000016	Foreign key to the TS_USERS table. User who added this File/URL.
TS_ADDDATE	datetime	1120000016	Original date/time File/URL was added.
TS_ADDTRANSITION	int	1120000016	Foreign key to the TS_TRANSITIONS table. Transition File/URL was added.
TS_LASTUPDATER	int	1120000016	Foreign key to the TS_USERS table. User who last updated this File/URL.
TS_LASTUPDATEDATE	datetime	1120000016	Last date/time File/URL was updated.
TS_LASTUPDATETRANSITION	int	1120000016	Foreign key to the TS_TRANSITIONS table. Transition File/URL was updated.

TS_FILEOBJS_CHANGE

This table was created to support the File/URL SBM field types. The records contained within this table represent the individual File/URLs for each primary/auxillary record per field change history values. These new field types contain too much individual meta data to be stored properly within either the TS_CHANGES or TS_CHANGETEXT tables. These field types can only be modified within a transition. All records are bound to a single TS_CHANGES record based on the TS_CHANGEID value. This grouping of records represents a snapshot of all meta data for this specific field, both changed and not changed, at the moment one of these fields is changed. Changes are also recorded if a value is added at item submission.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1120000016	Unique numeric id for the record.
TS_FILEOBJID	int	1120000016	Foreign key to the TS_FILEOBJS table.
TS_CHANGEID	bigint	1120000016	Foreign key to the TS_CHANGES table.
TS_TYPE	tinyint	1120000016	Add(1), Update(2), Delete(3), *Unchanged(4)
			*Only records data against PRIOR columns, but one can assume same values for NEW columns.
TS_ADDDATE	datetime	1120000016	Original date/time File/URL was added.
TS_PRIORNAME	varchar(255)	1120000016	User defined UI label for File/URL.
TS_PRIORCONTENTS	varchar(max)	1120000016	Unique name for a File or actual URL for URLs.
TS_PRIORFILENAME	varchar(255)	1120000016	Original File name. Not used for URLs.
TS_PRIORFILESIZE	int	1120000016	Size of File(bytes). Not used for URLs.
TS_NEWNAME	varchar(255)	1120000016	User defined UI label for File/URL.
TS_NEWCONTENTS	varchar(max)	1120000016	Unique name for a File or actual URL for URLs.
TS_NEWFILENAME	varchar(255)	1120000016	Original File name. Not used for URLs.
TS_NEWFILESIZE	int	1120000016	Size of File(bytes). Not used for URLs.

TS_FILEOBJS_TEMP

This table was created to support the File/URL SBM field types. The records contained within this table represent the individual File/URLs for each primary/auxillary record per field in transition changes. This is purely a temporary table and should not contain permanent File/URL values, only those in transition. At transition commit, the recorded actions are committed to the TS_FILEOBJS table, change history is recorded, and these records are deleted. If the transition is canceled, these records and any associated Files are deleted.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1120000016	Unique numeric id for the record.
TS_UUID	int	1120000016	The Universally Unique Identifier (UUID) that applies to this record.
TS_RECORDID	int	1120000016	Foreign key to the TS_ID column of the primary/auxillary table.
TS_TABLEID	int	1120000016	Foreign key to the TS_TABLES table.
TS_FIELDID	int	1120000016	Foreign key to the TS_FIELDS table.
TS_ACTION	tinyint	1120000016	Determines what action to take at transition commit time: Add(1), Update(2), Delete(3).
TS_FILEOBJID	int	1120000016	Foreign key to the TS_FILE_OBJS table.
TS_TIMESTAMP	bigint	1120000016	GMT Time from Jan 1, 1970 in milliseconds the time the temp record was created.
TS_RECORDLOCKID	bigint	1120000016	Foreign key to the TS_RECORDLOCKS table.
TS_TRANSITIONID	int	1120000016	Foreign key to the TS_TRANSITIONS table.
TS_USERID	int	1120000016	Foreign key to the TS_USERS table.
TS_CLIENTIPADDR	varchar(65)	1120000016	IP Address of current user. Used to help identify which temp records need to be committed when the transition is completed.
TS_NAME	varchar(255)	1120000016	User defined UI label for File/URL.
TS_CONTENTS	varchar(max)	1120000016	Unique name for a File or actual URL for URLs.
TS_FILENAME	varchar(255)	1120000016	Original File name. Not used for URLs.
TS_FILESIZE	int	1120000016	Size of File(bytes). Not used for URLs.
TS_RESOURCEID	bigint	1120000016	Foreign key to the TS_RESOURCES table. Only used when Files are stored within the database. Not used for URLs.
TS_BLOBID	bigint	1120000016	Foreign key to the TS_BLOBS table. Only used when Files are stored within the database. Not used for URLs.

TS_FOLDERITEMS

This table stores one row for each item in a folder and was introduced in Database Version 7. This table forms a many-to-many relationship between TS_FOLDERS and the associated item's table.

As of Version 4.0, folders also contain incidents and Knowledge Base problems in addition to issues. The table structure now actually supports adding folder links for any items in any table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	7	Unique numeric id for the record.
TS_FOLDERID	int	7	Foreign key to the TS_FOLDERS table indicating the id of the folder to which this item belongs.
TS_TABLEID	int	7	Foreign key to the TS_TABLES table. As of TeamTrack 5.0, reports plus any user-data table items are allowed in folders. As of TeamTrack 5.51, URL's from the TS_URLSTORE table are allowed in folders.
TS_RECID	int	7	Id of the item, e.g., if this is a report item, the TS_TABLEID column is set to TS_TBLID_REPORTS and this column contains the id from the TS_REPORTS table of the corresponding report.

TS_FOLDERS

This table contains one row for each folder. There are private folders associated with an individual user. The administrator can also define public folders. Folders provide a very convenient organization method for storing related items together. The table was introduced in Database Version 7.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	7	Unique numeric id for the folder.
TS_PARENTID	int	7	Folder id of the parent folder. 0 if this is a top-level folder.
TS_NAME	varchar(64)	7	Name of the folder.
TS_PROJECTID	int	7	Reserved for future use. Currently set to 0. Folders are currently not associated with individual projects. Future versions may allow folders to be defined on a per project basis.
TS_TYPE	int	7	Type of folder. Set to 0 to indicate a folder with no special consideration. For 4.0, one special consideration was added: allowing anonymous access to the folder. See notes below.
TS_SYSCODE	int	7	0 if this is a non-system folder. If non-zero, then this folder is one of a set of system folders that are treated special by the system and cannot be deleted. See notes below.
TS_ATTRIBUTES	int	7	If set to 1, new items can be added to the folder. If 0, then the folder can only have sub-folders. However, if changed from 1 to 0, any items already in the folder, remain.
TS_OWNER	int	7	0 if this is a public folder. If non-zero, this folder is a private folder, and this column refers to the user id of the user to which this folder belongs.
TS_ARRANGEBY	int	7	Reserved for future use. Intended to store the field id used to sort the folder items. Currently set to 0.
TS_REPORTID	int	7	Reserved for future use. Intended to have a special type of folder associated with a listing report. When the folder is opened, the report is executed and the results are displayed underneath the folder. This column would be used to store the id of the associated report.

Column Name	Data Type	DbVer	Description
TS_TABLEMASK	int	7	Bit mask used to indicate which types of items can be placed in the folder. Version 3.0 supported two types of folders: issues and reports. Version 4.0 supports folders for incidents and problems in addition to issues and reports. A folder can contain only record types specified by this mask. See notes below.
TS_SEQUENCE	int	9	Represents the order of the folder within its siblings; i.e., under the same parent.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	Int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

Values for TS_TYPE column:

FOLDERTYPE_NONE	0x0000	No special considerations.
FOLDERTYPE_ANONYMOUS	0x0001	Allow anonymous access to folder.

Values for TS_SYSCODE column:

SYSFOLDER_INTRAY	1	'In Tray' folder, one per user.
SYSFOLDER_SUBMITTED	2	'Submitted Items' folder, one per user.
SYSFOLDER_TRANSITIONED	3	'Transitioned Items' folder, one per user.
SYSFOLDER_UPDATED	4	'Updated Items' folder, one per user.
SYSFOLDER_REPORTS	5	'Public Reports' folder, one per database.
SYSFOLDER_ROOT	6	Root Public folder, one per database.
SYSFOLDER_PROBLEMS	7	Root Knowledge Base folder, one per database.
SYSFOLDER_IDE	8	'IDE' folder, one per user.

TS_FOLDERSHARES

This table contains one row for each folder share record in the database that defines permission levels for each folder.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1130000009	Unique numeric id for the folder share record.
TS_FOLDERID	int	1130000009	Foreign key to the TS_FOLDERS table identifying the folder for which this share is defined.
TS_PERMISSION	int	1130000009	Permission level for the folder. See available values below.
TS_TARGETTYPE	int	1130000009	Type of target, whom the folder is shared with.
TS_TARGETID	Int	1130000009	Foreign key to table TS_USERS, TS_GROUPS or RSM_TEAM, depending on TS_TARGETTYPE. See note below.

Values for TS_TARGETTYPE column:

FOLDER_SHARE_TARGET_TYPE_NONE	0	No special considerations.
FOLDER_SHARE_TARGET_TYPE_USER	1	Referencing SBM User (TS_USERS).
FOLDER_SHARE_TARGET_TYPE_GROUP	2	Referencing SBM Group (TS_GROUPS).
FOLDER_SHARE_TARGET_TYPE_TEAM	3	Referencing SBM Team (RSM_TEAM).

Values for TS_PERMISSION column:

FOLDER_SHARE_NONE	0	Not shared with the target.
FOLDER_SHARE_VIEWER	1	Viewer – allowed viewing the folder and its items.
FOLDER_SHARE_CONTRIBUTOR	2	Contributor – same as Viewer, and allowed adding new items to the folder.
FOLDER_SHARE_COLLABORATOR	3	Collaborator – same as Contributor, and allowed removing items from the folder.
FOLDER_SHARE_COOWNER	4	Co-owner – allowed performing all available operations on the folder:

- Edit/delete folder
- Add sub-folders
- Add/delete items
- Share/un-share folder

TS_FOLLOWERNOTIFICATIONS

This table contains one row for each follower notification. User is subscribed to these notifications when he follows an SBM item. Items are created using the SBM Web Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	101201 0110	Unique numeric id for the follower notification.
TS_WORKFLOWID	int	101201 0110	Foreign key to the TS_WORKFLOWS table to reference the workflow for which the follower notification is defined.
TS_NOTIFICATIONID	int	101201 0110	Foreign key to the TS_NOTIFICATIONS table indicating the id of the notification.
TS_CHANNELS	varchar(255)	101201 0110	Not used.

TS_FORMS

This table stores one row for each form. The HTML content of the form is stored as a BLOB in the TS_BLOBS table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71006	Unique numeric identifier for the record.
TS_UUID	varchar(64)	71006	The Universally Unique Identifier (UUID) that applies to this record.
TS_TABLEID	int	71006	The table the form is designed for.
TS_NAME	varchar(64)	71006	The name of the form.
TS_DESCRIPTION	longvarchar	71006	Textual description of the form.
TS_TYPE	int	71007	The type of the form (ie. View, Edit or Both). See below.
TS_BLOBID	int	71006	Foreign key into TS_BLOBS to access the HTML content of the form.
TS_LAYOUTBLOBID	int	71009	Foreign key into TS_BLOBS to access the XML description of the form layout (form<guid>.xml). This information is used by Designer when rendering workflows.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_TARGETTABLEID	int	100000 1404	The table id for a form designed in one app but designed for another table.
TS_GENERATIONSOURCEBLOB ID	int	101500 0012	Foreign key into TS_BLOBS to access processed XML description of the form (form<guid>.src.xml). May be used in the future to upgrade older forms without redeployment.
TS_LEGACYFORM	int	110000 0017	"Legacy Mode" checkbox in Composer, used to include/omit older form resources at runtime. Backfilled to 1 for all forms that predate 11.1 Modern Forms.

Values for TS_TYPE column:

TS_FORMTYPE_NONE	0	No special considerations.
TS_FORMTYPE_VIEW	1	Form used in State for viewing items.
TS_FORMTYPE_EDIT	2	Form used in Transitions for editing items.
TS_FORMTYPE_BOTH	3	Form can be used in either State or Transitions to view or edit items.

TS_FORMTYPE_PRINT   4   Form can be used in State for printing items

TS_FORMSTRINGS

This table is used to keep track of what strings are used on which custom forms.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71010	Unique numeric id for the record.
TS_FORMID	int	71010	Foreign key to the TS_FORMS table indicating the form the string is associated with.
TS_STRINGID	int	71010	Foreign key to the TS_STRINGIDENTIFERS table indicating the internal identifier of this string.

TS_FORMUSAGES

This table is used to keep track of the form to be used for tables, workflows, projects, states and transitions.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71006	Unique numeric id for the record.
TS_TABLEID	int	71006	The table the form is designed for.
TS_WORKFLOWID	int	71006	The identifier of the workflow where the form is to be used. This value will be zero if the form is used for a project.
TS_PROJECTID	int	71006	The identifier of the project where the form is to be used. This value will be zero if the form is used for a workflow.
TS_STATEID	int	71006	The identifier of the state where the form is to be used. This value will be zero if the form is used as a default or for a transition.
TS_TRANSID	int	71006	The identifier of the transition where the form is to be used. This value will be zero if the form is used as a default or for a state.
TS_ROLEID	int	71006	The identifier of the role that is required to use this form. If this value is zero, then any user will be able to access this form.
TS_PREFERRED	int	71006	Numeric value that may be used by Designer to indicate that this is the preferred form in a given context. A value of zero means this is not a preferred form.
TS_VIEWFORMID	int	71006	The identifier for the View form in the TS_FORMS table.
TS_EDITFORMID	int	71006	The identifier for the Edit form in the TS_FORMS table.
TS_PRINTFORMID	int	101101 0101	The identifier for the Print form in the TS_FORMS table
TS_MOBILEOPTION	Small int	114000 0023	Numeric value to be used by the system update and delete transitions to override the inhernt mobile option.

TS_FORMUSERPREF

This table will store a user's preferences regarding form usage.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71006	Unique numeric id for the record.
TS_USERID	int	71006	The user whose form preference is specified.
TS_TABLEID	int	71006	The table where the form is used.
TS_PROJECTID	int	71006	The project where the form is used. This value will be zero for auxiliary tables.
TS_STATEID	int	71006	The state where the form is to be used. This value will be zero if the form is to be used for a transition.
TS_TRANSID	int	71006	The transition where the form is to be used. This value will be zero if the form is to be used for a state.
TS_FORMID	int	71006	The identifier for the form in the TS_FORMS table.

TS_GROUPENABLER

This table stores the *groupid* and the license *prefix* to associate a particular group with an enabler license that has seats associated with it.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	527	Unique numeric id for the record.
TS_GROUPID	int	527	Foreign key to the TS_GROUPS table indicating the id of the group associated with an enabler license.
TS_PREFIX	varchar(32)	527	Prefix of an integration enabler license.

TS_GROUPS

This table contains one row for each user group in the system. Groups are created using the SBM System Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the group.
TS_NAME	varchar(64)	1	Name of the group.
TS_STATUS	int	1	0 if the group is active. 1 if it is inactive; that is, it has been deleted.
TS_ACCESSTYPE	int	1	Indicates the product access of the group. See notes below.
TS_TYPE	int	10	Denotes special groups. Values 0 for regular groups, 2 for TRACKER_ALL, 3 for TRACKER_ADMIN.
TS_MEMO	longvarchar	57001	Allows a note to be included about the group. Displayed on the Groups Tab in the SBM System Administrator.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_PREDEFINED	int	1000001114	1 if the group is predefined and can not be modified. 0 if not predefined.
TS_LDAPSTATUS	int	1120000009	If group was imported or updated from LDAP (1), otherwise (0)

Values for TS_ACCESSTYPE column:

Both users and groups are assigned access that corresponds to the license access types: External, User and Administrator.

Groups allow a convenient way of assigning a set of privileges to a group of users. A user cannot be given membership to a group that has higher access to products than the user's access. For instance, External access users can only belong to External access groups. While User access users can belong to User or External access groups.

Administrator access allows control of actions that can be performed during remote administration. In SBM Work Center, Administrator access is the same as User access.

User access allows a user to be assigned a complete set of product privileges. As of TeamTrack version 5.0, there is also External access for any product. The privileges set available to this access type is extremely narrow in scope and is generally intended for users outside the using organization.

Values for TS_TYPE column:

TS_TYPE column was added in Database Version 10 to support the Incident Management solution. Previously used to determine the Automatic External group. Currently, column is not in use and is reserved

for future expansion. Upgrade code moves its prior info to the TS_SYSTEMSETTINGS table under the name 'AutoExternalGroupId'.

TS_GROUPPREFERENCES

This table stores preferences for groups in the database. Group preferences are defined using the SBM System Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10150000	A unique numeric ID for the record.
TS_GROUPID	int	10150000	The id of the group to which this record applies.
TS_NOTESMASK	int	10150000	Preference for displaying notes. See notes below.
TS_NUMNOTES	int	10150000	Preference for maximum number of notes to display for each issue.
TS_CHGMASK	int	10150000	Preference for displaying Change History information. See notes below.
TS_NUMCHGS	int	10150000	Preference for maximum number of Change History records to display for each issue.
TS_FILEMASK	int	10150000	Misnomer. Number of items to be displayed on a page at a time.
TS_NUMFILES	int	10150000	Deprecated misnomer. This column not referenced beginning with version 6.1. Used to be the user's 'Quick Link.' Functionality is replaced by the TS_USERQUICKLINKS table.
TS_BROWSERMASK	int	10150000	Various preferences related to SBM Work Center. See notes below.
TS_HOMEPAGERPT	int	10150000	Foreign key to the TS_REPORTS table to reference the report that is to be used as the user's homepage.
TS_DATEPREFERENCE	int	10150000	Specifies a user's regional settings for dates. See notes below.
TS_TIMEPREFERENCE	int	10150000	Contains a user's regional settings for time. See notes below.
TS_STATECHANGEHISTORY	int	10150000	Tri-state flag indicating where the State Change History should be displayed. 0 indicates no State Change History should be displayed. 1 indicates the State Change History should be displayed at the top, 2 indicates should be displayed at the bottom.

Column Name	Data Type	DbVer	Description
TS_MANAGEINCIDENTOPTIONS	int	10150000	Drop down selection list for item types active, inactive or all. Affects the user's lookup functionality. Selection default is active. See notes below.
TS_PREFTABLEID	int	10150000	Foreign key to the TS_TABLES table indicating the user's preferred primary table.
TS_TABORDER	longvarchar	10150000	Comma separated list of solution ids denoting the tab order for solutions (applications) in SBM Work Center.
TS_LOCALE	varchar(32)	10150000	Holds the locale identifier for this user. If blank, the system locale is used.
TS_TIMEZONE	varchar(32)	10150000	Holds the time zone identifier for this user. If blank, the system time zone is used.
TS_CALENDARID	int	10150000	Foreign key to the TS_CALENDARS table to indicate what calendar this user record applies to. A 0 value represents the 24 clock.
TS_OVERRIDEN	longvarchar	10150000	Comma-separated list of settings names, which have been pushed to group's users by admin last time.
TS_DATE_FORMAT	int	1110000001	If the user's date preference is to use the user's locale default, this setting controls whether the format used is short, medium, or long.

Values for TS_FIELDSMASK column:

TS_FLDMASK_USER	0x0001
TS_FLDMASK_ADVANCED	0x0002
TS_FLDMASK_MANAGER	0x0004
TS_FLDMASK_SYSTEM	0x0008
TS_FLDMASK_HIDDEN	0x0010

Values for TS_NOTESMASK, and TS_CHGMASK columns:

TS_FLDMASK_NONE	0x0001
TS_FLDMASK_ALL	0x0002
TS_FLDMASK_LAST	0x0004

TS_FLDMASK_NEWEST_FIRST	0x0008	

Values for TS_BROWSERMASK column:

TS_FLDMASK_AUTOREFRESH	0x000001	Refresh reports and trees when item is transitioned.
TS_FLDMASK_PRIVATE_FOLDERS	0x000002	
TS_FLDMASK_FOLDERS	0x000004	
TS_FLDMASK_NOJAVA	0x000008	Obsolete.
TS_FLDMASK_BROWSER_GENERIC	0x000010	
TS_FLDMASK_HIDE_DETAILS	0x000020	User preference to use single frame vs. dual frame view on listing reports..
TS_FLDMASK_BROWSER_NETSCAPE	0x000040	
TS_FLDMASK_BROWSER_EXPLORER	0x000080	
TS_FLDMASK_SPELLCHECK_AUTO	0x000100	
TS_FLDMASK_SUBTASKS	0x000800	User preference to show Subtasks section.
TS_FLDMASK_ATTACHMENTS	0x001000	
TS_FLDMASK_EMAIL_LINK	0x100000	
TS_FLDMASK_SHOWLAUNCHPAGE	0x200000	Replaces TS_FLDMASK_NOTES, user sees the launch page.
TS_FLDMASK_VCACTIONS	0x400000	
TS_FLDMASK_SHOWFOLDERITEMS	0x800000	
TS_FLDMASK_ARCHIVE_SEARCH	0x1000000	
TS_FLDMASK_REGEX_SEARCH	0x2000000	

Values for TS_DATEPREFERENCE column:

TS_DATE_FORMAT_FROM_LOCALE	0	Uses date format from Locale
TS_DATE_FORMAT_MM_DD_YYYY	1	mm/dd/yyyy
TS_DATE_FORMAT_DD_MM_YYYY	2	dd/mm/yyyy
TS_DATE_FORMAT_DD_MM_YYYY_DOTS	3	dd.mm.yyyy
TS_DATE_FORMAT_YYYY_MM_DD	4	yyyy-mm-dd
TS_DATE_FORMAT_XML	5	Used only in Web services for XML date format output, no user should have this selection.

Values for TS_TIMEPREFERENCE column:

TS_TIME_FORMAT_24HOUR	0x1	

| TS_TIME_FORMAT_USE_GMT_OFFSET | 0x2 | Obsolete. |
| TS_TIME_FORMAT_HONOR_DAYLIGHT | 0x4 | Obsolete. |

Values for TS_MANAGEINCIDENTOPTIONS column:

TS_MANAGE_INACTIVE_ITEMS	1
TS_MANAGE_ACTIVE_ITEMS	2
TS_MANAGE_ALL_ITEMS	3

TS_GROUPSETTINGS

This table contains one row for each option that a group has set.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10150000	A unique numeric ID for the record.
TS_OPTIONID	int	101500006	The option to which this record applies.
TS_GROUPID	int	10150000	The id of the group to which this record applies.
TS_STRINGVALUE	longvarchar	10150000	The value for this user/option combination.

Values for the TS_OPTIONID column:

| Show Launch Page | 1 |
| Use Accessible Interface | 4 |

TS_GROUPSOLUTIONDATA

This table contains one row for each application group members can access.

Column Name	Data Type	DbVer	Description
TS_ID	int	10150000	A unique numeric ID for the record.
TS_GROUPID	int	10150000	The id of the group to which this record applies.
TS_SOLUTIONID	int	10150000	The id of the application to which this record applies.
TS_REPORTID	int	10150000	The id of the report to which this record applies
TS_TABLEID	int	10150000	The id of the table to which the TS_REPORTID applies if it refers to a built-in report, 0 otherwise.

TS_GWEBANDS

This table contains one row for each band (swimlane) created in the graphical view of the workflow editor.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000801	Unique numeric id for the band.
TS_NAME	varchar(64)	904000801	Name of the band.
TS_UUID	varchar(64)	904000801	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	904000801	If not zero, a foreign key to the TS_NAMESPACES table.
TS_WORKFLOWID	int	904000801	Foreign key to the TS_WORKFLOWS table indicating the workflow id in which this object was originally defined.
TS_ORIGIN	int	904000801	The origin of all the bands for this workflow. This data is repeated for each band on a workflow and should contain the same values on each band for a given workflow.
TS_ORIENTATION	int	904000801	The orientation of all the bands for this workflow. This data is repeated for each band on a workflow and should contain the same value on each band for a given workflow. A value of 1 means horizontal and a value of 2 means vertical.
TS_DESCRIPTION	longvarchar	904000801	The description of the band specified during design.
TS_PARENTUUID	varchar(64)	904000801	The Universally Unique Identifier (UUID) that applies to the band on the parent workflow.
TS_SIZE		904000801	The width/height of the band depending on the orientation.
TS_STYLE	varchar(64)	904000801	Class name
TS_STYLEOVERRIDE	varchar(255)	904000801	"style" string in HTML

TS_GWECOMMENTS

This table contains one row for each comment created in the graphical view of the workflow/project editor.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	502	Unique numeric id for the group.
TS_WORKFLOWID	int	502	Foreign key to the TS_WORKFLOWS table indicating the workflow id in which this object was originally defined.
TS_PROJECTID	int	502	Foreign key to the TS_PROJECTS table indicating the project id in which this object was originally defined.
TS_CENTERX	int	502	X coordinate of the comment's center point.
TS_CENTERY	int	502	Y coordinate of the comment's center point.
TS_WIDTH		502	Comment's width.
TS_HEIGHT	int	502	Comment's height.
TS_TEXT	longvarchar	502	Contents of the comment.
TS_OWNER	varchar(64)	7010	UUID for State or Transition
TS_STYLE	varchar(64)	7010	Class name
TS_ STYLEOVERRIDE	varchar(255)	7010	"style" string in HTML

TS_GWESTATES

This table contains one row for each state that has been drawn graphically using the SBM System Administrator. Each row uniquely associates a state and a project/workflow with the state's layout data.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	502	Unique numeric id for the state layout data.
TS_WORKFLOWID	int	502	Workflow id in which this object was originally defined.
TS_PROJECTID	int	502	Foreign key into the TS_PROJECTS table.
TS_STATEID	int	502	Foreign key into the TS_STATES table.
TS_CENTERX	int	502	X coordinate of the state's center point.
TS_CENTERY	int	502	Y coordinate of the state's center point.
TS_WIDTH	int	502	State's width.
TS_HEIGHT	int	502	State's height.
TS_RADIUS	int	502	State's corner radius.
TS_COMMENT	longvarchar	502	Reserved for future use.

TS_GWETRANSITIONS

This table contains one row for each transition that has been drawn graphically using the SBM System Administrator. Each row uniquely associates a state and a project/workflow with the transition's layout data.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	502	Unique numeric id for the state layout data.
TS_WORKFLOWID	int	502	Foreign key to the TS_WORKFLOWS table indicating the workflow id in which this object was originally defined
TS_PROJECTID	int	502	Foreign key to the TS_PROJECTS table indicating the project id in which this object was originally defined.
TS_TRANSITIONID	int	502	Foreign key into the TS_TRANSITIONS table.
TS_STYLE	int	502	Enumeration indicating whether the segment is a straight line, an arc or a polyline.
TS_POINTS	varchar(255)	502	Embedded representation of the line's control points. Stores a variable number of x,y locations.
TS_COMMENT	longvarchar	502	Reserved for future use.
TS_STYLECLASS	varchar(64)	7010	Class name
TS_ STYLEOVERRIDE	varchar(255)	7010	"style" string in HTML
TS_ LABELPOSX	int	72004	X offset from normal transition label position.
TS_ LABELPOSY	int	72004	Y offset from normal transition label position.

TS_IMPORTDATAFIELDMAPITEMS

This table contains one row for each import data field map item. Each item is an association between data source column and SBM field. Items are created using the SBM Web Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	101200 0201	Unique numeric id for the import data field map item.
TS_IMPORTDATAFIELDMAPID	Int	101200 0201	Foreign key to the TS_IMPORTDATAFIELDMAPS table indicating the import data field map id in which this object was originally defined.
TS_SOURCEFIELDNAME	varchar(510)	101200 0201	Data source column title.
TS_DESTINATIONFIELDID	int	101200 0201	Foreign key to the TS_FIELDS table for the Field that this item is associated with.

TS_IMPORTDATAFIELDMAPS

This table stores one row for each import data field map.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012000201	Unique numeric id for the import data field map.
TS_NAME	varchar(64)	1012000201	Name of the data field map.
TS_TABLEID	int	1012000201	Foreign key to the TS_TABLES table indicating the table id for which current import data field map is applicable.
TS_USEDEFAULTIFEMPTY	int	1100000013	1 if need to set default field value when the spreadsheet cell is empty; 0 if need to set zero/empty value in this case.
TS_VALUESEPARATOR	varchar(16)	1100000013	Separator that is used to split string into list of values when importing data to multi-values fields.

TS_IMPORTOPTIONSETS

This table stores import option set information, as well as recording when the option set was created and when it was last executed.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	63002	Unique numeric id for the record.
TS_TYPE	int	63002	Type of import set, see values below
TS_NAME	varchar(80)	63002	Recognizable (i.e., human-readable) name for the import set or project conversion.
TS_CREATEDATETIME	bigint	63002	The date/time that this set of import options was created.
TS_LASTUSEDDATETIME	bigint	63002	The date/time this import option set was last used to import data into SBM.
TS_IMPORTTOTAL	int	63002	Number of records *examined* during execution of option set (updated after any successful import and kept as a running total). Because records are examined for duplicates and because there are settings for not updating duplicates, this is not necessarily the number of records that actually were established in SBM during the import. However, this number should be incremented by exactly the same number of records the query into the foreign DB returns (as a check).
TS_SOURCE	int	63002	Foreign key to TS_DBSOURCES.
TS_QUERYSPECIFIC	varchar(255)	63002	Product-specific information for querying against the source database. This could be: 1) Comma-delimited list of external table plus external project IDs, if this is a TeamTrack or SBM data import 2) Tracker query name, if this is Tracker-specific data import 3) Name of the source table plus unique identifier field, if this is a generic import
TS_QUERYGENERIC	longvarchar	63002	This is the ANSI SQL where clause for a generic, TeamTrack or SBM import. (The "where" is not saved in the database, but everything else is put into the where clause – it cannot have anything other than what could be in a where clause).

Column Name	Data Type	DbVer	Description
TS_WORKFLOWID	int	63002	Unused during data import, set only by the Solution Wizard when converting a Tracker project to an SBM workflow (foreign key to the TS_WORKFLOWS table).
TS_PROJECTID	int	63002	Foreign key to the TS_PROJECTS table indicating the default project associated with this import set.
TS_DRIVINGFIELD	int	63002	If this record is for a data import, then this is the source Tracker or SBM field that directs issues into SBM projects. A map of choices/selections to projects must be retrieved.
			If this records a Tracker project conversion, then this is the Tracker Field for Item States, and a map of choices/selections to states must be retrieved.
TS_OPTIONS	int	63002	Import options, see values below.
TS_TABLEID	int	63003	Foreign key to the TS_TABLES table indicating the target table for this import set.
TS_NODUPFIELD	int	63012	Foreign key to the TS_FIELDS table indicating the target text field (by ID) for not adding dup titles with this import set.
TS_PRESCRIPTID	int	1130000011	Defines script to execute prior source to destination mapping. Only available with the Generic Import type.
TS_POSTSCRIPTID	int	1130000011	Defines script to execute after source to destination mapping. Only available with the Generic Import type.
TS_ACTASUSERID	int	1130000011	Defines a user to add/update records with the import event. Only available with the Generic Import type.

Values for TS_TYPE column:

TS_IMPSET_GENERICDATA		0	No extra "smarts" for running against a known DB structure
TS_IMPSET_TEAMTRACKDATA		1	Data import from a TeamTrack or SBM database
TS_IMPSET_TRACKERDATA		2	Data import from a Tracker database
TS_IMPSET_TRACKERPROJECT		3	A Tracker project conversion performed by the Solution Wizard

Values for TS_OPTIONS column:

TS_IMPSET_CHANGEHISTORY	0x0001	Import change history
TS_IMPSET_ATTACHMENTS	0x0002	Import attachments
TS_IMPSET_NOTES	0x0004	Import notes
TS_IMPSET_VCACTIONS	0x0008	Import VC Actions
TS_IMPSET_SUBTASKLINKING	0x0010	Perform the phase that tries to re-establish subtask relationships for imported records.
TS_IMPSET_UPDATEIFIDMATCHES	0x0020	Update when encountering an item that's been previously imported (based upon ID mapping). If this bit is NOT set, then "Leave item unmodified" is assumed and a duplicate item will not be created..
TS_IMPSET_NOTITLEDUPLICATES	0x0040	This option is only available when doing generic import, where we don't allow duplicate records (by system title field). Not the same as the above option.
TS_IMPSET_LIMITPROJECTS	0x0080	The source SBM data is limited by project
TS_IMPSET_NEWCONTACTS	0x0100	Establish a new contact for imported users.
TS_IMPSET_TEXTMATCHING	0x0200	Use unique text field value matching, no cross references.

TS_IMPORTSTATUS

This table stores import status information, for asynchronous imports.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71008	Unique numeric id for the record.
TS_IMPORTUUID	varchar(64)	71008	The Universally Unique Identifier (UUID) that applies to the import operation.
TS_SEQUENCE	int	71008	Sequence number for a particular import uuid. A sequence number of zero or less indicates the current status of the import, where the percentage complete is -1 * sequence. A positive sequence number of 1 or greater indicates a sequential status message for the import. Range is -100 to +N.
TS_ISWARNING	int	71008	Indicates is the message is a warning (1) or error (0).
TS_MESSAGE	longvarchar	71008	The error or warning message.
TS_TIMESTAMP	bigint	71008	Timestamp denoting when the status message was created. Status records older than a certain period (currently one week) are deleted when a new import is started.

TS_INTEGERS

This table was created with 1000 records in it from 0 to 999. It is used as a template when creating some of our new graphical reports for 7.0.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71008	Unique numeric id for the integers table.

TS_ITEMNOTIFICATIONS

This table stores information for a user requesting a notification to be applied to a specific item.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	500	Unique numeric id for the folder column record.
TS_ITEMID	int	500	Id of the database record.
TS_TABLEID	int	500	Foreign key to the TS_TABLES table.
TS_USERID	int	500	Foreign key to the TS_USERS table indicating the id of the user requesting the item notification.
TS_NOTIFICATIONID	int	500	Foreign key to the TS_NOTIFICATIONS table indicating the id of the notification requested by the user for this item.
TS_DELETEONCLOSE	int	500	Delete this record when the item goes inactive. See notes below.
TS_CHANNELID	int	1012010111	A foreign key to the TS_NOTIFICATIONCHANNELS table indicating a notification channel which would be used to route a notification.
TS_FOLLOWED	int	1012010121	1 if the record was created by the "Follow" feature. 0 otherwise.

Values for TS_ DELETEONCLOSE column:

0. Do not delete item notification when item goes to an inactive state.

1. Delete item notification when item goes to an inactive state.

2. System will set this flag when an item goes inactive. Flag will hide the item notification from the SBM Work Center user and is an indication for the Notification Server to delete the item notification the next time the Notification Server runs.

TS_KANBANVIEW

Contains JSON with detail Kanban mapping for this view

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1110000018	Unique numeric id for the folder column record.
TS_SWCVIEWID	int	1110000018	Foreign key to TS_SWCVIEW table
TS_KANBANMAPPING	longvar char	1110000018	JSON with detail Kanban view mapping

TS_KEYWORDS (Obsolete)

This table used to store information about the keywords that are defined for the Knowledge Base. The table was introduced in Database Version 10. Currently not used.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the keyword.
TS_NAME	varchar(80)	10	Keyword text.
TS_FIELDID	int	10	Foreign key to the TS_FIELDS table indicating the field id of the item being associated.

TS_KEYWORDUSAGES (Obsolete)

This table was used to store information about the associations of keywords to issues, incidents, etc. The table was introduced in Database Version 10. Currently not used.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_KEYWORDID	int	10	Foreign key to the TS_KEYWORDS (Obsolete) table to reference the keyword being associated.
TS_FIELDID	int	10	Foreign key to the TS_FIELDS table indicating the field id of the item being associated.
TS_RECORDID	int	10	Id value of the item being associated to the keyword. Could be an issue, an incident, etc.

TS_LABELS

This table contains label strings, which if defined for a specific table (not blank), override the labels defined on the Labels tab of the Settings dialog. There will be at most one record per primary or auxiliary table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	58001	A unique numeric ID for the record.
TS_TABLEID	*int*	58001	The id of the table to which this label record applies.
TS_STANDARD	*varchar(32)*	58001	Standard field section, TS_FLDSECT_STANDARD.
TS_USER	*varchar(32)*	58001	User field section, TS_FLDSECT_USER.
TS_ADVANCED	*varchar(32)*	58001	Advanced field section, TS_FLDSECT_ADVANCED.
TS_MANAGER	*varchar(32)*	58001	Manager field section, TS_FLDSECT_MANAGER.
TS_SYSTEM	*varchar(32)*	58001	System field section, TS_FLDSECT_SYSTEM.
TS_HIDDEN	*varchar(32)*	58001	Standard field section, TS_FLDSECT_HIDDEN.
TS_NOTES	*varchar(32)*	58001	Notes item details section, TS_FLDSECT_NOTES.
TS_CHANGEHISTORY	*varchar(32)*	58001	Change History item details section, TS_FLDSECT_CHANGEHISTORY.
TS_VERSIONCONTROL	*varchar(32)*	58001	Version Control item details section, TS_FLDSECT_VERSIONCONTROL.
TS_ATTACHMENTS	*varchar(32)*	58001	Attachments item details section, TS_FLDSECT_ATTACHMENTS.
TS_STATECHANGEHISTORY	*varchar(32)*	58001	State Change History item details section, TS_FLDSECT_STATECHANGE HISTORY.
TS_ITEMNOTIFICATION	*varchar(32)*	58001	Item Notifications item details section, TS_FLDSECT_ITEM NOTIFICATION.
TS_SUBTASKS	*varchar(32)*	58001	Subtasks item details section, TS_FLDSECT_SUBTASKS.
TS_RPTPRIVATE	*varchar(32)*	58001	Private reports.
TS_RPTGUEST	*varchar(32)*	58001	Guest-level reports.
TS_RPTUSER	*varchar(32)*	58001	User-level reports.
TS_RPTMANAGER	*varchar(32)*	58001	Manager-level reports.

TS_LANGUAGES

This table contains one row for each defined language. Translated strings can be created for 'Active' languages only, and only 'Active' languages will be used at startup to create the string resources that SBM will use.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	62001	Unique numeric id for the record.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(40)	62001	The name of the language as it appears to users in both the SBM System Administrator and SBM Work Center.
TS_ACTIVEINACTIVE	int	62001	If 0, then the language is 'Active' and available. If 1, it is 'Inactive' and not available.
TS_LOCALE	varchar(32)	71010	Required Locale string associated with this language. This is used to help find the right string to load for a user. User's locale is used to match to the most-similar matching language.

TS_LASTIDS

This table stores one row for each table in the TS_TABLES table. The table was introduced in Database Version 50202. The table allows the generation of unique ids for tables found in the TS_TABLES table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	50202	Unique numeric id for the *lastid* item.
TS_NAME	varchar(32)	50202	Name of the table to which this item refers.
TS_TABLEID	int	50202	Foreign key to the TS_TABLES table.
TS_LASTID	bigint	50202	Value of the primary key for the last record in the given table. Used to generate the next primary key value for the given table.

TS_LDAPCONFIGURATIONS

This table contains configuration information for importing Users and Contacts from an LDAP server. Each row in the table represents one configuration. The TS_SYSTEMSETTINGS table will continue to be used for the LDAP configuration that is used for authentication of users and for import by SBM System Administrator. This table is only for LDAP configurations used for import by SBM Application Repository, which can handle multiple configurations.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010107	Unique numeric id for the record.
TS_NAME	varchar(255)	1012010107	A unique name for this LDAP option set.
TS_NAMESPACEID	int	1012010107	If not zero, a foreign key to the TS_NAMESPACES table.
TS_SERVER	varchar(255)	1012010107	The LDAP server name or alias.
TS_PORT	int	1012010107	Port of the LDAP server.
TS_SECURE	int	1012010107	0 = unencrypted connection, 1 = SSL
TS_CERTIFICATE	varchar(max)	1012010107	When TS_SECURE = 1, this contains the trusted CA certificate for the issuer of the LDAP server certificate.
TS_SEARCHBASE	varchar(255)	1012010107	Root of the LDAP tree beneath which user searches occur.
TS_SEARCHFILTER	varchar(255)	1012010107	User Authentication search filter (with {0} formatter).
TS_ADMD	varchar(255)	1012010107	The Distinguished Name of the user granting search authority.
TS_ADMP	varchar(255)	1012010107	The encrypted password of the user granting search authority.
TS_FOLLOWREFERRALS	int	1012010107	0 = do not follow referrals, 1 = follow
TS_USERMAP	varchar(max)	1012010107	Mapping of user fields to LDAP attributes.
TS_GROUPQUERYPARAMETER	varchar(255)	1012010107	LDAP attributes used for mapping users to SBM groups.
TS_IMPORTFILTER	varchar(255)	1012010107	The LDAP search filter used to find import candidates.
TS_COPYUSERID	int	1012010107	TS_ID of the SBM user to copy when importing users.
TS_CREATECONTACT	int	1012010107	Whether or not to create a contact record associated with users as they are imported. 0=no, 1=yes.

Column Name	Data Type	DbVer	Description
TS_IMPORTOPTIONS	int	1012010107	What to do with LDAP users who already are in SBM. 0 = do not modify, 1 = update mapped attributes only, 2 = replace the SBM user.
TS_CONTACTMAP	varchar(max)	1012010107	Mapping of contact fields to LDAP attributes.
TS_CONTACTKEYS	varchar(255)	1012010107	A list of field IDs representing the equality key(s) for contacts.
TS_CONTACTFILTER	varchar(255)	1012010107	The LDAP search filter used to find contact import candidates.
TS_CONTACTOPTIONS	varchar(255)	1012010107	What to do with contacts that already exist in SBM. 0 = do not modify, 1 = update mapped attributes, 2 = create a duplicate contact.
TS_USERUPDATEFILTER	varchar(255)	1012010107	The search filter (with {0} formatter) for updating users.
TS_USERREMOVEFILTER	varchar(255)	1012010107	The search filter for identifying SBM users to be deleted.
TS_CONTACTUPDATEFILTER	varchar(255)	1012010107	The search filter for updating contacts.
TS_UPDATEOPTIONS	int	1012010107	A bitmask representing the checkboxes on the User/Contact Update Options form, for selecting which types of users to update, whether to update users or contacts or both, etc.
TS_EMAIL	varchar(128)	1013000011	Reply address. Used to notify with import results.
TS_SENDTOUSERS	int	1013000011	Used to notify each imported or updated user.
TS_LEVEL	int	1013000011	Configuration log level. Could be one of the 'None', 'Minimal', 'Detailed' and 'Verbose'.
TS_ GENERATE_PASSWORDS	int	1120000007	0 or 1, stores whether new users will have passwords generated.
TS_GROUPIMPORTFILTER	varchar(255)	1120000008	Filter for Group Import
TS_COPYGROUPID	int	1120000008	Template group ID for Group Import
TS_GROUPIMPORTOPTIONS	int	1120000008	Options for Group Import
TS_GROUPMAP	varchar(max)	1120000008	Mapping of group fields to LDAP attributes for Group Import
TS_USERRESTOREFILTER	varchar(255)	1140100006	The search filter for identifying deleted SBM users to be restored.

TS_LDAPSCHEDULES

This table contains ldap scheduling information for importing Users and Contacts from LDAP server, update Users from LDAP server. Each record in the table represents one schedule task.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000011	Unique numeric id for the record.
TS_ACTION	int	1013000011	An action of scheduled task. Available actions are 0 (Import users from LDAP), 1 (Import contacts from LDAP), 2 (Update users from LDAP).
TS_LDAPCONFIGURATIONID	int	1013000011	Foreign key to the TS_LDAPCONFIGURATIONS table indicating the LDAP configuration to which the schedule task applies.
TS_NOTIFICATIONEVENTID	int	1013000011	Foreign key to the TS_NOTIFICATIONEVENTS table indicating the notification event to which the schedule task applies. Related notification event has TS_WAITSTATUS equal to 3 and TS_SENDTYPE equal to 4096.
TS_CRONEXPR	varchar(255)	1013000011	Cron expression for schedule task. It's syncronazed with cron expression for related notification event.
TS_RECIPIENTID	int	1013000011	Foreign key to the TS_USERS table indicating the id of the user who runs LDAP scheduling task. Synchronized with TS_RECIPIENTID for related notification event.
TS_NAMESPACEID	int	1013000011	If not zero, a foreign key to the TS_NAMESPACES table.

TS_LICENSES (Obsolete)

This table contains one row per license number that has been added.

Column Name	Data Type	DbVer	Description
TS_ID	int	1	Unique numeric id for the license.
TS_SERIALNO	char(64)	1	Serial number of the license.

TS_LOCALES

This table is generated and populated with upgrade step: 1110000017. The purpose of this table is to provide support for MLS Objects translations.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1110000017	Unique numeric id for the record.
TS_NAME	varchar(64)	1110000017	Locale Code.
TS_LANGUAGE	varchar(64)	1110000017	Part of the Locale Code for Language.
TS_SCRIPT	varchar(64)	1110000017	Part of the Locale Code breaking down a Country to a specific Script.
TS_COUNTRY	varchar(64)	1110000017	Part of the Locale Code for Country (or Region).
TS_DISPLAYNAME	varchar(64)	1110000017	en_US display name of the Locale.
TS_PARENTLOCALEID	int	1110000017	TS_LOCALES.TS_ID indicating parent Locale.

TS_LOCALE_ANCESTRYDENORM

This table is generated and populated with upgrade step: 1110000017.   The purpose of this table is to provide support for MLS Objects translations.   It offers all the ability to join to a table defining all Locales in a parent / child relationship.   SQL is constructed against this table to determine if a translation has been provided for a specific MLS Object or via its parent.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1110000017	Unique numeric id for the record.
TS_LOCALEID	int	1110000017	Foreign key to the TS_LOCALES.TS_ID table.
TS_ANCESTORID	int	1110000017	Foreign key to the TS_LOCALES.TS_ID table. One record in this table for every Locale defined within the Parent/Child relationship.
TS_DEPTH	int	1110000017	Defined Depth in Parent/Child Locale relationship.

TS_MACROS

This table stores information about the list of defined scripts. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the macro.
TS_NAME	varchar(64)	10	Name or short description of the macro.
TS_AUTHORID	int	10	Foreign key to the TS_USERS table indicating the id of the user who created the macro.
TS_MACROSTR	longvarchar	10	If the macro is stored in column TS_FILENAME, this text holds a comment concerning the purpose of the macro. If TS_FILENAME is empty, this text is interpreted as the macro.
TS_FILENAME	varchar(255)	10	File containing the macro.
TS_BLOBID	int	62002	Foreign key to the TS_BLOBS table indicating the id of the blob containing the text of this script. If the contents of the script are too large for TS_MACROSTR, the script will be stored as a BLOB in the TS_BLOBS table.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_SOLUTIONID	int	71014	Foreign key to the TS_SOLUTIONS table denoting which solution this macro belongs to.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_TYPE	tinyint	1130000016	Determines script syntax, 0 for AppScript, 1 for ModScript

TS_MAILBOX

This table stores configuration information about each mailbox. The table was introduced in Database Version 500.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	500	Unique numeric id per mailbox.
TS_NAME	varchar(64)	500	Name of the mailbox on the pop3 server.
TS_PASSWORD	varchar(64)	500	Password for the mailbox.
TS_PROJECTID	int	500	Foreign key to the TS_PROJECTS Table.
TS_FAILUREREPLYADDRESS	varchar(64)	500	Reply address for failed email to incident attempts.
TS_FAILUREEMAIL	varchar(64)	500	File template used in case of failed email to item attempt.
TS_SUCCESSEMAIL	varchar(64)	504	File template used when email has been successfully submitted into a project.
TS_TABLEID	int	504	Foreign key to the TS_TABLES table indicating the primary table for email submission.
TS_FUNCTION	int	51001	Functions this mailbox will perform. See notes below.
TS_MAILBOXEMAIL	varchar(64)	55002	Email address of the mailbox. Typically <mailbox name>@<domain name>, where the mailbox name is the same as the TS_NAME field.
TS_ALLOWUNKNOWN	int	57002	If the mailbox function is TS_MAILBOX_FUNCTION_NOTELOGGER, then the MailClient does not attempt to match the email FROM address with an SBM user.
TS_MAXNOTESIZE	int	57002	If the mailbox function is TS_MAILBOX_FUNCTION_NOTELOGGER, this is the maximum number of characters that will be recorded. A value of zero indicates no limit.
TS_FAILUREADMINADDRESS	varchar(64)	101300 0001	Reply address for failed email. Used in CC section.
TS_DISABLED	int	101501 0003	Used to mark mailbox as disabled or enabled. By default all mailboxes are enabled.
TS_MAILSERVERID	int	112000 004	Foreign key to the TS_MAILSERVERS table.
TS_INCLUDE_NOTELOGGER	int	113000 0008	Used to include e-mail recorder address on anonymous e-mail submission response.

Column Name	Data Type	DbVer	Description
TS_AMS	int	1130000008	Used to enable anonymous e-mail submission feature for mailbox. By default this feature is disabled.
TS_AMS_FILE_ATTACHING	int	1130000008	Used to enable file attachment for anonymouse e-mail submission. By default it is enabled.
TS_AMS_FILE_ATTACHING_RM	int	1130000008	Restriction mode. Used to allow or disallow file attachments with extensions listed in TS_AMS_FILE_ATTACHING_EXT column.
TS_AMS_FILE_ATTACHING_EXT	varchar(255)	1130000008	List of file extensions allowed or disallowed for anonymous email submission.
TS_AMS_FILE_ATTACHING_SIZE	int	1130000008	Limit for file attachment size used in anonymous email submit.
TS_AMS_SUCCESS_EMAIL	varchar(128)	1130000008	Template used to generate e-mail response on success of anonymous e-mail submission.
TS_AMS_ERR_EMAIL	varchar(128)	1130000008	Template used to generate e-mail response on fauilure of anonymous e-mail submission.
TS_AMS_SPAM_ERR_EMAIL	varchar(128)	1130000008	Template used to generate e-mail response on spam.
TS_AMS_CHECK_SPAM	int	1130000008	Enable or disable e-mail spam checking for anonymous e-mail submission.
TS_AMS_SPAM_COUNT	int	1130000008	E-mail count limit for spam checking.
TS_AMS_SPAM_HOURS	int	1130000008	Spam check period. By default, file items per one hour.
TS_PROCESS_MAIL_BODY	int	1131000001	Used to disable or enable Parse Fields and Values Found in Message Body functionality. Enabled by default.

Values for TS_FUNCTION column:

TS_MAILBOX_FUNCTION_SUBMIT	0x00001
TS_MAILBOX_FUNCTION_EXTERNALPOST	0x00002
TS_MAILBOX_FUNCTION_EXTERNALPOSTUPDATES	0x00004
TS_MAILBOX_FUNCTION_NOTELOGGER	0x00008

TS_MAILHEADERFIELDS

This table stores possible sections from email messages. The table was introduced in Database Version 500.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	500	Unique numeric id per mailbox.
TS_NAME	varchar(64)	500	Name of the defined email field.
TS_TYPE	int	500	Defines type of information the header field may contain. Information is stored within the object. See notes below.

Values for TS_TYPE column:

TS_MAILHDR_TEXT	0x00001
TS_MAILHDR_DATE	0x00002
TS_MAILHDR_EMAIL	0x00004
TS_MAILHDR_IPADDRESS	0x00008
TS_MAILHDR_NAME	0x00010
TS_MAILHDR_GROUPNAME	0x00020

TS_MAILMAPPINGS

This table stores the email field mappings to item fields. The table was introduced in Database Version 500.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	500	Unique numeric id per mailbox.
TS_MAILBOXID	int	500	Foreign key to TS_MAILBOX table if TS_TYPE is 1 or the foreign key to TS_MAILSUBMITROUTES table if TS_TYPE is 2.
TS_EMAILFIELDID	int	500	Foreign key to TS_MAILHEADERFIELDS table.
TS_INCIDENTFIELDID	int	500	Foreign key to TS_FIELDS table.
TS_TYPE	Int	1120000019	Defines whether this mailmapping record associated with the TS_MAILBOX or TS_MAILSUBMITROUTES. See notes below.

Values for TS_TYPE column:

TS_MAILBOX_MAPPING   1

TS_MAIL_SUBMIT_ROUTE_MAPPING   2

TS_MAILSERVERS

This table stores e-mail server configurations, e.g. connection settings, configuration options. Could be only one primary and lot of non-primary e-mail configurations.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1120000004	Unique numeric id per e-mail configuration.
TS_PRIMARY	int	1120000004	Could be only one primary e-mail configuration. Primary configuration is available and managing from Configurator only.
TS_NAME	varchar(128)	1120000004	Name of the configuration.
TS_PROTOCOL	varchar(64)	1120000004	The protocol that used to connect to e-mail server, e.g. POP3, IMAP.
TS_HOST	varchar(128)	1120000004	Host of e-mail server used for connection.
TS_PORT	int	1120000004	Port of e-mail server used for connection.
TS_SSL	int	1120000004	SSL setting as part of connection information.
TS_SSLDEDICATED	int	1120000004	Describes if SSL is dedicated or not.
TS_EXCHANGEVERSION	varchar(128)	1120000004	Exhange version in case if TS_PROTOCOL field is equal to EXCHANGE. There are couple of predefined exchange versions: 2003, 2007, 2010 and above.
TS_EXCHANGESERVICEURL	varchar(510)	1120000004	Exchange service url used for connection.
TS_ADVANCED	varchar(510)	1120000004	This option is used for debug purpose
TS_INCLUDEHTML	int	1120000004	Include HTML formatted e-mail messages.
TS_DELETEMESSAGES	int	1120000004	Delete e-mail messages after processing.
TS_MCUSEHTMLEMAILSECTION	int	1120000004	E-mail submission option. Use HTML e-mail section while submitting an item.
TS_MCATTACHHTMLASPDF	int	1120000004	E-mail submission option. Attach HTML e-mail as PDF.
TS_MCINCLUDEEMBEDDED	int	1120000004	E-mail submission option. Include embedded attachments

Column Name	Data Type	DbVer	Description
TS_NLUSEHTMLEMAILSECTION	int	1120000004	E-mail recorder option. Use HTML e-mail section while attaching note to an item.
TS_NLATTACHHTMLEMAILASPDF	int	1120000004	E-mail recorder option. Attach HTML e-mail as PDF.
TS_MCINCATTACHEXIST	int	1120000004	E-mail recorder option. Include attachments when using e-mail recorder
TS_SAVEEMAILASNOTE	int	1120000004	E-mail recorder option. Insert e-mail as note.
TS_NAMESPACEID	int	1120000004	If not zero, a foreign key to the TS_NAMESPACES table.

TS_MAILSUBMITREGISTRY

This table contains two rows per each mail server. One row for e-mail submission and one row for e-mail recorder. The purpose of this table is to synchronise access to related mail server. The table was introduced in Database Version 1100000008.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1100000008	Unique numeric id per mail submit registry.
TS_LASTUPDATE	bigint	1100000008	Start time process of submission or e-mail recording. NULL or 0 means process not started.
TS_TYPE	int	1120000004	Type of process. If it is equal to 0 that it is e-mail submission process. If it is equal to 1 than it is e-mail recorder process.
TS_MAILSERVERID	int	1120000004	Foreign key to TS_MAILSERVERS table.

TS_MAILSUBMITROUTES

This table contains one row per mail submit route. Mail submit route overrides the mailbox project for mail submit process if mail submit route condition is true. The table was introduced in Database Version 1120000012.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1120000012	Unique numeric id per mail submit route.
TS_MAILBOXID	int	1120000012	Foreign key to TS_MAILBOX table.
TS_PROJECTID	int	1120000012	Foreign key to the TS_PROJECTS table.
TS_PRIORITY	int	1120000012	Mail submit route priority. Should be unique if couple of them are defined.

TS_MEMBERS

Provides a many-to-many relationship between the TS_USERS table and the TS_GROUPS table. Stores group membership information.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	3	Unique numeric id for the record.
TS_USERID	int	3	Foreign key to the TS_USERS table indicating the id of the user who belongs to the group specified by the TS_GROUPID for this record.
TS_GROUPID	int	3	Foreign key to the TS_GROUPS table indicating the id of the group in which the user specified by TS_USERID is a member.
TS_ESTABLISHEDBY	int	901000504	This column denotes how the membership was established. See notes below.
TS_NAMESPACEID	int	1000001114	If not zero, a foreign key to the TS_NAMESPACES table.

Values for TS_ESTABLISHEDBY column:

TS_MEMBERSHIP_ESTABLISHED_ADMIN	0	(Default) Membership established via manual action (administrator).
TS_MEMBERSHIP_ESTABLISHED_LDAP	1	Membership established via LDAP Auto-Add or LDAP Synchronization.

TS_MLS_OBJS

This table is generated with upgrade step: 1110000017.   This table contains records which indicate that a translation override exists.   It works together with the TS_MLS_OBJ_STRINGS table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1110000017	Unique numeric id for the record.
TS_TABLEID	int	1110000017	Foreign key to the TS_TABLES.TS_ID table. System Table, Auxiliary or Primary table id.
TS_RECORDID	int	1110000017	Foreign key to the MLSObjects.TS_ID table. This is the id of either a System Table (Group, Project, Report) or the id of a primary or auxiliary table record which as at least one translated field value.
TS_FIELDID	int	1110000017	Foreign key to the TS_FIELDS.TS_ID table. Value used to identify which field has created a translation override.
TS_IDENTIFIER	int	1110000017	Value used to identify different strings contained within the same System Table.

TS_MLS_OBJ_STRINGS

This table is generated with upgrade step: 1110000017. This table holds the translated value for a specific MLS Object / Locale.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1110000017	Unique numeric id for the record.
TS_STRING	varchar(max)	1110000017	The actual translated string.
TS_LASTMODIFIEDDATE	date	1110000017	Date/Time either the string was added or updated
TS_OBJECTID	int	1110000017	Foreign key to the TS_MLS_OBJS.TS_ID table.
TS_LOCALEID	int	1110000017	Foreign key to the TS_LOCALES.TS_ID table.

TS_MSSELECTION

This table (which formerly stood for Master / Slave(s) Selection) is the database table used to define the relationship between independent and dependent controls when setting up auto-population sequences.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	504	Unique numeric id for the record
TS_MASTERSELECTIONID	int	504	Id of one of the master's selections; i.e., the selection associated with the slave or dependent selections. Foreign key to table, the master field belongs to (e.g. TS_USERS if TS_MASTERID refers to a User field).
TS_SLAVEID	int	504	Id of the dependent item controlled by the master item. Foreign key to TS_FIELDS table. The slave field might belong to TS_SELECTIONS, TS_USERS, or TS_GROUPS tables.
TS_SLAVESELECTIONS	longvarchar	504	Comma–separated list of slave selections used to populate the slave control. Foreign keys to TS_SELECTIONS table.
TS_SLAVEDEFAULTID	int	504	Single default selection. Might be a foreign key to table the field referenced by TS_SLAVEID belongs to, or a special constant value from the following list: 'None'=0,'Leave Unchanged'=-1,'First Valid'=-2, or 'Deprecated'=-9999. For single slave default value, contains the same value as TS_SLAVEDEFAULTS list column. If TS_SLAVEDEFAULTS column has many values in comma-separated list, this single value should be set to "Deprecated"=-9999 to avoid confusion.
TS_WORKFLOWID	int	504	Foreign key into the TS_WORKFLOWS table.
TS_PROJECTID	int	504	Foreign key into the TS_PROJECTS table.
TS_MASTERID	int	504	Id of the master; i.e., independent control. Foreign key to TS_FIELDS table.
TS_SLAVEDEFAULTS	longvarchar	110000 0005	Comma–separated list of slave default ids. The ids might be a foreign keys to table the field referenced by TS_SLAVEID belongs to or a special constant value from the following list: 'None'=0,'Leave Unchanged'=-1,'First Valid'=-2.

TS_MULTIUSERUSAGES

This table defines the selections that are made in multi-selection user and multi-selection group fields. Multiple selections are represented by multiple rows in this table, having the same TS_FIELDID and TS_SOURCERECORDID but different TS_USERIDs or TS_GROUPIDs.

Example for getting issues when user #5 is "selected" (via group membership) in field #5083, a multi-selection group field in TTT_ISSUES:

```
select TS_ID, TS_TITLE from TTT_ISSUES
     where exists (select TS_SOURCERECORDID from TS_MULTIUSERUSAGES
                     where TS_SOURCEFIELDID = 5083 and
                     TS_SOURCERECORDID = TTT_ISSUES.TS_ID and
                     TS_GROUPID in (select TS_MEMBERS.TS_GROUPID
                 from
                     TS_MEMBERS where TS_MEMBERS.TS_USERID = 5 ))
```

Column Name	Data Type	DbVer	Description
TS_ID	bigint	57000	Unique numeric id for the record.
TS_SOURCERECORDID	int	57000	Foreign key to a record within a customer-defined table (defined by TS_SOURCEFIELDID)
TS_SOURCEFIELDID	int	57000	Foreign key to the TS_FIELDS table, which also specifies which table the record resides within.
TS_USERID	int	57000	Foreign key to the TS_USERS table.
TS_GROUPID	int	57000	Foreign key to the TS_GROUPS table.

TS_NAMESPACES

This table will contain zero or more records associated with a customer's compartmentalized environment operating within a single database hosted in a SaaS pod. Tables that have a TS_NAMESPACEID column contain records that are potentially namespaced. If that column is zero, then that record is not associated with a namespace. This is the on-premise and backward-compatible state. If TS_NAMESPACEID is not zero, then it is a foreign key to a record in this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71052	Unique numeric id for the record
TS_NAME	varchar(64)	71052	The name of the namespace. Currently a 5 character hex value. Must begin with an alpha character and all alpha characters must be lower case. Required and must be unique.
TS_STATUS	int	71052	0 means the namespace is enabled, 1 means it is disabled. If disabled, users associated with the namespace cannot deploy or login.
TS_USERID	int	71052	Foreign key to the TS_USERS table identifying the primary user acting as the customer-administrator for this namespace. The user is created internally via the CreateCustomer web service. Subsequently, additional users can be defined within a namespace, and some of those may also be given administrator privileges.
TS_COMPANYNAME	varchar(128)	71052	Passed to CreateCustomer. Required.
TS_ACCOUNTNAME	varchar(64)	71052	Used as the name of the functional base project and workflow for the namespace. Required and must be unique.
TS_ACCOUNTID	varchar(64)	71052	A short name to identify the namespace account, presumably for billing purposes. Required and must be unique.
TS_URL	varchar(128)	71052	The complete URL used to connect to this namespace environment through the SBM server. Required.
TS_REASON	longvarchar	71052	If TS_STATUS is set to 1 (disabled), this may contain text detailing the reason the account was put on hold—optional argument to the UpdateCustomer web service.
TS_TRUSTED_CERT	longvarchar	1011020102	Per-namespace certificate used by Hybrid SSO.

TS_NOTIFICATIONCHANNELS

This table contains properties of existing notification channels.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	101201011 1	Unique numeric ID for the record.
TS_NOTIFICATIONID	int	101201011 1	Not used.
TS_CHANNELID	int	101201011 1	A foreign key to the TS_CHANNELS table indicating a notification channel that can be used to route a notification.
TS_PLUGINUUID	varchar(64)	101201011 1	The Universally Unique Identifier (UUID) of the plugin that can be used to route a notification.
TS_TEMPLATENAME	varchar(128)	101201011 1	Name of the template file used to generate notification message content.
TS_BROADCASTUSERID	int	101201011 1	A foreign key to the TS_USERS table indicating a user whose privileges should be checked when authorizing access to secured message sections.

TS_NOTIFICATIONCONDITIONS

This table stores the conditions upon which different notifications are based. The table contains one row for each condition statement making up the notification rule. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_TABLEID	int	10	Foreign key to the TS_TABLES table indicating the table to which the rule applies.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table to reference the workflow for which the notification rule is defined.
TS_RULEID	int	10	Foreign key to the TS_NOTIFICATIONRULES table to reference the notification rule.
TS_TYPE	int	10	Whether the condition is a field or generic comparison. See notes below.
TS_RECID	int	10	Foreign key to the TS_FIELDS table to reference which field is involved in the condition. 0 if comparing to something other than a field; i.e., 'any issue'.

Column Name	Data Type	DbVer	Description
TS_COMPARITOR	int	10	See notes below.
TS_VALUE	int	10	Indicates either the field type or the comparison value, depending on if the rule is a field comparison or other. This field should be TSN_OPS_ALLITEMS when the field TS_COMPARITOR has the value TSN_TYPE_CHANGES. See other notes below.
TS_VALUEID	int	10	Used in integer comparisons
TS_OPER	int	10	Used to join two condition statements together for evaluation. See notes below.
TS_SEQUENCE	int	10	Order of the statement within the rule. 0 if there is only 1 statement. 1 if it's the next statement after the base statement. 2 if there are 2 statements in addition to the base statement of the rule.
TS_VALUESTR	varchar(255)	10	Used only if comparing strings or typing in a date. See notes below.
TS_OPENPARENCOUNT	int	10	Indicates the number of left parentheses used in the condition statement. Helpful in validating the syntax of the condition. If not equal to TS_CLOSEPARENCOUNT, there is an error.
TS_CLOSEPARENCOUNT	int	10	Indicates the number of right parentheses used in the condition statement. Helpful in validating the syntax of the condition. If not equal to TS_OPENPARENCOUNT, there is an error.
TS_VALUEREAL	float	71007	Used in floating-point and date comparisons. For date-only and date-time fields holds the number of days equivalent to the date since December 30, 1899. For elapsed-time and time-of-day fields holds the number of seconds.

Values for TS_TYPE column:

TSN_TYPE_NONE	0
TSN_TYPE_BLANK	1
TSN_TYPE_ANYITEM	16
TSN_TYPE_TRANSITION	17
TSN_TYPE_ANYINCIDENT	18
TSN_TYPE_ATTACHMENT	19

TSN_TYPE_FIELD   96

Values for `TS_COMPARITOR` column:

TSN_TYPE_CONTAINS   32
TSN_TYPE_ISEQUAL   34
TSN_TYPE_CHANGESTO   36
TSN_TYPE_CHANGESFROM   37
TSN_TYPE_ISGREATER   38
TSN_TYPE_ISLESS   39
TSN_TYPE_CHANGES   40
TSN_TYPE_IS   41
TSN_TYPE_ISLESS_EQUAL   42
TSN_TYPE_ISGREATER_EQUAL   43
TSN_TYPE_HASSELECTION   44
TSN_TYPE_REMOVED   45

Values for `TS_VALUE` column:

TSN_TYPE_FIELD   96
TSN_TYPE_SELECTION   97
TSN_TYPE_ISSUEID   98
TSN_TYPE_CASETYPE   99   Obsolete.
TSN_TYPE_BINARY   100
TSN_TYPE_PROJECT   101
TSN_TYPE_TEXT   102
TSN_TYPE_DATE   103
TSN_TYPE_ELAPSED_TIME   104
TSN_TYPE_FOLDER   105
TSN_TYPE_TIME_ONLY   106
TSN_TYPE_MULTI_USER   107
TSN_TYPE_MULTI_GROUP   108

TSN_TYPE_CLOSED   64
TSN_TYPE_OPENED   65
TSN_TYPE_STATE   66

TSN_TYPE_SUBMITTED	67	
TSN_TYPE_ADDED	68	
TSN_TYPE_DELETED	69	
TSN_TYPE_USER	80	Current user.
TSN_TYPE_OWNER	81	Owner.
TSN_TYPE_MANAGER	82	Manager.
TSN_TYPE_SUBMITTER	83	Submitter.
TSN_TYPE_STATECHANGER	84	State changer.
TSN_TYPE_PREVOWNER	85	Previous owner.
TSN_TYPE_PREVMANAGER	86	Previous manager.
TSN_TYPE_PREVSTATECHANER	87	Previous state changer.
TSN_TYPE_USERNONE	88	'<None>' user.

Values for TS_OPER column:

TSN_TYPE_AND	160	
TSN_TYPE_OR	161	
TSN_TYPE_ANDNOT	162	
TSN_TYPE_ORNOT	163	
TSN_TYPE_NOT	164	
TSN_TYPE_BLANK	1	No operator. Typically the first condition in the rule.

Values for TS_VALUESTR column:

TSN_STR_BLANK	""
TSN_STR_ANYITEM	"Any %s"
TSN_STR_TRANSITION	"Current Transition"
TSN_STR_ATTACHMENT	"Attachment"
TSN_STR_USER	"<Current User>"
TSN_STR_USER_NONE	"<None>"
TSN_STR_SUBMITTER	"Submitter"
TSN_STR_OWNER	"Owner"
TSN_STR_PREVOWNER	"Previous Owner"
TSN_STR_PREVMANAGER	"Previous Manager"
TSN_STR_PREVSTATECHANGER	"Previous State Changer"

TSN_STR_MANAGER	"Manager"
TSN_STR_STATECHANGER	"State Changer"
TSN_STR_STATE	"State"
TSN_STR_CLOSED	"Closed"
TSN_STR_OPENED	"Opened"
TSN_STR_SUBMITTED	"Submitted"
TSN_STR_CHANGED	"Changed"
TSN_STR_ADDED	"Added"
TSN_STR_DELETED	"Deleted"

Listing of possible date strings:

TSN_STR_NOW	"Now"
TSN_STR_STARTOFTODAY	"Startof_today"
TSN_STR_ENDOFTODAY	"Endof_today"
TSN_STR_STARTOFTOMORROW	"Startof_tomorrow"
TSN_STR_ENDOFTOMORROW	"Endof_tomorrow"
TSN_STR_STARTOFYESTERDAY	"Startof_yesterday"
TSN_STR_ENDOFYESTERDAY	"Endof_yesterday"
TSN_STR_STARTOFTHISWEEK	"Startof_thisweek"
TSN_STR_ENDOFTHISWEEK	"Endof_thisweek"
TSN_STR_STARTOFLASTWEEK	"Startof_lastweek"
TSN_STR_ENDOFLASTWEEK	"Startof_lastweek"
TSN_STR_STARTOFNEXTWEEK	"Startof_nextweek"
TSN_STR_ENDOFNEXTWEEK	"Endof_nextweek"
TSN_STR_STARTOFTHISMONTH	"Startof_thismonth"
TSN_STR_ENDOFTHISMONTH	"Endof_thismonth"
TSN_STR_STARTOFLASTMONTH	"Startof_lastmonth"
TSN_STR_ENDOFLASTMONTH	"Endof_lastmonth"
TSN_STR_STARTOFNEXTMONTH	"Startof_nextmonth"
TSN_STR_ENDOFNEXTMONTH	"Endof_nextmonth"
TSN_STR_STARTOFTHISYEAR	"Startof_thisyear"
TSN_STR_ENDOFTHISYEAR	"Endof_thisyear"
TSN_STR_STARTOFLASTYEAR	"Startof_lastyear"
TSN_STR_ENDOFLASTYEAR	"Endof_lastyear"
TSN_STR_STARTOFNEXTYEAR	"Startof_nextyear"

TSN_STR_ENDOFNEXTYEAR   "Endof_nextyear"

TSN_STR_DATETIMEBASEPLUS   "Plus"

TSN_STR_DATETIMEBASEMINUS   "Minus"

TS_NOTIFICATIONEVENTS

This table acts as a hold area for the temporary records that are created by a notification. Records are read by the Notification Server and processed. If an email message needs to be sent for the notification, a temporary record is also written to the TS_NOTIFICATIONMESSAGES table. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_TABLEID	int	10	Foreign key to the TS_TABLES table indicating the table to which the event applies.
TS_CASEID	int	10	Id of the item to which the event was generated.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table indicating the workflow id to which the notification belongs.
TS_NOTIFICATIONID	int	10	Foreign key to the TS_NOTIFICATIONS table.
TS_PRIORITY	int	10	Priority of the event based on the priority of the notification. Not currently used. Future versions of SBM may provide a means to prioritize notifications and subsequently, any related actions. See notes below.
TS_STARTDATE	bigint	10	Date the event was put into this table. Used for purposes of escalation.
TS_TIME	bigint	10	Last time a notification for this event was sent.
TS_WAITSTATUS	int	10	Enumerated value indicating where in the wait cycle this event is: NS_EVENT_WAIT_NONE (0) or NS_EVENT_WAIT_UNTIL (1) or NS_EVENT_WAIT_IS_FINISHED (2) or NS_EVENT_WAIT_CRON_JOB (3)
TS_RECIPIENTID	int	10	Foreign key to the TS_USERS table indicating the user to which this notification should be sent or zero. If zero, this notification should go to all recipients of the notification.
TS_LASTCHANGEDATE	bigint	22	Date of the last change record processed for the event.
TS_ELAPSEDCYCLES	int	55001	This value is used by the Notification Server for tracking when it should retry a particular notification. Do not modify this directly.

Column Name	Data Type	DbVer	Description
TS_DELAYED	Int	1013000010	Determine if the event is delayed. This field is used for Date time escalations.
TS_THREADID	Varchar(100)	1013000010	Unique key of the thread that was used to process the message. Micro Focus recommends that you do not alter this field without assistance from Support or a Micro Focus developer.
TS_ACTIONSTAMP	Int	1013000010	Transition that triggered the notification. Foreign key to the higher level change (i.e., transition) in TS_CHANGEACTIONS.
TS_DUEDATETIME	Int	1013000010	Time when delayed event will be processed.
TS_SENDTYPE	Int	904000205	Action to be performed for the notification. See notes below for possible values.
TS_CRONEXP	Varchar(200)	904000205	Only used by scheduled reports. Holds a cron expression that describes when and how often a particular report will be generated.
TS_CHANNELID	int	1012010111	A foreign key to the TS_NOTIFICATIONCHANNELS table indicating a notification channel which would be used to route a notification.
TS_PLUGINUUID	varchar(64)	1012010111	The Universally Unique Identifier (UUID) of the plugin that would be used to route notification.
TS_LASTCRTRIGGEREDDATE	float	904000205	Only used by scheduled reports. Holds a timestamp that indicates when the last related notification event was created. The timestamp in TS_LASTTRIGGEREDDATE is used in combination with TS_CRONEXP to determine if a new notification event should be generated.
TS_ALLRECIPIENTS	longvarchar	1013000010	List of emails separated by comma that is rendered by notification template $ALLRECIPIENTS() tag.

Column Name	Data Type	DbVer	Description
TS_UNIQUE	int	1014000007	If "force all" option is checked then contains randomly generated number greater then 0, otherwise should contain zero value. In case of escalation event always contain 0.
TS_CONTEXT	longvarchar	1015000005	Notification event context.
TS_LASTPROCESSEDTIME	bigint	1140000027	Last notification event processed time in seconds.

Values for TS_PRIORITY column:

TSN_PRIORITY_NONE	0x0000
TSN_PRIORITY_LOW	0x0001
TSN_PRIORITY_MEDIUM	0x0002
TSN_PRIORITY_HIGH	0x0004
TSN_PRIORITY_URGENT	0x0008
TSN_PRIORITY_CRITICAL	0x0010

Values for TS_SENDTYPE column:

SEND_NONE	0x0000
SEND_FAX	0x0001
SEND_PAGER	0x0002
SEND_FOLDER_ADD	0x0004
SEND_FOLDER_REMOVE	0x0008
SEND_SCRIPT	0x0010
SEND_USER_CHANNEL	0x0020
SEND_EXECUTE_PROCESS	0x0040
SEND_WEBSERVICE	0x0080
SEND_REPORT	0x0100

Column Name	Data Type	DbVer	Description
SEND_TRANSITION		0x0200	
SEND_ALFEVENTCALL		0x0400	
SEND_BROADCAST_CHANNEL		0x0800	
SEND_LDAP_SYNCUP		0x1000	
SEND_OTHER		0x80000000	
SEND_ALL		0xFFFFFFFF	

TS_NOTIFICATIONFIELDS

This table stores information about the fields that will be sent with the notification. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_NOTIFICATIONID	int	10	Foreign key to the TS_NOTIFICATIONS table to reference the notification.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table to reference the workflow to which the notification belongs.
TS_FIELDSTR	varchar(255)	10	Not used. Deprecated in version 55009. Use TS_LONGFIELDSTR instead.
TS_LONGFIELDSTR	longvarchar	55009	String of the fields ids to be included in the notification.
TS_TABLEID	int	62004	Table Id of the fields. Added because of the Notifications based on Auxiliary Tables.

TS_NOTIFICATIONMESSAGES

This table acts as a hold area for email messages that need to be sent for notifications. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_SENDTYPE	int	10	Future releases of SBM may support notifications to a fax machine or pager. Currently only email and folder modifications are supported. See notes below.
TS_PRIORITY	int	10	This field holds the value that will be used in the X-Priority SMTP mail header field to indicate the priority of the email message. Ignored for MAPI email. See notes below.
TS_TIME	int	10	Prior to version 5.51, this stored the time the message was posted to the table. Value was unused. From version 5.51 forward, this is set to 0 when a message is initially created. If the message fails to be sent, the value is set to the current UTC time. Then the value is used to retry the message for some length of time and deleted after that time has expired.
TS_ADDRESS	longvarchar	10	Email address of the recipient.
TS_SUBJECT	longvarchar	10	Subject of the email message.
TS_CONTENT	longvarchar	10	Contains the body of the email message. This field is ignored if TS_BLOBID is non-zero. If the text for the email message is too large to fit in this text field, it should be left blank and the text should be placed in the TS_BLOBS table. The TS_BLOBID field in this record should contain the foreign key to TS_BLOBS table for the TS_BLOBS record that contains the text for this email message.
TS_USERID	int	10	Not used.
TS_REPLYADDRESS	longvarchar	13	'Reply to' address in the message. If this is empty, this is set to the reply address in the SBM System Administrator.

Column Name	Data Type	DbVer	Description
TS_CONTENTTYPE	varchar(512)	55100	Describes the format of the body of the email message and corresponds to the sub-type portion of the content-type field in the email header as described in RFC-2045. SBM currently supports only text content in email messages. Valid values are things like 'text/plain' and 'test/html'. 'ContentType:' will be prepended to the text that is in this field when it is added to the email header. If you need to add a charset as well as a content type you would set this field to something like 'text/plain; charset="ISO-8859-1"'
TS_BLOBID	int	55200	Foreign key to the TS_BLOBS table. This field is 0 unless the text of email is too large to fit in the TS_CONTENT field. In this case the TS_CONTENT field should be blank and this field will contain the TS_ID from the TS_BLOBS table where the email content for this message is located. The TS_CONTENT field is ignored if the TS_BLOBID field is non-zero.
TS_ACTIONSTAMP	Int	1013000010	Transition that triggered the notification. Foreign key to the higher level change (i.e., transition) in TS_CHANGEACTIONS.
TS_THREADID	Varchar(100)	1013000010	Unique key of the thread that was used to processthe message. Micro Focus recommends that you do not alter this field without assistance from Support or a Micro Focus developer.
TS_OPTIONS	Int	1013000010	This field contains additional information about the message.
TS_ITEMID	Int	1013000010	ID for the issue, incident or other record to which this record refers.
TS_PROJECTID	Int	1013000010	Foreign key to the TS_PROJECTS table indicating the project ID in which this message was created.
TS_TABLEID	Int	1013000010	Foreign key to the TS_ID column of the TS_TABLES table indicating the table where the notification was triggered.
TS_RETRYCOUNT	Int	1013000010	This field contains the number of failed attempts to send an email.
TS_MAILHEADERS	Varchar(2000)	1013000010	This field contains additional headers which are added to the email message.

Column Name	Data Type	DbVer	Description
TS_FROMADDRESS	Varchar(256)	1013000010	"From" address in the message. If this is empty, this value is set to the from address in that is set in SBM Configurator.
TS_CCADDRESS	Varchar(max)	1000000911	"CC" field in the message.
TS_CHANNELID	int	1012010111	A foreign key to the TS_NOTIFICATIONCHANNELS table indicating a notification channel which would be used to route a notification.
TS_PLUGINUUID	varchar(64)	1012010111	The Universally Unique Identifier (UUID) of the plugin that would be used to route notification message.
TS_BCCADDRESS	Varchar(max)	1000000911	"BCC" field in the message.
TS_MAILINLINES	Varchar(max)	1100000004	This field contains a set of an e-mail inline attachment entries separated by the '\n'. Every e-mail inline attachment entry is a content id and attachment id separated by the '='. Mail Client extracts attachment by the attachment id and updates target e-mail by adding an attachment to the corresponding content id.
TS_UINOTIFICATIONID	int	1140000056	Not currently used.

Values for TS_SENDTYPE column:

SEND_NONE	0x0000
SEND_FAX	0x0001
SEND_PAGER	0x0002
SEND_FOLDER_ADD	0x0004
SEND_FOLDER_REMOVE	0x0008
SEND_SCRIPT	0x0010
SEND_USER_CHANNEL	0x0020
SEND_EXECUTE_PROCESS	0x0040
SEND_WEBSERVICE	0x0080
SEND_REPORT	0x0100
SEND_TRANSITION	0x0200
SEND_ALFEVENTCALL	0x0400
SEND_BROADCAST_CHANNEL	0x0800
SEND_LDAP_SYNCUP	0x1000

SEND_OTHER	0x80000000
SEND_ALL	0xFFFFFFFF

Values for TS_PRIORITY column:

TSN_MSG_PRIORITY_HIGHEST	1
TSN_MSG_PRIORITY_HIGH	**2**
TSN_MSG_PRIORITY_NORMAL	3
TSN_MSG_PRIORITY_LOW	4
TSN_MSG_PRIORITY_LOWEST	5

TS_NOTIFICATIONPERMISSIONS

This table stores the users/groups allowed to subscribe to a notification. It provides a many-to-many relationship between TS_NOTIFICATIONS and TS_USERS or TS_GROUPS tables. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_NOTIFICATIONID	int	10	Foreign key to the TS_NOTIFICATIONS table to reference the notification the user/group is allowed to subscribe.
TS_USERID	int	10	Foreign key to the TS_USERS table indicating the id of the user who is allowed to subscribe.
TS_GROUPID	int	10	Foreign key to the TS_GROUPS table indicating the id of the group that is allowed to subscribe.
TS_CHANNELID	int	1012010111	A foreign key to the TS_NOTIFICATIONCHANNELS table indicating a notification channel which would be used to route a notification.

TS_NOTIFICATIONRESPONSES

This table stores the notification response records. The notification responses are used for generating links in notification template which allows user to run regular quick transitions from mail client. Now there is no need to open browser, login and open an item for transition execution. That could be done by one click from mail client.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000006	Unique numeric id for the record.
TS_NOTIFICATIONID	int	1013000006	Foreign key to the TS_NOTIFICATIONS table to reference the notification.
TS_NAME	varchar(128)	1013000006	Notification response name. It's used for generating related link in notification template.
TS_OPTIONS	int	1013000006	Reserverd.
TS_INITIALSTATEID	int	1013000006	Foreign key to the TS_STATES table indicating the current state of the item for transition execution. If the item is not in appropriate state than transition will be not executed. This value could be 0.
TS_TRANSITIONID	int	1013000006	Foreign key to the TS_TRANSITIONS table indicating the id of transition to execute. It should be regular quick transition.
TS_UUID	varchar(64)	1013000006	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	1013000006	If not zero, a foreign key to the TS_NAMESPACES table.
TS_ALIASES	varchar(256)	1110000002	Notification response aliases. The aliases that you enter correspond to one or more replies that the recipient could use to transition the item.
TS_PRIORITY	int	1110000002	Notification response priority. Should be unique if couple of them are defined.
TS_ALIASSOURCE	int	1130000007	If zero, try to search aliases in the body of the message, otherwise in the subject.

TS_NOTIFICATIONRULES

This table stores information about notification rules that are evaluated by notifications. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_TABLEID	int	10	Foreign key to the TS_TABLES table indicating the table to which the notification applies.
TS_SUBPROJECTS	int	10	Whether (1) or not (0) the rule applies to sub-projects. Not settable at this time; should always be 1.
TS_STATUS	int	10	Reserved for future use.
TS_NAME	varchar(64)	10	Name of the rule.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

TS_NOTIFICATIONS

This table stores information about notifications that have been defined. It stores one record for each notification. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_TABLEID	int	10	Foreign key to the TS_TABLES table indicating the table to which the notification applies. Zero value is deprecated from SBM 2009.
TS_AUTHORID	int	10	Currently set to 0. Intended to contain a foreign key to the TS_USERS table indicating the user who authored the notification. Not currently used. Future versions of SBM may incorporate private level privileges for notifications.
TS_TYPE	int	10	Type of notification. See notes below.
TS_SENDTYPE	int	10	Action to be performed for the notification. See notes below for possible values.
TS_OPTIONS	int	10	Bit mask of options used to indicate various options, e.g., whether this is an escalation or a standard notification. See notes below.
TS_PRIORITY	int	10	Applicable only when TS_SENDTYPE is set to TSN_SEND_EMAIL. This field holds the value that will be used in the X-Priority SMTP mail header field to indicate the priority of the email message. See notes below.
TS_RULEID	int	10	Foreign key to the TS_NOTIFICATIONRULES table indicating the rule to be evaluated for this notification.
TS_STARTAFTER	int	10	Delay period for performing the action specified once the notification has been evaluated.
TS_STARTUNITS	int	10	Unit of measure for TS_STARTAFTER. See notes below.
TS_INTERVAL	int	10	Interval for the escalation period.
TS_INTERVALUNITS	int	10	Unit of measure for TS_INTERVAL. See notes below.

Column Name	Data Type	DbVer	Description
TS_ASLONGASID	int	10	This column is currently unused. Originally designed to be a foreign key to the TS_NOTIFICATIONRULES table indicating the rule to be evaluated for the escalation process, or (-1) if not used.
TS_UNTILID	int	10	Foreign key to the TS_NOTIFICATIONRULES table indicating the rule to be evaluated for the escalation process, or (-1) if not used.
TS_ESCALATIONID	int	10	Foreign key to the TS_NOTIFICATIONS table indicating the notification to be sent if escalation occurs, or (-1) if not used.
TS_ESCALATEAFTER	int	10	Delay period for escalation once the criteria have been evaluated.
TS_ESCALATEUNITS	int	10	Unit of measure for TS_ESCALATEAFTER. See notes below.
TS_STATUS	int	10	Not currently used.
TS_NAME	varchar(64)	10	Name of the notification.
TS_DESCRIPTION	longvarchar	10	Any remarks or description of the notification.
TS_MACROID	int	10	Id value of the script, if a script has been associated with this notification record. Foreign key to the TS_MACROS table.
TS_FOLDERID	int	10	Foreign key to the TS_FOLDERS table to reference the folder being manipulated (item added or removed) by the notification.
TS_TEMPLATENAME	varchar(128)	23	Email template name for this notification. Only the name of the template file, not the full path to the template file. All template files reside in \SBM\Application Engine\emailtemplate\notificationtemplates after installation. Default value is default.txt.

Column Name	Data Type	DbVer	Description
TS_BRETRYONFAILURE	int	55001	If a script has been associated with this notification, it is possible for the script to fail by returning an error condition. If this happens, the Notification Server can retry the script on the next cycle. Any non-zero value will cause the server to retry.
TS_RETRYINTERVAL	int	55001	If a script is to be retried, it will be retried every N cycles. This value is N.
TS_BLIMITRETRIES	int	55001	If zero, then the server will never stop retrying. If non-zero, only a finite number of retries will occur.
TS_MAXRETRIES	int	55001	This is the maximum number of retry attempts the server will make for a given notification.
TS_WSCALLID	int	66003	Foreign key to the TS_WSCALLS table to reference the id value of the Web service function to be run upon this notification.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_CALENDARTYPE	int	71005	This value could be any of the following values: 24 Hour(0), User(Owner)(-1), User(Submitter)(-2), or TS_CALENDARS.TS_ID for Escalation Notifications
TS_REPEATCALENDARTYPE	int	71005	This value could be any of the following values: 24 Hour(0), User(Owner)(-1), User(Submitter)(-2), or TS_CALENDARS.TS_ID for Repeat Notifications
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_PROJECTNAME	varchar(128)	904000205	Only used by scheduled reports. Name of the project related to scheduled reports notification.
TS_REPORTURL	varchar(256)	904000205	Only used by scheduled reports. URL of the report related to scheduled reports notification.
TS_REPORTID	int	904000205	Only used by scheduled reports. Id of the report related to scheduled reports notification.

Column Name	Data Type	DbVer	Description
TS_SAVECOPYLOCALLY	int	904000205	Only used by scheduled reports. Flag indicating if user wants to save the copy of the report locally (value 1), or not (value 0).
TS_ATTACHOUTPUTTOEMAIL	int	904000205	Only used by scheduled reports. Flag indicating if user wants to attach the report file to the email (value 1), or not (value 0).
TS_SHELLTYPE	varchar(64)	1012010111	Indicates shell type and is used for generating links of the proper format.
TS_TRANSITIONID	int	1012010111	A foreign key to the TS_TRANSITION table indicating the transition or ALF event that would be executed.
TS_INITIALSTATEID	int	1012010111	A foreign key to the TS_STATES table indicating the initial state of the transition.
TS_TRANSUSERFLDID	int	1012010111	A foreign key to the TS_FIELDS table indicating field that is used to fetch a user associated with a transition.
TS_ALIASSOURCE	int	1120000011	Shows where to look for notification response alias. See notes below.
TS_LASTTRIGGEREDDATE	bigint	1140000010	Time, as seconds since Jan 1, 1970, when the latest event, associated with this notification, was processed.
TS_LASTTRIGGEREDSTATUS	int	1140000021	Flag that indicates whether the latest event, associated with this notification, was processed successfully (value 1) or reported failure (value 0).
TS_BLOBID	int	150000001	If not zero, a foreign key to the TS_BLOBS table. Used to store result of scheduler job execution.

Values for TS_TYPE column:

	-2	Scheduled reports notification.
	-1	SLA framework notification.

Values for TS_SENDTYPE column:

SEND_NONE	0x0000

SEND_FAX	0x0001
SEND_PAGER	0x0002
SEND_FOLDER_ADD	0x0004
SEND_FOLDER_REMOVE	0x0008
SEND_SCRIPT	0x0010
SEND_USER_CHANNEL	0x0020
SEND_EXECUTE_PROCESS	0x0040
SEND_WEBSERVICE	0x0080
SEND_REPORT	0x0100
SEND_TRANSITION	0x0200
SEND_ALFEVENTCALL	0x0400
SEND_BROADCAST_CHANNEL	0x0800
SEND_LDAP_SYNCUP	0x1000
SEND_OTHER	0x80000000
SEND_ALL	0xFFFFFFFF

Values for TS_OPTIONS column:

TSN_OPTIONS_NONE	0x0000
TSN_OPTIONS_ESCALATION	**0x0001**
TSN_OPTIONS_ALL	0xFFFFFFFF

Values for TS_PRIORITY column:

TSN_MSG_PRIORITY_HIGHEST	1
TSN_MSG_PRIORITY_HIGH	**2**
TSN_MSG_PRIORITY_NORMAL	3
TSN_MSG_PRIORITY_LOW	4
TSN_MSG_PRIORITY_LOWEST	5

Values for TS_STARTUNITS, TS_INTERVALUNITS and TS_ESCALATEUNITS column:

Minutes	0
Hours	1
Days	2
Weeks	3

Values for TS_ALIASSOURCE column:

1	Look for notification response alias in an email subject.
2	Look for notification response alias in an email body.

TS_NOTIFICATIONSUBSCRIPTIONS

This table supports the many-to-many relationship between TS_NOTIFICATIONS and TS_USERS or TS_GROUPS tables. Each record indicates which user, or group of users, will receive the notification. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_NOTIFICATIONID	int	10	Foreign key to the TS_NOTIFICATIONS table to reference the notification to which the users are subscribing.
TS_NOTIFY	int	10	Indicates whether (1) or not (0) the notification is always sent for the user and/or group, in other words, notified regardless of user settings.
TS_SUBSCRIBE	int	10	Indicates whether (1) or not (0) the users or groups specified have subscribed to the notification, in other words, whether or not they have elected to receive it. (2) indicates that a user has overridden a group subscription.
TS_USERID	int	10	Foreign key to the TS_USERS table indicating the id of the user to be notified.
TS_GROUPID	int	10	Foreign key to the TS_GROUPS table indicating the id of the group to be notified.
TS_CHANNELID	int	1012010111	A foreign key to the TS_NOTIFICATIONCHANNELS table indicating a notification channel which would be used to route a notification.

TS_NOTIFICATIONTOKENS

This table stores notification token records used for transition execution. Each notification token is generated by notification server and is based on related notification response record. See also TS_NOTIFICATIONREPONSES table information.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000006	Unique numeric id for the record.
TS_USERID	int	1013000006	Foreign key to the TS_USERS table to reference the user which is used for transition execution.
TS_NOTIFICATIONRESPONSEUUID	varchar(64)	1013000006	The Universally Unique Identifier (UUID) of related notification response record.
TS_ITEMUUID	varchar(64)	1013000006	The Universally Unique Identifier (UUID) of the item.
TS_TOKEN	varchar(128)	1013000006	Special token indicating uniqueness of the notification token.
TS_TIME	int	1013000006	Notification token creation time. It's used in expiration process to delete expired notification tokens. By default, notification token is valid 3 days.

TS_OBJATTRS

This table is reserved for internal use only, do not modify.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	62004	Unique numeric id for the object attr.
TS_TABLEID	int	62004	Reserved for future use.
TS_RECORDID	int	62004	Reserved for future use.
TS_FLAGS	int	62004	Reserved for future use.

TS_OLDPASSWORDS

This table keeps a record of the last n passwords set for a user. The amount of password records it stores per user is configurable in the SBM System Administrator and is used to enforce an organization's password policy.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	65001	Unique numeric id for the password record.
TS_USERID	int	65001	The user to whom the password record belongs.
TS_PASSWORD	varchar(258)	65001	The encrypted password that the user had entered.
TS_TIME	bigint	65001	A timestamp of when the password had been created.

TS_PAUSEDITEMS

This table contains records that identify primary items (itemid/tableid) that are currently paused (locked, bound, or anchored) to their current state.   You cannot execute a transition against an item that would cause the item to change its current state. This feature was added to support the Demand Manager solution in SBM 10.1.1.4. In 10.1.2, we hope to make this a more mainstream feature in the SBM platform.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1011040102	Database Identifier.
TS_ITEMID	int	1011040102	TS_ID of the SBM Item.
TS_TABLEID	int	1011040102	Foreign key into the TS_TABLES table.
TS_REASONID	int	1011040102	Foreign key to the TS_PAUSEDREASONS table.
TS_REASONSTR	varchar(128)	1011040102	Custom reason for pausing the item. NOT USED in 10.1.1.4.
TS_ORIGIN	varchar(64)	1011040102	Entity from which the item was paused. For 10.1.1.4, DEMAND MANAGER is the only origin from which items may be paused.
TS_IDENTITY	int	1011040102	A unique identifier tied directly to the origin.

TS_PAUSEDREASONS

This table contains a set of reasons for which an SBM item maybe paused or unpaused. These reasons are tied directly to string identifiers, which are fully translatable and may be locale-specific.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1011040102	Database Identifier.
TS_STRINGIDENID	int	1011040102	Foreign key to the TS_STRINGIDENTIFIERS table.
TS_STRINGIDENUUID	varchar(64)	1011040102	UUID of String Identifier used to pause / unpause an item.
TS_PAUSED	int	1011040102	Flag to indicate a paused (1) or unpaused (0) state for this paused reason.

TS_PERMISSIONACTIONS

This table contains a set of actions that can be granted or restricted for Roles. This includes an action type, an optional conditional field (i.e. Submitter, Owner, Contact, and Company) and a context flag (i.e. On Submit, In Detail Reports).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Database Identifier.
TS_NAME	varchar(64)	71005	Textual name of the permission action with a placeholder for the object name. For example "Manage".
TS_TYPE	int	71005	Enumerated type for each type of permission action implemented for Roles. This should include at a minimum: Create, View, Update, Transition, Delete, Own, Restore, Mass Update, Link, Unlink, Manage, Run, and Set Unrestricted Status.

TS_PERMISSIONCONDITIONS

This table contains objects that permissions can be granted against.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Database Identifier.
TS_NAME	varchar(64)	71005	Textual name of the condition with an optional place holder for the field name. For instance "you authored" for the simple case of "If Author.
TS_TYPE	int	71005	An enumerated type for each condition. This list will include the following for backwards compatibility: "If Owner", "If Secondary Owner", "If Contact", "If Contact Company", "If Submitter", "On Submit", "On Transition", "On Update", "In Detail Reports" and "If Author" (for notes/attachments/public reports). If the condition type is related to a User field, the TS_FIELDSYSCODE column in this table will be used to determine if the user has the permission or not.
TS_FIELDSYSCODE	int	71005	Optional syscode of the field in the TS_FIELDS table whose value will determine if the permission has been granted or not. For backwards compatibility, this will be the Owner, Secondary Owner, Submitter, or Contact field. If the condition type is related to a User field, this column will be zero (0). This could be implemented as an enumerated type, but the generic implementation would allow for any field to be specified.

TS_PERMISSIONOBJECTS

This table contains objects that permissions can be granted against.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Database Identifier.
TS_NAME	varchar(64)	71005	Textual name of the object. For example "Public Reports".
TS_TYPE	int	71005	an enumerated type for each object. This list will include the following for backwards compatibility: Item, Archived Item, Graphical Workflow, State Change History, Change History, Principal Item, Subtasks, Version Control History, User Fields, Advanced Fields, Manager Fields, System Fields, Hidden Fields, Attachments, Notes, Private Reports, Guest-Level Reports, User-Level Reports, Manager-Level Reports, Public Reports and Advanced SQL Queries.

TS_PERMISSIONS

This table establishes the relationship between permission actions and objects. So, for instance the permission to "Manage Private reports" would reference the Permission Action (Manage) and the Permission Object (Private Reports). All existing permissions will be rolled into this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Database Identifier.
TS_NAME	varchar(64)	71005	Static or Format string for building the textual name of the permission. If it is a format string it will include 3 positional parameters. {0} will be the permission action, {1} will be the permission object and {2} will be the permission condition. So, the format may be "{0} {1} {2}", which might be formatted to say: "Manage Public Reports you authored".
TS_ACTIONID	int	71005	Foreign key into the TS_PERMISSIONACTIONS table.
TS_OBJECTID	int	71005	Foreign key into the TS_PERMISSIONOBJECTS table.
TS_CONDITIONID	int	71005	Foreign key into the TS_PERMISSIONCONDITIONS table. If zero, the privilege is unconditional.
TS_PROJECTPRIVID	int	71006	A legacy project privilege enumeration id (privId_e) used in existing privilege code. For example: TS_USRPRJPRIV_ACCESSPRIVATERPT.
TS_TABLEPRIVID	int	71006	A legacy table privilege enumeration id (privId_e) used in existing privilege code. For example: TS_USRTBLPRIV_ACCESSPRIVATERPT.

TS_PHASES

This table is not used.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1000001101	Database Identifier.
TS_NAME	varchar(64)	1000001101	Name of the phase.
TS_WORKFLOWID	int	1000001101	Foreign key into the TS_WORKFLOWS table.
TS_UUID	int	1000001101	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	1000001101	If not zero, a foreign key to the TS_NAMESPACES table.

TS_PLUGINCONTEXT

This table contains values that are assigned to plugin variables when you create notification channels.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	101201011 1	Unique numeric ID for the record
TS_PLUGINVARID	int	101201011 1	A foreign key to the TS_PLUGINVARS table indicating plugin variable that current context record is associated with.
TS_ENTITYID	int	101201011 1	A foreign key to the TS_CHANNELS table indicating a channel that current context record is associated with.
TS_TABLEID	int	101201011 1	ID of the table that current setting is related to.
TS_VALUE	varchar(max)	101201011 1	Text value of the current context record.

TS_PLUGINS

This table contains records for registered Notification Server plugins.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010111	Unique numeric ID for the record.
TS_NAME	varchar(255)	1012010111	The display name for the plugin.
TS_DESCRIPTION	varchar(max)	1012010111	The description of the plugin.
TS_HOSTS	varchar(max)	1012010111	Comma-separated list of hosts where current plugin is registered.
TS_VERSION	int	1012010111	Current version of the notification plugin.
TS_ACTIVE	int	1012010111	1 if plugins is active, 0 if not.
TS_UUID	varchar(64)	1012010111	The Universally Unique Identifier (UUID) that applies to this record.
TS_PLUGINTYPE	varchar(64)	1012010111	Type of plugin. It can be any of the following types: "broadcast", "non-broadcast", or "mixed".

TS_PLUGINVARS

This table contains records of registered plugin variables.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	101201011 1	Unique numeric ID for the record.
TS_PLUGINID	int	101201011 1	A foreign key to the TS_PLUGINS table.
TS_VARINTNAME	varchar(255)	101201011 1	Internal name of the variable. This vaule is used as the text ID of the variable.
TS_VARTYPE	int	101201011 1	The type of variable. "0" – text, "1" – password, "2" – numeric "3" – Not rendered, values should be taken from related table instead.
TS_VARNAME	varchar(255)	101201011 1	Display name of the variable.
TS_VARDESCRIPTION	varchar(max)	101201011 1	The description of the variable.
TS_TABLEID	int	101201011 1	ID of the related table.
TS_MANDATORY	int	101201011 1	Specifies if the variable is mandatory or not. 1 – mandatory, 0 – not.

TS_PRIVILEGES

This table stores privilege records. Privileges are configured using SBM Application Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	3	Unique numeric id for the privilege records.
TS_TYPE	int	3	TS_PRIVTYPE of this privilege record.
TS_USERID	int	3	If this privilege record refers to a user, this column contains a foreign key to the TS_USERS table indicating the id of the user. Otherwise, the value is set to 0, and the TS_GROUPID should be non-zero.
TS_GROUPID	int	3	If this privilege record refers to a group, this column contains a foreign key to the TS_GROUPS table indicating the id of the group. Otherwise, the value is set to 0, and the TS_USERID should be non-zero.
TS_PROJECTID	int	3	Misnomer. Item id of the project, workflow, folder, or table to which this privilege record pertains. For system privilege records, this value is 0. Not all items necessarily have a corresponding privilege record. The absence of a privilege record for an item means to inherit the parent item's privileges. If the item is the root level project, and there is still no privilege record, it means no privileges have been granted.
TS_REPORTID	int	3	Reserved for future use. Currently set to 0.
TS_TRANSID	int	3	Reserved for future use. Currently set to 0.
TS_MASK1	int	3	Bit-mask representing a set of privileges. Knowledge of specific bits is not necessary for API usage.
TS_MASK2	int	3	Same as TS_MASK1.
TS_MASK3	int	3	Same as TS_MASK1.
TS_MASK4	int	9	Same as TS_MASK1.
TS_FOLDERID	int	7	Deprecated in Database Version 500.
TS_MASK5	int	10	Same as TS_MASK1.

Database Version 500 redefines how privilege records are interpreted. System privileges which had previously been stored against the root project are now stored in their own record. The TS_PROJECTID column, though not renamed, now stores a more general concept of an item id, i.e. the record id of the item type specified in the TS_TYPE column.

The enumerated ids for all privileges are as follows.

Privilege type enumeration/mask

Normal user privilege: SYStem, PRoJect, WorKFlow, FoLDer

TS_PRIVTYPE_USERSYS	0x00000010
TS_PRIVTYPE_USERPRJ	0x00000011
TS_PRIVTYPE_USERWKF	0x00000012
TS_PRIVTYPE_USERFLD	0x00000013
TS_PRIVTYPE_USERTBL	0x00000014

Administrative privilege: SYStem, PRoJect, WorKFlow

TS_PRIVTYPE_ADMSYS	0x00000020
TS_PRIVTYPE_ADMPRJ	0x00000021
TS_PRIVTYPE_ADMWKF	0x00000022
TS_PRIVTYPE_ADMFLD_PRJ	0x00000023
TS_PRIVTYPE_ADMFLD_WKF	0x00000025
TS_PRIVTYPE_ADMCON	0x00000040
TS_PRIVTYPE_UNKNOWN	0x1000000f
TS_PRIVTYPE_SYSMASK	0x0000000f
TS_PRIVTYPE_ADMMASK	0x00000020
TS_PRIVTYPE_TBLMASK	0x00000004

The combinations of TS_TYPE and TS_MASK1, TS_MASK2, TS_MASK3, TS_MASK4 and TS_MASK5 are too numerous to list in this document. For more detailed information about the privileges and bitmasks, see solution S141243 in the KB. If you wish to manipulate data in the privilege masks, please refer to the API documentation. Users of the API need not be concerned with the underlying storage mechanism. The HasPrivilege() function keys off an enumerated privilege identifier and performs the internal bitwise operations.

TS_PROBLEMS

This table contains Knowledge Base problems. The table uses variable fields. It was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the problem.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_TITLE	varchar(80)	10	Brief title for the problem.
TS_FOLDERID	int	10	Foreign key to the TS_FOLDERS table to reference the Knowledge Base folder to which this problem belongs.
TS_VISIBILITY	int	10	Indicates if this problem is internal (0) or public (1).
TS_DESCRIPTION	longvarchar	10	Descriptive text of the problem.
TS_UPDATEDDATE	int	10	Date the problem was most recently updated.
TS_PRODUCTSAFFECTED	longvarchar	10	Products affected by the problem.

TS_PROCESSMODELS

This table contains one row for every application (human workflow) and orchestration (BPEL flow) in the database. If it is an application, the definition is stored in the tables related to an SBM application. If it is an orchestration, the definition is zipped and stored in a blob when deployed to SBM Application Engine and then unzipped and included in the Application Definition File when the application is exported.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71009	Unique numeric id for the record.
TS_UUID	varchar(64)	71009	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(128)	71009	Name of the Application or Orchestration.
TS_DESCRIPTION	longvarchar	71009	Descriptive text of the Application or Orchestration.
TS_ROOTPATH	varchar(255)	71009	The path within the process app Payload where the Application or Orchestration definition can be found
TS_DEFINITION	varchar(255)	71009	The path to the definition XML file.
TS_ENDPOINTS	varchar(255)	71009	The path to the endpoints XML file.
TS_INSTANCE	varchar(255)	71009	The path to the instance XML file.
TS_VARDATA	varchar(255)	71009	The path to the vardata XML file.
TS_TYPE	varchar(255)	71009	The type of the process app component. Currently either Application or Orchestration.
TS_SOLUTIONID	int	71009	If this is an application, a foreign key into the TS_SOLUTIONS table for the application definition.
TS_BLOBID	int	71009	If this is an Orchestration, a foreign key into the TS_BLOBS table where the zipped image of the definition is stored.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

TS_PROCESSMODELREFERENCES

This table contains one row for every Reference node in the Reference List as part of the process app definition deployed from SBM Composer. This is a list of external object references that is imported, stored and exported from Application Engine but never used internally. This table is only used to round-trip the reference information to SBM Composer.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	902000601	Unique numeric id for the record.
TS_NAME	varchar(255)	902000601	The name associated with the external referenced object as provided by SBM Composer.
TS_SOLUTIONID	int	902000601	Foreign key to the TS_SOLUTIONS table denoting which solution this reference belongs to.
TS_TYPE	int	902000601	The type of the external object being referenced. The value is provided by SBM Composer in the "type" attribute. This was originally intended to be the table id of the object type, but is currently always 1.
TS_OBJECTUUID	varchar(64)	902000601	The external object's UUID provided by SBM Composer in the "UUID" attribute.
TS_DESIGNID	varchar(64)	902000601	The external object's repository design UUID provided by SBM Composer in the "designID" attribute.
TS_PARENTUUID	varchar(64)	902000601	The external object's parent's UUID provided by SBM Composer in the "parentUUID" attribute.
TS_ICONNAME	varchar(255)	902000601	The external object's icon name provided by SBM Composer in the "iconName" attribute.
TS_NAMESPACEID	int	902001002	If not zero, a foreign key to the TS_NAMESPACES table.

TS_PROFILECARDOVERRIDES

This table used to store information about what data shows up in which locations on the User Profile Card.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1014000000	Unique numeric id for the record.
TS_UUID	varchar(64)	1014000000	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	1014000000	If not zero, a foreign key to the TS_NAMESPACES table.
TS_TYPEID	int	1014000000	Profile Card User Data Type (User, Resource, Contact)
TS_INTERNALID	int	1014000000	Id associated with the Profile Card User Data Type.
TS_SECTIONID	int	1014000000	Profile Card Section Identifier.

Profile Card User Data Type

TYPE_PCARD_USER	0
TYPE_PCARD_RESOURCE	1
TYPE_PCARD_CONTACT	2

Profile Card User/Resource Id

ATTR_USER_AVATAR	1
ATTR_USER_CALENDAR	2
ATTR_USER_EMAIL	3
ATTR_USER_FULLNAME	4
ATTR_USER_LASTACTIVITY	5
ATTR_USER_LOCALE	6
ATTR_USER_LOCALTIME	7
ATTR_USER_MOBILE	8
ATTR_USER_OOOFFICE	9
ATTR_USER_PHONE	10
ATTR_USER_PREFEREDCONTACT	11
ATTR_USER_STATUS	12
ATTR_USER_TIMEZONE	13
ATTR_USER_TITLE	14
ATTR_RESOURCE_RESOURCE	99

ATTR_RESOURCE_ATTRIBUTE	100
ATTR_RESOURCE_BUSINESSUNIT	101
ATTR_RESOURCE_CALENDAR	102
ATTR_RESOURCE_DEPARTMENT	103
ATTR_RESOURCE_DESCRIPTION	104
ATTR_RESOURCE_EMPLOYEEID	105
ATTR_RESOURCE_ENDDATE	106
ATTR_RESOURCE_JOBFUNCTION	107
ATTR_RESOURCE_LOCATION	108
ATTR_RESOURCE_MANAGER	109
ATTR_RESOURCE_SKILLS	110
ATTR_RESOURCE_STARTDATE	111
ATTR_RESOURCE_TEAMS	112
ATTR_RESOURCE_TITLEGROUP	113
ATTR_RESOURCE_TYPE	114

User Data Type Contact: TS_CONTACT.TS_ID

Profile Card Section Identifiers

SECTION_PCARD_NOSHOW	0
SECTION_PCARD_MAIN	1
SECTION_PCARD_ORG	2
SECTION_PCARD_CONTACT	3
SECTION_PCARD_LOCATION	4
SECTION_PCARD_INFO	5

TS_PRODUCTUSAGES (Obsolete)

This table used to store information about the products and their associations. The table was introduced in Database Version 10. Currently this is obsolete and the contents of it have been upgraded and moved to the TS_USAGES table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_PRODUCTID	int	10	Foreign key to the TS_PRODUCTS table to reference the product.
TS_FIELDID	int	10	Foreign key to the TS_FIELDS table to reference the product field associated.
TS_RECPRDID	int	10	Id value of the associated item.

TS_PROJECTANCESTRYDENORM

Denormalizes the Project hierarchy. Each row represents the relationship between a project and one of its ancestor projects. This table makes selecting all sub-projects of a project, or all ancestors of a project, very simple. For convenience, each project is included in this table as an ancestor of itself with TS_DEPTH=0, so if you wish to join to this table to return a certain project and all of its children, you select the TS_PROJECTID column from this table where TS_ANCESTORID is equal to the project you are searching for. If you wish to only return the first level decendents of a project, you select the TS_PROJECTID from this table where TS_ANCESTORID is equal to the project you are searching for and TS_DEPTH=1.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000707	Unique numeric id for the record.
TS_PROJECTID	int	904000707	Foreign key to the TS_ID column of the TS_PROJECTS table, indicating which project this record is for.
TS_TABLEID	int	904000707	Foreign key to the TS_ID column of the TS_TABLES table, indicating which table this project is associated with.
TS_ANCESTORID	int	904000707	Foreign key to the TS_ID column of the TS_PROJECTS table, indicating which ancestor project this record is for.
TS_DEPTH	int	904000707	Number of parent projects between this project and the ancestor. If 0, TS_PROJECTID and TS_ANCESTORID are equal.

TS_PROJECTS

This table contains one row for each project in the database.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the project.
TS_NAME	varchar(32)	1	Name of the project.
TS_PARENTID	int	1	Project id of the parent project. 0 if this is the root-level project. Should be exactly one project record that has TS_PARENTID set to 0, the root project.
TS_ALLOWCHGREQS	int	1	1 if this project allows items to be submitted. 0 if it does not.
TS_USEPARENT	int	1	Not used.
TS_PREFIX	varchar(32)	1	Reserved for future use. Currently set to an empty string.
TS_USEPARENTSEQ	int	1	1 if this project should use its parent project's sequencing numbers for newly submitted items. 0 if it uses its own sequence number.
TS_LASTID	int	1	Last item id for this project. If TS_USEPARENTSEQ is set to 1, this value is ignored and the parent project's TS_LASTID is used instead. This information allows newly submitted items to be automatically given an item id in a sequential fashion.
			This column cannot be updated through the API via an Update operation. Its value is also not returned with a read operation. It can only be read/updated through the SBM System Administrator. However, when a new project is created, this value will be stored in the database.
TS_ZEROFILLTO	int	1	Specifies how many digits the item id should be zero-filled. Since the item id is stored as a character string instead of an integer, it is important to zero-fill the id to maintain proper sorting.

Column Name	Data Type	DbVer	Description
TS_SEQUENCE	int	1	Represents the order of the project within its siblings, under their parent, in the overall project hierarchy. This makes it possible to retrieve the projects in project-hierarchy order simply by ordering the result set via this sequence value, as shown below: select * from Projects order by sequence Prior to database version 6, this value did not represent the z-order, but instead only represented a project's ordering relative to its siblings.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table indicating the associated named workflow.
TS_USEPARENTWORKFLOW	int	10	Indicates whether (1) or not (0) the sub-project uses the same workflow that is associated to its parent project.
TS_DESCRIPTION	longvarchar	25	Description of the project. Used by Project Bridge and not available through the Administrator.
TS_ALTNAME	varchar(32)	57000	Alternate name of the project shown to users not having view privilege.
TS_ANONYMOUSSUBMIT	int	63009	Indicates whether anonymous submit is allowed. When equal to 1, anonymous submit is allowed, otherwise, value is 0.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_INTERNALNAME	varchar(255)	1000000302	Readable Identifier Unique per Application

TS_PROJECTSELECTIONS

This table forms a many-to-many relationship between the TS_PROJECTS and TS_SELECTIONS tables, and between the TS_WORKFLOWS and TS_SELECTIONS tables. This table that makes it possible for selections within a selection field to be available for some projects/workflows but not for other projects/workflows. Either the TS_WORKFLOWID or the TS_PROJECTID will be set in this record, but never both. In order for a selection to be available in a field, there must be a TS_PROJECTSELECTION record with the TS_INSUBPROJECTS flag set to 0 somewhere in the inherited project/workflow hierarchy.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	3	Unique numeric id for the project selection records.
TS_SELECTID	int	3	Foreign key to the TS_SELECTIONS table indicating the selection to which this record refers.
TS_PROJECTID	int	3	Foreign key to the TS_PROJECTS table indicating the project to which the selection is available.
TS_INSUBPROJECTS	int	3	Misnomer. Should be called 'disabled.' Determines if the selection is being disabled (1) or enabled (0) at the specified workflow or project.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table indicating the workflow to which the selection is available.

TS_PROJECTSETTINGS

This table contains a record for a variety of project wide settings with hierarchical structure. Some system settings could be overridden for each project and their children. In this case AE first of all try to searh setting in project settings table (from child project to parent project direction) and if it's not found try to search this setting in TS_SYSTEMSETTINGSNAMESPACED table and after all in TS_SYSTEMSETTING table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10.1.4	Unique numeric id for the project selection records.
TS_PROJECTID	int	10.1.4	Foreign key to the TS_PROJECTS table indicating the project to which this record refers.
TS_NAME	varchar(32)	10.1.4	Project setting name.
TS_DATATYPE	int	10.1.4	Type of project setting. 1 = TS_DATATYPE_INTEGER 4 = TS_DATATYPE_STRING
TS_LONGVALUE	int	10.1.4	Value of a long setting type.
TS_STRINGVALUE	longvarchar	10.1.4	Value of a string setting type

TS_PROJECTTRANSITIONS

This table forms a many-to-many relationship between the TS_PROJECTS and TS_TRANSITIONS tables, and between the TS_WORKFLOWS and TS_TRANSITIONS tables. This table that makes it possible for transitions to be available for some projects but not for other projects. The table was introduced in Database Version 9. Either the TS_WORKFLOWID or the TS_PROJECTID will be set in this record, but never both. In order for a transition to be available in a project/workflow, there must be a TS_PROJECTTRANSITION record with the TS_INSUBPROJECTS flag set to 0 somewhere in the inherited project/workflow hierarchy.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	9	Unique numeric id for the project transition records.
TS_TRANSID	int	9	Foreign key to the TS_TRANSITIONS table indicating the transition to which this record refers.
TS_PROJECTID	int	9	Foreign key to the TS_PROJECTS table indicating the project to which the transition is available.
TS_INSUBPROJECTS	int	9	Misnomer. Should be called 'disabled.' Determines if the transition is being disabled (1) or enabled (0) at the specified workflow or project.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table indicating the workflow to which the transition is available.

TS_PROPERTIES

This table contains information about field properties as they are overridden by transitions. Field properties are attributes that can be assigned to each field. They include information such as whether or not the field is required, queryable or if the default value is overridden by a transition.

Version 4.0 of TeamTrack introduced the named workflow concept, in that the workflow entity stands alone. This allowed fields to be overridden in several different ways. Fields are defined for the workflow, no longer for the project. Overrides can be defined right into the workflow.

As of version 4.0 of TeamTrack, it is no longer possible to specify: 'use the default value' of the field. If overriding a field, the user must specify a value.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the property.
TS_TRANSID	int	1	Foreign key to the TS_TRANSITIONS table to reference the transition overriding the field referenced in TS_FLDID.
TS_FLDID	int	1	Foreign key to the TS_FIELDS table indicating the id of the field having one of its properties overridden.
TS_ACTION	int	1	0 to leave the value of the field unchanged (or in the case of system fields, to use the default application-defined semantics for that field). 1 to set the value of the field to a particular value. If 1, then depending on the field type, the value in one of TS_INTVAL, TS_REALVAL, or TS_CHARVAL is used. If action is 3, then TS_INTVAL and TS_REALVAL are used for calculations. If action is OR'd with 4, then the field's attributes are set equal to TS_INTVAL. See notes below.
TS_PROPERTY	int	1	Misnomer. Stores the section in which this field should be placed. See notes below.
TS_REQUIRED	int	1	Determines if the field is required or not. See notes below.
TS_INTVAL	int	1	For integer fields. Specifies the value the field should be set to if action equals 1. If action is 3, depending on the value of the TS_OPERANDTYPES column, the value may be a literal value for a calculation or the id of a field for a calculation. Otherwise, the value is unused.
TS_REALVAL	double	1	For floating point fields. Specifies the value the field should be set to if action equals 1. If action is 3, this value may be a literal value for a calculation.

Column Name	Data Type	DbVer	Description
TS_CHARVAL	longvarchar	1	For string fields. Specifies the value the field should be set to if action equals 1.
TS_PROJECTID	int	3	Project id for TS_TRANSID, TS_FLDID pair to which the overridden properties applies.
TS_WORKFLOWID	int	10	Foreign key to the TS_WORKFLOWS table to reference the named workflow for which the field was defined.
TS_TABLEID	int	10	Foreign key to the TS_TABLES table indicating the table of the item to which the override applies. Since the workflow tree can mix workflows of different type, this column plays an important role in applying the property override. It provides a way to quickly sort through the property records to determine if it applies to the user's current location.
TS_MASSTRANSEDIT	int	10	Indicates whether (1) or not (0) the field can be modified by a mass transition action.
TS_QUERYABLE	int	10	The only bit in this field that is used is the TS_FLDQUERY_SHOWGO (0x02) bit. If this bit is set, the field is searchable in the workflow/project/transition specified by the property record.
TS_OPERANDTYPES	int	507	Mask indicating whether the first or second operands are constants or another field. See notes below.
TS_CALCOPERATOR	int	507	Stores the actual mathematical operation. See notes below.
TS_INTOPERAND2	int	507	Stores the value of the second operand for a calculation. May represent a field id or a constant integer value, depending upon TS_OPERANDTYPES.
TS_REALOPERAND2	double	507	Stores the value of the second operand, if it is a constant real value and not a field.

Changes with version 4.0 / Database Version 10:

There is a given set of fields that are defined for the Base Workflow during the installation of SBM. Since every workflow must derive from the Base Workflow, any changes to those fields will cause the creation of a TS_PROPERTY record. Three columns drive the application of the property override: TS_TRANSID, TS_PROJECTID, and TS_WORKFLOWID. These columns determine where the field property override is applied. The following scenarios are possible

The field is being overridden for a transition as it applies to the entire project:

TS_TRANSID = empty

TS_PROJECTID = empty

TS_WORKFLOWID = contains an id

The field is being overridden for every transition in the workflow:

Any projects that use this workflow will be affected by the override. In addition, any subprojects that inherit the workflow from their parent project will be affected.

TS_TRANSID = empty

TS_PROJECTID = contains an id

TS_WORKFLOWID = empty

The project is overriding the base workflow's value for the field:

The override will carry through to all transitions and subprojects, unless specifically overridden at those levels. This allows the administrator to establish values for fields that will apply to an entire project. It also prevents the administrator from having to re-establish the value from transition to transition.

TS_TRANSID = contains an id

TS_PROJECTID = empty

TS_WORKFLOWID = empty

The workflow is overriding the base workflow's value for the field:

The override value applies to all states and transitions in the workflow unless they specifically override it. Any projects that use this workflow will be affected by the override unless they specifically override it. This allows the administrator to set up values for fields in a specific workflow.

TS_TRANSID = contains an id

TS_PROJECTID = contains an id

TS_WORKFLOWID = empty

The combination of these possible override scenarios would result in multiple property records for a field. That is to say, for any transition, a field may have a different set of overridden properties depending upon the project or workflow in question.

Given a TS_TRANSID, TS_FLDID pair, the system first searches for a property record of the tuple, TS_TRANSID, TS_FLDID, TS_PROJECTID, where TS_PROJECTID is the id of the project the action is being taken against. For example, in the case of submitting a new record, the TS_PROJECTID is the id of the project being submitted into. In the case of transitioning an existing record, TS_PROJECTID is the id of the project that the record belongs to.

If no corresponding TS_TRANSID, TS_FLDID, TS_PROJECTID tuple is found, then the system searches for a property record of the tuple TS_TRANSID, TS_FLDID, TS_PARENTID where TS_PARENTID is the id of the parent project of the original project. The search continues up the project hierarchy until either a property record is found or the top of the hierarchy is reached. If no property record is found, then the field does not have any overridden properties for the corresponding TS_TRANSID, TS_PROJECTID pair, and the properties established by the workflow are used.

Values for TS_ACTION column:

TS_FLDACTION_DEFAULT	0	Leave the field unchanged.
TS_FLDACTION_SETTO	1	Change the field to the value specified.
TS_FLDACTION_CLEAR	2	Clear the field.
TS_FLDACTION_CALCULATION	3	Set the value to calculation.
TS_FLDACTION_ATTRIBUTES	4	If OR'd with the previous enumeration, then set the field's attributes and defaulting members to the value stored in TS_INTVAL. This allows you to override a field's attributes at any point.

Values for TS_PROPERTY column:

TS_FLDPROP_NONE	0	
TS_FLDPROP_NONEDITABLE	0x1	Field will not be editable, read-only.
TS_FLDPROP_CALC_BEFORE	0x2	Calculation done before the form is processed.
TS_FLDPROP_CALC_AFTER	0x4	Calculation done after the form is processed.
TS_FLDPROP_CALC_ADD_CUR	0x8	

Values for TS_REQUIRED column:

TS_FLDREQ_NOTREQUIRED	0	Force the field to be not required.
TS_FLDREQ_REQUIRED	1	Force the field to be required.
TS_FLDREQ_REQUIRE_APPEND	2	

Values for TS_OPERANDTYPES

TS_CALC_OP1_CONST	0x1	Operator 1 is a constant.
TS_CALC_OP2_CONST	0x2	Operator 2 is a constant.
TS_CALC_OP1_FLOAT	0x4	If TS_CALC_OP1_CONST is set, then this bit might be set, indicating that the constant is a float or a date type (any type other than integer)
TS_CALC_OP2_FLOAT	0x8	Similar to above for the second operand.

Values for TS_CALCOPERATOR

TS_FLDOPER_NONE	0
TS_FLDOPER_PLUS	1
TS_FLDOPER_MINUS	2
TS_FLDOPER_MULT	3

TS_FLDOPER_DIVIDE   4

TS_FLDOPER_TRUNC_PLUS   5

TS_FLDOPER_TRUNC_MINUS   6

TS_FLDOPER_TRUNC_MULT   7

TS_FLDOPER_TRUNC_DIVIDE   8

TS_FLDOPER_ROUND_PLUS   9

TS_FLDOPER_ROUND_MINUS   10

TS_FLDOPER_ROUND_MULT   11

TS_FLDOPER_ROUND_DIVIDE   12

TS_RECORDLOCKS

This table contains one row for each record that is currently locked to a user for update. This applies to primary and auxiliary tables. The Administrator may choose to not use record locking on a table by table basis. The Administrator also determines the time a user may have, for a lock on the record. Once the time has expired another user may obtain a lock on the item. This information is stored in the TS_TABLES table in the TS_RECLOCK column.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	500	Unique numeric id for the folder record lock record.
TS_RECORDID	int	500	Id of the record.
TS_TABLEID	int	500	Foreign key to the TS_TABLES table indicating the table where the record exists.
TS_USERID	int	500	Foreign key to the TS_USERS table indicating the id of the user who currently has the record locked.
TS_TIMESTAMP	bigint	500	GMT Time from Jan 1, 1970 in seconds the time the record was locked.

TS_REPORT_CHANGEACTIONS

For audit purposes, SBM maintains a complete change history of all modifications to reports. This table contains one row for each "action" taken by a user against a particular item, while the details for the change are stored in TS_REPORT_CHANGES.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1130000001	Unique numeric id for the folder record lock record.
TS_TIME	bigint	1130000001	Timestamp when this record was created.
TS_REPORTID	int	1130000001	Id for report to which this record refers.
TS_TABLEID	int	1130000001	Foreign key to the TS_TABLES table. Refers to a table that used in the report.
TS_REPORTOWNERID	int	1130000001	Foreign key to the TS_USERS table indicating the id of the user that created report.
TS_USERID	int	1130000001	Foreign key to the TS_USERS table indicating the id of the user that performed the change.
TS_REALUSERID	int	1130000001	Real user performing the operation, usually only filled by the API.
TS_ACTION	int	1130000001	Indicates whether this record have been created during a creation of a new report or subsequent edit. See notes for TS_CHANGES.TS_ACTION (uses same constants).
TS_NAMESPACEID	int	1130000001	If not zero, a foreign key to the TS_NAMESPACES table.
TS_THREADID	varchar(100)	1130000001	Unique key of the thread that was used to process the message. Micro Focus recommends that you do not alter this field without assistance from Support or a Micro Focus developer.

TS_REPORT_CHANGES

For audit purposes, SBM maintains a complete change history of all modifications to reports. This table contains one row for each individual field modification. All changes for a particular user action can be grouped by the TS_ACTIONSTAMP, which references the record TS_REPORT_CHANGEACTIONS.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1130000001	Unique numeric id for the folder record lock record.
TS_REPORTID	int	1130000001	Id for report to which this record refers.
TS_REPORTFIELDID	int	1130000001	Foreign key to the TS_FIELDS table indicating the field id to which this change record refers.
TS_ACTION	int	1130000001	Indicates whether this record was created during a creation of a new report, or on a subsequent edit
TS_TIME	bigint	1130000001	Time when this record was created.
TS_USERID	int	1130000001	Foreign key to the TS_USERS table indicating the id of the user that authored the change.
TS_PRIORVAL	varchar(max)	1130000001	This column contains the DB value the record held prior to the change.
TS_PRIORDISP	varchar(max)	1130000001	This column contains the display value the record held prior to the change.
TS_NEWVAL	varchar(max)	1130000001	This column contains the DB value the record held after the change.
TS_NEWDISP	varchar(max)	1130000001	This column contains the display value the record held after the change.
TS_REALUSERID	int	1130000001	Foreign key to the TS_USERS table indicating the actual user who is logged on. Used mainly from the API in cases where the user logged on is submitting and transitioning on behalf of the effective user.
TS_ACTIONSTAMP	bigint	1130000001	Foreign key to the higher level change (i.e., transition) in TS_CHANGEACTIONS. This will be repeated for all field change records that are part of the higher level change.

TS_REPORTDISPLAYFORMATS

This table was created to give the user the ability to format the drill-down display from tabular distribution and summary reports.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71009	A unique numeric ID for the report display format.
TS_REPORTID	int	71009	Id of the related TS_REPORTS record.
TS_COLUMNS	longvarchar	71009	Columns seen on drill-down.
TS_COLUMNFORMATS	longvarchar	71009	Column formats on drill-down.
TS_SORTBY	longvarchar	71009	Sort order of items seen in drill-down

TS_REPORTS

This table contains one row for each report that has been created in the database. (Note: in database upgrade 60003, the previous TS_REPORTS structure and data was copied to TS_REPORTSOLD, and a new TS_REPORTS structure and data was established).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	60003	A unique numeric ID for the report.
TS_NAME	varchar(64)	60003	Name of the report.
TS_TABLEID	int	60003	Foreign key to the TS_TABLES table. Identifies the driving table that the report references.
TS_ACCESS	int	60003	Identifies the access-level: Private, User, Manager, etc.
TS_AUTHORID	int	60003	The user ID of the person who created this report. 0 if the report is a predefined report that comes with the system.
TS_CREATEDATE	bigint	60003	Date the report was created.
TS_TYPE	int	60003	Identifies the type report. Mutually exclusive examples: Change History, Deleted Items, Details, Distribution, Mass Transition, Listing, Multiview, State Change, Summary, Trend and VC Actions.
TS_QUERYTYPE	int	60003	Identifies the way the specification, or query, for the report is done. Mutually exclusive examples: Query-by-example and Advanced SQL.
TS_GRAPHICSTYLE	int	60003	Graphic chart style (tabular, bar chart, pie chart, etc.)
TS_COLUMNS	longvarchar	60003	Information on report content. Generally, a comma-delimited set of numbers that has different meanings for different reports (for listing reports, this has the field IDs, for multiview reports, this has the report IDs). (See more detailed info about this column further below).
TS_COLUMNFORMATS	longvarchar	60003	Information regarding the format of report content. A comma-delimited set of numbers that can indicate the widths of the columns (where 0 means use the default HTML table sizing). Also contains information regarding the formatting of multiview reports.

Column Name	Data Type	DbVer	Description
TS_SORTBY	longvarchar	60003	Information regarding the ordering of data. Generally, a comma-delimited set of fields for sorting, interspersed with 0/1 to indicate whether the sorting is ascending or descending.
TS_COMMENT	longvarchar	60003	For internal report documentation, not to be displayed on the report.
TS_FOOTER	varchar(255)	60003	For external report documentation, will be displayed at the bottom of the report.
TS_SPECIFICATIONS1	longvarchar	60003	Stores the specifications for the report, i.e., the SQL "where" condition, or some representation of it. Also, stores field IDs string for Change History search specifications and the table IDs for multiview reports.
TS_SPECIFICATIONS2	longvarchar	60003	Stores additional specification information (TBD). Generally, a comma-delimited set of numbers that has different meanings for different reports. (See more detailed info about this column further below).
TS_SPECIFICATIONOPTIONS	int	60003	Options that have to do with the specification, i.e., match-any, match-all (and will affect SQL)
TS_PROJECTID	int	60003	The ID of the project this report is defined on (limits the data, depending upon the report)
TS_DATAOPTIONS	int	60003	Report options that affect how data is retrieved or manipulated
TS_DISPLAYOPTIONS	Int	60003	Report options that affect the display of data *only* – cannot affect data retrieval or SQL
TS_PROJECTOPTIONS	int	60003	Options regarding projects and primary item reports (i.e., including subprojects, sorting by project, etc.)
TS_STARTDATE	bigint	60003	If the report is time-delimited (i.e., change history or trend), this is the start date for the data.
TS_ENDDATE	bigint	60003	If the report is time-delimited (i.e., change history or trend), this is the start date for the data.
TS_TIMEPERIOD	int	60003	Determines whether trend report time period is incremented by day, month, week, or quarter.

Column Name	Data Type	DbVer	Description
TS_HTMLTEMPLATE	varchar(255)	60003	For formatting purposes, listing reports can specify an HTML template file other than the default. The name of the template file appears here; otherwise it is an empty string if the default template is to be used.
TS_CALCALIAS1… TS_CALCALIAS7	varchar(32)	60003	User specified name for the calculated field column heading (listing and mass transition reports)
TS_CALCULATION1… TS_CALCULATION7	varchar(128)	60003	Encoded calculation formula for calculated fields.
TS_AGGALIAS1… TS_AGGALIAS7	varchar(32)	60003	User specified name for the aggregate fields 1 through 7 column heading. (Summary report feature only.)
TS_AGGREGATE1… TS_AGGREGATE7	varchar(128)	60003	Encoded formula for aggregate fields 1 through 7.
TS_FONTS	int	60003	Stores user-specified font size from 1 to 7.
TS_ROWCOLORS	int	60003	Stores user-specified number of alternating colors to use on the report
TS_LASTMODIFIEDDATE	bigint	63001	Date the report was last modified. TS_BLANK_DATETIME (-2) upon upgrade and if the report has not been modified since its creation.
TS_LASTMODIFIER	int	63001	The user ID of the person who most recently modified this report. 0 upon upgrade and if the report has not been modified since its creation.
TS_LASTEXECDATE	bigint	63001	Date the report was last executed. TS_BLANK_DATETIME (-2) upon upgrade and if the report has not been executed since its creation.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

Column Name	Data Type	DbVer	Description
TS_REPORTDEFID	int	72003	Used for application reports defined in Composer. A value of -1 is not accessible to end users and is kept only for exporting application definitions out of AE. A value of 0 is for non-application reports. A positive value denotes the TS_ID of a TS_REPORT row with TS_REPORTDEFID=-1. These reports will exist at base level projects for the table which has application reports defined in them. Since there can be more than one base level project, there needs to be more than one application report, which are not editable and are simple copies of the original with TS_REPORTDEFID=-1.
TS_JOINSPECIFICATIONS	longvarchar	1000000403	Used with listing report join feature, this column stores the field through which the join is implemented, the join types (inner, outer), and the filter from the join table.
TS_REFERENCENAME	varchar(64)	1000000702	A unique name within the table for which this report is defined, the combination of the table database name and the reference name can be used to invoke reports. This is useful when embedding report references in Composer in custom forms, as the reference name will not change when the application is promoted (unlike the report TS_ID).
TS_SETTINGS	longvarchar	1140100001	A JSON text value that stores extended settings for certain report types.

Values for TS_ACCESS column:

TS_RPTACCESS_PRIVATE	1	Private report
TS_RPTACCESS_GUEST	2	Guest-level report
TS_RPTACCESS_USER	3	User-level report
TS_RPTACCESS_MANAGER	4	Manager-level report

Values for TS_TYPE column:

TS_RPTTYPE_LISTING	1	Listing report.
TS_RPTTYPE_DISTRIBUTION	2	Distribution report.
TS_RPTTYPE_TREND	3	Trend report.
TS_RPTTYPE_DETAILS	4	Details report

TS_RPTTYPE_SUMMARY	5	Summary report
TS_RPTTYPE_MULTIVIEW	6	Multi-view report.
TS_RPTTYPE_CHANGEHISTORY	7	Change history report
TS_RPTTYPE_DELETEDITEMS	8	Deleted items report
TS_RPTTYPE_MASSTRANSITION	9	Mass transition report
TS_RPTTYPE_STATECHANGE	10	State change history report
TS_RPTTYPE_SYSTEM	11	System report (not currently stored in database)
TS_RPTTYPE_VCACTIONS	12	Version control actions report
TS_RPTTYPE_SYSFIELDS	13	
TS_RPTTYPE_ANALYTICS	14	
TS_RPTTYPE_EXTERNAL	15	
TS_RPTTYPE_PREBUILT_FINDFIX	16	Open and Completed Trend Report
TS_RPTTYPE_PREBUILT_STATEACTIVITY	17	State Activity Trend Report
TS_RPTTYPE_PREBUILT_BACKLOG	18	Backlog Trend Report
TS_RPTTYPE_PREBUILT_ENTERSTATE	19	Entering a State Trend Report
TS_RPTTYPE_PREBUILT_ADVDIST	20	Advanced Distribution Report
TS_RPTTYPE_PREBUILT_TIMEINSTATE	21	Time in State Duration Report
TS_RPTTYPE_PREBUILT_TIMETOSTATE	22	Average Time to State Duration Report
TS_RPTTYPE_DRILLTHROUGH	23	Drill Through Report
TS_RPTTYPE_PREBUILT_ELAPSEDTIME	24	Elapsed Time Duration Report
TS_RPTTYPE_LISTING_JOIN	25	Listing Join Report
TS_RPTTYPE_CALENDAR	26	Calendar Report
TS_RPTTYPE_CALENDAR_MULTI	27	Multi-Calendar Report
TS_RPTTYPE_BACKLOG_BURNUP	28	Backlog Burn-Up Report
TS_RPTTYPE_BACKLOG_BURNDOWN	29	Backlog Burn-Down Report

Values for TS_QUERYTYPE column:

TS_RPTQUERY_BYEXAMPLE	1	Use a query by example format.
TS_RPTQUERY_BYSQL	2	Use the advanced SQL query entered by the user.

Values for TS_GRAPHICSTYLE column:

RPTSTYLE_TABULAR	1	Tabular distribution report.
RPTSTYLE_TABULARX	1	Trend Report Table: Time on x-axis.
RPTSTYLE_BARCHART	2	Bar chart.
RPTSTYLE_PIECHART	3	Pie chart.

RPTSTYLE_STACKCHART	4	Stacked bar chart.
RPTSTYLE_HBARCHART	5	Horizontal bar chart.
RPTSTYLE_TAPECHART	7	Tape chart.
RPTSTYLE_SCATTERCHART	9	Scatter chart.
RPTSTYLE_LINECHART	11	Line chart.
RPTSTYLE_AREACHART	12	Area chart.
RPTSTYLE_TABULARY	13	Trend Report Table: Time on y-axis.
RPTSTYLE_PERCENTCHART	14	Percentage bar chart.
RPTSTYLE_RADARCHART	15	Radar chart
RPTSTYLE_HEATMAPCHART	16	Heatmap chart
RPTSTYLE_DOUGHNUTCHART	17	Doughnut chart

Values for TS_TIMEPERIOD column:

TS_BYDAY	1	Increment by day.
TS_BYWEEK	2	Increment by week.
TS_BYMONTH	3	Increment by month.
TS_BYQUARTER	4	Increment by quarter.

Values for TS_SPECIFICATIONOPTIONS: (This is a bit mask field)

TS_MATCHALL	0x0001	For QBE – match all specifications
TS_MATCHANY	0x0002	For QBE – match any specification

Values for TS_PROJECTOPTIONS: (This is a bit mask field)

TS_RPTPROJ_INCLUDESUBPROJECTS	0x0001	Include subprojects (only primary item reports)
TS_RPTPROJ_NOSORTBYPROJECTS	0x0002	Do not sort by project (only primary item reports)

Values for TS_DISPLAYOPTIONS: (This is a bit mask field)

TS_RPTDISP_REPEATITEMS	0x0001	Repeat items (currently State Change only)
TS_RPTDISP_HIDEPROJECTTITLES	0x0002	Hide project titles
TS_RPTDISP_NOTEXTBREAKS	0x0004	Applied to memo fields only
TS_RPTDISP_TRENDLINE	0x0008	Add a trend line (display option on some graphs)
TS_RPTDISP_LOCALTIME	0x0010	Show labels in local time (currently Trend only)
TS_RPTDISP_LOGSCALE	0x0020	Display graph using log scale

TS_RPTDISP_CALCULATEDAYS	0x0040	Calculate days when showing elapsed time (currently State Change only)
TS_RPTDISP_SHOWZERO	0x0080	Shows whole columns/rows of zero value on trend and distribution reports.
TS_RPTDISP_ENABLECOLSORTING	0x0100	Allow dynamic sort by columns.
TS_RPTDISP_SHOWCHARTVALUES	0x0800	Shows point values on graph
TS_RPTDISP_SHOWCHARTANCHORS	0x1000	Shows point anchors on graph

Values for TS_DATAOPTIONS: (This is a bit mask field)

TS_RPTDATA_TRENDTOTAL	0x0001	Trend historical values over time (trend report goes through entire change history)
TS_RPTDATA_TRENDSUBMIT	0x0002	Trend on submittals (trend report only looks at submittal history)
TS_RPTDATA_ATTACHEDFILES	0x0004	Show attached files for item (currently List only)
TS_RPTDATA_ATTACHEDNOTES	0x0008	Show attached notes for item (currently List only)
TS_RPTDATA_ATTACHEDITEMS	0x0010	Show other attached/linked TreamTrack items for item on report (currently List only)
TS_RPTDATA_ATTACHEDURLS	0x0020	Show attached URLs for item (currently List only)
TS_RPTDATA_MOVEDINOUT	0x0040	Show trend lines for items that have moved into or out of the project
TS_RPTDATA_TRENDLINEALLITEMS	0x0080	Show a trend line for all items in this application
TS_RPTDATA_FIXDEFDEFAULT	0x0100	Trend on fixed items that are defined through our default definition (active/inactive).
TS_RPTDATA_FIXDEFCUSTOM	0x0200	Trend on items that are fixed/completed as defined by the customer.
TS_RPTDATA_GRPFLDVALUESDEFAULT	0x0400	Use existing field values for the columns in the distribution report.
TS_RPTDATA_GRPFLDVALUESCUSTOM	0x0800	Use custom defined groups of values for the columns in the distribution report.

TS_SPECIFICATIONS2	**TS_SPECIFICATIONS2 -- Values Stored:**
	What is stored in this field is determined by the report type (TS_TYPE).
For TS_TYPE == TS_RPTTYPE_TREND:	One to two comma-delimited strings that hold selection values for field one and field two.
For TS_TYPE == TS_RPTTYPE_PREBUILT_FINDFIX:	One comma-delimited string that holds selection values that define which items are "fixed" or "completed".

For TS_TYPE == TS_RPTTYPE_PREBUILT_ENTERSTATE:	One comma-delimited string that holds a list of selected states.
For TS_TYPE == TS_RPTTYPE_PREBUILT_TIMETOSTATE:	One comma-delimited string that holds a list of time group values. Eg ",5,10,15,20". A time group value represents the number of days an item has been in a particular state.
For TS_TYPE == TS_RPTTYPE_PREBUILT_ADVDIST:	Holds "Divide Columns By" and "Group Columns By" data. Data is stored as a "dataset" containing three pieces of information: Label, Field ID, and Selected Values. Data looks like this:

DivideGroupsBy 147 ,12,20, MyCustomGroup1 45 ,2,29,

where the delimiters are this:

DivideGroupsBy FN_DELIM 147 FN_DELIM ,12,20, FV_DELIM MyGroup1 FN_DELIM 45 FN_DELIM ,2,29, FV_DELIM

There will always be a dataset starting with DivideGroupsBy. However, since users do not have to pick anything for the "Divide Columns By" in the report, the DivideGroupsBy dataset may be "empty". In other words, it may look like this:

DivideGroupsBy 0

If the user has defined any custom value groupings for the "Group Columns By" section in the report, these custom group datasets will follow the DivideGroupBy dataset.

TS_COLUMNS	**TS_COLUMNS -- Values Stored:**
	What is stored in this field is determined by the report type (TS_TYPE).
For TS_TYPE == TS_RPTTYPE_TREND:	Comma-delimited string. First value is the first field selection, second value is the second field selection.
For TS_TYPE == TS_RPTTYPE_PREBUILT_FINDFIX:	Comma-delimited string. First value is the field ID, representing the field by which to group items on the report (optional).
For TS_TYPE == TS_RPTTYPE_PREBUILT_STATEACTIVITY:	Comma-delimited string. First value is the ID of the selected state to trend on. Second value is the field ID to group items by (optional).

For TS_TYPE == TS_RPTTYPE_PREBUILT_BACKLOG:	Comma-delimited string. First value is the field ID, representing the field by which to group items on the report (optional).
For TS_TYPE == TS_RPTTYPE_PREBUILT_ENTERSTATE	Comma-delimited string. First value is the ID of the selected state (the "to State") to trend on. Second value is the field ID to group items by (optional).
For TS_TYPE == TS_RPTTYPE_PREBUILT_TIMETOSTATE	Comma-delimited string. First value is the ID of the selected state (the "to State") to trend on. Second value is the ID of the business calendar selected. Third value is the field ID to group items by (optional).
For TS_TYPE == TS_RPTTYPE_PREBUILT_TIMEINSTATE	Comma-delimited string. First value is the ID of the selected business calendar.
For TS_TYPE == TS_RPTTYPE_PREBUILT_ADVDIST	Comma-delimited string. First value is the ID of the "Group Rows By" field selection. Second value is the ID of the "Group Columns By" field selection. Third value (optional), is the ID of the "Divide Columns By" field selection.

TS_REPORTUSAGE

This table contains report usage data that is available in SBM System Analytics.

Each time an application report is executed, a new row is added to this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	113000 0019	Unique numeric ID for the record.
TS_EXECTIME	bigint	113000 0019	GMT Time from Jan 1, 1970 in milliseconds that indicates when the report was executed.
TS_REPORTID	int	113000 0019	The ID of the report that was executed.
TS_USERID	int	113000 0019	ID of the user who executed this report.
TS_SOLUTIONID	int	113000 0019	ID of the solution the current report belongs to.
TS_NAMESPACEID	int	113000 0019	If not zero, a foreign key to the TS_NAMESPACES table.
TS_EXECDURATION	int	113000 0019	The number of milliseconds it took to execute the current report.
TS_TEMPLATE	varchar(255)	113000 0019	The name of the current report template (currently not used).
TS_OUTFORMAT	varchar(16)	113000 0019	Output format of the current report (currently not used).
TS_URL	varchar(255)	113000 0019	URL of the current report (currently not used).

TS_RESOLUTIONS

This table contains one row for every resolution to a problem. Problems can have many resolutions. This table uses variable fields. The table was introduced in Database Version 10 to support the Knowledge Base feature.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the resolution.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_TITLE	varchar(80)	10	Brief summary of the resolution.
TS_DESCRIPTION	longvarchar	10	Detailed description of the resolution.
TS_PROBLEMID	int	10	Foreign key to the TS_PROBLEMS table to reference the problem solved by this resolution.
TS_UPDATEDDATE	int	10	Date the resolution was most recently updated.
TS_VISIBILITY	int	10	Rating of the visibility/exposure of the problem/resolution.

TS_RESOURCES

This table contains one record for each resource object, such as HTML templates and field icons that could vary based on user, application, and/or browser. Rows are added whenever one or more of these variables mandate a resource object other than the default. TS_NAME, TS_TYPE, TS_USERID, TS_SOLUTIONID, and TS_BROWSERID columns comprise the unique key into the TS_RESOURCES table, the output of which is a unique key into the TS_BLOBS table. The logic that converts a resource key into a blobs key is, first, if a user-specific resource exists, then that overrides the decision. Second, a resource specific to the application/browser combination is looked for. If not found, then an application-specific search, followed by a browser-specific search is done. If still not found, the default resource is used.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	504	Unique numeric id for the record. Might be used as an alternate primary key.
TS_TYPE	int	504	Bit mask identifying the resource type. See notes below.
TS_NAME	varchar(255)	504	Display name of the resource.
TS_USERID	int	504	Foreign key into the TS_USERS table. If non-zero, this resource is specific to the user. If 0, it is not user-specific.
TS_SOLUTIONID	int	504	Foreign key into the TS_SOLUTIONS table. If non-zero, this resource is specific to the solution (application). If 0, it is shared among solutions (applications).
TS_BROWSERID	int	504	Foreign key into the TS_BROWSERS table. If non-zero, this resource is specific to the browsers. If 0, it is suitable for all browsers. Currently set to 0.
TS_BLOBID	bigint	504	Foreign key into TS_BLOBS to access the actual data.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

Values for TS_TYPE column:

TS_RESTYPE_TEMPLATE	1	SBM template, i.e., an HTML file that may contain directives interpreted by the SBM Web server when composing a page to send to a user's browser.
TS_RESTYPE_STYLE	2	Style sheet used by the SBM templates.
TS_RESTYPE_IMAGE	3	Image file used by SBM.
TS_RESTYPE_ATTACHMENT	4	File attachment created by a user. Used only if attachments are being stored in the database.

TS_RESTYPE_JAVA	5	Java files used by SBM.
TS_RESTYPE_HELP	6	SBM's online help files.
TS_RESTYPE_NOTIFICATION_TEMPLATE	7	Templates for email messages sent by SBM notifications.
TS_RESTYPE_MAIL_CLIENT_TEMPLATE	8	Templates for SBM's mail client.
TS_RESTYPE_SELF_REG_TEMPLATE	9	Templates for SBM's self-registration form.
TS_RESTYPE_DICTIONARY	10	User's personal spell check dictionary.
TS_RESTYPE_USER_EMAIL_TEMPLATE	11	User's personal templates for SBM's mail client.
TS_RESTYPE_JAVASCRIPT	12	JavaScript files used by SBM.
TS_RESTYPE_PDFTEMPLATE	13	PDF templates used by SBM's PDF widget.
TS_RESTYPE_SCHEDULED_REPORTS_TEMPLATE	15	Templates for scheduled reports.
TS_RESTYPE_FORM_EXTENSION	17	An archive file containing Composer form extensions.

TS_RESTDATASOURCE

This table contains records with defined RestDataSources. RestDataSources is using for External Feeds.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	111000 0012	Unique numeric id for the record. Might be used as an alternate primary key.
TS_NAME	varchar(64)	111000 0012	Display Name of Rest Datasource
TS_DESCRIPTION	longvarchar	111000 0012	Description of Rest Datasouce
TS_DOCUMENTATIONURL	longvarchar	111000 0012	URL to REST API Documenation page
TS_CONFIGURATIONURL	longvarchar	111000 0012	Configuration URL which is using for Rest Datasouce
TS_URL	longvarchar	111000 0012	URL which is used to determine Endpoint
TS_PARAMETERIZEDURL	longvarchar	111000 0012	Not used, copy of TS_URL
TS_WSDESCRIPTIONID	longvarchar	111000 0012	Foreign key to TS_WSDESCRPTION table.
TS_NAMEDWSDESCRIPTIONID	Int	111000 0012	Not used.
TS_UUID	Int	111000 0012	The Universally Unique Identifier (UUID) that applies to this record.
TS_SAMPLEDATA	varchar(64)	111000 0012	JSON with sample result of Rest Datasouce
TS_INPUTVALUES	longvarchar	111000 0012	Input parameters for Rest Datasource
TS_OUTPUTARRAYPATH	longvarchar	111000 0012	Array in output JSON, which will be used to provide results
TS_SUBSTITUTIONURLSUFFIX	longvarchar	111000 0012	Not used.
TS_PARAMETERS	longvarchar	111000 0012	XML defined parameter map.
TS_NAMESPACEID	Int	111000 0012	If not zero, a foreign key to the TS_NAMESPACES table.

TS_ROLES

This table will contain all of the roles defined by in Designer for all Applications (Solutions).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Unique numeric id for the record
TS_NAME	varchar(64)	71005	Name of the Role (e.g. Engineer)..
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_SOLUTIONID	int	71005	Database identifier of the Solution the Role is defined for. Foreign key to the TS_SOLUTIONS table
TS_DESCRIPTION	longvarchar	71005	Textual description for the Role.
TS_APPROLEUUID	varchar(64)	71010	Optional copy of TS_APPLICATIONS.TS_UUID identifying the application within which this role applies.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

TS_ROLEPERMISSIONS

This table establishes the permissions that have been granted to a given role

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Database Identifier.
TS_ROLEID	int	71005	Foreign key into the TS_ROLES table.
TS_PERMISSIONID	int	71005	Foreign key into the TS_PERMISSIONS table
TS_CONTEXTTYPE	int	71006	Enumeration: Primary Table, Auxiliary Table, Workflow.
TS_CONTEXTID	int	71006	Foreign key into the TS_TABLES or TS_WORKFLOWS table based on the context type.

TS_ROUTECONDITIONS

This table stores the conditions upon which different mail submit routes are based. The table contains one row for each condition statement making up the mail submit route. The table was introduced in Database Version 1120000012.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1120000012	Unique numeric id for the record.
TS_ROUTEID	int	1120000012	Foreign key to TS_MAILSUBMITROUTES.
TS_OPER	int	1120000012	Used to join two condition statements together for evaluation. See notes below.
TS_SEQUENCE	int	1120000012	Order of the statement within the route. 0 if there is only 1 statement. 1 if it's the next statement after the base statement. 2 if there are 2 statements in addition to the base statement of the rule.
TS_MAILFIELDID	int	1120000012	Foreign key to TS_MAILHEADERFIELDS.
TS_COMPARITOR	int	1120000012	See notes below.
TS_VALUESTR	varchar(510)	1120000012	See notes below.

Values for TS_OPER column:

TSN_TYPE_AND	160	
TSN_TYPE_OR	161	
TSN_TYPE_ANDNOT	162	
TSN_TYPE_ORNOT	163	
TSN_TYPE_NOT	164	
TSN_TYPE_BLANK	1	No operator. Typically the first condition in the rule.

Values for TS_COMPARITOR column:

TSN_TYPE_CONTAINS	32	Mail field value contains TS_VALUESTR.
TSN_TYPE_ISEQUAL	34	Mail field value is equal to TS_VALUESTR.

TS_SECURITYCONTROLS

This table contains the three-way relationship between a Subject, Permission and Context object. We are building a generic structure that can be expanded to cover a wide range of permissions. For Vail, Subjects will be Users or Groups, Permissions will be Roles and Contexts will be Projects. The "Granted" flag denotes whether the permission is being granted or disabled for the Context object (Project).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Database Identifier.
TS_SUBJECTTYPE	int	71005	Enumeration: User or Group.
TS_SUBJECTID	int	71005	Foreign key into the TS_USERS or TS_GROUPS
TS_PERMISSIONTYPE	int	71005	Enumeration: Role.
TS_PERMISSIONID	int	71005	Foreign key into the TS_ROLES table.
TS_CONTEXTTYPE	int	71005	Enumeration: Project
TS_CONTEXTID	int	71005	Foreign key into the TS_PROJECTS table
TS_GRANTED	int	71005	Binary flag that denotes the permission is granted (1) or denied (0).

TS_SELECTIONS

This table contains one row for each field selection that has been added to a selection field.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the selection.
TS_FLDID	int	1	Foreign key to the TS_FIELDS table indicating the field id to which this selection belongs.
TS_NAME	varchar(32)	1	Name of the selection.
TS_VALUE	int	1	Numeric value associated with the selection. Also known as the weight of the selection. The purpose of this field is to allow for future weighted reports.
TS_STATUS	int	1	1 if the selection has been deleted. 0 if it is not deleted. Selections are never removed from the database once they are created because existing records in the other tables may still be referring to the selection.
TS_USERID	int	1	If this selection refers to a user field, then this column contains a foreign key to the TS_USERS table indicating the id of the user that should be added to the list of users. Otherwise, it is zero. See notes below.
TS_GROUPID	int	1	For user fields, this column contains a foreign key to the TS_GROUPS table indicating the id of the group whose members should be added to the list of users. Otherwise, it is zero. See notes below.
TS_ROLEID	int	71005	For user fields, this column contains a foreign key to the TS_ROLES table indicating the id of the role whose project member assignments should be added to the list of users. Otherwise, it is zero. See notes below.
TS_PREFIX	varchar(32)	1	Prefix corresponding to the selection. Currently only displayed and used for the system-defined issue type field. It is used to assign a prefix to each issue type, which is displayed along with the issue id. For example, an issue type of bug report may have a prefix of BUG. If the issue has an issue id of 1000, then the full issue id displayed is BUG1000.

Column Name	Data Type	DbVer	Description
TS_ORDERINDEX	int	10	0 to n value indicating sort order, based on how many selection items are defined. First item in a selection list will have orderindex equal 0, the second item will have 1, etc. As of version 4.0, selection items can be sorted according to drag-n-drop placement within the Administrator tool. In previous versions, the items were sorted alphabetically.
TS_TABLEID	int	10	For user fields, this column is not used and the value is zero. For regular selection fields, this column contains a foreign key to the TS_TABLES table indicating the table for which the field is defined.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

Selection records are used for both selection type fields, and user type fields. Both field types are similar in that they allow the user to select a value from a drop-down list. User type fields differ from regular selection fields in that the choices in the drop-down list are names of users.

For Selection type fields:

TS_FLDID	Refers to a field that has a TS_FLDTYPE of TS_FLDTYPE_SELECTION or TS_FLDTYPE_MULTIPLE_SELECTION.
TS_NAME	Specifies the name of the selection.
TS_USERID	Set to 0.
TS_GROUPID	Set to 0.

For User type fields:

TS_FLDID	Refers to a field that has a TS_FLDTYPE of TS_FLDTYPE_USER.
TS_NAME	An empty string and is not used.
TS_USERID	If TS_USERID is non-zero, then it contains the user id of the user that should be added to the list of choices in the drop-down list. TS_GROUPID and TS_ROLEID is then 0.
TS_GROUPID	If TS_GROUPID is non-zero, then it contains the group id of the group whose members should be added to the list of choices. This feature allows a convenient way of tying a list of field choices to one or more user groups. For example, if there is an Engineer field defined, and there is also a user group named Engineers. The Engineer field could display as its list of choices anyone who is a member of the Engineers group, i.e. the members of Engineers. If the membership of the Engineers group ever changes, then the list of choices in the Engineer field will automatically update. If this column is set, the TS_USERID and TS_ROLEID columns will be 0.

TS_ROLEID   If TS_ROLEID is non-zero, then it contains the role id of the users that should be added to the list of choices in the drop-down list based on the assignments to the Role on a project by project basis. TS_USERID and TS_GROUPID is then 0.

TS_SELECTIONUSAGES

This table defines the selections that are made in multi-selection fields. Multiple selections are represented by multiple rows in this table, having the same TS_FIELDID and TS_RECORDID but different TS_SELECTIONIDs.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	62003	Unique numeric id for the record.
TS_RECORDID	int	62003	Foreign key to a record within a customer-defined table (defined by TS_FIELDID). This is the record that this multi-selection usage is for.
TS_FIELDID	int	62003	Foreign key to the TS_FIELDS table, which also specifies which table the record resides within. This is the field that this multi-selecting usage is for
TS_SELECTIONID	int	62003	Foreign key to the TS_SELECTIONS table. This is the selection value that is selected for the specified field and record.

TS_SELFREGFIELDS

This table stores the fields, that will be put on a self-registration page. Details regarding the order of the fields and if the field is required or not are stored in this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	500	Unique numeric id for the record.
TS_FIELDID	int	500	Foreign key into the TS_FIELDS table.
TS_REQUIRED	int	500	1 if the field is required. 0 if it is not required.
TS_ORDERINGINDEX	int	500	Order in which the field should appear in the page.

TS_SHAREPOINTPROJECTSERVERS

This is a join table which contains a row that maps a TS_PROJECTS record to a TS_SHAREPOINTSERVERS record. The TS_PROJECTID provides the foreign key reference to TS_PROJECTS and the TS_SHAREPOINTSERVERID provides the foreign key reference to the TS_SHAREPOINTSERVERS. A row in this table contains the mapping of the SBM project to a SharePoint site.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	903000506	Unique numeric id for the record.
TS_UUID	varchar(64)	903000506	The Universally Unique Identifier (UUID) that applies to this record.
TS_PROJECTID	int	903000506	Foreign key into the TS_PROJECTS table. This is the SBM project.
TS_SHAREPOINTSERVERID	int	903000506	Foreign key into the TS_SHAREPOINTSERVERS table. This is the SharePoint server that contains the site.
TS_SITENAME	varchar(80)	903000506	The name of the SharePoint site, i.e. – AnimationPro
TS_SITEURL	varchar(max)	903000506	The full Url to the SharePoint site, i.e. http://sharepointdev.microfocus.com/AnimationPro
TS_DOCLIBNAME	varchar(80)	903000506	The name of the SharePoint document library. By default this will be something like "Share Documents", but its possible to manually additional document libraries with custom names.
TS_PARENTSITENAME	varchar(80)	903000506	The name of the parent site.
TS_ADDUSERURL	varchar(max)	903000506	The SharePoint generated Url to a SharePoint page to do SharePoint user administration.
TS_UPDATEDDATE	int	903000506	Date the resolution was most recently updated.

TS_SHAREPOINTSERVERS

This table contains a row with Url and proxy user credentials for each SharePoint server. An SBM project to SharePoint site mapping identified in the TS_SHAREPOINTPROJECTSERVERS will reference a SharePoint server in this table. The credentials stored in the rows of this table are used by the SBM server to access SharePoint.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	903000506	Unique numeric id for the record.
TS_UUID	varchar(64)	903000506	The Universally Unique Identifier (UUID) that applies to this record.
TS_TITLE	varchar(80)	903000506	The name of the SharePoint server.
TS_URL	varchar(max)	903000506	The SharePoint server Url, i.e. – http://sharepointdev.microfocus.com
TS_USER	varchar(80)	903000506	The proxy SharePoint user that SBM server uses to access SharePoint.
TS_PASSWORD	varchar(80)	903000506	Encrypted SharePoint password for the SharePoint user specified in TS_USER.
TS_UPDATEDDATE	int	903000506	Date the resolution was most recently updated.

TS_SOLUTIONS

This table contains one row for each point solution, referred to as applications beginning in version 7.0.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	504	Unique numeric id for the record.
TS_NAME	varchar(32)	504	Name of the application.
TS_DESCRIPTION	longvarchar	504	Descriptive text of the table. This text might appear in SBM Work Center as hover text or help as appropriate.
TS_PREFIX	varchar(16)	504	Short, typically 3 or 4 character, string that can be assigned to an application. For third party and future SBM applications, this will be assigned to assure unique names by prefixing to table names.
TS_IMAGEA	int	504	Foreign key into the TS_RESOURCES table. The id of the image associated with this application. Eg. "application icon" in Composer.
TS_TYPE	int	504	See notes below.
TS_DISPLAYNAME	varchar(32)	504	The logical application name as entered in the Administrator.
TS_TABNAME	varchar(16)	60003	Browser application tab display.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_VERSION	varchar(32)	71005	The version of the solution updated by SBM Composer.
TS_STYLE	int	71009	Foreign key to the TS_RESOURCES table for the Style Sheet to be used for this Solution.
TS_HEADERHTML	longvarchar	71009	Html to be added before every Form rendered for this application.
TS_FOOTERHTML	longvarchar	71009	Html to be added after every Form rendered for this application.
TS_STYLEBLOBID	int	71010	Foreign key into the TS_BLOBS table to access the style sheet rendering information used by SBM Composer.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_NAMEDTYPELIBRARY	varchar(64)	903000503	The UUID associated with the Named Type Library.

Column Name	Data Type	DbVer	Description
TS_SUPPORTSMOBILE	int	1110000029	Stores the flag set by Composer that indicates if the solution supports mobile (1) or not (0).

Values for TS_TYPE column:

TS_SOLTYPE_TSS		0	SBM application.
TS_SOLTYPE_USR		1	User defined application.
TS_SOLTYPE_EXT		2	Third party application.

TS_STACTIONS

This table stores data for the state and transition actions. In a state or transition, you can set up actions and the actions are to fire a trigger or another transition. Transitions can be fired on items that are in single or multi-relational fields, or the same item that entered the state or transition.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	62002	Unique numeric id for the record.
TS_STATEID	int	62002	Foreign key to the TS_STATES table to reference the state to which this action is associated, or 0 if for a transition.
TS_TRANSITIONID	int	62002	Foreign key to the TS_TRANSITIONS table to reference the transition to which this action is associated, or 0 if for a state.
TS_ACTIONTYPE	int	62002	See below.
TS_ACTIONID	int	62002	Foreign key to either the TS_TRANSITIONS table or the TS_TRANSTRIGGERS table, depending on the value in TS_ACTIONTYPE.
TS_AFFECTEDTYPE	int	62002	See below.
TS_AFFECTEDID	int	62002	If the value of TS_AFFECTEDTYPE is TS_STACTION_AFFECT_FIELDITEMS, then this is the TS_ID of the affected field. Otherwise, this column value is 0.
TS_RULETYPE	int	62002	See below.
TS_RULEID	int	62002	If the rule type involves a field, then this is the TS_ID of the field whose value(s) are tested by the rule. If the rule type is trigger received, then this is the TS_ID of the transition trigger. Otherwise, this column value is 0.
TS_RULEOP	int	62002	See below.
TS_RULEVALUE	int	62002	If the rule tests the value of fields or subtask status, then that value is stored here.
TS_ORDERINDEX	int	62002	0 to n value indicating sort and execution order.

Values for TS_ACTIONTYPE column:

TS_STACTION_ACTION_TRANSITION	0	This action executes a transition.
TS_STACTION_ACTION_TRIGGER	1	This action fires a trigger.
TS_STACTION_ACTION_ALFEVENT	2	This action fires an ALF Event.

Values for `TS_AFFECTEDTYPE` column:

TS_STACTION_AFFECT_SELF	0	The current or originating item is affected.
TS_STACTION_AFFECT_PRINCIPAL	1	Assuming the current item is a subtask, its principal item is affected.
TS_STACTION_AFFECT_SUBTASKS	2	Assuming the current item is a principal (has subtasks), all subtasks are potentially affected.
TS_STACTION_AFFECT_FIELDITEMS	3	Affect primary items selected in the current item's relational field, specified in TS_AFFECTEDID.
TS_STACTION_AFFECT_PARENTS	4	Affect my linked parent item.
TS_STACTION_AFFECT_LINKEDITEMS	5	Affect linked items if they are triggerable.

Values for `TS_RULETYPE` column:

TS_STACTION_RULE_ALWAYS	0	Affect qualifying items unconditionally.
TS_STACTION_RULE_SUBTASKSTATUS	1	Affect qualifying items based on the TS_SUBTASKS.TS_PROGRESS value of the current item's subtasks.
TS_STACTION_RULE_SIBLINGSTATUS	2	Assuming the current item is a subtask, affect qualifying items based on the TS_SUBTASKS.TS_PROGRESS value of the current item and sibling subtasks, if any.
TS_STACTION_RULE_FIELDVALUE	3	Affect qualifying items based on the value of the current item's binary/trinary field, specified in TS_AFFECTEDID.
TS_STACTION_RULE_FIELDITEMSVALUE	4	Affect primary items selected in the current item's relational field, based on the value of those item(s) binary/trinary field specified in TS_AFFECTEDID.
TS_STACTION_RULE_SIBLINGSFIELDVALUE	5	Assuming the current item is a subtask, affect qualifying items based on the value of those item(s) binary/trinary field specified in TS_AFFECTEDID.
TS_STACTION_RULE_TRIGGERRECEIVED	6	Execute the transition associated with a trigger on triggerable linked items. Valid only for state-based actions.

Values for `TS_RULEOP` column:

TS_STACTION_OPER_EQUAL	0	Execute the action only if all values of subtask status or fields are equal to the value specified in TS_RULEVALUE.
TS_STACTION_OPER_NOTEQUAL	1	Execute the action only if all values of subtask status or fields are not equal to the value specified in TS_RULEVALUE.

TS_STACTION_OPER_HALF	2	Execute the action when half or more of all values of subtask status or fields are of the value specified in TS_RULEVALUE.
TS_STACTION_OPER_MOST	3	Execute the action when a majority of all values of subtask status or fields are of the value specified in TS_RULEVALUE.

TS_STATES

This table contains one row for each state that has been defined. States combined with the state transitions stored in the TS_TRANSITIONS table, form the workflow or life cycle associated with issues and incidents.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the state.
TS_NAME	varchar(32)	1	Name of the state.
TS_STATUS	int	1	1 if the state has been deleted. 0 if it is not deleted. States are never removed from the database once they are created because existing records in other tables may still be referring to the state.
TS_OPENCLOSED	int	1	0 if this state is considered an open state, i.e., items in this state are still open and require further work. 1 if this state is a closed state. See details below.
TS_OWNER	int	1	0 if the TS_OWNER field should be set to none when an item enters this state. Otherwise, contains a foreign key to the TS_FIELDS table indicating the field the system should use to make the owner of the system. See details below.
TS_PROJECTID	int	1	As of Database Version 10, this is a foreign key to the TS_WORKFLOWS table indicating the workflow for which this state is defined. Workflows always inherit their parent's states.
TS_TRANSITIONID	int	504	As of 62002, this column becomes a misnomer. It is now a foreign key to the TS_FIELDS table representing the TS_FIELDID of the subtask status-determining field.
TS_PRESCRIPTID	int	504	Foreign key to the TS_MACROS table indicating the script that runs when the item enters the state.
TS_POSTSCRIPTID	int	504	Foreign key to the TS_MACROS table indicating the script that runs when the item leaves the state.
TS_SECONDARYOWNER	int	60002	0 if the TS_SECONDARYOWNER field does not exist in the primary table or should be set to blank when an item enters this state. Otherwise, contains a foreign key to the TS_FIELDS table indicating the field that the system should use to set the value. See details below.

Column Name	Data Type	DbVer	Description
TS_PREWSCALLID	int	66003	Foreign key to the TS_WSCALLS table to reference the id value of the Web service function to be run upon entering this state.
TS_POSTWSCALLID	int	66003	Foreign key to the TS_WSCALLS table to reference the id value of the Web service function to be run upon leaving this state.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_DESCRIPTION	longvarchar	72004	Description of the State as specified in SBM Composer.
TS_OTHERWISETRANSID	int	904000601	If not zero, a foreign key to the TS_TRANSITIONS table representing the transition to be used by default out of a Decision state.
TS_INACTIVESTATETYPE	int	904000801	If the state is inactive, this column contains the type of inactive state specified when designed. See details below.
TS_INTERNALNAME	varchar(255)	1000000302	Readable Identifier Unique per Application
TS_PHASE	int	1000001101	Foreign key to the TS_PHASES table, not used.
TS_MAXTRANSBUTTONS	int	1110000017	Keeps track of how many transitions to display as buttons for items in this state (the other transitions will be available in a drop-down list). If value is negative disable drop-down list.

The TS_OPENCLOSED column:

When an item enters a new state, the system will automatically modify the value of the active/inactive system field based on this attribute. In this way, the active/inactive field never needs to be modified manually, but instead is maintained by the system. If a transition occurs to a closed state, which specifies that primary items, in the state are inactive, the active/inactive field will automatically be set to inactive.

The TS_OWNER column:

As with the active/inactive field, the system automatically modifies the value of the owner system field based on the owner specified here. This is double indirection. This column contains the field id of the field that contains the value of the new owner of the issue. For example, the default 'Assigned' state should make the engineer that is supposed to fix the issue, the current owner. Therefore, the 'Assigned' state has the TS_OWNER column set to the field id of the engineer field.

The TS_SECONDARYOWNER column:

As with the owner field, the system automatically modifies the value of the secondary owner system field based on the secondary owner specified here. This is double indirection. This column contains the field id of the field that contains the value of the new secondary owner of the issue when it is in this state.

The TS_INACTIVESTATETYPE column:

The initial list of values for this column follows. The values here may be expanded in the future.
0 - Completed
1 - Rejected
2 - Pending

TS_STRINGIDENTIFIERS

This table contains one row for each string that can be translated, regardless of how many languages the string might have been translated into. To add an entirely new string, a unique string identifier must first be created. The TS_ID then provides the foreign key referenced by n number of String records, one for each language that particular string has been translated into.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	62001	Unique numeric id for the record.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(80)	62001	The string representation of the resource identifier associated with a given string. Micro Focus-defined string resources begin with 'IDS_' and this prefix is reserved by us. If a user wishes to add a new string identifier, they must enter a name that does not begin with 'IDS_'. A database error will occur if the user attempts to insert a name that is not unique.
TS_SOLUTIONID	int	71009	Foreign key into the TS_SOLUTIONS table. This is the application the string is used in.
TS_ROOTVALUE	longvarchar	71010	Base value for the string, if no translations are provided in TS_STRINGS that are associated with a pertinent language for the user.

TS_STRINGS

This table contains one row for each string in the referenced language. Strings are translated by adding rows to this table, referencing a different language but the same string identifier as the original string. Strings can be modified to customize SBM output, or translated into any number of languages.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	62001	Unique numeric id for the record.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_LANGID	int	62001	Foreign key to the TS_LANGUAGES table indicating the language of this string.
TS_STRID	int	62001	Foreign key to the TS_STRINGIDENTIFERS table indicating the internal identifier of this string.
TS_STRING	longvarchar	62001	The localized string.
TS_DESCRIPTION	longvarchar	62001	Description of parameters, if any.
TS_SUBMITTER	int	62001	Foreign key to the TS_USERS table indicating the id of the user who added this record, or 0 if added during upgrade or by the database create wizard.
TS_SUBMITDATE	date	62001	Timestamp of when this record was added.
TS_LASTMODIFIER	int	62001	Foreign key to the TS_USERS table indicating the id of the user who last modified this record.
TS_LASTMODIFIEDDATE	date	62001	Timestamp of when this record was last modified.

TS_SUBTASKS

This table represents a list of open subtasks associated with master items. One or more subtasks can be spawned from a single item. When a subtask is closed, becomes inactive, if there are no other subtasks for the same master item, the master item is automatically transitioned.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	504	Unique numeric id for the record.
TS_SUBTABLEID	int	504	Foreign key to the TS_TABLES table identifying the primary table in which this subtask is stored.
TS_SUBITEMID	int	504	Id of the subtask item in the above referenced table.
TS_MASTERTABLEID	int	504	Foreign key to the TS_TABLES table identifying the primary table of the item for which this subtask was created.
TS_MASTERITEMID	int	504	Id of the item in the above referenced table, identifying the item that originated this subtask.
TS_PROGRESS	int	62002	Contains a copy of the current value of the subtask status-determining field, for an item in a particular state. See TS_STATES.TS_TRANSITIONID.

TS_SWCVIEWACTIONS

This table contains one row for each view action record in the database that defines available action per view type and permission level.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10.1.4	Unique numeric id for the record.
TS_TYPE	int	10.1.4	View type. See note below.
TS_PERMISSION	int	10.1.4	View share permission. See note below.
TS_NAME	int	10.1.4	Internal action name.

Values for TS_PERMISSION column:

VIEW_PERMISSION_COOWNER	1
VIEW_PERMISSION_COLLABORATOR	2
VIEW_PERMISSION_VIEWER	3
VIEW_PERMISSION_NONE	4

Values for TS_TYPE column:

VIEW_TYPE_ACTIVITY	1	Activity view
VIEW_TYPE_CALENDAR	2	Calendar view
VIEW_TYPE_DASHBOARD	3	Dashboard view
VIEW_TYPE_BACKLOG	4	Backlog view

TS_SWCVIEWS

This table contains one row for each Work Center view in the database.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10.1.4	Unique numeric id for the record.
TS_AUTHORID	int	10.1.4	Foreign key to the TS_USERS table indicating the person that created the current view.
TS_TYPE	int	10.1.4	View type. See note below.
TS_TARGETID	int	10.1.4	If TS_TYPE equals to 1 or 2 than foreign key to the TS_FEEDAGGREGATION table. If TS_TYPE equals to 3 than foreign key to the SWC_MENUITEM table. If TS_TYPE equals to 4 than foreign key to the TS_AGILE_BACKLOGS table.
TS_ISSYSTEM	int	10.1.4	1 – System view, 0 – means the view is created by user.
TS_SHARINGLASTMOD	int	10.1.4	Reserved.
TS_TIMESTAMP	int	10.1.4	Timestamp when the view was created or updated.
TS_NAMESPACE	int	10.1.4	If not zero, a foreign key to the TS_NAMESPACES table.
TS_UUID	varchar(128)	10.1.4	The Universally Unique Identifier (UUID) that applies to this record.

Values for TS_TYPE column:

VIEW_TYPE_NONE	0	
VIEW_TYPE_ACTIVITY	1	Activity view
VIEW_TYPE_CALENDAR	2	Calendar view
VIEW_TYPE_DASHBOARD	3	Dashboard view
VIEW_TYPE_BACKLOG	4	Backlog view
VIEW_TYPE_KANBAN	5	Kanban board view

TS_SWCVIEWSHARES

This table contains one row for each view share record in the database that defines permission levels for each view.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10.1.4	Unique numeric id for the record.
TS_VIEWID	int	10.1.4	Foreign key to the TS_SWCVIES table identifying the view for which this share is defined.
TS_PERMISSION	int	10.1.4	View share permission. See note below.
TS_TYPE	int	10.1.4	View share type. See note below.
TS_TARGETID	int	10.1.4	If TS_TYPE equals to VIEW_SHARE_USER than foreign key to the TS_USERS table. If TS_TYPE equals to VIEW_SHARE_GROUP than foreign key to the TS_GROUPS table. If TS_TYPE equals to VIEW_SHARE_TEAM than foreign key to the TS_RSMTEAM table.
TS_FORCED	int	1120000006	If 1, then this record is forced by system administrator. Used for Work Center Default Configuration.

Column Name	Data Type	DbVer	Description

Values for TS_PERMISSION column:

VIEW_PERMISSION_COOWNER	1	
VIEW_PERMISSION_COLLABORATOR	2	
VIEW_PERMISSION_VIEWER	3	
VIEW_PERMISSION_NONE	4	

Values for TS_TYPE column:

VIEW_SHARE_NONE	0	
VIEW_SHARE_USER	1	
VIEW_SHARE_GROUP	2	
VIEW_SHARE_TEAM	3	
VIEW_SHARE_ALL	4	

TS_SYSTEMFIELDS (Obsolete)

This table is not used. It was originally intended to store a list of all system fields. Instead, a TS_SYSCODE column was added to the TS_FIELDS table to keep track of system vs. non-system fields. The table is documented here for legacy purposes.

Column Name	Data Type	DbVer	Description
TS_ID	bigint		Unique numeric id for the system field.
TS_TABLEID	int		Foreign key into the TS_TABLES table.
TS_FLDID	int		Foreign key into the TS_FIELDS table.

TS_SYSTEMINFO

This table contains one row that stores important information about the SBM database. There should be only one row stored in this table. All columns ending with the word counter are used for cache refreshing.

Column Name	Data Type	DbVer	Description
TS_DBVER	int	1	Current database version of this database. See discussion of database versions at the beginning of this document.
TS_ADMINVER	varchar(255)	1	Text string for the version of SBM System Administrator that created or last updated this database.
TS_SERVICEVER	varchar(255)	1	Text string for the version of the ISAPI extension DLL that this database expects.
TS_PROJECTCOUNTER	int	1	No longer used as of DB Version 500. Previously was incremented when the Administrator made a change to the project list.
TS_FIELDCOUNTER	int	1	No longer used as of DB Version 500. Previously was incremented when the cached TS_FIELDS changed.
TS_USERCOUNTER	int	1	No longer used as of DB Version 500. Previously was incremented when the cached TS_USERS changed.
TS_GROUPCOUNTER	int	1	No longer used as of DB Version 500. Previously was incremented when the cached TS_GROUPS changed.
TS_STATECOUNTER	int	1	No longer used as of DB Version 500. Previously was incremented when the cached TS_STATES changed.
TS_TRANSCOUNTER	int	1	No longer used as of DB Version 500. Previously was incremented when the cached TS_TRANSITIONS changed.
TS_PRIVCOUNTER	int	1	No longer used as of DB Version 500. Previously was incremented when the cached TS_PRIVILEGES changed.
TS_EXITURL	varchar(255)	1	URL the browser should jump to whenever the user presses the Exit button within the browser.
TS_SETTINGSCOUNTER	int	1	No longer used as of DB Version 500.
TS_ORIGINALDBVER	int	2	Database version that this database was originally created under.

Column Name	Data Type	DbVer	Description
TS_REPORTCOUNTER	int	6	No longer used as of DB Version 500. Previously was incremented when the cached TS_REPORTS changed.
TS_DBCODE	varchar(64)	6	Not currently used.
TS_FOLDERCOUNTER	int	9	No longer used as of DB Version 500. Previously was incremented when the cached TS_FOLDERS changed.
TS_NOTIFYCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_NOTIFICATIONS changed.
TS_NOTIFYEVENTSCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_NOTIFICATIONEVENTS changed.
TS_NOTIFYPERMCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_NOTIFICATIONPERMISSIONS changed.
TS_NOTIFYSUBCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_NOTIFICATIONSUBSCRIPTIONS changed.
TS_MACROCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_MACROS changed.
TS_WORKFLOWCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_WORKFLOWS changed.
TS_PROPERTYCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_PROPERTIES changed.
TS_FIELDORDERINGSCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_FIELDORDERINGS changed.
TS_COMPANYCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_COMPANIES changed.
TS_CONTACTCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_CONTACTS changed.

Column Name	Data Type	DbVer	Description
TS_MERCHANDISECOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_MERCHANDISE changed.
TS_SERVICEAGREEMENTCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_SERVICEAGREEMENTS changed.
TS_PRODUCTCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_PRODUCTS changed.
TS_TRANSTRIGGERCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_TRANSTRIGGERS changed.
TS_TRANSTRIGGERSTATECOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_TRANSTRIGGERSTATES changed.
TS_TRANSTRIGGERTRANSCOUNTER	int	10	No longer used as of DB Version 500. Previously was incremented when the cached TS_TRANSTRIGGERTRANSITIONS changed.
TS_SELECTIONSCOUNTER	int	11	No longer used as of DB Version 500. Previously was incremented when the cached TS_SELECTIONS changed.
TS_PROJECTSELECTIONSCOUNTER	int	11	No longer used as of DB Version 500. Previously was incremented when the cached TS_PROJECTSELECTIONS changed.
TS_PROJECTTRANSITIONSCOUNTER	int	11	No longer used as of DB Version 500. Previously was incremented when the cached TS_PROJECTTRANSITIONS changed.
TS_MEMBERSCOUNTER	int	11	No longer used as of DB Version 500. Previously was incremented when the cached TS_MEMBERS changed.
TS_PRIVILEGESCOUNTER	int	11	No longer used as of DB Version 500. Previously was incremented when the cached TS_PRIVILEGES changed.
TS_TRANSISSUETYPESCOUNTER	int	11	No longer used as of DB Version 500. Previously was incremented when the cached TS_TRANSISSUETYPES changed.

Column Name	Data Type	DbVer	Description
TS_ALLOWANONYMOUS	int	13	Indicates whether anonymous access to the system is allowed. When equal to 1, anonymous access is allowed, otherwise, value is 0. Moved to TS_SYSTEMSETTING table for performance reasons.
TS_LICENSESCOUNTER	int	14	No longer used. As of DB Version 500. Previously was incremented when the cached TS_LICENSES changed.
TS_COMPATIBILITY	int	55002	Indicates whether this database is compatible with TeamTrack Workgroup. When compatible with light, the value is 0. When not compatible with light, it is greater than 0.

TS_SYSTEMSETTINGS

This table contains a record for a variety of system wide settings. Initially created to handle registry keys from 4.0. Includes Server, Database, HTML and Global Query Limits, Mail Client and Self Registration of External Users settings.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	500	Unique numeric id for the table. See notes below.
TS_NAME	varchar(32)	500	Unique name which identifies the setting.
TS_DATATYPE	Int	500	1 = TS_DATATYPE_INTEGER 4 = TS_DATATYPE_STRING.
TS_LONGVALUE	bigint	500	Value of a long setting type.
TS_STRINGVALUE	varchar(255)	500	Value of a string setting type.
TS_LONGDEFAULT	bigint	500	Initial TS_LONGVALUE setting.
TS_STRINGDEFAULT	varchar(255)	500	Initial TS_STRINGVALUE setting.

Note: The actual order of the following values may differ and some are optional. Most of these settings are configured via the SBM System Administrator and should not be changed by any other tool.

Values for TS_NAME column:

AdminEmailToolbar	E-mail address for the "E-mail Administrator" link on about page.
AdminLog	Turns on and off Administrator logging to the TS_ADMINCHANGES table.
AdvancedFields	Field Section Label for Advanced Fields when not found elsewhere.
AnonymousKnowledgeBaseAccess	Turns on and off the anonymous users access to pubic knowledge base items. This setting was moved from the TS_SYSTEMINFO table for performance reasons.
AnonymousUsersViewAttachments	Turns on and off the anonymous users access to attachments.
AnonymousUsersViewNotes	Turns on and off the anonymous users access to notes.
AttachmentFolderStorage	Control the directory for the file attachments: 0 – use attachment root directory, 1 – create a sub-directory YYYY, 2 – create a sub-directory YYYYMM
Attachments	Field Section Label for Attachments when not found elsewhere.
AuthenticationMask	Bitmask of one or more TS_AUTH_n values identifying the authentication method applied to users connecting through SBM Work Center.
AutoExternalGroupId	Group to which new external users are automatically assigned membership.
AutoExternalTableId	Preferred table assigned to new external users by default.
CacheActionCleanupPeriod	How often in seconds to cleanup the Cache Actions table.

CacheActionExpirationPeriod	How long in seconds to keep the Cache Action records.
CacheRefreshInterval	Determines how long, in milliseconds, to wait between cache refresh check intervals. The default interval is 20000, or 20 seconds.
ChangeHistory	Field Section Label for Change History when not found elsewhere.
CharSet	Name of the character set to be used on all SBM Web pages. Default is UTF-8.
CheckColumnSorting	Controls the Enable Dynamic Column Sorting option on reports, is it checked by default.
CheckOldPasswords	The number of historical passwords a new password cannot match. A value of -1 indicates that no historical password checking is to be done.
CLIENTCERTSSLAuthnCertThumbprint	Contains the thumbprint (SHA1) hash of the preferred client cert authentication certificate. The certificate is expected to reside in SYSTEM/MY keystore and should have a key associated with it. This setting is optional.
CLIENTCERTSSLCallbackAuthnCertKeyFilename	Contains the filename of the authentication key to be used with 2way SSL during deploy callback. This setting is optional.
CLIENTCERTSSLCallbackAuthnCertKeyPassword	The password for the 2way SSL authentication key. This setting is optional. If either it or the previous setting is empty, 2way SSL for callbacks is disabled.
CompressDataForRemoteAdmin	Controls socket compression if remote admin.
DatabaseIdentifier	Unique identifier for this database.
DisableAutoFolderItems	Controls creation of the personal folders when users are created.
DisableAutoSpellCheck	Controls the auto spell check feature.
DisableColumnSorting	Controls the Enable Dynamic Column Sorting option on reports.
DisableItemTabs	Controls the ability to select the Tabbed Item View feature.
DisableReportUsageLogging	Controls collection of report usage statistics.
DisableSpellCheck	Controls the spell check feature.
DocTitle	Sets the title of all HTML pages served by SBM. If this key is not found, the default value is 'SBM Work Center'. The title displays at the top of all printouts from SBM Work Center.
EnableWorkCenterAutoRefresh	1 = Enable the Work Center Widgets Auto-refresh feature.
eWebEditPro	0 = Use a plain text input on the "Add/Edit Note" form.
	1 = Use eWebEditPro (a browser-based WYSIWYG HTML editor) on the "Add/Edit Note" form. eWebEditPro must be installed separately.
	Default is 0.
ExtUserEmailEnable	Check box to enable email confirmation when an external user is created. (1) if checked, (0) if unchecked.
ExtUserEmailTemplate	Drop down list of confirmation templates. Default is extregconfirm.txt.
ExtUserReplyTo	Reply address.
FontFile	Which font file to use for graphical reports.

FontSize	Which font size to use for graphical reports.
ForceConcurrentLogout	Controls if concurrent users are forced to re-authenticate.
GlobalPasswordPrivileges	Settings for global password privileges.
HeaderNameForPreAuthnPrincipal	Defines a custom HTTP Header that is used for user identification. This setting has no interface and must be set via a manual process.
HiddenFields	Field Section Label for Hidden Fields when not found elsewhere.
HTMLNotes	Flag controlling how HTML tags in notes and memo fields are handled. If the setting is not present or its integer value is 0, notes and memo fields will be rendered as plain text and any HTML tags or special characters will be escaped. Thus, 'Some text' in a note will be displayed exactly as shown, including angle brackets. If the flag is set to 1, HTML in notes and memo fields will be interpreted by SBM Work Center. Thus, 'Some text' in a note will be displayed as '**Some text**', with the <b> tag interpreted as a directive to render the text bold.
HTTPBasicAuthnDomain	Default Domain for web services. Used when NT Challenge Response authentication is enabled.
ItemNotification	Field Section Label for Item Notifications when not found elsewhere.
LanguageID	The customer's global choice for system language. Defaults to the ts_id of the 'US English' record in TS_LANGUAGES.
LDAPAdminDN	The Distinguished Name of the user granting search authority.
LDAPAdminPwd	The encrypted password of the user granting search authority.
LDAPAttribsExclude	A comma-delimited list of LDAP attributes to exclude from the list of selections available for mapping. There is no GUI for this setting as it is not necessary—merely a user-friendly feature to reduce clutter from attributes that are not likely to map to a user or contact field. The names are case-sensitive and must exactly match the LDAP schema.
LDAPContactFilter	The LDAP search filter used to find import candidates.
LDAPContactKeys	A list of field IDs representing the equality key(s) for contacts.
LDAPContactMap	A string of LDAP attribute name to field ID pairs, delimited by 0x01.
LDAPContactOptions	A number representing the radio button group on the Import Contacts tab.
LDAPContactUpdateFilter	The search filter (with %s formatter) for updating contacts.
LDAPCopyUserID	m_id of the SBM user to copy as upon import.
LDAPCreateContact	Whether or not to create a contact record associated with users as they are imported. 0=no, 1=yes.
LDAPFilterList	The 10 MRU list of user and contact import filters, separated by newlines (\r\n).
LDAPImportFilter	The LDAP search filter used to find import candidates.
LDAPImportOptions	A number representing the radio button group on the Import Users tab.
LDAPKeyfile	The path to the public key certificate file for SSL.
LDAPLogFile	The path to the LDAP log file.

LDAPLogLevel	0=None, 1=Minimal, 2=Average, 3=Verbose
LDAPLogSize	Maximum log file size in MB.
LDAPPort	Port of the LDAP server.
LDAPSchemaMap	A string of LDAP attribute name to field ID pairs, delimited by 0x01.
LDAPSearchBase	Root of the LDAP tree beneath which user searches occur.
LDAPSearchFilter	User Authentication search filter (with %s formatter).
LDAPSecure	0=clear text, 1=using SSL.
LDAPServer	The LDAP server name or alias.
LDAPUpdateOptions	A bitmask representing the state of all the checkboxes on the Update tab.
LDAPUserUpdateFilter	The search filter (with %s formatter) for updating contacts.
LicenseServer	The name of the machine which has the license server running.
LicenseUsageLogEnabled	Controls the license usage logging.
LicenseUsageLogFile	The log file name for the license usage logging.
LicenseUsageLogFileMax	Controls the license usage log file size.
LicenseUsageLogFormat	Controls the message written into the license usage log file.
LicenseUsageSampleRate	Controls the frequency of the messages written into the log file.
Locale	The system locale, used as a default for users who do not specify the locale they with to use.
MailClientDelay	Processing delay in minutes.
MailClientIncludeEmbedded	Controls including the embedded attachments in the e-mail.
MailClientPriorityClass	Process priority, low or normal.
ManagerFields	Field Section Label for Manager Fields when not found elsewhere.
MAPIProfile	If using MAPI as the email server, the profile name to use for sending email.
MAPIPassword	If using MAPI as the email server, the password for the profile specified in MAPIProfile.
MAPISingleSession	Value of 0 indicates the notification server should only make one connection to send all email messages. Value of 1 indicates the notification server will call MAPILogon and MAPILogoff for each individual message to be sent. The default is 0.
MaxAttachmentFileSize	Maximum size for file attachments.
MaxDetailItems	Used to limit the maximum number of items in a details report. This limits the system's display and should not be confused with the user's preference of the maximum number to be displayed.
MaxItemsPerPage	Used to limit the maximum number of items users can display per page. This limits the system's display and should not be confused with the user's preference of the maximum number to be displayed.

MaxListItems	Used to limit the maximum number of items in a listing report. This limits the system's display and should not be confused with the user's preference of the maximum number to be displayed.
MaxLoginAttempts	The number of login attempts a user can perform before becoming disabled. Only pertains to SBM password checking.
MaxLookupItems	Maximum number of incidents to be displayed per contact item.
MaxLookupRows	Maximum number of contact items per look up.
MaxQueryItems	Used to limit the number of members fetched when populating a queryable dropdown list, i.e., lists showing a magnifying glass in SBM Work Center.
MaxSimultaneousUserReports	Used to prevent the user from executing simultaneous reports.
MaxTextFieldSize	The max length of a text field allowed per column.
Notes	Field Section Label for Notes when not found elsewhere.
NSEmailType	Set to one of the following three values:
	0 = TSN_EMAIL_NONE, no email will be sent.
	1 = TSN_EMAIL_SMTP, sending email using an SMTP server.
	2 = TSN_EMAIL_MAPI, sending email using a MAPI server.
NSExpiredMessageLogfile	Name and path of the log file to which expired email messages are appended. Email messages that fail to send will be retried for some customizable amount of time. See NSExpiredMessageTimeout. After this time has elapsed, the message is deleted from the TS_NOTIFICATIONMESSAGES table and appended to this log.
NSExpiredMessageTimeout	Time period for which the notification server will retry email messages that have failed. This value is stored in seconds.
NSHTTPLinkAddress	URL to access SBM included in email messages sent by the notification server, e.g., http://company.com. If using https, include https in the URL, e.g., https://company.com. Also determines the host name value that appears in the URL for items returned by sbmappservices72 Web service calls.
NSHTTPLinkPort	Port number for the SBM Web server. Automatically added to the URL specified in NSHTTPLinkAddress.
NSLastChangeID	Id of the last change record was processed by the notification server.
NSLogExpiredMessages	Boolean value which indicates whether or not expired messages will be stored in a log file or simply deleted. Email messages that fail to send will be retried for some customizable amount of time. See NSExpiredMessageTimeout. After this time has elapsed, the message will be logged to a log file if this value is set to 1. If this value is set to 0, the message is not logged. In both cases, the message is deleted from the TS_NOTIFICATIONMESSAGES table.

NSLogfileReportingLevel	Reporting level for logging. Set to one of the following values:
	1 = no logging.
	2 = minimal logging, errors only.
	4 = average logging, errors and some informational messages.
	8 = verbose logging, all informational messages. Set to verbose when needing to assist Technical Support in debugging problems.
	The default is 2, minimal.
NSMapiType	Set to one of the following two values:
	1 = TSN_MAPI_SIMPLE
	2 = TSN_MAPI_EXTENDED
NSNotificationStartDate	Date of the last change record processed by the notification server. Or conversely, the date at which the notification server will start reading change records the next time it runs.
NSNotificationTimeout	Notification Server - Number of milliseconds to sleep between cycles.
NSServerCacheLimit	The notification server maintains a cache of primary items for performance. This value is the maximum number of items held in the cache. The default value is 50. For systems with extensive memory, consider raising this number. As a general rule, set this number close to the number of primary items expected to be modified between notification server cycles.
NSServerPriorityClass	Priority class that the notification server uses. Possible values are:
	64 = IDLE, notification server only runs while the CPU is idle.
	32 = NORMAL, notification server runs with the same priority as most other processes on windows.
NumberedAttachments	Declares if and how notes and attachments are numbered as follows:
	0 = TS_ATTACHSEQ_NONE, not numbered.
	1 = TS_ATTACHSEQ_COMBINED, combined sequence numbering.
	2 = TS_ATTACHSEQ_SEPARATE, numbered separately.
NumberedAttachmentsFormat	Format string for attachments numbering. Must contain a '%d' format specifier and may include HTML.
NumberedNotesFormat	Format string for notes numbering. Must contain a '%d' format specifier and may include HTML.
OOOCleanupPeriod	The frequency, in seconds, for processing Out Of Office delegations. Default is 1800 seconds (30 minutes). Minimum 300 seconds (5 minutes). A value of 0 will disable the use of OOO delegation.
OracleVARCHAR4000	Only applicable to Oracle DBs. Memo fields can be set to 4000 characters, within Oracle limitations. This can only be set through a Database Copy Wizard.
PassRequestEmailTemplate	Email template for password request confirmation.
PassRequestEnable	Check box to enable password request.

PassRequestReplyTo	Reply address for a password confirmation.
PasswordLength	Length of the password.
PasswordOptions	Additional password restrictions.
PasswordSpecialChar	The number of special characters required in a password.
POP3Server	Mail Client – POP3 host address.
POP3ServerPort	Mail Client – POP3 port number.
PostRequiredFilledHTML	Text or HTML placed after the filled in required field name.
PostRequiredHTML	Text or HTML placed after an unfilled required field name.
PreRequiredFilledHTML	Text or HTML placed at the beginning of a filled in required field name.
PreRequiredHTML	Text or HTML placed at the beginning of an unfilled required field name.
RequiredSystemFields	Specifies the list of fields for which to override the default display behavior when the fields are required. If this key does not exist, no action is taken on required system fields. All system-generated fields are set up to 'not show' as required but filled-in fields by default.
SaveEmailAsNote	Check box to enable an email to be saved as a note in SBM Work Center.
SelectionFieldWidth	The size to use for selection fields when displayed in SBM Work Center.
SelfRegEnable	Check box to enable self registration by External users.
SelfRegMethod	Denotes the registration method, automatic (1) or manual (0).
SelfRegProjectId	Project drop down for registration requests.
SelfRegValidationMacId	Macro id of the script that is being run when the self registration form is submitted.
ShowClassificationBanners	Classification banners in end-user interface: show (1) or hide (0).
SMTPAddMessageId	Notification Server - The SMTP message includes an id.
SMTPAuthMethod	Notification Server - The SMTP authentication method.
SMTPAuthUsername	Notification Server - The SMTP authentication user.
SMTPAuthPassword	Notification Server - The SMTP authentication password.
SMTPDomain	Notification Server - Domain name in which the SMTP server resides. This is the domain name used in the SMTP 'HELO' command.
SMTPPort	Notification Server - Port on which the SMTP server is listening. The default is port 25.
SMTPReplyAddress	Notification Server - Default reply address if an email does not originate from a user.
SMTPReplyToLastModifier	Value of 1 indicates any email message the notification server sends regarding a change to an item, will use the email address of the last modifier of the item as the reply address. Value of 0 indicates the notification server will use SMTPReplyAddress as the reply address.
SMTPServer	Notification Server - Name of the SMTP server.

SMTPSingleConnection	Value of 1 indicates that the notification server will connect and disconnect from the SMTP server for each email message sent. Value of 0 indicates the notification server will connect only once, send all messages and subsequently disconnect.
SMTPSuppressVerify	Value of 1 indicates the notification server will not run the SMTP 'VRFY' command for users before sending email. Some SMTP servers do not support the VRFY command.
SMTPUseAuthentication	Notification Server - Controls if using SMTP authentication.
SocialWidgetFTIndexedTables	List of tables with full-text indexing for the Social Widget. Not to be changed manually.
SocialWidgetTimeWindowMonths	Time window used when searching for experts for the Social Widget (in months). Default value is 6 months.
SocialWidgetExpertsCount	Maximum count of experts that can be found for the Social Widget. Default value is 3 experts. Value of 0 indicates that the Social Widget will hide the "Search experts" link.
SocialWidgetMaxUsersFromMUField	Maximum count of users to get from one multi-user field for the "People" section of the Social Widget.
StandardFields	Field Section Label for Standard Fields when not found elsewhere.
STARTOFWEEKOFFSET	Start of the week denoted in hours.
StateChangeHistory	Field Section Label for State Change History when not found elsewhere.
StoreAttachmentsInDatabase	Check box to enable attachments to be stored in the database.
Subtasks	Field Section Label for Subtasks when not found elsewhere.
SystemFields	Field Section Label for System Fields when not found elsewhere.
TimeZone	The system time zone, used as a default for users who do not specify the time zone they wish to view dates in.
UnrestrictedDefault	The initial default value is zero (0), which corresponds to the "Restricted (unchecked)" choice. A positive value represents "Restricted if Privileged" and a negative value represents "Unrestricted if Privileged". The absolute value corresponds to one of these three privileges, one-based, in the order listed: "View Notes/Attachments on Any Item" "Add Notes/Attachments to Any Item" "Set Unrestricted Status of Notes/Attachments"
UserAvatarFileMaxSize	Specify the maximum image file size used for user avatars. The default setting is 100 KB.
UserFields	Field Section Label for User Fields when not found elsewhere.
VC_AssocRequiredCheckin	If the value is 1 an association is required to check in a file. If the value is 0 no association is required. This is dependent on VC_ShowOnCheckin containing a value of 1.
VC_AssocRequiredCheckout	If the value is 1 an association is required to check out a file. If the value is 0 no association is required. This is dependent on VC_ShowOnCheckout being set to a value of 1.

VC_CleanupOnUncheckout	If the value is set to 1 associations are removed on Uncheck out. If 0 the associations are not removed.
VC_IncludeChangeUserInfo	If the value is 1 the version control comment will contain the changing user's information. If set to zero no user information will be added to the version control comment. This is dependent on VC_TagComment being set to a value of 1.
VC_InsertInfoBeforeComment	If the value is 1 association information added to the version control comment will be added before the existing comment contents. If the value is zero association information will be added after the existing comment contents. This is dependent on VC_TagComment being set to a value of 1.
VC_ShowIfNeeded	If the value is 1 the check in dialog is only shown if there has been no previous association. This is dependent on VC_ShowOnCheckin containing a value of 1.
VC_ShowOnCheckin	If the value is 1 an association dialog is shown during file check in. If the value is 0 no dialog is shown.
VC_ShowOnCheckout	If the value is 1 an association dialog is shown during file check out. If the value is 0 no dialog is shown.
VC_TagComment	If the value is 1 the version control comment will contain association information. If the value is 0 no version control information is added to the comment.
VC_TagFormat	This contains a string specifying the format of the association information added to the version control comment. It is made up of text and the following tags.

- $id – Returns the item ID for the SBM item.

- $ownerid – Returns the login ID of the user who owns the item at the time of association.

- $projectid – Returns the name of the project in which items reside at the time of association.

- $recid – Returns the item's database record ID.

- $tableid – Returns the item's database table ID.

By default this value is set to $id($tableid,$recid) $title.

VC_UseVMLabelsOnCheckin	If the value is 1 version labels will be used on check in. If the value is 0 no version labels will be used on check in.
VersionControlHistory	Field Section Label for Version Control History when not found elsewhere.
WebServerReferrerAuth	If the value is 1, the user who leaves the SBM site will have to re-authenticate. If the value is 0, the user can log on without re-authentication.
SMTPUseSSL	SSL usage for Notification Server. 1 – use SSL for network connections, 0 – don't use SSL.

SMTPPortIsSSLDedicated	Specifies whether Notification Server should start connection in SSL mode immediately (value 1), or by starting not secure connection and then switching to secure connection by issuing STARTTLS command (value 0).
NSExchangeVersion	Version of MS Exchange to use for Notification Server.
NSExchangeServiceURL	URL to use to connect to MS Exchange mail server in Notification Server.
NSExchangeLogin	Login name for MS Exchange mail server for Notification Server.
NSExchangePassword	Password for MS Exchange mail server for Notification Server. This value is stored in encrypted form.
EmailServerType	Type of e-mail protocol to be used by Mail Client services.
POP3UseSSL	SSL usage for Mail Client. 1 – use SSL for network connections, 0 – don't use SSL.
POP3PortIsSSLDedicated	Specifies whether Mail Client should start SSL connection immediately (value 1), or by starting not secure connection and then switching to secure connection by issuing STARTTLS command (value 0).
MCExchangeVersion	Version of MS Exchange to use in Mail Client.
MCExchangeServiceURL	URL to use to connect to MS Exchange mail server in Mail Client.
MCExchangeLogin	Login name for MS Exchange mail server for Mail Client.
MCExchangePassword	Password for MS Exchange mail server for Mail Client. This value is stored in encrypted form.
MailClientIncludeHTMLMail	Specify treatment of HTML formatted e-mail messages. If is set to 0, then all messages which do not have plain-text part will be discarded without processing. Must be set to 1 to allow use of HTML section in case plain-text section of e-mail message is not present, or in case other features depending on HTML formatted e-mail messages are selected, like, for instance, PDF generation.
MailClientIncAttachExist	If set to 1, Mail Client will add e-mail attachments to the issue, otherwise e-mail attachments will be ignored.
mail.client.deletemessage	Set to 1 to delete messages after processing by Mail Client, or to 0 to mark as read and not delete (not supported for POP3 protocol).
NoteLoggerUseHtmlEmailSection	Specify which e-mail section to attach as note to the issue, plain-text (value 0), or HTML formatted section (value 1).
NoteLoggerAttachHtmlEmailAsPdf	Generate and attach PDF file for incoming messages, if set to 1, and don't generate PDF in case value is 0. MailClientIncludeHTMLMail should be set to 1 to use this feature.
mail.subject_max_length	Maximum subject line size for e-mail messages sent by Notification Server.
mail.retry_period	Retry period (in seconds) for Notification Server e-mail messages, in case delivery fails. If not set, the default value 10800 (3 hours) is used.
mail.retry_count	Number of retry attempts to be made by Notification Server for e-mail messages which failed to deliver. If not set, the default value 5 is used.

mail.send.att_max_size	Maximum size of attachments (in megabytes) allowed to be added to messages sent by Notification Server. If not set, the default value 5 (MB) is used.
UserEmailTemplate	The name of user email template for Notification Server.
SMTPFromLastModifier	Specifies usage of "From" e-mail field by Notification Server. If set to 1, then this field in e-mail message is set to last modifier's address.
SMTPFromAddress	Default e-mail address to use in "From" field for notification messages. If SMTPFromLastModifier option is set to1, then last modifier's address is used instead of this field.
NSTextForSendByTag	Text for the tag $SENTBY() for Notification Server e-mail templates.
NSAdminEmails	List of e-mail addresses of administrators, which are used by Notification Server or Mail Client to send notification messages to in case errors appear, depending on some other conditions specified in Configurator, like number of error messages or their severity.
mail.timeout	Connection timeout for Notification Server and Mail Client.
ns.inline_notes_size_limit	Maximum size of a note allowed to be inlined in the message body when $NOTES() notification templates tag is used. All notes exceeding this threshold will be truncated before inserted into message body and complete note text will be added as attachment.
LinkAddressExternal	Server name used for creation of external links in e-mail messages by Notification Server.
LinkPortExternal	Port number used for creation of external links in e-mail messages by Notification Server.
MinMultiSelectSize	Global setting that forces dual list box behavior for all multi-type fields and ignores the "List display size" field option. Values are 0 (default behavior), or 1 (force dual list box behavior).

TS_SYSTEMSETTINGSNAMESPACED

This table contains a record for a variety of system wide settings that can be defined for each particular namespace.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010127	Unique numeric id for the table. See notes below.
TS_NAME	varchar(64)	1012010127	Unique name which identifies the setting.
TS_DATATYPE	int	1012010127	1 = TS_DATATYPE_INTEGER 4 = TS_DATATYPE_STRING.
TS_LONGVALUE	int	1012010127	Value of a long setting type.
TS_STRINGVALUE	varchar(max)	1012010127	Value of a string setting type.
TS_LONGDEFAULT	Int	1012010127	Initial TS_LONGVALUE setting.
TS_STRINGDEFAULT	varchar(max)	1012010127	Initial TS_STRINGVALUE setting.
TS_UUID	varchar(128)	1012010127	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	1012010127	If not zero, a foreign key to the TS_NAMESPACES table.

Note: The actual order of the following values may differ and some are optional. Most of these settings are configured via the SBM Web Administrator and should not be changed by any other tool.

Values for TS_NAME column:

AllowLoginPageFraming	1 if allowing SBM Login Page to be framed in another domain.
Html5Enabled	1 if the Html5 is enabled for specified namespace, 0 otherwise. The **Enable HTML5 Features** option enables modern HTML features, such as the Rich Text Editor, user profile card, and HTML5 form styling and layout.
HtmlSanitizerConfigBlobId	TS_ID of TS_BLOBS record that holds current configuration for the sanitize HTML feature.
MaxWorkcenterFavorites	Max amount of favorites that can be added in Work Center on the same menu.
OOORestrictByCompany	Out of office delegation feature: when selecting a user to delegate items to, this setting controls if only users from the same company will be shown. If 1, and current user has a company specified in his contact, then only users from the same company will be shown. If the setting is missing, or set to 0, or current user doesn't have a company specified, then all users will be shown.
SanitizeHtmlValues	1 if need to sanitize all HTML values before rendering them, 0 otherwise.
SocialViewEnabled	1 if the social view is enabled for specified namespace, 0 otherwise.

Theme	TS_LONGVALUE is a foreign key to the TS_THEMES table, representing the selected end-user UI theme for the specified namespace.
SystemReportMaxLinesNumber	Limit number of rows printed for "Project Fields" and "Workflow Fields" reports. Default value is 100000.
ReportToExcelFormulasEnabled	Controls treatment of report cells which start with '=' sign during export to excel of reports. With 0 value all report cells are treated as text, and otherwise cells which start with '=' sign are wrote to excel as formulas.
sso.auth.lastupdate	Zulu-formatted string with the last update timestamp. If value is not defined, SAML2P is not enabled and namespace authentication uses defaults (login form)
sso.auth.login.method	"login-form" | "saml2p". Enumerated string values. If value is not defined or value is not one of the listed above, SAML2P is not enabled and namespace authentication uses defaults (login form)
sso.auth.saml2p.enabled	0|1. Default: 0. If row is missing default is assumed and SAML2P is not used for the namespace.
sso.auth.saml2p.idp.metadata	XML with the metadata. If value is missing or invalid XML SAML2P is not used for the namespace.
sso.auth.saml2p.sp.metadata	XML with the metadata. If value is missing or invalid XML SAML2P is not used for the namespace.
sso.auth.saml2p.signature.key	Not optional. If value is missing or invalid, SAML2SP will not be used for the namespace.
sso.auth.saml2p.signature.cert	Not optional. If value is missing or invalid, SAML2SP will not be used for the namespace. Certificate must hold public key corresponding to "sso.auth.saml2p.signature.key"
sso.auth.saml2p.encryption.key	Optional. If missing, "sso.auth.saml2p.signature.key" will be used.
sso.auth.saml2p.encryption.cert	Optional. If missing, "sso.auth.saml2p.signature.key" will be used.
sso.auth.saml2p.sp.entityID	Unique identifier for the SAML request
sso.auth.saml2p.flags.forceAuthN	0|1 (default: 0). Optional, if missing the default value will be assumed.
sso.auth.saml2p.flags.maxAuthenticationAge	<positive integer>>. Optional. If missing default value will be assumed (7200). Age is in seconds.
sso.auth.saml2p.test.user	User Id for SAML2 testing puproses
sso.auth.lasteditor	User Id who made last update of SAML2 settings

TS_TABLES

This table contains one row for each table in the database, storing important information about each database table. The table was added in Database Version 2.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the table. See notes below.
TS_NAME	varchar(32)	1	Name of the table.
TS_LASTID	int	1	Obsolete as of db version 50202. This information is now stored in the TS_LASTIDS table.
TS_CACHESTATUS	int	500	Indicates whether the table is cached (1) or not (0). In version 5.0 and later, the Incident Management solution tables can be cached or un-cached by the Administrator.
TS_CACHECOUNTER	int	500	Incremented whenever a change is made to the cached table. Not all tables are cached. Primary item tables are never cached. Therefore, this column will not be used for all rows. For certain tables, the column value will also be incremented when something changes using the Administrator. For example, the value is incremented with changes to the project list, addition or removal of a user, a group, a folder, a workflow, etc.
TS_LOCKUSERID	int	500	Foreign key into the TS_USERS table indicating the user to whom the admin lock was granted.
TS_LOCKTIME	int	500	DateTime when the admin lock was granted.
TS_RECLOCK	int	504	Timeout period, in minutes, for record locking on this table, or zero, if record locking is disabled.
TS_DBNAME	varchar(32)	504	Full database name of the table including the application prefix and underscore.
TS_SNAME	varchar(32)	504	The singular name as the table name. For example, if TS_NAME contained the string 'Companies', the name displayed in the tables view, TS_SNAME would contain 'Company', displayed in the 'Select Field Type to Add' dialog in the Administrator.
TS_DESCRIPTION	varchar(80)	504	Descriptive text of the table. Might appear in SBM Work Center as hover text or as help as appropriate.

Column Name	Data Type	DbVer	Description
TS_FORMAT	varchar(255)	504	Value display format for the table. Edited only through the Administrator.
TS_SOLUTIONID	int	504	Foreign key into the TS_SOLUTIONS table identifying the application for which this application table was originally created, or 0 if not associated with a specific application. Might be used to identify and delete associated secondary tables when an application is uninstalled.
TS_TYPE	int	504	Table type enumeration. See notes below.
TS_FLAGS	int	504	Table attributes bit mask. See notes below.
TS_ARCHIVE	int	504	If this record describes an archive table, this field contains the id of the active table. If this record describes an active table that has an archive, this field contains the id of the archive table.
TS_IMAGEA	int	504	Foreign key into the TS_RESOURCES table. For both primary and auxiliary tables, stores the resource id of the 'multi-relational' icon.
TS_IMAGEB	int	504	Foreign key into the TS_RESOURCES table. For both primary and auxiliary tables, stores the resource id of the 'single-relational' icon.
TS_LOOKUP1	int	504	Foreign key to the TS_FIELDS table indicating the field for the first lookup data layer, set by Administrator.
TS_LOOKUP2	int	504	Foreign key to the TS_FIELDS table indicating the field for the second lookup data layer, set by Administrator.
TS_SEARCHSUPPRESS	varchar(255)	62002	Fields that are not to be shown on the user's application search screen are listed here in a comma-delimited list. This is for simplifying the application search screens for particular tables (i.e., removing unused system fields) rather than performing a security function.
TS_IMAGEACTIVE	int	62002	Foreign key into the TS_RESOURCES table, for the 'active' image, for primary tables.
TS_IMAGEINACTIVE	int	62002	Foreign key into the TS_RESOURCES table, for the 'inactive' image for primary tables.

Column Name	Data Type	DbVer	Description
TS_LASTREPOSITORYID	varchar(64)	71005	The Universally Unique Identifier (UUID) of the last Admin Repository Identifier from which a deployment was made. This is used to detect when a deployment from one repository might overwrite a previously deployed definition that came from a different repository.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record. For System and System Auxiliary tables, this is the Database Name of the Table.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_SQLQUERY	longvarchar	1013000003	If the table is from the Advanced Queries for Reporting feature (similar to database views), this contains the SQL for querying this table.

Values for TS_ID column:

TS_TBLID_NONE	-1	Default.
* TS_TBLID_CASES	1	Deprecated. See note below.
TS_TBLID_CHANGES	2	
TS_TBLID_FIELDS	3	
TS_TBLID_GROUPS	4	
TS_TBLID_LICENSES	5	No longer valid.
TS_TBLID_MEMBERS	6	
TS_TBLID_PRIVILEGES	7	
TS_TBLID_PROJECTS	8	
TS_TBLID_PROJECTSELECTIONS	9	
TS_TBLID_PROPERTIES	10	
TS_TBLID_REPORTS	11	
TS_TBLID_SELECTIONS	12	
TS_TBLID_STATES	13	
TS_TBLID_TRANSISSUETYPES	14	
TS_TBLID_SYSTEMINFO	15	
TS_TBLID_TRANSITIONS	16	
TS_TBLID_USERS	17	

TS_TBLID_TABLES	18	
TS_TBLID_ATTACHMENTS	19	
TS_TBLID_FOLDERS	20	
TS_TBLID_FOLDERITEMS	21	
TS_TBLID_FOLDERCOLUMNS	22	No longer valid.
TS_TBLID_VCACTIONS	23	
TS_TBLID_PROJECTTRANSITIONS	24	
TS_TBLID_NOTIFICATIONS	25	
TS_TBLID_NOTIFICATIONRULES	26	
TS_TBLID_NOTIFICATIONCONDITIONS	27	
TS_TBLID_NOTIFICATIONEVENTS	28	
TS_TBLID_NOTIFICATIONFIELDS	29	
TS_TBLID_NOTIFICATIONMESSAGES	30	
TS_TBLID_NOTIFICATIONPERMISSIONS	31	
TS_TBLID_NOTIFICATIONSUBSCRIPTIONS	32	
TS_TBLID_MACROS	33	
TS_TBLID_WORKFLOWS	34	
TS_TBLID_FIELDORDERINGS	35	
* TS_TBLID_INCIDENTS	36	Deprecated. See note below.
TS_TBLID_COMPANIES	37	
TS_TBLID_CONTACTS	38	
* TS_TBLID_MERCHANDISE	39	Deprecated. See note below.
* TS_TBLID_SERVICEAGREEMENTS	40	Deprecated. See note below.
TS_TBLID_PROBLEMS	41	
TS_TBLID_RESOLUTIONS	42	
* TS_TBLID_PRODUCTS	43	Deprecated. See note below.
TS_TBLID_KEYWORDS	44	
TS_TBLID_PRODUCTUSAGES	45	
TS_TBLID_KEYWORDUSAGES	46	
TS_TBLID_TRANSTRIGGERS	47	
TS_TBLID_TRANSTRIGGERSTATES	48	Replaced by TS_STACTIONS in 62002.
TS_TBLID_TRANSTRIGGERTRANSITIONS	49	Replaced by TS_STACTIONS in 62002.
TS_TBLID_ADMINGROUPS	50	
TS_TBLID_MAILHEADERFIELDS	51	
TS_TBLID_MAILBOX	52	

TS_TBLID_MAILMAPPINGS	53	
TS_TBLID_SELFREGFIELDS	54	
TS_TBLID_MSSELECTION	55	
TS_TBLID_SYSTEMSETTINGS	56	
TS_TBLID_GWESTATES	57	
TS_TBLID_GWETRANSITIONS	58	
TS_TBLID_GWECOMMENTS	59	
TS_TBLID_SOLUTIONS	60	
TS_TBLID_SUBTASKS	61	
TS_TBLID_SECTIONS	62	Not currently used.
TS_TBLID_BROWSERS	63	
TS_TBLID_RESOURCES	64	
TS_TBLID_BLOBS	65	
TS_TBLID_RECORDLOCKS	66	
TS_TBLID_ITEMNOTIFICATIONS	67	
TS_TBLID_USAGES	68	
TS_TBLID_ADMINTABLES	69	
TS_TBLID_GROUPENABLER	70	No longer valid.
TS_TBLID_ADMINLOCKS	71	
TS_TBLID_EXTERNALDATABASES	72	
TS_TBLID_EXTERNALPOSTINGS	73	
TS_TBLID_EXTERNALPOSTFIELDMAP	74	
TS_TBLID_ADMINCHANGES	75	
TS_TBLID_LASTID	76	
TS_TBLID_LASTIDS	76	
TS_TBLID_URLSTORE	77	
TS_TBLID_TRANSGROUPS	78	
TS_TBLID_ATTACHMENTSEQUENCES	79	
TS_TBLID_TOOLS	80	
TS_TBLID_BRIDGES	81	
TS_TBLID_FIELD_MAP	82	
TS_TBLID_USER_MAP	83	
TS_TBLID_XREF	84	
TS_TBLID_MULTIUSERUSAGES	85	
TS_TBLID_CONCURRENTLOGINS	86	

TS_TBLID_ENTITIES	158
TS_TBLID_ENTITYPROPERTIES	159
TS_TBLID_ENTITYVALUES	160
TS_TBLID_TRACEWORKS	161
TS_TBLID_PHASES	162
TS_TBLID_TRANSEXCLUSIONS	163

- These tables are specific to the Issue Management and Incident Management solutions. The TS_ID listed above is correct after upgrade from a 4.0 database. If either or both solutions were deleted from a given database, and subsequently reinstalled, the tables were then created with different values for TS_ID. In short, these values can be used to reliably reference system tables, but not solution tables.

Values for TS_TYPE column:

TS_TBLTYPE_SYS	0	System table, e.g. TS_USERS.
TS_TBLTYPE_PRI	1	Primary table, e.g. TTT_ISSUES.
TS_TBLTYPE_AUX	2	Auxiliary table, e.g. TTS_PRODUCTS.
TS_TBLTYPE_SYSAUX	3	System auxiliary table, e.g. TS_CONTACTS.
TS_TBLTYPE_ARCHIVE	4	Archive for another table.

Values for TS_FLAGS column:

TS_TBLFLG_DELETE	0x0001	Table can be deleted.
TS_TBLFLG_ARCHIVE	0x0002	Table can be archived.
TS_TBLFLG_IMPORT	0x0004	Table can be an import destination.

TS_TEMPLATELINKS

This table is contains locales for the email templates and used to communicate between TS_RESOURCE and TS_TEMPLATES.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1015000001	Unique numeric id for the record.
TS_RESOURCEID	int	1015000001	Foreign key to the TS_RESOURCES table for the email template
TS_TEMPLATEID	int	1015000001	Foreign key to the TS_TEMPLATES table.
TS_LOCALE	varchar(32)	1015000001	The locale name for the email template.

TS_TEMPLATES

This table contains one record for each email templates

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1015000001	Unique numeric id for the record.
TS_NAME	varchar(255)	1015000001	Display name of the email templates. This name is shown in Administrator Portal for choosing a template.
TS_TYPE	int	1015000001	Bit mask identifying the resource type. See notes below.
TS_NAMESPACEID	int	1015000001	If not zero, a foreign key to the TS_NAMESPACES table.

Values for TS_TYPE column:

TS_RESTYPE_NOTIFICATION_TEMPLATE	7	Templates for email messages sent by SBM notifications.
TS_RESTYPE_MAIL_CLIENT_TEMPLATE	8	Templates for SBM's mail client.
TS_RESTYPE_SELF_REG_TEMPLATE	9	Templates for SBM's self-registration form.
TS_RESTYPE_USER_EMAIL_TEMPLATE	11	User's personal templates for SBM's mail client.
TS_RESTYPE_PDFTEMPLATE	13	PDF templates used by SBM's PDF widget.
TS_RESTYPE_SCHEDULED_REPORTS_TEMPLATE	15	Templates for scheduled reports.

TS_THEMES

This table represents the available themes for the end-user UI. A theme is implemented as a set of subfolders in the AE server's filesystem under the "images", "styles", and "javascript" folders, which contain images and style definitions that can be customized for each theme. The default theme is named "Sand" and uses folders called "graphite" (a misnomer retained for historical reasons). An alternate built-in theme is named "Blue" and uses folders called "blue". Additional themes can be created by custom work. In an on-demand environment, themes in namespace 0 are available in all namespaces, and themes in a non-zero namespace are available only in that namespace.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012101001	Unique numeric id for the record.
TS_NAME	varchar(255)	1012101001	Display name of the theme. This name is shown in Application Repository for choosing a theme.
TS_FOLDERNAME	varchar(255)	1012101001	Folder name in the AE server's filesystem under the "images", "styles", and "javascript" folders where images and style definitions for the theme are located.
TS_NAMESPACEID	int	1012101001	If not zero, a foreign key to the TS_NAMESPACES table.
TS_TYPE	int	1013000012	Theme types. Classic theme type (0), modern theme type (1).

TS_TIMECAPTURE

This table represents a single time capture entry for any primary item. The is record may span multiple days and will contain the time spent for this range of dates.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010112	Unique numeric id for the record.
TS_ITEMID	int	1012010112	TS_ID of the SBM Item.
TS_TABLEID	int	1012010112	Foreign key into the TS_TABLES table, TS_ID.
TS_USERID	int	1012010112	Foreign key into the TS_USERS table, TS_ID.
TS_RSM_RESOURCEID	int	1012010112	Foreign key into the RSM_RESOURCE table, id.
TS_STATEID	int	1012010112	Foreign key into the TS_STATES table, TS_ID.
TS_LASTMODDATE	date	1012010112	Date this entry was last modified.
TS_TIMESPENT	int	1012010112	Time in seconds. Represents time spend for this Time capture entry.
TS_RANGE_BEG	date	1012010112	The begin date for this Time capture entry.
TS_RANGE_END	date	1012010112	The end date for this Time capture entry.
TS_MANUALSPLIT	int	1012010112	0 or 1, depending of if the Time capture distribution was generated manually or automatically.
TS_DESCRIPTION	varchar(255)	1012010112	Description seen on the Time capture entry.

TS_TIMECAPTURE_DENORM

This table represents the distribution of a single Time capture entry (TS_TIMECAPTURE record).   It breaks down a Time capture entry into individual days. This may be generated either manually or automatically.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010112	Unique numeric id for the record.
TS_TIMECAPTUREID	int	1012010112	Foreign key into the TS_TIMECAPTURE table, TS_ID.
TS_ITEMID	int	1012010112	TS_ID of the SBM Item.
TS_TABLEID	int	1012010112	Foreign key into the TS_TABLES table, TS_ID.
TS_USERID	int	1012010112	Foreign key into the TS_USERS table, TS_ID.
TS_RSM_RESOURCEID	int	1012010112	Foreign key into the RSM_RESOURCE table, id.
TS_STATEID	int	1012010112	Foreign key into the TS_STATES table, TS_ID.
TS_TIMESPENT	int	1012010112	Time in seconds. Represents time spend for this Time capture distribution day.
TS_SPECIFICDAY	date	1012010112	The day the distribution allocation represents.

TS_TIMECAPTURE_ROLLUP

This table represents the rolled up total time spent on an item for all Time capture entires related to it.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010112	Unique numeric id for the record.
TS_ITEMID	int	1012010112	TS_ID of the SBM Item.
TS_TABLEID	int	1012010112	Foreign key into the TS_TABLES table, TS_ID.
TS_TIMESPENT	int	1012010112	Time in seconds. Represents total time spend for this item across all Time capture entires.
TS_LASTMODDATE	date	1012010112	Date the total was last modified.

TS_TIMEINSTATE

This table represents the amount of time any one item spends in any state. By default time will be recorded based on the 24 clock. TS_TIMEINSTATE records may also be recorded based on hours of operation defined by TS_CALENDARS. The TS_ID, TS_ENTERCHGACTIONID, TS_CALENDARID are inserted into this table when an item enters a new state. When an item leaves a state the TS_EXITCHGACTIONID and TS_ELAPSEDTIME columns are updated.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71005	Unique numeric id for the tool record.
TS_ENTERCHGACTIONID	bigint	71005	Foreign key to the TS_CHANGEACTION table. This is the ID recorded when an item enters a new state.
TS_EXITCHGACTIONID	bigint	71005	Foreign key to the TS_CHANGEACTION table. This is the ID recorded when an item leaves a state
TS_CALENDARID	int	71005	Foreign key to the TS_CALENDARS table to indicate what calendar this TS_TIMEINSTATE record applies to.
TS_ELAPSEDTIME	bigint	71005	This is the elapsed amount of time an item sits in any one state. The time span is recorded in seconds.

TS_TIMEZONEGMTOFFSETDENORM

This table is used to describe timezone conversion values for the purpose of in-SQL timezone conversion. This is used in various reports to ensure that the user's timezone is used when discerning the time a change to an item occurred. Each row represents a time period for a timezone when a certain offset was valid. For instance, if daylight saving time is used for the timezone, there will be 2 rows per year.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	101300 0002	Unique numeric id value for the record.
TS_TIMEZONE	varchar(32)	101300 0002	Name of the timezone.
TS_STARTGMTSECONDS	bigint	101300 0002	When this offset started in seconds since 1/1/1970 0:00:00 GMT.
TS_ENDGMTSECONDS	bigint	101300 0002	When this offset ended in seconds since 1/1/1970 0:00:00 GMT.
TS_STARTGMTDATE	date	101300 0002	When this offset started as a database date in GMT.
TS_ENDGMTDATE	date	101300 0002	When this offset ended as a database date in GMT.
TS_GMTOFFSETSECONDS	int	101300 0002	Amount of seconds to add to a GMT date within this time period to convert it to this time zone.
TS_DSTOFFSETSECONDS	int	101300 0002	If this time period includes a DST offset, amount of seconds of offset it is. This amount is included in the TS_GMTOFFSETSECONDS value.

TS_TOOLS

This table contains one row for each tool to which the OWA integrates.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	57000	Unique numeric id for the tool record.
TS_NAME	varchar(80)	57000	Name of the tool to which OWA integrates.
TS_PROGID	varchar(255)	57000	Program id of the bridge interface for this tool.
TS_TEMPPATH	varchar(255)	57001	Location of the local temporary directory used by the OWA server for this tool. Will be used only if the setting for the particular bridge, in TS_BRIDGES.TS_TEMPPATH is empty.
TS_ATTRIBUTES	int	57007	Reserved for future use.

TS_TRACEWORKS

This table contains one record for each trace activity. Trace activity can be created by any system process, such as importing users from a spreadsheet, importing users from LDAP, replacing users, loging in as another user, etc. These records are displayed in logs.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1000000904	A unique numeric ID for the record.
TS_MODULE	varchar(128)	1000000904	The name of logical module which created this trace record.
TS_CATEGORY	varchar(128)	1000000904	The name of trace record category.
TS_LEVEL	int	1000000904	Log level.
TS_USERID	int	1000000904	Foreign key into the TS_USERS table
TS_MESSAGE	int	1000000904	Log message.
TS_TRACETIME	bigint	1000000904	Timestamp when trace record has been created.
TS_NAMESPACEID	int	1000000904	If not zero, a foreign key to the TS_NAMESPACES table.

Values for TS_ LEVEL column:

LEVEL_DEBUG	1	Debug level.
LEVEL_INFO	2	Info level.
LEVEL_WARN	3	Warning level.
LEVEL_ERROR	4	Error level.
LEVEL_FATAL	5	Fatal level.

Login as another user feature:

When someone logs in as another user, a trace message is added to the table with information about this operation. TS_USERID contains ID of the real user in this case.

Other values for such records:

Method of usage	TS_MODULE	TS_CATEGORY	TS_MESSAGE
SBM UI	"AE"	"Auth"	"Logged in as 'user_name" (id = user_id)"
Web Services	"WebServices"	"Auth"	"Acting as 'user_name' (id = user_id)"

TS_TRANSATTRS

This table contains one record for each unique enabler license – integration transition type combination. Rows are added by the integration that supports them.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	61017	A unique numeric ID for the record.
TS_NAME	varchar(64)	61017	The display name of integration transition type.
TS_PREFIX	varchar(16)	61017	The (three letter) prefix associated with an enabler license for the integration.
TS_EXTID	int	61017	The integration defined numeric value used to uniquely identify the transition type for a given integration. The prefix and this number together comprise a unique key for the attribute.
TS_PREMACROID	int	61017	Foreign key to the TS_MACROS table to reference the id of the macro to be run prior to the transition, but immediately after normal pre-transition scripts.
TS_POSTMACROID	int	61017	Foreign key to the TS_MACROS table to reference the id of the macro to be run after the transition, immediately after normal post-transition scripts.
TS_UUID	varchar(64)	71009	The Universally Unique Identifier (UUID) that applies to this record.
TS_SOLUTIONID	int	71014	Foreign key to the TS_SOLUTIONS table denoting the associated solution.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

TS_TRANSATTRUSAGES

This table contains one record for each attribute associated with a particular transition. Data is added/updated/deleted via the SBM System Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	61017	A unique numeric ID for the record.
TS_ATTRID	int	61017	Foreign key to the TS_TRANSATTRS table to reference the id of the attribute associated with the transition specified here in TS_TRANSID.
TS_TRANSID	int	61017	Foreign key to the TS_TRANSITIONS table to reference the id of the transition to which the attribute specified in TS_ATTRID is associated.
TS_ORDERINDEX	int	63004	The order the attributes are executed during the transition.

TS_TRANSEXCLUSIONS

This table contains records associated with state level transition exclusions. This was created as an override for transitions defined from the special [Any] state.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1000001121	A unique numeric ID for the record.
TS_STATEID	int	1000001121	Foreign key to the TS_STATES table. Identifying the where transition exclusions should be applied
TS_TRANSITIONID	int	1000001121	Foreign key to the TS_TRANSITIONS table to reference the id of the transition to which the transition exclusion should be applied.
TS_WORKFLOWID	int	1000001121	Foreign key to the TS_WORKFLOWS table to determine where at which workflow a transition exclusion should be applied.
TS_PROJECTID	int	1000001121	As of now unused, but could be used in a future release if we decide to override transition exclusions at a project level.
TS_DISABLED	int	1000001121	Always set to 1. But could be used in a future release if we decide to allow for transition exclusion override. In other words to enable sub tree elements the ablity to disable the exclusion setting.

TS_TRANSGROUPS

This table enables transitions based on role assignments and/or group memberships. The table contains at least one row for each transition that has group restrictions defined. There will be multiple rows if the transition is allowed for more than one role or group. If there are no records for a given transition, then there are no role or group-based restrictions for this transition. Anyone can execute it if all other privileges permit. The table was introduced in Database Version 55103.

The columns TS_TABLEID and TS_RECID uniquely specify a role or group that is allowed to execute this transition. Currently, the value in TS_TABLEID must be either TS_TBLID_ROLES or TS_TBLID_GROUPS. Other values are not supported.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	55103	Unique numeric id for the transition group.
TS_TRANSID	int	55103	Foreign key into the TS_TRANSITIONS table that this affects.
TS_TABLEID	int	55103	Table id of the roles or groups table.
TS_RECID	int	55103	Foreign key into the TS_ROLES or TS_GROUPS table for the role or group permitted to execute this transition.

TS_TRANSISSUETYPES

This table enables transitions based on an item type. The table contains at least one row for each transition that is defined. There will be multiple rows if the transition is allowed for more than one item type. If it is desired for all item types, only one row is needed. The table was introduced in Database Version 9.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	9	Unique numeric id for the transition issue type.
TS_TRANSID	Int	9	Foreign key into the TS_TRANSITIONS table that this affects.
TS_SELECTID	Int	9	Foreign key into the TS_SELECTIONS table for which the specified transition is available, or TS_ALL_ISSUES (-1) for all.
TS_FLDID	Int	9	Reserved for future use.

TS_TRANSITIONDATAMAPPINGS

This table contains one row for each data mapping used during transition executions.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	101201011 1	Unique numeric ID for the record.
TS_NOTIFICATIONID	int	101201011 1	Foreign key to the TS_NOTIFICATIONS table indicating the notification associated with related transition.
TS_TRANSITIONID	int	101201011 1	Foreign key to the TS_TRANSITIONS table indicating the transition associated with current data mapping.
TS_FIELDID	int	101201011 1	Foreign key to the TS_FIELDS table indicating the field that is mapped.
TS_TYPE	int	101201011 1	Indicates mapping type. Could be one of the following: "1" – Main fields mapping. "2" – Indicates that field's ID is used for mapping. "3" – Not used yet. "4" – Indicates that set value method should be checked when updating related field. "5" – Indicates that field's value is used for mapping.
TS_VALUE	varchar(max)	101201011 1	Text value used for mapping.
TS_VALUETYPE	varchar(256)	101201011 1	A text ID of the mapped field.
TS_DISPLAYVALUE	varchar(256)	101201011 1	Not used.
TS_NOTIFICATIONRESP ONSEID	int	111000000 2	Foreign key to the TS_NOTIFICATIONRESPONSES table indicating the notification response associated with current data mapping.
TS_EXTERNALUSERRUL EID	int	113000000 8	Foreign key to the TS_EXTERNALUSERRULES table indicating the external user rule associated with current data mapping.

TS_TRANSITIONS

This table contains one row for each transition that has been defined. Transitions combined with the states stored in the TS_STATES table, form the workflow or life cycle associated with items.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the transition.
TS_NAME	varchar(64)	1	Name of the transition.
TS_PROJECTID	int	1	Misnomer. As of Database Version 10, this column changed to contain a foreign key to the TS_WORKFLOWS table indicating the workflow for which this transition is defined. Workflows may optionally inherit their parent's transitions.
TS_OLDSTATEID	int	1	Foreign key to the TS_STATES table indicating the state from which the issue is being transitioned.
TS_NEWSTATEID	int	1	Foreign key to the TS_STATES table indicating the state to which the issue is being transitioned.
TS_ALLOWINHERIT	int	9	Not used.
TS_TYPE	int	9	Type of transition. See notes below.
TS_PREMACROID	int	10	Foreign key to the TS_MACROS table to reference the id value of the macro to be run prior to this transition.
TS_POSTMACROID	int	10	Foreign key to the TS_MACROS table to reference the id value of the macro to be run after this transition is performed.
TS_FLAG	int	10	Bit-map flag that defines transition behavior. See notes below.
TS_POSTISSUEPROJECTID	int	20	This column is deprecated in SBM. On upgrade all rows are set to '0', which means, by default, to prompt the user for the project to be submitted into. Metadata indicating specific projects into which the item is to be submitted is stored in TS_TRANSPOSTPROJECTS table.
TS_TABLEID	int	504	If TS_TYPE = TS_TRANSITION_POST, TS_TYPE = TS_TRANSITION_COPY or TS_TYPE = TS_TRANSITION_SUBTASK, this is a foreign key to the TS_TABLES table indicating the table into which the item is to be submitted.

Column Name	Data Type	DbVer	Description
TS_EXTERNALPOSTDB	int	55001	Foreign key to the table TS_EXTERNALDATABASES. This field is used when the transition type is TS_TRANSITION_EXTERNALPOST.
TS_SUBMITID	int	60011	The TS_ID of the Submit Transition. This field is used when the transition is of type TS_TRANSITION_POST or of type TS_TRANSITION_SUBTASK. Its value is 0 if the project to be submitted into is selected at runtime.
TS_ORIGFIELDID	int	62002	Meaningful during Copy, Post Item, and Create Subtask transitions. If not 0, then the posted item is selected in this originating item's field.
TS_POSTFIELDID	int	62002	Meaningful during Copy, Post Item, and Create Subtask transitions. If not 0, then the originating item is selected in this posted item's field.
TS_PREWSCALLID	int	66003	Foreign key to the TS_WSCALLS table to reference the id value of the Web service function to be run prior to this transition.
TS_POSTWSCALLID	int	66003	Foreign key to the TS_WSCALLS table to reference the id value of the Web service function to be run after this transition.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_DESCRIPTION	longvarchar	72004	Description of the Transition as specified in SBM Composer.
TS_DECISIONRULEID	int	904000601	If not zero, a foreign key to the TS_DECISIONRULES table.
TS_INTERNALNAME	varchar(255)	1000000302	Readable Identifier Unique per Application
TS_MOBILEFLAG	int	1110000019	Determines if the transition will be displayed in the mobile view. Options are below.

Values for TS_TYPE column:

TS_TRANSITION_REGULAR	0x0000	Regular transition.
TS_TRANSITION_COPY	0x0001	Copy transition.
TS_TRANSITION_POST	0x0002	Transition that submits a record into an application table based on the transition of a primary item.

TS_TRANSITION_SUBMITPROBLEM	0x0004	Transition that creates a Knowledge Base problem or resolution.	
TS_TRANSITION_MOBILE	0x0008	Transition that is available to Mobile Connect users.	
TS_TRANSITION_SUBTASK	0x0010	Transition that creates a subtask.	
TS_TRANSITION_UPDATE	0x0020	Update transition.	
TS_TRANSITION_DELETE	0x0040	Delete transition.	
TS_TRANSITION_EXTERNALPOST	0x0080	Transition that will submit a record into an external database by sending an email message to perform a special kind of email submission.	

Values for TS_FLAG column:

TS_TRANS_FLG_TRIGGER	0x00001	Transition is not available to user, i.e., not seen as a button in SBM Work Center.	
TS_TRANS_FLG_TRIGGER_SRC	0x00002	Copy transition and the link from the source item is triggerable.	
TS_TRANS_FLG_TRIGGER_DEST	0x00004	Copy transition and the link from the destination item is triggerable.	
TS_TRANS_FLG_QUICK_TRANSITION	0x00008	Quick transition.	
TS_TRANS_FLG_SHOW_NEWNOTE	0x00010	New note is shown.	
TS_TRANS_FLG_REQUIRE_NEWNOTE	0x00020	New note is required.	
TS_TRANS_FLG_RERUN_PRETRANSSCRIPTS	0x00040	Rerun Pre-Transcripts when item reloads	DbVer 62004
TS_TRANS_FLG_STAY_WITH_PARENT	0x00080	Display parent item after submitting a subtask item.	
TS_TRANS_FLG_ATTACH_URL	0x00100	URL attachment is required.	DbVer 500
TS_TRANS_FLG_ATTACH_FILE	0x00200	File attachment is required.	DbVer 500
TS_TRANS_FLG_ATTACH_ITEM	0x00400	Item link attachment is required.	DbVer 500
TS_TRANS_FLG_ATTACH_NOTE	0x00800	Note attachment is required.	DbVer 500
TS_TRANS_FLG_ATTACH_ALL	0x00f00	Note, URL, file and item links are required.	
TS_TRANS_FLG_LINK_SRC	0x10000	One way item link from the source item.	
TS_TRANS_FLG_LINK_DEST	0x20000	One way item link from the destination item.	
TS_TRANS_FLG_LINK_TWOWAY	0x30000	Two item link.	
TS_TRANS_FLG_RERUN_PRETRANS WEBSERVICE	0x40000	Rerun Pre-Trans Web services when item reloads	

TS_TRANS_FLG_RESET_COPY_SUBMITTER	0x80000	Reset Submitter field for Copy transition to current user performing the Copy

Values for TS_MOBILEFLAG column:

MOBILEFLAG_NONE	0	Default behavior
MOBILEFLAG_ALWAYSHIDE	1	Always hidden
MOBILEFLAG_HIDEINSIMPLEMODE	2	Hidden in simple mode
MOBILEFLAG_ALWAYSSHOW	3	Always displayed

TS_TRANSORDERINGS

This table contains one record for a given state/workflow or state/project if and only if that state/workflow/project overrides the transition order.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	58001	A unique numeric ID for the record.
TS_TABLEID	int	58001	The id of the table to which this record applies.
TS_WORKFLOWID	int	58001	The id of the workflow to which this record applies, or 0 if for a project.
TS_PROJECTID	int	58001	The id of the project to which this record applies, or 0 if for a workflow.
TS_STATEID	int	58001	The id of the state to which this record applies.
TS_ORDERING	longvarchar	58001	Comma-delimited list of transition ids, each a foreign key to the TS_TRANSITIONS table, which indicates the order of the transitions.

TS_TRANSPOSTPROJECTS

This table contains one record for every transition that posts an item into another project. The transitions could be of type TS_TRANSITION_POST, TS_TRANSITION_COPY or TS_TRANSITION_SUBTASK. Please refer to TS_TRANSITIONS table for description of these transition types.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71008	A unique numeric ID for the record.
TS_TRANSITIONID	int	71008	Foreign key to TS_TRANSITIONS table, which identifies the transition posting an item to another project.
TS_FROMPROJECTID	int	71008	Foreign key to TS_PROJECTS table, which identifies the project from which an item is being posted.
TS_INTOPROJECTID	int	71008	Foreign key to TS_PROJECTS table, which identifies the project into which an item is being posted. Or, if zero, the user will be prompted for the project at runtime.

TS_TRANSSIGNS

This table forms a many-to-many relationship between the TS_PROJECTS and TS_TRANSITIONS tables, and between the TS_WORKFLOWS and TS_TRANSITIONS tables. This table that makes it possible for transitions to require an electronic signature for some workflows/projects but not for other workflows/projects. Either the TS_WORKFLOWID or the TS_PROJECTID will be set in this record, but never both. In order for a transition to require an electronic signature, there must be a TS_TRANSSIGNS record with the TS_ENABLED flag set to 1 somewhere in the inherited project/workflow hierarchy. Note that this behavior applies only to transitions the present a form to the user. It has no affect on Quick or Hidden transitions, or those executed during a mass update, by way of transition actions, or via the API.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	66001	Unique numeric id for the project transition records.
TS_WORKFLOWID	int	66001	Foreign key to the TS_WORKFLOWS table indicating the workflow to which the transition is available.
TS_PROJECTID	int	66001	Foreign key to the TS_PROJECTS table indicating the project to which the transition is available.
TS_TRANSID	int	66001	Foreign key to the TS_TRANSITIONS table indicating the transition to which this record refers.
TS_ENABLED	int	66001	Determines if the transition requires an electronic signature (1) or not (0) at the specified workflow or project.
TS_FIELDID	int	66001	Foreign key to the TS_FIELDS table indicating the DateTime field to set to the signed transition time, or 0 if no field is to be set.

TS_TRANSTRIGGERS

This table stores information about transition triggers. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the trigger.
TS_NAME	varchar(32)	10	Brief name of the trigger.
TS_STATUS	int	10	Whether (1) or not (0) the transition trigger has been deleted.
TS_DESCRIPTION	longvarchar	10	Detailed description of the trigger.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.

TS_TRANSTRIGGERSTATES (Obsolete)

This table became obsolete and is no longer used after Database Version 62002. During upgrade, it data was incorporated into the TS_STACTIONS table. The Database Create wizard no longer creates this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id value for the record.
TS_TRANSTRIGGERID	int	10	Foreign key to the TS_TRANSTRIGGERS table to reference the transition trigger associated to the state.
TS_STATEID	int	10	Foreign key to the TS_STATES table to reference the state to which the transition trigger is associated.
TS_TRANSITIONID	int	10	Foreign key to the TS_TRANSITIONS table to reference the transition to be executed by the transition trigger.
TS_ORDER	int	10	Numeric value indicating the order in which the triggers will be executed.

TS_TRANSTRIGGERTRANSITIONS (Obsolete)

This table became obsolete and is no longer used after Database Version 62002. During upgrade, it data was incorporated into the TS_STACTIONS table. The Database Create wizard no longer creates this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id value for the record.
TS_TRANSTRIGGERID	int	10	Foreign key to the TS_TRANSTRIGGERS table to reference the associated transition trigger.
TS_TRANSITIONID	int	10	Foreign key to the TS_TRANSITIONS table to reference the transition to be executed.

TS_UINOTIFICATIONS

This table stores information about Work Center UI notifications.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000010	Unique numeric id value for the record.
TS_USERID	int	1013000010	Foreign key to the TS_USERS table to reference the associated user.
TS_ITEMID	int	1013000010	Foreign key to the items table which id is equal to value from TS_TABLEID field.
TS_ITEMDISPLAYID	varchar(64)	1013000010	Associated item display id.
TS_TABLEID	int	1013000010	Foreign key to the TS_TABLES table. Used to identify the item.
TS_NOTIFICATIONID	int	1013000010	Foreign key to the TS_NOTIFICATIONS table to reference the associated notification.
TS_NOTIFICATIONTITLE	varchar(256)	1013000010	Name of associated notification from the TS_NOTIFICATIONS table.
TS_ITEMTITLE	varchar(256)	1013000010	Title of associated item. Item is defined by pair of TS_ITEMID and TS_TABLEID.
TS_SUBMITTERID	int	1013000010	Foreign key to the TS_USERS table to identify user that submitted the item.
TS_SUBMITDATE	datetime	1013000010	Item submit date.
TS_OWNERID	int	1013000010	Foreign key to the TS_USERS table to identify owner of the item.
TS_OWNERNAME	varchar(256)	1013000010	Name of the user that is owner of associated item.
TS_STATEID	int	1013000010	Foreign key to the TS_STATES table to identify state of the associated item.
TS_STATENAME	varchar(64)	1013000010	State name of associated item.
TS_APPLICATIONID	int	1013000010	Foreign key to the TS_APPLICATIONS table to identify related application.
TS_APPLICATIONNAME	varchar(64)	1013000010	Name of associated application.
TS_PROJECTID	int	1013000010	Foreign key to the TS_PROJECTS table to identify related project.
TS_PROJECTNAME	varchar(64)	1013000010	Name of associated project.
TS_TIMESTAMP	datetime	1013000010	Timestamp when UI notification record was created.
TS_ACTIVE	int	1013000010	UI notification state. If is zero than UI notification is inactive, otherwise UI notification is active.

TS_UNRESOLVEDOBJECTREFS

When an object references an undefined or unresolved object in the runtime during deployment or promotion, we create a row in this table that defines how to resolve the reference once the object is defined. Generally, the objects in this table will be put into an unresolved object (shadow) table to be resurrected when the referenced object is defined. Under some circumstances, the referencing object may already exist in the real table and a specified column is set to the specified value to enable the reference.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	902000904	Unique numeric id value for the record.
TS_NAMESPACEID	int	902000904	If not zero, a foreign key to the TS_NAMESPACES table.
TS_SOLUTIONID	int	902000904	If not zero, a foreign key into the TS_SOLUTIONS table. This is the solution that was being processed when the reference to the unresolved object was found. This is not necessarily the solution the referencing record or the undefined object is in. (There may be duplicate records in the database where this column is the only difference.)
TS_OBJECTID	int	902000904	Foreign key into the TS_UNRESOLVEDOBJECTS table. This is the unresolved or undefined object being referenced by the record specified in the TS_TABLEID and TS_RECORDID record.
TS_TABLEID	int	902000904	Foreign key into the TS_TABLES table where the object that references the undefined object exists.
TS_RECORDID	int	902000904	This is the record id of the object that references the undefined object.
TS_ENABLECOLUMN	varchar(64)	902000904	If set, this column specifies the column in the referencing record that will be updated with the value from the TS_ENABLEVALUE column when the undefined record is finally defined.
TS_ENABLEVALUE	int	902000904	If this column is zero, the unresolved object is undefined and external to deployed process apps. .If this column is non-zero, the unresolved object has been deployed, but is in an unresolved object (shadow) table.

TS_UNRESOLVEDOBJECTS

This table contains a row for each object that was undefined or unresolvable during deployment of a process app.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	902000904	Unique numeric id value for the record.
TS_UUID	varchar(64)	902000904	The Universally Unique Identifier (UUID) of the object that was unresolved.
TS_NAMESPACEID	int	902000904	If not zero, a foreign key to the TS_NAMESPACES table.
TS_TABLEID	int	902000904	Foreign key into the TS_TABLES table where the object that was unresolved will eventually reside.
TS_URECORDID	int	902000904	This is the pre-allocated record id of the object that was unresolved.
TS_SHADOWED	int	902000904	If this column is zero, the unresolved object is undefined and external to deployed process apps. .If this column is non-zero, the unresolved object has been deployed, but is in an unresolved object (shadow) table.

TS_URLINTEGRATIONS

This table contains one row for each URL integration. Reserved for internal use by Micro Focus.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	61018	Unique numeric id value for the record.
TS_SEQUENCE	int	61018	Display order for this URL integration.
TS_DISPLAYTYPE	varchar(1)	61018	How to display this URL integration.
TS_DISPLAYTEXT	varchar(255)	61018	Text to display when display type is 'H', blank means use URL.
TS_DISPLAYSIZE	int	61018	Size of the display area, zero means use default. For display type 'I' this is the height of the iframe. For display type 'H' ignored.
TS_LABEL	varchar(32)	61018	Section label for this URL integration.
TS_BASEURL	longvarchar	61018	Base URL for the URL integration used unmodified as first part of the URL value.
TS_URLQUERY	longvarchar	61018	Query to be appended to the base URL, may have imbedded tags which will be replaced.
TS_PREFIX	varchar(16)	61018	Prefix for access check, may be empty.

Values for TS_DISPLAYTYPE column:

TS_URLINTEG_DEFAULT	'D'	URL integration will not be displayed, also includes any undefined value in display type.
TS_URLINTEG_HYPERLINK	'H'	URL integration will display as a hyperlink with href equal to the base URL plus the translated URL query.
TS_URLINTEG_IFRAME	'I'	URL integration will display as a iframe with a src equal to the base URL plus the translated URL query.

Tags in TS_URLQUERY column:

$DBVALUE(x)	Returns the database value of the specified field, parameter x can be the field id, field database name, or field display name.
$DISPLAYVALUE(x)	Returns the display value of the specified field, parameter x cam be the field id, field database name, or field display name.
$FOREIGNID1()	Returns the value TS_XREF.TS_FOREIGNID1 for item.
$FOREIGNID2()	Returns the value TS_XREF.TS_FOREIGNID2 for item.
$FOREIGNPARENTID()	Returns the value TS_XREF.TS_FOREIGNPARENTID for item.
$LOGINID()	Returns the login id of the user.
$RECORDID()	Returns the TS_ID of the item.
$TABLEID()	Returns the table id of the item.

TS_URLSTORE

This table stores URLs that are displayed in folders. The TS_FOLDERITEMS table has a many to one relationship with items in this table. Many folders may contain a reference to a single URL. There could be many records in the TS_FOLDERITEMS table with references to a single record in this table. Records are removed from this table when there are no more references to it from the TS_FOLDERITEMS table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	55102	Unique numeric id value for the record.
TS_NAME	varchar(128)	55102	Name of the URL that will be displayed in SBM Work Center for the link.
TS_URL	longvarchar	55102	Actual URL.

TS_URLUSAGES

This table contains one row for each URL usage. This is a list of restrictions so if all values are zero or negative, the URL integration will be displayed. When at least one of the values is positive, the URL integration will only be displayed if the item is contained in the set specified by that value. URL usages are checked in the following order: TS_BRIDGEID, TS_PROJECTID, TS_WORKFLOWID, TS_TABLEID. The first positive value will be used to perform the check, the rest will be ignored. Reserved for internal use by Micro Focus.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	61018	Unique numeric id value for the record.
TS_URLINTEGID	int	61018	TS_ID of URL integration usage relates to.
TS_BRIDGEID	int	61018	Show section only if item is in this bridge (by xref), non-positive means don't check.
TS_PROJECTID	int	61018	Show section only if item is in the project, non-positive means don't check.
TS_WORKFLOWID	int	61018	Show section only if item is in this workflow, non-positive means don't check.
TS_TABLEID	int	61018	Show section only if item is in this table, non-positive means don't check.

TS_USAGES

This table defines the selections that are made in multi-relational fields. For example, the selection of a particular product for a particular incident will be represented by a row in this table. Multiple selections will be represented by multiple rows in this table, having the same TS_FIELDID and TS_SOURCERECORDID but different TS_RELATEDRECORDID.

For example, suppose the TTS_INCIDENTS table has a field called 'AffectedProducts' which is a relational field to the TS_PRODUCTS table. There will be a row in the TS_FIELDS table representing the 'AffectedProducts' field, containing the following relevant data:

- TS_ID, the unique key in the TS_FIELDS for the 'AffectedProducts' field,

- TS_TABLEID, the key in the TS_TABLES table for the TTS_INCIDENTS table, indicating that 'AffectedProducts' belongs to TTS_INCIDENTS, and

- TS_RELATIONID, the key in the TS_TABLES table for the TTS_PRODUCTS table, indicating that 'AffectedProducts' relates to TS_PRODUCTS.

Given the above setup, which is accomplished by using the Administrator to add the field, the selection of a particular product for a particular incident will be represented by a row in this table. TS_FIELDID will be the id of the 'AffectedProducts' field. TS_SOURCERECORDID will be the id of the incident. TS_RELATEDRECORDID will be the id of the particular product.

This table has no direct representation of which tables are keyed by TS_SOURCERECORDID and TS_RELATEDRECORDID (TTS_INCIDENTS and TTS_PRODUCTS in the above example.) The relevant tables are found by examining the entry in the TS_FIELDS table indicated by TS_FIELDID.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	504	Unique numeric id for the record. Exists mainly because of implementation details in SBM code. Ordinarily, this table will be indexed by the TS_FIELDID and the TS_SOURCERECORDID rather than the TS_ID.
TS_RELATEDRECORDID	int	504	Foreign key to the table to which the field relates.
TS_FIELDID	int	504	Foreign key to the TS_FIELDS table indicating the id of the affected field.
TS_SOURCERECORDID	int	504	Foreign key to the table to which the field belongs.

TS_USERFORMSTATES

This table contains states of form sections and tabs per each user. When a user expands/collapses a section on a form or selects a tab, its state is stored in this table. Next time the user opens the form, the sections remain in their previous states and the previously selected tab remains selected.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71009	Unique numeric id value for the record.
TS_USERID	int	71009	Foreign key to the TS_USERS table.
TS_FORMID	int	71009	Foreign kye to the TS_FORMS table.
TS_SECTION	varchar(64)	71009	Unique identifier of section/tab on the form as generated by SBM Composer.
TS_STATE	int	71009	Section: collapsed (0) or expanded (1).
			Tab: selected (2) or unselected (3).

TS_USERS

This table contains one row for each user in the database. Users are defined using the SBM System Administrator.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1	Unique numeric id for the user.
TS_LOGINID	varchar(64)	1	Login identification string for the user. When accessing the system, each user must enter a login id and a password. This column is the text that the user should enter to login.
TS_PASSWORD	varchar(258)	1	Encrypted version of the password. Currently the system uses an encryption algorithm, which causes the length of the password to be 72 characters when storing it in the database. This way, a person with read permission on the database cannot determine another person's password or even password length.
TS_NAME	varchar(64)	1	Full name of the user.
TS_TELEPHONE	varchar(32)	1	Telephone number of the user.
TS_EMAIL	varchar(128)	1	Email address of the user. Used by the mail server to send automated email messages.
TS_STATUS	int	1	1 if the user has been deleted. 0 if not deleted. Users are never removed from the database once they are created because existing records may still be referring to the user.
TS_FIELDSMASK	int	1	Bit mask which determines which field sections the user would like displayed. See notes below.
TS_NOTESMASK	int	1	Preference for displaying notes. See notes below.
TS_NUMNOTES	int	1	Preference for maximum number of notes to display for each issue.
TS_CHGMASK	int	1	Preference for displaying Change History information. See notes below.
TS_NUMCHGS	int	1	Preference for maximum number of Change History records to display for each issue.
TS_FILEMASK	int	1	Misnomer. Number of items to be displayed on a page at a time.

Column Name	Data Type	DbVer	Description
TS_NUMFILES	int	1	Deprecated misnomer. This column not referenced beginning with version 6.1. Used to be the user's 'Quick Link.' Functionality is replaced by the TS_USERQUICKLINKS table.
TS_BROWSERMASK	int	1	Various preferences related to SBM Work Center. See notes below.
TS_ACCESSTYPE	int	3	Bit-mask indicating user's access to products. For more details, see the description in the TS_GROUPS table section of the document.
TS_MAILCC	longvarchar	10	Email address used for carbon copy notifications.
TS_HOMEPAGERPT	int	10	Foreign key to the TS_REPORTS table to reference the report that is to be used as the user's homepage.
TS_DATEPREFERENCE	int	10	Specifies a user's regional settings for dates. See notes below.
TS_TIMEPREFERENCE	int	50102	Contains a user's regional settings for time. See notes below.
TS_OTHERUSER	int	10	Obsolete. Other user login data is stored in a cookie.
TS_FOLDERPROFILE	longvarchar	10	Preferences for displaying folders.
TS_LASTLOGINDATE	bigint	16	Last day the user logged in. TS_BLANK_DATETIME (–2) if the user has never logged in.
TS_STATECHANGEHISTORY	int	23	Tri-state flag indicating where the State Change History should be displayed. 0 indicates no State Change History should be displayed. 1 indicates the State Change History should be displayed at the top, 2 indicates should be displayed at the bottom.
TS_MANAGEINCIDENTOPTIONS	int	500	Drop down selection list for item types active, inactive or all. Affects the user's lookup functionality. Selection default is active. See notes below.
TS_LICENSING	int	500	Indicator of whether the user is using a concurrent license or not.
TS_PASSWORDPRIVILEGEOPTIONS	int	504	Locally-set password privilege option. See notes below.

Column Name	Data Type	DbVer	Description
TS_PREFTABLEID	int	504	Foreign key to the TS_TABLES table indicating the user's preferred primary table.
TS_PASSWORDSETDATE	bigint	504	Locally-set date stamp of the user's last password change.
TS_PASSWORDLENGTHOPTION	int	504	Minimum length of the password as set in the Administrator.
TS_GENERALMASK	int	504	Stores password requirements as a cumulative amount. Upper Case Required =2 Number Required =1 Lower Case Required =4 For example, if all are selected, the value=7.
TS_MEMO	longvarchar	506	Miscellaneous text field. The memo is displayed on the Users Tab and the Users System Report.
TS_CONTACTID	int	506	Foreign key to the TS_CONTACTS table if the user has a contact record.
TS_CREATELOGINDATE	bigint	57001	Date the login was created.
TS_ALIASES	varchar(128)	57002	List of alternate email addresses which represent this user. Used to verify incoming mail for email submit and email note logging.
TS_TABORDER	longvarchar	60005	Comma separated list of solution ids denoting the tab order for solutions (applications) in SBM Work Center.
TS_CHECKOLDPASSWORDS	int	65001	The number of historical passwords that a new password cannot match. A value of -1 indicates that historical passwords will not be checked.
TS_SPECIALCHAR	int	65001	The number of special characters required in a password.
TS_LOCALE	varchar(32)	66003	Holds the locale identifier for this user. If blank, the system locale is used.
TS_TIMEZONE	varchar(32)	66003	Holds the time zone identifier for this user. If blank, the system time zone is used.

Column Name	Data Type	DbVer	Description
TS_CALENDARID	int	71005	Foreign key to the TS_CALENDARS table to indicate what calendar this user record applies to. A 0 value represents the 24 clock.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_TERMSACCEPTED	bigint	71101	If not zero, the date/time that the Terms and Conditions were last accepted by the user.
TS_AVATARRESOURCEID	int	100000111 2	If not zero, foreign key to the TS_RESOURCES table indicating the user's avatar resource file.
TS_TITLE	varchar(128)	101400000 0	SBM User title, configurable by end user with profile permission. Visible on User Profile Card.
TS_MOBILEPHONE	varchar(64)	101400000 0	SBM User mobile phone, configurable by end user with profile permission. Visible on User Profile Card.
TS_PREFERREDCONTACTMETHOD	int	101400000 0	Hardwired selections: Any (0), E-mail (1), Phone (2), Mobile Phone (3). Configurable by end user with profile permission. Visible on User Profile Card.
TS_DATE_FORMAT	int	111000000 1	If the user's date preference is to use the user's locale default, this setting controls whether the format used is short, medium, or long.
TS_TIMED	int	111000001 1	Type of timed license user will seek to check out: untimed/normal license (0), 10 hours per month (1), or 50 hours per month (2).
TS_LDAPSTATUS	int	112000000 9	If user was imported or updated from LDAP (1), otherwise (0)

Values for TS_FIELDSMASK column:

TS_FLDMASK_USER	0x0001
TS_FLDMASK_ADVANCED	0x0002
TS_FLDMASK_MANAGER	0x0004
TS_FLDMASK_SYSTEM	0x0008

TS_FLDMASK_HIDDEN	0x0010	

Values for TS_NOTESMASK, and TS_CHGMASK columns:

TS_FLDMASK_NONE	0x0001	
TS_FLDMASK_ALL	0x0002	
TS_FLDMASK_LAST	0x0004	
TS_FLDMASK_NEWEST_FIRST	0x0008	

Values for TS_BROWSERMASK column:

TS_FLDMASK_AUTOREFRESH	0x000001	Refresh reports and trees when item is transitioned.
TS_FLDMASK_PRIVATE_FOLDERS	0x000002	
TS_FLDMASK_FOLDERS	0x000004	
TS_FLDMASK_NOJAVA	0x000008	Obsolete.
TS_FLDMASK_BROWSER_GENERIC	0x000010	
TS_FLDMASK_HIDE_DETAILS	0x000020	User preference to use single frame vs. dual frame view on listing reports..
TS_FLDMASK_BROWSER_NETSCAPE	0x000040	
TS_FLDMASK_BROWSER_EXPLORER	0x000080	
TS_FLDMASK_SPELLCHECK_AUTO	0x000100	
TS_FLDMASK_SUBTASKS	0x000800	User preference to show Subtasks section.
TS_FLDMASK_ATTACHMENTS	0x001000	
TS_FLDMASK_EMAIL_LINK	0x100000	
TS_FLDMASK_SHOWLAUNCHPAGE	0x200000	Replaces TS_FLDMASK_NOTES, user sees the launch page.
TS_FLDMASK_VCACTIONS	0x400000	
TS_FLDMASK_SHOWFOLDERITEMS	0x800000	

Values for TS_DATEPREFERENCE column:

TS_DATE_FORMAT_FROM_LOCALE	0	Uses date format from Locale
TS_DATE_FORMAT_MM_DD_YYYY	1	mm/dd/yyyy
TS_DATE_FORMAT_DD_MM_YYYY	2	dd/mm/yyyy
TS_DATE_FORMAT_DD_MM_YYYY_DOTS	3	dd.mm.yyyy
TS_DATE_FORMAT_YYYY_MM_DD	4	yyyy-mm-dd

| TS_DATE_FORMAT_XML | 5 | Used only in Web services for XML date format output, no user should have this selection. |

Values for TS_TIMEPREFERENCE column:

TS_TIME_FORMAT_24HOUR	0x1	
TS_TIME_FORMAT_USE_GMT_OFFSET	0x2	Obsolete.
TS_TIME_FORMAT_HONOR_DAYLIGHT	0x4	Obsolete.

Values for TS_MANAGEINCIDENTOPTIONS column:

TS_MANAGE_INACTIVE_ITEMS	1	
TS_MANAGE_ACTIVE_ITEMS	2	
TS_MANAGE_ALL_ITEMS	3	

Values for TS_ PASSWORDPRIVILEGEOPTIONS column:

TS_PASSWORD_EXPIRES	0	Can be zero or positive number of days equal to password expiration period
TS_PASSWORD_CANNOTCHANGE	-1	
TS_PASSWORD_USESYSTEMSETTINGS	-2	Default.
TS_PASSWORD_DOESNOTEXPIRE	-3	
TS_PASSWORD_EXPIRESNOW	-4	Deprecated as of 11.1. Instead, options above can be combined with TS_PASSWORD_EXPIRESNOW_FLAG below.
TS_PASSWORD_EXPIRESNOW_FLAG	0x1000	When this bit is either on (i.e. 4096 in decimal notation for positive options) or off (i.e. -4097 in decimal notation for negative options) this has the same meaning as TS_PASSWORD_EXPIRESNOW, but can be combined with the rest of TS_PASSWORDPRIVILEGEOPTIONS.

See more details at below.

Values for TS_TIMED column:

| TS_TIMELIMIT_NONE | 0 | Default |

TS_TIMELIMIT_HOURS_10   1
TS_TIMELIMIT_HOURS_50   2

TS_USER_MAP

This table contains one row for each user that the bridge exchanges. As of database version 63002, this table will also be used by the Import Wizard to store user maps established during imports.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	57000	Unique numeric id for the user map record.
TS_BRIDGEID	int	57000	Foreign key to the TS_BRIDGES table indicating the bridge associated with this user map.
			Unused by Import Wizard
TS_USERID	int	57000	Foreign key into the TS_USERS table.
TS_FOREIGNUSER	varchar(255)	57000	External user information.
TS_ATTRIBUTES	int	57007	Reserved for future use.
TS_IMPORTSETID	int	63002	Foreign key into the TS_IMPORTOPTIONSETS table
			Unused by bridges

TS_USER_SUBMITHISTORY

This table is specific in recording individual users' submit history. It is slightly different then what is currently being recorded with the TS_CHANGEACTIONS/TS_CHANGES records. It is currently being used with the Work Center UI (10.1.3).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000025	Unique numeric id for the record.
TS_PROJECTID	int	1013000025	Foreign key into the TS_PROJECTS table, TS_ID.
TS_TABLEID	int	1013000025	Foreign key into the TS_TABLES table, TS_ID.
TS_ITEMID	int	1013000025	TS_ID of the SBM Item.
TS_SOLUTIONID	int	1013000025	Foreign key into the TS_SOLUTIONS table, TS_ID.
TS_USERID	int	1013000025	Foreign key into the TS_USERS table, TS_ID.
TS_TYPE	int	1013000025	Distingusing the difference ways items are submitted into SBM. Unknown(0), Classic UI(1), Request Center-SRC(2), API/WebService(3)
TS_COMMENT	varchar(128)	1013000025	Shell Name where item was submitted from.
TS_TIMESTAMP	date	1013000025	GMT time when user submitted a new item.

TS_USER_VIEWHISTORY

This table is specific in recording individual users' view item history. This table records 1 record per item/user and updates the TS_TIMESTAMP on later views. It is currently being used with the Work Center UI (10.1.3).

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1013000025	Unique numeric id for the record.
TS_USERID	int	1013000025	Foreign key into the TS_USERS table, TS_ID.
TS_TABLEID	int	1013000025	Foreign key into the TS_TABLES table, TS_ID.
TS_ITEMID	int	1013000025	TS_ID of the SBM Item.
TS_SOLUTIONID	int	1013000025	Foreign key into the TS_SOLUTIONS table, TS_ID.
TS_TIMESTAMP	date	1013000025	GMT time when user last viewed this item.

TS_USERQUICKLINKS

This table is obsolete as of version 7.1. Upgrade to 71005 converts 6.6.1 and earlier quick links to records in TS_FOLDERITEMS and TS_URLSTORE that implement the same behavior.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	60001	A unique numeric ID for the record.
TS_NAME	varchar(16)	60001	The display name of the Quick Link, limited to 16 characters.
TS_USERID	int	60001	The id of the user to which this record applies.
TS_SOLUTIONID	int	60001	The id of the solution (application) to which this record applies.
TS_TYPE	int	60001	The type of link. Recognized types are: TS_QUICKLINK_TYPE_SUBMIT TS_QUICKLINK_TYPE_REPORT TS_QUICKLINK_TYPE_URL TS_QUICKLINK_TYPE_MANAGE
TS_TABLEID	int	60001	If TS_QUICKLINK_TYPE_REPORT, then it refers to the TS_ID of the table associated with a built-in report, 0 for reports stored in the database. If TS_QUICKLINK_TYPE_SUBMIT, it refers to the TS_ID of the table that the project exists in. If TS_QUICKLINK_TYPT_MANAGE, it refers to the TS_ID or the table to manage. Value is 0 for all other types.
TS_RECORDID	int	60001	If TS_QUICKLINK_TYPE_REPORT, then it refers to the TS_ID of the report. If TS_QUICKLINK_TYPE_SUBMIT, then it refers to the TS_ID of the submit project. Value is 0 for all other types.
TS_URL	longvarchar	60001	If TS_QUICKLINK_TYPE_URL, this is the actual URL. Value is empty for all other types.

TS_USERSETTINGS

This table contains one row for each option that a user has set.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000106	A unique numeric ID for the record.
TS_OPTIONID	int	904000106	The option to which this record applies.
TS_USERID	int	904000106	The id of the user to which this record applies.
TS_STRINGVALUE	longvarchar	904000106	The value for this user/option combination.

Values for the TS_OPTIONID column:

Show Launch Page	1
Use Editable Grid by default	2
Override Custom Forms	3
Use Accessible Interface	4
EditableGrid Advanced Edit Mode	5
NavPanelExpansion	6
sectionsExpansion	7
currentSection	8
Show Legend	9
NavPaneWidth	10
Show Focus Helper	11
Show Quick Transition Confirmation	12
displayTabs	13
showConfirmationAlerts	14
form data restore preference	15
SLA report preference	16
Scheduled reports delivery format	18
First day of the week	21

TS_USERSOLUTIONDATA

This table contains one row for each application a user has access to.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	60001	A unique numeric ID for the record.
TS_USERID	int	60001	The id of the user to which this record applies.
TS_SOLUTIONID	int	60001	The id of the application to which this record applies.
TS_REPORTID	int	60001	The id of the report to which this record applies
TS_TABLEID	int	60001	The id of the table to which the TS_REPORTID applies if it refers to a built-in report, 0 otherwise.
TS_FOLDERPROFILE	longvarchar	60006	The user's preferred open/closed state of folders in the Submit tree and in the Item List and Reports sections of the Folders View. Configuration of the Personal Folders, Public Folders, and Knowledge Base folders are stored in the TS_USERS table, because those are not filtered by application.
TS_PREFERREDPROJECTS	longvarchar	65001	Comma-delimited list of preferred project IDs.

TS_USERTIMES

This table contains one row for each hour that is consumed by a user who is using a timed license.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1110000011	A unique numeric ID for the record.
TS_USERID	int	1110000011	The id of the user to which this record applies.
TS_TIMESTAMP	bigint	1110000011	A timestamp in Unix epoch format that denotes the beginning of a consumed hour block.

TS_VCACTIONS

The SourceBridge module to affect integration with version control systems uses this table. SourceBridge became available with the release of TeamTrack 3.0. This table stores information about version control activity, such as check in or check out operations of source code modules. The table was added in Database Version 8.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	8	Unique numeric id for the action records.
TS_TABLEID	int	8	Foreign key into the TS_TABLES table indicating the table for the record against which this version control action record was created. Currently only issues have associated version control records.
TS_RECID	int	8	Internal record id of the issue to which this action record is associated.
TS_TYPE	int	8	Currently only used for the Perforce integration to indicate the type of Perforce record. Perforce stores 3 different types of records in this table, File Specifications, Change Descriptions and Fixes.
TS_FILENAME	longvarchar	8	Name of the source module against which the version control activity was taken.
TS_ACTION1	int	8	Initiating action, usually a check out operation, for the source module.
TS_TIME1	bigint	8	Time the initiating action took place.
TS_AUTHOR1	int	8	Foreign key to the TS_USERS table indicating the person that took the initiating action.
TS_INFO1	int	8	Additional integer information associated with the action.
TS_CHAR1	varchar(255)	8	Additional text information associated with the action. For the VersionBridge integration, this will store the file's Version Identifier.
TS_ACTION2	int	8	Closure action, usually a check in or undo checkout operation, for the source module.
TS_TIME2	bigint	8	Time the closure action took place.
TS_AUTHOR2	int	8	Foreign key to the TS_USERS table indicating the person taking the closure action. Normally will be the same as TS_AUTHOR1.
TS_INFO2	int	8	Additional integer information associated with the action.

Column Name	Data Type	DbVer	Description
TS_CHAR2	varchar(255)	8	Additional text information associated with the action. For the VersionBridge integration, this will store the file's Version Identifier.
TS_VCINTEGRATION	int	56003	Indicates the version control integration that created this record. Values for this field are defined in TSDef.h
TS_URL	longvarchar	57002	Holds a URL that can point into the Version Control system to provide two way referencing for Version Control integrations.
TS_LOGMESSAGE	longvarchar	58001	Holds the users comment or log message for the version control operation.
TS_VCURLFORMAT	int	63004	Holds a reference to the TS_VCURLFORMATS table. This is used to define a path back to the file in the source code control tool for integrations.

TS_VCURLFORMATS

Using one or more Version Control Integrations with SBM will associate version control actions such as checkouts and checkins with items in SBM. The integration will usually store records in the TS_VCACTIONS table. These records are then displayed in the Version Control History section in SBM Work Center when viewing an issue in the form of a filename along with who checked it out, who checked it in and when these operations occurred.

In addition Version Control Actions may have a URL associated with them in order to view the revisions made to the file if the Version Control System being used supports it. This table stores formats for URL's so that URL's may be dynamically generated when viewing an issue in SBM Work Center. This allows two things. First, you can have multiple repositories on multiple Web servers. Second, you can move a Web server to a different machine and simply update the format and not have to worry about updating URL's for each record in the TS_VCACTIONS table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	58001	Unique numeric id for the records.
TS_FORMAT	Text	58001	Holds the format for the URL. Format specifiers are described below
TS_PATTERN	varchar(255)	58001	Regular Expression for matching which files should use this particular format for the URL. This pattern is used for matching the TS_FILENAME field in the TS_VCACTIONS record.
TS_VCINTEGRATION	Int	63004	Indicates the version control integration that this record pertains to. Values for this field are defined in TSDef.h

TS_FORMAT field

The TS_FORMAT field contains the format of a URL, not the actual URL itself. Using the format, the actual URL is generated each time a TS_VCACTION record is displayed in the Version Control History section in SBM Work Center.

The following shows an example URL to display the changes made in revision 8 of a file in CVS Web.

http://fred/cgi-bin/cvsweb.cgi/teamtrack/src/SourceFile.cpp.diff?r1=1.7&r2=1.8&f=h

Format specifiers for data values are placed between percent signs. The format specifiers represent data from the TS_VCACTION record being displayed. The table below describes all available Format Specifiers.

%prev_id%	The previous version id
%new_id%	The new version id
%filepath%	The full file path directly from the filename field in the VCAction record. For example: `/teamtrack/src/SourceFile.cpp`
%filename%	The filename portion of the full file path. That portion from the last \ or / to the end of the filepath. For example: `SourceFile.cpp`

%dirname%	The directory path in which the file resides. That portion of the filepath that does not include the filename. For example: `/teamtrack/src`

TS_VIEWSTATUSNOTIFICATION

This table stores information about all notification that was sent by channels (email, etc). This table takes information from TS_NOTIFICATIONMESSAGE

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1015000034	Unique numeric id for the record.
TS_TIME	int	1015000034	Date of created a message
TS_STATUS	int	1015000034	Shows the current status a message
TS_ACTIONSTAMP	int	1015000034	Transition that triggered the notification. Foreign key to the higher level change (i.e., transition) in TS_CHANGEACTIONS.
TS_ADDRESS	varchar(128)	1015000034	This value stores the recipient's name
TS_SUBJECT	varchar(128)	1015000034	Subject of the email message.
TS_TABLEID	int	1015000034	Foreign key to the TS_ID column of the TS_TABLES table indicating the table where the notification was triggered.
TS_ITEMID	int	1015000034	ID for the issue, incident or other record to which this record refers.
TS_USERID	int	1015000034	Foreign key to the TS_USERS table indicating the id of the user who should take the message
TS_NOTIFICATIONSMSGID	int	1015000034	Foreign key to the TS_NOTIFICATIONMESSAGES table
TS_ CHANNELNAME	varchar(128)	1015000034	The display name of the channel.

Values for TS_STATUS column:

Type	Value	Description
ITEM_VIEW_NOTIFICATION_PENDING	1	The message is still not sent
ITEM_VIEW_NOTIFICATION_DELIVERD	2	Message is successfully delivered

TS_WF_PRJ_OVERRIDES

This table represents generic workflow/project overrides. The TS_TYPE column represents the setting. Settings may be generic per workflow/project and/or be overridden at the state/transition level. This table is designed that no record indicates inheritance.   You follow your project/workflow hierarchy until you reach your base workflow.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1012010112	Unique numeric id for the record.
TS_TYPE	int	1012010112	The type is the key to making this table a general generic place to drop in project / workflow override type settings. Each new setting should create a specific type so this table may be used to represent multiple settings over time.
TS_PROJECTID	int	1012010112	Foreign key into the TS_PROJECTS table, TS_ID.
TS_WORKFLOWID	int	1012010112	Foreign key into the TS_WORKFLOWS table, TS_ID.
TS_WFBASE_NSID	int	1012010112	Foreign key into the TS_NAMESPACES table, id.
TS_VALUE	int	1012010112	Integer value that represents the project/workflow overridden setting.
TS_VALUESTR	varchar(255)	1012010112	String value that represents the project/workflow overridden setting.
TS_VALUEFLOAT	float	1012010112	Float value that represents the project/workflow overridden setting.
TS_STATEID	int	1012101004	Foreign key into the TS_STATE table, TS_ID
TS_TRANSITIONID	int	1012101004	Foreign key into the the TS_TRANSITION table, TS_ID

Values for TS_FLDTYPE column:

Type	Value	Description
TYPE_TIMECAPTURE	1	Integer, 0(Off), 1(On)
TYPE_TC_DEFAULT_STATE	2	Integer, 0(Hide), 1 (Show)
TYPE_TC_DEFAULT_TRANSITION	3	Integer, 0(Hide), 1 (Show)
TYPE_TC_REQUIRED	4	Integer, 0(Not Required), 1 (Required)
TYPE_SUBMIT_ONBEHALF	5	Integer, 0(Off), 1(On)

TS_WORKFLOWANCESTRYDENORM

Denormalizes the Workflow hierarchy. Each row represents the relationship between a workflow and one of its ancestor workflows. This table makes selecting all sub-workflows of a workflow, or all ancestors of a workflow, very simple. For convenience, each workflow is included in this table as an ancestor of itself with TS_DEPTH=0, so if you wish to join to this table to return a certain workflow and all of its children, you select the TS_WORKFLOWID column from this table where TS_ANCESTORID is equal to the workflow you are searching for. If you wish to only return the first level decendents of a workflow, you select the TS_WORKFLOWID from this table where TS_ANCESTORID is equal to the workflow you are searching for and TS_DEPTH=1.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	904000707	Unique numeric id for the record.
TS_WORKFLOWID	int	904000707	Foreign key to the TS_ID column of the TS_WORKFLOWS table, indicating which workflow this record is for.
TS_ANCESTORID	int	904000707	Foreign key to the TS_ID column of the TS_WORKFLOWS table, indicating which ancestor workflow this record is for.
TS_DEPTH	int	904000707	Number of parent workflows between this workflow and the ancestor. If 0, TS_WORKFLOWID and TS_ANCESTORID are equal.

TS_WORKFLOWS

This table contains one row for every workflow defined in the database. The table was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the workflow.
TS_PARENTID	int	10	Workflow id of the parent workflow. 0 if this is the base workflow. All other workflows will have a value in this column.
TS_NAME	varchar(32)	10	Brief name of the workflow.
TS_SEQUENCE	int	10	Represents the 'z-order' of the workflow within the overall workflow hierarchy, making it possible to retrieve workflows in workflow-hierarchy order simply by ordering the result set via this sequence value, such as: `select * from TS_WORKFLOWS order by TS_SEQUENCE`
TS_TABLEID	int	10	Foreign key into the TS_TABLES table indicating the table against which this workflow was created.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_DESCRIPTION	longvarchar	72004	Description of the Workflow as specified in SBM Composer.
TS_INTERNALNAME	varchar(32)	1000000302	Readable Identifier Unique per Application

TS_WSCALLS

This table describes the calls to the Web services described in the TS_WSDECRIPTIONS table. The transition, state and notification that needs to make the Web service call will reference a record in this table.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	66003	Unique internal index.
TS_WSDESCRIPTIONID	int	66003	Foreign key to the TS_WSDESCRIPTIONS table for the Web service providing the function we are going to call.
TS_WSFUNCTION	longvarchar	66003	Name of the function to call.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.

TS_WSDATAMAPPINGS

This table describes the data mappings from SBM data to and from the inputs and outputs of the Web service. The inputs may be from the SBM item or from the context information. The outputs may be mapped back to fields in the SBM item.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	66003	Unique internal index.
TS_WSCALLID	int	66003	Foreign key to the TS_WSCALLS table.
TS_ALFCALLID	int	71009	Foreign key to the TS_ALFEVENTCALLS table.
TS_INPUTOUTPUT	int	66006	Indicates whether this record is for input (0) or output (1).
TS_INPUTVALUE	longvarchar	66003	Holds the input value if a fixed value is being mapped to an input. If this is non-blank, TS_FIELDID and TS_CONTEXTPARAM should be zero.
TS_FIELDID	int	66003	Foreign key to the TS_FIELDS table. If this column is non-zero, TS_INPUTVALUE and TS_CONTEXTPARAM should be zero.
TS_CONTEXTPARAM	int	66003	Enumeration specifying a context data value that may be used for mapping both inputs and outputs. If this column is non-zero, TS_FIELDID should be zero and TS_INPUTVALUE should be blank..
TS_PARAMINDEX	int	66003	Wsdlpull index of the parameter. The Wsdlpull Web service invoker class allows you to set input values by specifying an index number rather than a name. Since names require a fair amount of extra work to disambiguate we use the index value.

Values for the TS_CONTEXTPARAM column. These values are used for mapping Inputs:

TS_WSCTXTPARAM_LOGINID	1	
TS_WSCTXTPARAM_UNIQUEID	2	Unique Item ID (TableID:RecordID pair)
TS_WSCTXTPARAM_ITEMID	3	
TS_WSCTXTPARAM_TABLEID	4	
TS_WSCTXTPARAM_CLIENTBRAND	5	
TS_WSCTXTPARAM_CLIENTVERSION	6	
TS_WSCTXTPARAM_CONTENTTYPE	7	
TS_WSCTXTPARAM_HTTPAUTHORIZATION	8	
TS_WSCTXTPARAM_HTTPCOOKIE	9	
TS_WSCTXTPARAM_HTTPUSERAGENT	10	
TS_WSCTXTPARAM_REMOTEADDR	11	
TS_WSCTXTPARAM_REQUESTMETHOD	12	

TS_WSCTXTPARAM_SERVERSOFTWARE	13
TS_WSCTXTPARAM_SERVERPROTOCOL	14
TS_WSCTXTPARAM_REMOTEUSER	15
TS_WSCTXTPARAM_REFERER	16
TS_WSCTXTPARAM_URLPROTOCOL	17
TS_WSCTXTPARAM_URLSERVER	18
TS_WSCTXTPARAM_URLPORT	19
TS_WSCTXTPARAM_URLPATH	20
TS_WSCTXTPARAM_URLQUERY	21
TS_WSCTXTPARAM_SOLUTIONPREFIX	22
TS_WSCTXTPARAM_SOLUTIONNAME	23
TS_WSCTXTPARAM_SOLUTIONID	24
TS_WSCTXTPARAM_TRANSITIONNAME	25
TS_WSCTXTPARAM_TRANSITIONID	26
TS_WSCTXTPARAM_TRANSITIONTYPE	27
TS_WSCTXTPARAM_FROMSTATENAME	28
TS_WSCTXTPARAM_FROMSTATEID	29
TS_WSCTXTPARAM_TOSTATENAME	30
TS_WSCTXTPARAM_TOSTATEID	31
TS_WSCTXTPARAM_USERID	32

Values for the TS_CONTEXTPARAM column. These values are used for mapping Outputs:

TS_WSCTXTPARAM_REDIRECTURL	1001
TS_WSCTXTPARAM_REDIRECTHTTP	1002
TS_WSCTXTPARAM_OUTPUTSTREAM	1003
TS_WSCTXTPARAM_RERUN	1004

TS_WSDESCRIPTIONS

This table holds the descriptions of Web services that can be called by SBM. This is a high level description of the Web service.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	66003	Unique internal index.
TS_NAME	varchar(128)	66003	The name of the Web service as specified by the administrator.
TS_LOCATION	longvarchar	66003	The URL (or filename) that the WSDL originally came from. Start the filename reference with "file://" to differentiate a file from a Web reference.
TS_CREATEDATE	bigint	66003	Date the WSDL was imported into SBM. This may be important for tracking down problems related to changes in Web service definitions that may be causing Web service invocation failures.
TS_DESCRIPTION	longvarchar	66003	Description of the Web service as defined in the WSDL.
TS_SERVICENAME	varchar(256)	71009	Service name for the Web service.
TS_PORTNAME	varchar(256)	71009	Port name for the Web service.
TS_AUTHTYPE	int	71008	Type of authentication to use. See notes below.
TS_USERNAME	varchar(256)	66003	Username for authentication to the Web service.
TS_PASSWORD	varchar(256)	66003	Password for authentication to the Web service. This will be encrypted using SBM's weaker encryption due to the fact that we need to decode it in order to send it in the http header to the Web service.
TS_WSDLBLOBID	int	66012	Foreign key to the TS_BLOBS table which contains the original text of the WSDL.
TS_ENDPOINT	longvarchar	66003	The endpoint of the Web service either as defined in the original WSDL or as specified by the user.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAMESPACEID	int	71052	If not zero, a foreign key to the TS_NAMESPACES table.
TS_TYPEATTR	varchar(128)	71057	The type attribute of the web service. This is currently either: "Serena.Studio.Common.ObjectModel.WebService" for normal (legacy) web services or "Serena.Studio.PlugIns.TeamTrack. ObjectModel.TtServiceFlowService" for synchronous orchestrations.
TS_STUDIODATABLOBID	Int	71057	Foreign key to the TS_BLOBS table which contains the composer data that is stored and returned with the

process app definition.

Values for `TS_AUTHTYPE` column:

TS_WSAUTHTYPE_NONE	0	No authentication is required.
TS_WSAUTHTYPE_SIMPLE	1	Use the user name (TS_USERNAME) and password (TS_PASSWORD) in this TS_WSDESCRIPTION record as authentication.
TS_WSAUTHTYPE_SSO	2	Use an ALF SSO token for the user calling the Web Service as authentication.

TS_WSSELECTIONMAPPINGS

This table describes the mappings of SBM selection values to enumerations from a Web service parameter.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	66003	Unique internal index.
TS_WSDATAMAPPINGID	int	66006	Foreign key to the TS_ WSDATAMAPPINGS table.
TS_SELECTIONID	int	66006	Foreign key to the TS_SELECTIONS table.
TS_ENUMNAME	varchar(16)	66003	Name of the enumeration from the Web service.

TS_WSXSDFILES

This table lists the XSD files that Web Service WSDLs and SBM WSDLs reference.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	71016	Unique numeric id for the cross-reference.
TS_WSDESCRIPTIONID	int	71016	Foreign key to the TS_WSDESCRIPTIONS table.
TS_ALFEVENTID	int	71016	Foreign key to the TS_ALFEVENTS table.
TS_BLOBID	int	71016	Foreign key into the TS_BLOBS table.
TS_FILENAME	longvarchar	71016	Originating file name.

Note: For entries in this table either the TS_WSDESCRIPTIONID or the TS_ALFEVENTID columns will be used. The XSD file will belong to one or the other but not both.

TS_XREF

This table contains one row for each record that the bridge exchanges with a foreign tool. As of database version 63002, this table will also be used by the Import Wizard to store cross-references established during imports.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	57000	Unique numeric id for the cross-reference.
TS_BRIDGEID	int	57000	Foreign key to the TS_BRIDGES table indicating the bridge associated with this cross-reference.
			Unused by Import Wizard.
TS_ITEMID	int	57000	TS_ID of the SBM item.
TS_TABLEID	int	57000	Foreign key into the TS_TABLES table.
TS_FOREIGNID1	varchar(255)	57000	External item information.
TS_FOREIGNID2	varchar(255)	57000	External item information.
TS_EXPORTDATETIME	bigint	57001	Integrations use this field to keep track of when the cross reference was performed.
TS_STATUS	int	58001	0 if the field is active. 1 if the field is inactive; that is it has been deleted.
TS_FOREIGNPARENTID	varchar(255)	57000	This column will be used to store the parent id of a cross-referenced item in the foreign tool. It is up to the foreign tool to interpret the values stored in this column.
TS_IMPORTSETID	int	63002	Foreign key into the TS_IMPORTOPTIONSETS table.
			Unused by bridges.

TTS_ASSETS

This table contains a row for independent asset configurations. This table is designed to store information regarding employee asset in an internal support center scenario, which can be used to help diagnose the employee's incident and to help manage corporate IT assets.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	505	Unique numeric id for the asset.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_ASSETTAGNUMBER	varchar(50)	505	Tag number of the asset.
TS_SERIALNUMBER	varchar(40)	505	Serial number of the asset.
The following custom fields can be automatically created during 'Database Create':			
TS_MAKE	int	505	Selection list to choose the manufacturer of the asset.
TS_MODEL	varchar(50)	505	Model description of the asset.
TS_TYPE	int	505	Type of the asset.
TS_OS	int	505	Operating system on which the asset is running.
TS_RAM	varchar(20)	505	Amount of RAM installed in the asset.
TS_WARRANTYEXPIREDATE	date	505	Date when the warranty for the asset expires.
TS_ASSETDESCRIPTION	longvarchar	505	Description of the asset.
TS_OWNERID	int	505	Id of the user who owns the asset.
TS_VERSION	int	505	Version number of the asset.

TTS_CUSTOMERCONFIGURATIONS

This table contains the server configurations. It is designed to store information regarding the computing environment of external customers in an external support center scenario. This information can be used to help troubleshoot incidents reported by customers.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	505	Unique numeric id for the customer's server configuration.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_COMPANYID	int	505	Foreign key to the TS_COMPANIES table.
TS_NAME	varchar(80)	505	Name of the customer.
The following custom fields can be automatically created during 'Database Create':			
TS_SERVERPROCESSOR	longvarchar	505	Description of the processor configuration installed on the server.
TS_SERVERRAM	int	505	Numeric field to hold the amount of RAM installed on the server.
TS_SERVERMULTIPROCESSOR	varchar(80)	505	Text field to describe the multi-processor setup on the server.
TS_DBSERVEROS	int	505	Selection list that describes the operating system installed on the server.
TS_DBTYPESERVER	int	505	Selection list that describes the database installed on the server.
TS_DBLOCATION	int	505	Shows the location, drive/path, of the database.
TS_WEBSERVERTYPE	int	505	Web server software installed on the server.
TS_WEBSERVEROS	int	505	Operating system on which the Web server is running.
TS_TOTALLICENSES	int	505	Numeric field holding the number of licenses installed on the server.
TS_CLIENTBROWSERS	int	505	Selection list showing SBM Work Center installed.
TS_WORKSTATIONOS	int	505	Selection list showing the workstation operating system supported by the server.
TS_NETWORKOS	int	505	Selection list holding the network operating system installed on the server.
TS_MAINTEXPIREDATE	date	505	Date only field specifying the expiry date for the maintenance agreement.
TS_ORIGINVOICEDATE	date	505	Date only field holding the original invoice date.

TTS_INCIDENTS (TS_INCIDENTS)

This table stores information about incidents submitted. The table uses variable fields and was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the incident.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_INCIDENTNUM	varchar(32)	10	Identifier assigned by the system.
TS_TITLE	varchar(80)	10	Title or summary of the incident.
TS_DESCRIPTION	longvarchar	10	Detailed description of the incident.
TS_INCIDENTTYPE	int	10	Indicates the type of incident. Foreign key to the TS_SELECTIONS table to reference the selection id for the incident type.
TS_COMPANYID	int	10	Foreign key to the TS_COMPANIES table to provide a link between the incident and a company.
TS_CONTACTID	int	10	Foreign key to the TS_CONTACTS table indicating the contact for the incident.
TS_SERVICEAGREEMENTID	int	10	Foreign key to the TTS_SERVICEAGREEMENTS (TS_SERVICEAGREEMENTS) table to reference any service agreement relevant to this incident.
TS_RESOLUTIONSUMMARY	varchar(80)	10	Title or summary of the resolution used to resolve the incident.
TS_RESOLUTIONDESC	longvarchar	10	Detailed description of the resolution used to resolve the incident.
TS_CLOSEDATE	date	10	Date the incident was closed.
TS_SUBMITDATE	date	10	Date the incident was opened.
TS_SUBMITTER	int		Foreign key to the TS_USERS table indicating the person who submitted the incident.
TS_PROBLEMID	int	10	Foreign key to the TS_PROBLEMS table to reference the Knowledge Base problem generated by this incident.
TS_RESOLUTIONID	int	10	Foreign key to the TS_RESOLUTIONS table to reference the resolution to the problem generated by this incident.
TS_ACTIVEINACTIVE	int	10	Indicates whether the incident is active (0) or inactive (1).

Column Name	Data Type	DbVer	Description
TS_OWNER	int	10	Foreign key to the TS_USERS table to reference the id of the user who currently owns this incident.
TS_PROJECTID	int	10	Foreign key to the TS_PROJECTS table to reference the project to which this incident belongs.
TS_STATE	int	10	Foreign key to the TS_STATES table to reference the current state of this incident.
TS_LASTMODIFIEDATE	date	10	Date the incident was last changed.
TS_LASTMODIFIERID	int	10	Foreign key to the TS_USERS table to reference the id of the user who last changed a field in this incident record.
TS_LASTSTATECHANGERID	int	10	Foreign key to the TS_USERS table to reference the id of the user who last changed the incident's state.
TS_LASTSTATECHANGEDATE	date	10	Date the state of the incident last changed.
TS_TECHSUPERVISOR	int	10	Foreign key to the TS_USERS table to reference the id of the user who is the technical supervisor.
TS_LEVEL1TECH	int	10	Foreign key to the TS_USERS table to reference the id of the user who is the level one technical support person.
TS_LEVEL2TECH	int	10	Foreign key to the TS_USERS table to reference the id of the user who is the level two technical support person.
TS_LEVEL3TECH	int	10	Foreign key to the TS_USERS table to reference the id of the user who is the level three technical support person.
TS_SUPPORTMANAGER	int	10	Foreign key to the TS_USERS table to reference the id of the user who is the support manager.
TS_QUICKCLOSE	int	10	Indicates if this item is to be a quick close.

TTS_PRODUCTS (TS_PRODUCTS)

This table contains one row for each product offered/supported. The table uses variable fields and was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the product.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(80)	10	Name of the product.
The following custom fields can be automatically created during 'Database Create':			
TS_DESCRIPTION	longvarchar	NA	Description of the product.
TS_MODELNUM	varchar(80)	NA	Model number of the product.
TS_VERSIONNUM	varchar(20)	NA	Version number of the product.

TTS_SERVICEAGREEMENTS (TS_SERVICEAGREEMENTS)

This table contains one record for each service agreement. The table uses variable fields and was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the service agreement.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(80)	10	Title of the service agreement.
TS_EXPIRATIONDATE	int	10	Date/time the service agreement expires.
The following custom fields can be automatically created during 'Database Create':			
TS_PRODUCTID	int	NA	Foreign key to the TS_PRODUCTS table, referencing the product being supported by the service agreement.
TS_CONTACTID	int	NA	Foreign key to the TS_CONTACTS table referencing the contact for the service agreement.

TTT_ISSUES (TS_CASES)

This table stores one record for each issue, e.g., bug, defect, change request, enhancement request, etc. submitted. This table is dynamically modified by the system as the Administrator, or the API is used to add custom fields. Custom fields are appended to the table in the order they are added. For each new field added to the TS_FIELDS table, a new column is added to the TTT_ISSUES table with a column name matching the database fieldname of the new field.

Column Name	Data Type	DbVer	Description
TS_ID	bigint		Unique numeric id for the issue.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_ISSUEID	varchar(32)		Issue id for the issue as it is displayed to the user.
TS_TITLE	varchar(80)		Short title, or summary of the issue.
TS_DESCRIPTION	longvarchar		Longer, more detailed description of the issue.
TS_ISSUETYPE	int		Foreign key to the TS_SELECTIONS table indicating the selection id that corresponds to the issue type.
TS_CLOSEDATE	date		Timestamp of the close date if the issue is inactive.
TS_SUBMITDATE	date		Timestamp when the issue was submitted.
TS_SUBMITTER	int		Foreign key to the TS_USERS table indicating the person who submitted the issue.
TS_ACTIVEINACTIVE	int		0 if the issue is active; 1 if the issue is inactive.
TS_OWNER	int		Foreign key to the TS_USERS table indicating the current owner of the issue. Set to 0 if the issue has no owner.
TS_PROJECTID	int		Foreign key to the TS_PROJECTS table indicating the project to which this issue belongs.
TS_STATE	int		Foreign key to the TS_STATES table indicating the state in which this issue resides.
TS_LASTMODIFIEDDATE	date		Timestamp when the issue was last modified.
TS_LASTMODIFIER	int		Foreign key to the TS_USERS table indicating the person who was the last to modify the issue.
TS_LASTSTATECHANGEDATE	date		Timestamp when the state of the issue last changed.

Column Name	Data Type	DbVer	Description
TS_LASTSTATECHANGER	int		Foreign key to the TS_USERS table indicating the person who was the last to change the state of the issue.

The following custom fields can be automatically created during 'Database Create':

Column Name	Data Type	DbVer	Description
TS_MANAGER	int		Foreign key to the TS_USERS table indicating the manager responsible for issue.
TS_ACTTIMETOFIX	float		Actual time to fix.
TS_ADDITIONALNOTES	longvarchar		Additional notes.
TS_ENGINEER	int		Foreign key to the TS_USERS table indicating the engineer assigned the issue.
TS_ESTTIMETOFIX	float		Estimated time to fix.
TS_HOWFOUND	int		How the issue was found or identified.
TS_PRIORITY	int		Priority of the issue.
TS_RESOLUTION	int		Resolution of the issue.
TS_SEVERITY	int		Severity of issue
TS_TESTER	int		Foreign key to the TS_USERS table indicating the tester assigned the issue.
TS_VERSION	int		Version of software, hardware, etc.
TS_WORKAROUND	longvarchar		Possible workaround to the issue.

TS_MERCHANDISE (Deprecated)

This table stores information about merchandise. The table uses variable fields and was introduced in Database Version 10.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10	Unique numeric id for the record.
TS_UUID	varchar(64)	71005	The Universally Unique Identifier (UUID) that applies to this record.
TS_SERIALNUM	varchar(80)	10	Serial number for the merchandise.
The following custom fields were automatically created during 4.x 'Database Create':			
TS_COMPANYID	int	NA	Foreign key to the TS_COMPANIES table to reference the company that purchased the merchandise.
TS_PRODUCTID	int	NA	Foreign key to the TS_PRODUCTS table to reference the product associated with this merchandise record.
TS_SERVICEAGREEMENTID	int	NA	Foreign key to the TS_SERVICEAGREE-MENTS table to reference the service agreement for the product purchased.
TS_PURCHASEDATE	date	NA	Date the merchandise was purchased.
TS_SALESCONTACTID	int	NA	Foreign key to the TS_CONTACTS table to reference the contact for the company.
TS_LASTINCIDENTID	int	NA	Foreign key to the TS_INCIDENTS table to reference the last incident associated with this merchandise.

OR_ASSET

This table contains all the objects (called assets) stored by SBM Application Repository. Object types can be parts stored by SBM Composer, SBM Application Repository user preferences, Application Definitions from SBM Application Engine etc.

Column Name	Data Type	DbVer	Description
ASSET_UUID	varchar(255)	71005	The Universally Unique Identifier (UUID) that applies to this record.
LATESTVERSION	int	71005	The version number of the latest version of this asset.

OR_ASSETTYPE

This table contains type information for assets in SBM Application Repository. Assets in SBM Application Repository has a given type which is called an asset type and is stored in this table. Asset types are organized in hierarchies where there is one base asset type in the system which every asset type is a descendant of. Each asset type can have an extension which executes logic on modification of the given asset (create, update, delete and so on). If an asset is of a type which has an extension and the parent type of that type also has an extension both extensions will be invoked on asset modifications. An example type hierarchy is displayed below:
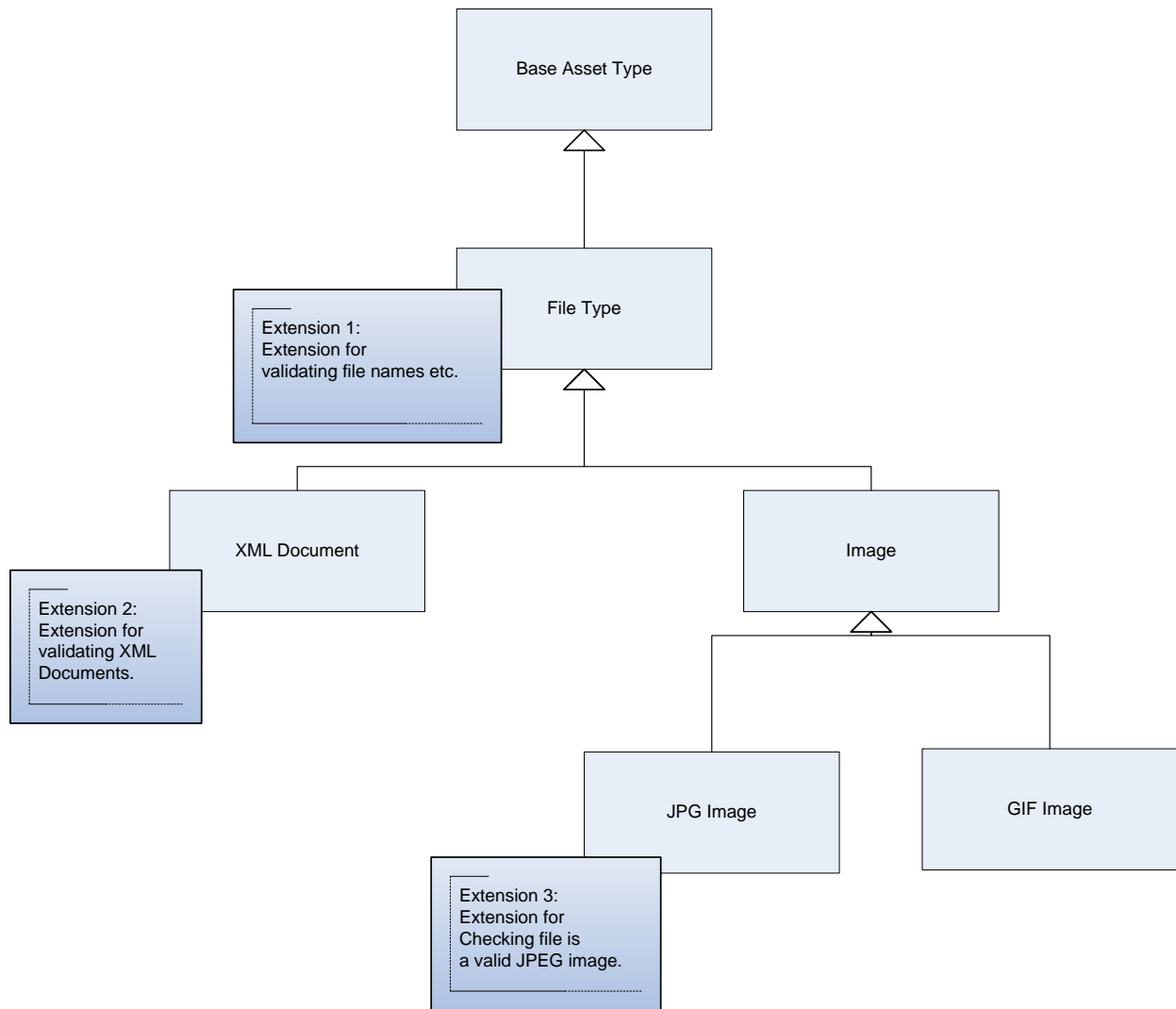
In this hierarchy there are extensions for Files, XML Documents and JPG images. If the user modifies a document of type "XML Document" Extension 2 and Extension 1 will be invoked. If the user modifies a "GIF Image" only Extension 1 will be invoked.

Column Name	Data Type	DbVer	Description
ASSETTYPE_ID	Int	71005	Unique numeric id for the record. This id is auto generated by the database.
NAME	varchar(256)	71005	The name of the asset type.
DESCRIPTION	varchar(900)	71005	The description for this type.
MIMETYPE	varchar(900)	71005	The unique mime type for the given asset type.
SYSTEM	int	71005	RESERVED FOR FUTURE USE
INDEXED	int	71005	RESERVED FOR FUTURE USE
DELETED	int	71005	Indicates if the asset type has been deleted. If so this column contains 1. Asset Types cannot be hard deleted as undeleted assets may refer to them.
CUSTOM_ALLOWED	int	71005	1 if custom properties is allowed for this asset type 0 otherwise. (See OR_PROPERTY for more info).
EXTENSION_ASSETVERSION_ID	int	71005	Contains the assetversion id if this asset type has an extension. The extension contains special code which is executed when actions happens of asset of this type.
PARENTASSETTYPE_ID	int	71005	Asset types are organized in hierarchies. If this type is a descendant of another asset the id of the parent is specified in this column.

OR_ASSETVERSION

This table contains all the version of objects (called assets) stored by SBM Application Repository.

Column Name	Data Type	DbVer	Description
ASSETVERSION_ID	int	71005	An database generated id for this particular row
VERSION	int	71005	The version number of this particular version
LOCKED	int	71005	1 if this particular version is locked, 0 otherwise.
LOCKED_BY	varchar(900)	71005	The name of the user that has locked this version. Null if none.
LOCK_LABEL_ID	int	71005	The id of the label if this asset is locked in "Label Context" in SBM Composer.
DELETED	int	71005	1 if this version has been deleted, 0 otherwise
ASSETTYPE_ID	int	71005	The id of the asset type of this version
ASSET_UUID	varchar(255)	71005	The Universally Unique Identifier (UUID) for the asset which this version is a part of. One asset can have multiple versions but one version can only be part of one asset.

OR_ASSET_PERMISSION

The table store Application level permission

Column Name	Data Type	DbVer	Description
ID	int	71005	An database generated id for this particular row
USERID	int	71005	User id who is granted permissions to asset.
ASSET_UUID	varchar(255)	71005	UUID of asset we grand permission to.
ACTIONS	varchar(512)	71005	Comma separated list of allowed actions ("edit, publish…")

OR_AUDITASSETCHANGE

Used by the audit logging system to log any changes made to assets in the system

Column Name	Data Type	DbVer	Description
AUDITASSETCHANGE_ID	int	71005	A database generated id for this row
ASSETVERSION_ID	int	71005	The id of the given asset the log record was recorded for.
AUDITENTRY_ID	int	71005	The id which references the id of the event that caused a change to this asset version.

OR_AUDITCHANGE

Used by the audit logging system to log which properties changed on an asset as part of a given event.

Column Name	Data Type	DbVer	Description
AUDITCHANGE_ID	int	71005	A database generated id for this row
FROMPROPERTY_ID	int	71005	An id that references the OR_PROPERTY table. This was the original value of the property
TOPROPERTY_ID	int	71005	An id that references the OR_PROPERTY table. This is the new value of the property
AUDITASSETCHANGE_ID	int	71005	An id that points to the recorded asset change for this audit event. There maybe multiple changes for each asset change.

OR_AUDITENTRY

This table contains an audit log of events happened in the system. An event could be checkout and commit of an asset. This table stores records for each such event. The log can be purged in SBM Application Repository.

Column Name	Data Type	DbVer	Description
AUDITENTRY_ID	int	71005	A database generated id for this row
EVENT_ID	varchar(900)	71005	This is the id of the given event. An example could be REPOSITORY_CREATE for a creation of an asset.
DESCRIPTION	varchar(900)	71005	The description of the event
TRANSACTION_TIME	datetime	71005	The timestamp of when this event happened.
USER_ID	varchar(900)	71005	The id of the user that performed this operation.
USER_UUID	varchar(900)	71005	The Universal Unique Identifier (UUID) of the user that performed this operation.
SOURCE	varchar(900)	71005	Which component performed this action. Will most of the time be REPOSITORY.
REVISION	int	71005	A reference to the OR_REVISION table.

OR_AUDITTEXTCHANGE

Used by the audit logging system to record simple text changes related to a given event. An example is if a label is renamed. In this case an event with event_id: "REPOSITORY_UPDATE_LABEL" will be recorded. As part of this event the original and the new label name will be logged. This will generate a record in OR_AUDITTEXTCHANGE with the original label name in FROM_TEXT and the new label name in the TO_TEXT column.

Column Name	Data Type	DbVer	Description
AUDITTEXTCHANGE_ID	int	71005	A database generated id for this row
FROM_TEXT	varchar(900)	71005	The original text.
TO_TEXT	varchar(900)	71005	The new text.
AUDITENTRY_ID	int	71005	An id that points to the recorded audit entry record that contains this change.

OR_BDATASTORE

This table is used to store binary content and is referenced from OR_PROPERTY.

Column Name	Data Type	DbVer	Description
BDATASTORE_ID	int	71005	A database generated id for this row
BDATABLOCK	Blob	71005	The binary content

OR_LABEL

This table contains labels in the system.

Column Name	Data Type	DbVer	Description
LABEL_ID	int	71005	A database generated id for this row
NAME	varchar(1000)	71005	The name of the label
FLOATING	int	71005	1 if this is a floating label, 0 otherwise
HEAD	int	71005	1 if this is the system head label, 0 otherwise

OR_LABELMAP

A mapping table between labels and asset versions. Contains which labels are given version of an asset has and which asset versions a given label contains.

Column Name	Data Type	DbVer	Description
LABELMAP_ID	int	71005	A database generated id for this row
LABEL_ID	int	71005	The id of the label. References the OR_LABEL table
ASSETVERSION_ID	int	71005	The id of the asset version. References the OR_ASSETVERSION table.

OR_PROPERTY

This table contains all the properties in the system. Each asset version has 0 or more properties which are maintained in this table.

Column Name	Data Type	DbVer	Description
PROPERTY_ID	int	71005	A database generated id for this row
NAME	varchar(900)	71005	The name of the property
PROPERTY_TYPE	int	71005	The type of the property.
			1 indicates an integer type
			2 indicates a datetime type
			3 indicates a string type
			4 indicates an asset version reference
			5 indicates a label reference
			6 indicates a binary type
			7 reserved for future use
			8 indicates a Boolean type
VALUESTRING	varchar(900)	71005	If this is a string type (PROPERTY_TYPE = 3) then this column contains the string value. Null otherwise
VALUEINT	int	71005	If this is an integer type (PROPERTY_TYPE = 1) then this column contains the integer value. Null otherwise
VALUEDATETIME	Datetime	71005	If this is an date time type (PROPERTY_TYPE = 2) then this column contains the datetime value. Null otherwise
VALUEBOOLEAN	int	71005	If this is a boolean type (PROPERTY_TYPE = 8) then this column contains the boolean value. Null otherwise
VALUEBDATASTORE_ID	int	71005	If this is an binary type (PROPERTY_TYPE = 6) then this column contains a reference to the OR_BDATASTORE table. Null otherwise
VALUELABELMAP_ID	int	71005	If this is an label reference type (PROPERTY_TYPE = 5) then this column contains a reference to the OR_LABELMAP table. Null otherwise

Column Name	Data Type	DbVer	Description
PROPERTYDEF_ID	int	71005	Contains a reference to the OR_PROPERTYDEFINITION table if this is not a custom property (see OR_ASSETTYPE). If this is a custom property this column contains null.
VALUEASSETVERSION_ID	int	71005	If this is an asset version reference type (PROPERTY_TYPE = 4) then this column contains a reference to the OR_ASSETVERSION table. Null otherwise

OR_ PROPERTYDEF

Contains definitions for non-custom properties.

Column Name	Data Type	DbVer	Description
PROPERTYDEF_ID	int	71005	A database generated id for this row
NAME	varchar(900)	71005	The id of the label. References the OR_LABEL table
PROPERTY_TYPE	int	71005	The type of the property. 1 indicates an integer type 2 indicates a datetime type 3 indicates a string type 4 indicates an asset version reference 5 indicates a label reference 6 indicates a binary type 7 reserved for future use 8 indicates a Boolean type
REQUIRED	int	71005	If properties of this type is required this column is 1, if not it is 0
ENCRYPTED	int	71005	NOT USED.
SYSTEM	int	71005	1 if this property definition can only be assigned to a system asset type
DELETED	int	71005	1 if this record is deleted, false otherwise.
PROPERTY_LIST	int	71005	1 if this value contains multiple properties, false otherwise.
VERSIONABLE	int	71005	0 – non-versionable 1 - versionable Define whether this is a transient property or not. Transient property value could be changed after asset's version created. Non versionable property value could not be changed.
VALIDATION_RULE	int	71005	Regular expression string to validate value in this property on server side.
VALIDATION_RULE_UI	int	71005	Regular expression string for client side validation (used by UI)

OR_PROPERTYDEF_MAP

A mapping table between property definitions and asset types..

Column Name	Data Type	DbVer	Description
ASSETTYPE_ID	int	71005	A reference to the OR_ASSETTYPE table
PROPERTYDEF_ID	int	71005	A reference to the OR_PROPERTYDEF table.

OR_PROPERTY_MAP

A mapping table between asset versions and properties. Describes which asset versions contains which properties.

Column Name	Data Type	DbVer	Description
ASSETVERSION_ID	int	71005	A reference to the OR_ASSETVERSION table
PROPERTY_ID	int	71005	A reference to the OR_PROPERTY table.

OR_REGISTRY

This table contains various settings stored by SBM Application Repository.

Column Name	Data Type	DbVer	Description
REGISTRY_ID	int	71005	A database generated id for this row
NAME	varchar(256)	71005	The name of this registry entry
VALUE	varchar(256)	71005	The value for this registry entry.

OR_REVISION

This table revisions generated for each generated audit event (record in OR_AUDITENTRY) table.

Column Name	Data Type	DbVer	Description
REVISION_ID	int	71005	A database generated id for this row
REVISION_COMMENT	varchar(900)	71005	The comment for this revision

OR_SYS_PERMISSION

Column Name	Data Type	DbVer	Description
ID	int	71005	A database generated id for this row
USERID	int	71005	Id of user
NAME	varchar(64)	71005	System permission name (like "create_application")
ACTIONS	varchar(512)	71005	Allowed actions (not used now)

OR_USER

Table contains a list of users who

Column Name	Data Type	DbVer	Description
ID	int	71005	A database generated id for this row
USERNAME	varchar(64)	71005	AE User ID
FULLNAME	varchar(128)	71005	User full name
EMAIL	varchar(128)	71005	User email address

NS_REGISTRY

This table contains various settings stored by the SBM Notification server and Mail client.

Column Name	Data Type	DbVer	Description
REGISTRY_ID	int	10	A database generated id for this row
NAME	varchar(256)	10	The name of this registry entry
VALUE	varchar(256)	10	The value for this registry entry.

NS_INSTANCES

This table contains all Notification server and Mail client instances that have been started at least once.

Column Name	Data Type	DbVer	Description
HOST	Varchar(32)	10	JBoss server host name.
URL	varchar(512)	10	Context URL to the Notification Server Web application

RSM_AUDITLOG

This table contains audit log entries for creating, editing, and deleting resource management entities.

Column Name	Data Type	DbVer	Description
id	int	101104 0106	Unique numeric id for the record.
entityId	int	101104 0106	Unique numeric id of the entity which was created, updated, or deleted.
entityName	varchar(128)	101104 0106	The name of the entity which was created, updated, or deleted.
entityType	int	101104 0106	The type of the entity which was created/updated/deleted. See notes below for possible values.
entryDate	date	101104 0106	Date and time denoting when the change was made.
entryMessage	varchar(1000)	101104 0106	Short message describing the action. Used for Audit Log in Application Repository when importing entities form spreadsheet.
entryType	int	101104 0106	The type of action performed with the entity. See notes below for possible values.
namespaceId	varchar(64)	101104 0106	User namespace name.
newValue	varchar(1000)	101104 0106	New value of the entity. Is set for create and update actions only.
oldValue	varchar(1000)	101104 0106	Old value of the entity. Is set for update and delete actions only.
uuid	varchar(64)	101104 0106	The Universally Unique Identifier (UUID) that applies to this record.

Values for entityType column:

UNDEFINED	0
RESOURCE	1
RESOURCETYPE	2
SKILL	3

JOBFUNCTION	4
TEAM	5
RESOURCE_SKILL	6
RESOURCE_JOBFUNCTION	7
RESOURCE_TEAM	8

Values for entryType column:

UNDEFINED	0	Undefined type. Do not use this type.
UI_CREATE	1	Entity created from the Application Repository interface.
UI_UPDATE	2	Entity updated from the Application Repository interface.
UI_DELETE	3	Entity deleted from the Application Repository interface.
IMP_START	4	Spreadsheet import started. Not related to any entity.
IMP_END	5	Spreadsheet import ended. Not related to any entity.
IMP_FAIL	6	Spreadsheet import failed. This means it was not able to create some teams or resources, and there will be appropriate IMP_ERROR records in the Audit Log.
IMP_CRASH	7	Spredshet import crashed, possibly from a read/parse/null-pointer error.
IMP_CREATE	8	Entity created during a spreadsheet import.
IMP_UPDATE	9	Entity updated during spreadsheet import.
IMP_SKIP	10	Entity was skipped (not imported) during spreadsheet import.
IMP_ERROR	11	Entity was not imported during spreadsheet import because of error. In this case, import is not successfully completed.

RSM_JOBFUNCTION

This table contains job function entities.

Column Name	Data Type	DbVer	Description
id	int	101104 0106	Unique numeric id for the record.
description	varchar(1000)	101104 0106	Job function description.
imageUrl	varchar(1000)	101104 0106	Job function image url.

name	varchar(128)	101104 0106	Job function name.
namespaceId	varchar(64)	101104 0106	User namespace name.
uuid	varchar(64)	101104 0106	The Universally Unique Identifier (UUID) that applies to this record.
jobLevel	varchar(1000)	101104 0106	Job function level.
internalName	varchar(128)	101104 0106	Job function internal name.
status	int	101104 0106	If this value is 1, the job function was deleted.

RSM_OUTPUT_EXCEPTION

This table contains output exception entities (not used in 10.1.2).

Column Name	Data Type	DbVer	Description
id	int	101104 0106	Unique numeric id for the record.
endDate	date	101104 0106	End date and time of the output exception.
startDate	date	101104 0106	Start date and time of the output exception.
RESOURCE_id	int (FK)	101104 0106	Resource id. Foreign key to the id column of the RSM_RESOURCE table.

RSM_RESOURCE

This table contains resource entities.

Column Name	Data Type	DbVer	Description
id	int	101104 0106	Unique numeric id for the record.
description	varchar(1000)	101104 0106	Resource description.
imageUrl	varchar(1000)	101104 0106	Resource image url.
name	varchar(128)	101104 0106	Resource name.
namespaceId	varchar(64)	101104	User namespace name.

		0106	
uuid	varchar(64)	101104 0106	The Universally Unique Identifier (UUID) that applies to this record.
calendarId	int	101104 0106	Id of SBM calendar assigned to this Resource.
location	varchar(1000)	101104 0106	Resource location.
resourceObjectId	int	101104 0106	For resources of type 'SBM User,' this is the id of the appropriate SBM user. For 'User' resources it is null.
MANAGER_id	int (FK)	101104 0106	Id of the resource who is a manager of the current resource. Foreign key to the id column of the RSM_RESOURCE table.
RESOURCETYPE_id	int (FK)	101104 0106	Resource Type id. Foreign key to the id column of the RSM_RESOURCETYPE table.
employeeId	varchar(1000)	101104 0106	String value of employee id.
employeeStartDate	date	101104 0106	Date resource started to work (at the company, for example).
employeeEndDate	date	101104 0106	Date when resource finished work (is going to finish working at the company, for example).

RSM_RESOURCE_JOBFUNCTION

This table contains resource job function entities.

Column Name	Data Type	DbVer	Description
id	int	101104 0106	Unique numeric id for the record.
endDate	date	101104 0106	Date and time when a job functions assignment ends for a resource.
namespaceId	varchar(64)	101104 0106	User namespace name.
startDate	date	101104 0106	Date and time when the job function is assigned to the resource.
uuid	varchar(64)	101104 0106	The Universally Unique Identifier (UUID) that applies to this record.

JOBFUNCTION_id	int (FK)	101104 0106	Job function id. Foreign key to the id column of the RSM_JOBFUNCTION table.
RESOURCE_id	int (FK)	101104 0106	Resource id. Foreign key to the id column of the RSM_RESOURCE table.

RSM_RESOURCE_SKILL

This table contains resource skill entities.

Column Name	Data Type	DbVer	Description
Id	int	101104 0106	Unique numeric id for the record.
namespaceId	varchar(64)	101104 0106	User namespace name.
Uuid	varchar(64)	101104 0106	The Universally Unique Identifier (UUID) that applies to this record.
SKILL_id	int (FK)	101104 0106	Skill id. Foreign key to the id column of the RSM_SKILL table.
RESOURCE_id	int (FK)	101104 0106	Resource id. Foreign key to the id column of the RSM_RESOURCE table.

RSM_RESOURCE_TEAM

This table contains resource team entities.

Column Name	Data Type	DbVer	Description
Id	int	101104 0106	Unique numeric id for the record.
endDate	date	101104 0106	Date and time when the resource team assignment ends.
namespaceId	varchar(64)	101104 0106	User namespace name.
sharedPercentage	int	101104 0106	The percentage of time the resource works for the specified team.
startDate	date	101104 0106	Date and time when the resource assignment for a team begins.
Type	int	101104 0106	The resource type for the specified team. See notes below for possible values.

Uuid	varchar(64)	101104 0106	The Universally Unique Identifier (UUID) that applies to this record.
TEAM_id	int (FK)	101104 0106	Team id. Foreign key to the id column of the RSM_TEAM table.
RESOURCE_id	int (FK)	101104 0106	Resource id. Foreign key to the id column of the RSM_RESOURCE table.

Values for type column:

DEFAULT	0
TEAM_LEAD	1

RSM_RESOURCETYPE

This table contains resource type entities.

Column Name	Data Type	DbVer	Description
id	int	101104 0106	Unique numeric id for the record.
description	varchar(1000)	101104 0106	Resource type description.
imageUrl	varchar(1000)	101104 0106	Resource type image url.
name	varchar(128)	101104 0106	Resource type name.
namespaceId	varchar(64)	101104 0106	User namespace name.
uuid	varchar(64)	101104 0106	The Universally Unique Identifier (UUID) that applies to this record. See notes below.
weeklyHours	int	101104 0106	The amount of working hours in a week.

Note: In SBM 10.1.2 release, user has no ability to manage resource types. There are two predefinied resource types instead: - SBM User (uuid = cffb408e-e892-4f37-ac48-8d48b9887ce9), - User (uuid = 54852a47-c6e0-4ca0-9ad5-4dd2fae3e0d4).

RSM_SKILL

This table contains skill entities.

Column Name	Data Type	DbVer	Description
id	int	1011040106	Unique numeric id for the record.
description	varchar(1000)	1011040106	Skill description.
imageUrl	varchar(1000)	1011040106	Skill image url.
name	varchar(128)	1011040106	Skill name.
namespaceId	varchar(64)	1011040106	User namespace name.
uuid	varchar(64)	1011040106	The Universally Unique Identifier (UUID) that applies to this record.
skillLevel	varchar(1000)	1011040106	Skill level.

RSM_TEAM

This table contains team entities.

Column Name	Data Type	DbVer	Description
id	int	1011040106	Unique numeric id for the record
description	varchar(1000)	1011040106	Team description.
imageUrl	varchar(1000)	1011040106	Team image url.
name	varchar(128)	1011040106	Team name.
namespaceId	varchar(64)	1011040106	User namespace name.
uuid	varchar(64)	1011040106	The Universally Unique Identifier (UUID) that applies to this record.
PARENT_id	int (FK)	1011040106	Id of the team which is a parent of the current team.

RSM_ATTRIBUTE

This table contains attribute entities.

Column Name	Data Type	DbVer	Description
id	int	101400 0024	Unique numeric id for the record.
description	varchar(1000)	101400 0024	Attribute description.
imageUrl	varchar(1000)	101400 0024	Attribute image url.
name	varchar(128)	101400 0024	Attribute name.
namespaceId	varchar(64)	101400 0024	User namespace name.
uuid	varchar(64)	101400 0024	The Universally Unique Identifier (UUID) that applies to this record.
attributeType	int	101400 0024	Attribute type. See not below with the list of possible values.
internalName	varchar(128)	101400 0024	Attribute internal name.

Values for attributeType column:

NONE	0
DEPARTMENT	1
BUSINESSUNIT	2
TYPE	3
TITLEGROUP	4

RSM_RESOURCE_ATTRIBUTE

This table contains resource attribute entities.

Column Name	Data Type	DbVer	Description
id	int	101400 0024	Unique numeric id for the record.
namespaceId	varchar(64)	101400 0024	User namespace name.
uuid	varchar(64)	101400 0024	The Universally Unique Identifier (UUID) that applies to this record.
ATTRIBUTE_id	int (FK)	101400 0024	Attribute id. Foreign key to the id column of the RSM_ATTRIBUTE table.

RESOURCE_id	int (FK)	101400 0024	Resource id. Foreign key to the id column of the RSM_RESOURCE table.

SLS_CATEGORY

This table contains the top level Category for grouping Sections and Keys.

Column Name	Data Type	DbVer	Description
ID	int	101300 0028	A database generated id for this row
DESCRIPTION	varchar(2000)	101300 0028	A description of Category
NAME	varchar(256)	101300 0028	Category name
LOWER_NAME	varchar(256)	101300 0028	Category name in lowercase.

SLS_SECTION

This table contains a row for each Section. A Section parents a Key and is under a single Category.

Column Name	Data Type	DbVer	Description
ID	int	101300 0028	A database generated id for this row
DESCRIPTION	varchar(2000)	101300 0028	A description of Section
NAME	varchar(256)	101300 0028	Section name
LOWER_NAME	varchar(256)	101300 0028	Section name in lowercase.
CATEGORY_ID	Int	101300 0028	Parent Category

SLS_KEY

This table contains a row for each Key. A Key and is under a single Section.

Column Name	Data Type	DbVer	Description
ID	int	101300 0028	A database generated id for this row
NAME	varchar(256)	101300 0028	Key name
LOWER_NAME	varchar(256)	101300 0028	Key name in lowercase.
SECTION_ID	Int	101300 0028	Parent Section

SLS_LOCALE

This table contains a row for each Locale that SLS has data SLS_VALUE data for.

Column Name	Data Type	DbVer	Description
ID	int	101300 0028	A database generated id for this row
NAME	varchar(256)	101300 0028	Locale name
LOWER_NAME	varchar(256)	101300 0028	Locale name in lowercase.
CODE	varchar(256)	101300 0028	Locale code, i.e. – en_US
ISDEFAULT	Int	101300 0028	1 – is default Locale, 0 – not default Locale

SLS_VALUE

This table contains a row for the value of each Key in a Locale. The KEY_ID and LOCALE_ID contains an unique constraint enforcing a single Value for a Key in a Locale.

Column Name	Data Type	DbVer	Description
ID	int	101300 0028	A database generated id for this row
LASTMODIFIED	Date	101300 0028	Timestamp of last time Value was modified.
VALUE	varchar(2000)	101300 0028	A Key's value
LOWER_NAME	varchar(256)	101300 0028	Key name in lowercase.
KEY_ID	Int	101300 0028	Parent Key
LOCALE_ID	Int	101300 0028	Parent Locale

SLS_VALUEOVERRIDE

This table contains a row for namespace override of a Value. The VALUE_ID and NAMESPACEID contains an unique constraint enforcing a single ValueOverride for a Value by a namespace.

Column Name	Data Type	DbVer	Description
ID	int	101300 0028	A database generated id for this row
LASTMODIFIED	Date	101300 0028	Timestamp of last time Value was modified.
OVERRIDE	varchar(2000)	101300 0028	A Key's value
VALUE_ID	Int	101300 0028	Parent Value
NAMESPACEID	varchar(128)	101300 0028	Namespace for the override.

SLS_TAG

This table contains a row for each Tag name. The corresponding SLS_TAGKEYMAP defines the association between a TAG anda KEY.

Column Name	Data Type	DbVer	Description
ID	int	101300 0028	A database generated id for this row
LASTMODIFIED	Date	101300 0028	Timestamp of last time Value was modified.
NAME	varchar(256)	101300 0028	Tag name
LOWER_NAME	varchar(256	101300 0028	Tag name in lowercase.

SLS_TAGKEYMAP

This table contains a row for each Tag and Key combination. When a Key is tagged, and entry is made in this table recording the SLS_KEY and the SLS_TAG.

Column Name	Data Type	DbVer	Description
TAG_ID	Int	101300 0028	Parent SLS_TAG.
KEY_ID	Int	101300 0028	Parent SLS_KEY.

SSF_CHANGEACTIONS

This table contains replicated records from TS_CHANGEACTIONS. It includes the following columns with the same data types as original table: ID, ACTION, ITEM_ID, TABLE_ID, TIME, TRANSITION_LABEL, USER_ID. It is created in **DbVer**: 11400000

SSF_IDXTABLEINFO

This table contains Work Center Search Indexer status for each Primary Table, and one row for global status (tableId = 0).

Column Name	Data Type	DbVer	Description
TABLEID	bigint	1110000005	Foreign key to the TS_ID column of the TS_TABLES table.

Column Name	Data Type	DbVer	Description
NAMESPACEID	bigint	1110000005	Foreign key to the TS_ID column of the TS_NAMESPACES table.
NEVERINDEX	int	1110000005	Flag that indicates if current table should be skipped by the indexer. 1 – don't index table content, 0 - index. Default value is 0.
FIELDSCHANGEHASH	int	1110000005	Hash value calculated based on selection fields that are currently indexed for current table. If this value doesn't match current hash value, then the table needs to be re-indexed. This might happen after promotion/deploy of the related process app.
NEEDSREINDEX	int	1110000005	Flag that indicates that the entire table content has to be reindexed. Doesn't mean that it will be re-indexed immediately.
NEEDSREINDEXTIMESTAMP	Date	1110000005	Timestamp of the last time the NEEDSREINDEX value was updated.
REINDEX	int	1110000005	1 – then the table will be reindexed immediately. Default value is 0. When set on the global record (TABLEID = 0) then full DB re-index will be performed.
REINDEXTIMESTAMP	Date	1110000005	Timestamp of the last time the REINDEXTIMESTAMP value was updated.
LASTREINDEXCOMPLETE	Date	1110000005	Timestamp of the last time the table was re-indexed.

SSF_SEARCHSETTINGS

This table contains user settings for search result fields.

Column Name	Data Type	DbVer	Description
ID	int	11400000	A database generated id for this row
NAME	varchar(max)	11400000	Search setting stored as json string.

SUA_REGISTRY

This table contains various settings stored by the SBM SolutionUsage reports.

Column Name	Data Type	DbVer	Description
ID	int	101400 00	A database generated id for this row
NAME	varchar(256)	101400 00	The name of this registry entry
DATE_VALUE	Date	101400 00	The date value for this registry entry.
LONG_VALUE	Long	101400 00	The long value fro this registry entry.
STRING_VALUE	varchar(256)	101400 00	The string value for this registry entry.

SUA_APPACCESS

This table contains aggregated reporting data for the Application Usage from Runtime Statistics.

Column Name	Data Type	DbVer	Description
ID	int	114000 00	A database generated id for this row
USERID	int	114000 00	User that accessed an application.
SOLUTIONID	int	114000 00	Accessed application ID.
NAMESPACEID	int	114000 00	Namespace for this entry.
START_TIME	int	114000 00	Time when user started activity in an application.
END_TIME	int	114000 00	Time when user finished activity in an application.
DURATION	int	114000 00	Total time a user spent working on items in an application in the specified time period.
ACCESS_COUNT	Int	114000 00	The count of distinct user access for this timespan.

SUA_DISTINCTUSERACCESS *

This table contains reporting data for the Solution Usage Report.

* It exists only for upgraded SBM versions fromversions prior to 11.4. This table is now deprecated and replaced in new SBM versions by the SUA_APPACCESS table and exists after upgrade for backup purpose.

Column Name	Data Type	DbVer	Description
ID	int	1014000 0	A database generated id for this row
ACCESSCOUNT	int	1014000 0	The count of distinct user access for this timespan.
APPTYPE	int	1014000 0	What the SOLUTION value represent. 1 – ApplicationId, 2 – ApplicationGroupId
NAMESPACEID	varchar(128)	1014000 0	Namespace for this entry.
PEAKACCESSCOUNT	int	1014000 0	The peak hourly ACCESSCOUNT for this timespan.
SOLUTION	int	1014000 0	The solutionId. See APPTYPE for what type of solution this is.
TIMESTAMP	Date	1014000 0	The timespan this record represents. This would be the start of an hour, day, week or month.
TIMESTAMPTYPE	int	1014000 0	The type of timespan: 1 – Hour, 2 – Day, 3 – Week, 4 - Month
USERACCESSTYPE	Int	1014000 0	The user accesstype for this timespan. See TS_USERS.ACCESSTYPE for possible values.

SUA_ORCHACCESS

This table contains reporting data for the Orchestration Usage Report.

SWC_LAYOUT

This table contains layouts for dashboards available in Work Center.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130000	Unique numeric id for the layout.
TS_UUID	varchar(64)	10130000	The Universally Unique Identifier (UUID) that applies to this record.
TS_PROPERTIES	varchar(1000)	10130000	Properties of the layout. Comma-separated list of column widths.
TS_COLUMNSCOUNT	int	10130000	Number of columns in the layout.

SWC_MENUITEM

This table contains menu items for Work Center. This table also contains definition of all dashboards in the system with their widgets.

Menu items have a tree structure with parent-child relation defined by TS_PARENTID column.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130000	Unique numeric id for the menu item.
TS_UUID	varchar(64)	10130000	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(1000)	10130000	Name of the menu item.
TS_INTERNALNAME	varchar(250)	10130000	Internal name of the menu item. Used for localization and upgrade. Defines menus that came with SBM installation.
TS_DESCRIPTION	varchar(250)	10130000	Descriptive text of the menu item.
TS_IMAGEURL	varchar(1000)	10130000	URL of image associated with the menu item.
TS_AUTHORID	int	10130000	Foreign key to the TS_ID column of the TS_USERS table indicating which user created the menu item. Set to NULL if the author is not present in the system.
TS_CREATEDDATE	date	10130000	Date the menu item was created.
TS_LASTMODIFIEDDATE	date	10130000	Date of the most recent update of the menu item.
TS_HEIGHT	int	10130000	Height (in pixels) of the menu item if this is a dashboard widget. NULL for all other menu items.
TS_POSITION	varchar(1000)	10130000	Text representation of the menu item's positioning on the screen.
TS_CHILDLAYOUTID	bigint	10130000	Foreign key to the TS_ID column of the SWC_LAYOUT table indicating selected layout of the dashboard. Required field for menu items that define dashboards. NULL for other menu items.
TS_VIEWID	int	10140000	Foreign key to the TS_ID column of the TS_SWCVIEWS table indicating which view is associated to the menu item.
TS_PARENTID	bigint	10130000	Foreign key to the TS_ID column of the SWC_MENUITEM table indicating id of the parent menu item.

Column Name	Data Type	DbVer	Description
TS_PROFILEID	bigint	10130000	Foreign key to the TS_ID column of the SWC_PROFILE table indicating which profile the menu item is related to.
TS_REFERENCEID	bigint	10130000	Foreign key to the TS_ID column of the SWC_MENUITEM_REFERENCE table indicating what the menu item is in reference to.
TS_APPLICATIONGROUPID	int	10130000	Depending on TS_APPLICATIONGROUPTYPE, this column is a foreign key to the TS_ID column of either the TS_APPLICATION_GROUPS table, or to TS_SOLUTIONS table, indicating context of the menu item.
TS_APPLICATIONGROUPTYPE	int	10130000	See notes below. This column stores information about application or application group that the menu item is related to.
TS_DISPLAY	int	10130000	See notes below. Indicates visibility of the menu item.
TS_PROVIDER	int	10130000	See notes below. Indicates the type of provider of the menu item.
TS_TYPE	int	10130000	See notes below. Indicates type of the menu item.
TS_NAMESPACEID	int	10130000	Foreign key to the TS_ID column of the TS_NAMESPACES table.
TS_USERID	int	1120000006	Foreign key to the TS_ID column of the TS_USERS table. Used for Work Center Default Configuration.
TS_GROUPID	int	1120000006	Foreign key to the TS_ID column of the TS_GROUPS table. Used for Work Center Default Configuration.
TS_TEAMID	int	1120000006	Foreign key to the TS_ID column of the RSM_TEAM table. Used for Work Center Default Configuration.
TS_REFRESHINTERVAL	int	1120000018	Time interval in milliseconds. Used to specify interval for auto-refresh in Work Center. Can be NULL.

Values for TS_ APPLICATIONGROUPTYPE column:

SOLUTION	0	Solution-defined application group. Stored in the TS_APPLICATION_GROUPS table.

Column Name	Data Type	DbVer	Description
CUSTOM	1		User-defined application group. Stored in the TS_APPLICATION_GROUPS table.
TEMP	2		Solution, stored in the TS_SOLUTIONS table.

Values for TS_DISPLAY column:

Column Name	Data Type	DbVer	Description
HIDDEN	0		The menu item is not visible.
COLLAPSED	1		The menu item is visible. If the menu item supports expand/collapse states (like widgets), then it is collapsed.
EXPANDED	2		The menu item is visible. If the menu item supports expand/collapse states (like widgets), then it is expanded.

Values for TS_PROVIDER column:

PLATFORM	0	The menu item is provided as part of the SBM platform.
SOLUTION	1	The menu item is provided as part of a solution.
ADMIN	2	The menu item is created by an administrator for global use.
USER	3	The menu item is created by a user for private use.
APPGROUP_PREDEFINED_CONTENT	4	The menu item is provided by platform, and used as a template menu for application groups.

Values for TS_TYPE column:

NOREFERENCES	0	Not used.
REFERENCE	1	The menu item is referencing the SWC_MENUITEM_REFERENCE table.
NAVIGATION	2	Regular menu item.
SUBMIT	3	Not used.
SELECTION	4	Not used.
MULTISELECTION	5	Not used.
GROUP	6	The menu item is a parent for a group of menu items.
VIEW	7	The menu item is referencing the TS_SWCVIEWS table.
PINNED_APPGROUP	8	The menu item is the very top parent of all menu items related to some application group.
DASHBOARD	9	The menu item is a definition of a Dashboard view. It also a parent of the dashboard's widgets.
MYREPORTS	10	The menu item is referencing the "My Reports" page.
ALLREPORTS	11	The menu item is referencing the "All Reports" page.
SCHEDULEDREPORTS	12	The menu item is referencing the "Scheduled Reports" page.
HOME	13	The menu item is the very top parent for all menu items related to Home context.
GROUP_DASHBOARDS	14	The same as type GROUP, but contains only dashboards.
GROUP_CALENDARS	15	The same as type GROUP, but contains only calendars.

Values for TS_TYPE column:

GROUP_ACTIVITIES	16	The same as type GROUP, but contains only activities.
GROUP_BACKLOGS	17	The same as type GROUP, but contains only backlogs.
BACKLOG	18	The menu item is referencing a backlog stored in the table TS_SWCVIEWS.
SLA_PASTPERFORMANCE	19	The menu item is referencing the "SLA Past Performance" page.
SLA_CURRENTRISK	20	The menu item is referenceing the "SLA Current Risk" page.
REPORTCENTER	21	The menu item is referencing the "Report Center" page.

SWC_MENUITEM_INH_ORDER

This table contains information about orderings of groups and teams for the Work Center Default Configuration feature.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1120000010	Unique numeric id for the menu item sequence.
TS_GROUPID	int	1120000010	Foreign key to the TS_ID column of the TS_GROUPS table. Can be NULL.
TS_TEAMID	int	1120000010	Foreign key to the TS_ID column of the RSM_TEAM table. Can be NULL.
TS_INDEX	int	1120000010	Index of current group/team. Lower value means higher position. Groups/teams are sorted by this column ascending.
TS_EXCLUSIVE	int	1120000017	If 1, then current group/team will be treated as exclusive.
TS_NAMESPACEID	int	1120000010	Foreign key to the TS_ID column of the TS_NAMESPACES table

SWC_MENUITEM_OVERRIDE

This table contains overrides of values in the SWC_MENUITEM table. General logic is that each value can be NULL, which means that the original values (from the SWC_MENUITEM table) must be used.

Menu overrides can be specified on global level by an administrator. This override is applied to an entire namespace and impacts all users in tje namespace.

Also, menu items can be overridden by any user. This type of override is applied for the one user only, and does not affect any other users.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130000	Unique numeric id for the menu item override.
TS_UUID	varchar(64)	10130000	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(1000)	10130000	Overridden name of the menu item.
TS_DESCRIPTION	varchar(250)	10140100	Overriden descriptive text of the menu item.
TS_DISPLAY	int	10130000	See notes for the SWC_MENUITEM table. Indicates overridden visibility of the menu item.
TS_POSITION	varchar(1000)	10130000	Overridden text representation of the menu items positioning on the screen.
TS_HEIGHT	int	10130000	Overridden height (in pixels) of the menu item if this is a dashboard widget. NULL for all other menu items.
TS_CHILDLAYOUTID	bigint	10130000	Foreign key to the TS_ID column of the SWC_LAYOUT table indicating overridden layout of the dashboard.
TS_USERID	int	10130000	Foreign key to the TS_ID column of the TS_USERS table indicating the only user who specified and uses the override.
TS_NAMESPACEID	int	10130000	Foreign key to the TS_ID column of the TS_NAMESPACES table indicating namespace that this override is applied for.
TS_MENUITEMID	bigint	10130000	Foreign key to the TS_ID column of the SWC_MENUITEM table indicating menu item this override is applied to.
TS_REFRESHINTERVAL	int	1120000018	Time interval in milliseconds. Used to specify interval for auto-refresh in Work Center. Can be NULL.

SWC_MENUITEM_REFERENCE

This table contains information about objects that are referenced by Work Center menu items with type REFERENCE.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130000	Unique numeric id for the menu item reference.
TS_UUID	varchar(64)	10130000	The Universally Unique Identifier (UUID) that applies to this record.
TS_TYPE	int	10130000	See notes below. Indicates type of the reference.
TS_OPTIONS	varchar(1000)	10130000	Options of the reference.
TS_URL	varchar(1000)	10130000	Web-page URL.
TS_FEED	varchar(1000)	10130000	Not used.
TS_REPORTID	int	10150000	Foreign key to the TS_ID column of the TS_REPORTS table indicating report that is referenced. Can be null.
TS_VIEWID	int	1140000041	Foreign key to the TS_ID column of the TS_SWCVIEWS table indicating which view is associated to the menu item reference.

Values for TS_ TYPE column:

HYPERLINK	0	Regular web-page specified by URL.
WIDGET	1	Dashboard widget that references web-page specified by URL.
REPORT	2	Report specified by its id and URL.

SWC_MENUITEM_SEQUENCE

This table contains information about orderings of menu items. This table allows defining namespace-level orderings, or user-specific ordering.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130000	Unique numeric id for the menu item sequence.
TS_NAMESPACEID	int	10130000	Foreign key to the TS_ID column of the TS_NAMESPACES table indicating namespace that this ordering is applied for.
TS_USERID	int	10130000	Foreign key to the TS_ID column of the TS_USERS table indicating the only user who specified and uses the ordering. Can be NULL or namespace-level orderings.
TS_PARENTMENUITEMID	bigint	10130000	Foreign key to the TS_ID column of the SWC_MENUITEM table indicating menu item that have child menus. The ordering will be applied to these child menus.
TS_COLUMNSIZES	varchar(128)	10130000	Comma-separated list of numbers. Each number specifies number of menus in a column with menus (for dashboards). For regular menus, contains single number with count of child menus.
TS_SEQUENCE	varchar(2000)	10130000	Comma-separated list of menu item ids. Indicates order of menu items.

SWC_MENUITEM_SEQ_ADMIN

This table contains information about orderings of menu items, defined by system administrator for Work Center Default Configuration.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	1120000010	Unique numeric id for the menu item sequence.
TS_USERID	int	1120000010	Foreign key to the TS_ID column of the TS_USERS table indicating who this sequence is defined for. Can be NULL.
TS_GROUPID	int	1120000010	Foreign key to the TS_ID column of the TS_GROUPS table indicating who this sequence is defined for. Can be NULL.
TS_TEAMID	int	1120000010	Foreign key to the TS_ID column of the RSM_TEAM table indicating who this sequence is defined for. Can be NULL.
TS_PARENTMENUITEMID	int	1120000010	Foreign key to the TS_ID column of the SWC_MENUITEM table indicating menu item that have child menus. The ordering will be applied to these child menus.
TS_SEQUENCE	varchar(2000)	1120000010	Comma-separated list of menu item ids. Indicates order of menu items.

SWC_PROFILE

This table contains information about Work Center profiles. Each profile can contain different set of menus and settings.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130000	Unique numeric id for the profile.
TS_UUID	varchar(64)	10130000	The Universally Unique Identifier (UUID) that applies to this record.
TS_NAME	varchar(1000)	10130000	Name of the profile.
TS_AUTHORID	int	10130000	Foreign key to the TS_ID column of the TS_USERS table indicating the author of the profile.
TS_CREATEDDATE	date	10130000	Date when the profile was created.
TS_NAMESPACEID	int	10130000	Foreign key to the TS_ID column of the TS_NAMESPACES table.

SWC_PROPERTY

This table contains global properties for Work Center profiles.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130000	Unique numeric id for the property.
TS_NAME	varchar(1000)	10130000	Name of the property.
TS_TYPE	varchar(1000)	10130000	Type of the property. There are no any predefined types, any string can be used as a type.
TS_VALUE	varchar(1000)	10130000	Value of the property.
TS_PROFILEID	bigint	10130000	Foreign key to the TS_ID column of the TS_PROFILE table.
TS_NAMESPACEID	int	10130000	Foreign key to the TS_ID column of the TS_NAMESPACES table.

SWC_USER_DATA

This table contains user settings for Work Center.

Column Name	Data Type	DbVer	Description
TS_ID	bigint	10130000	Unique numeric id for the user's data.
TS_TYPE	int	10130000	See notes below. Type of the data.
TS_VALUE	varchar(1000)	10130000	See notes below. Value has different meanings, depending on type of the data.
TS_USERID	int	10130000	Foreign key to the TS_ID column of the TS_USERS table.
TS_GROUPID	int	10150000	Foreign key to the TS_ID column of the TS_GROUPS table.
TS_NAMESPACEID	int	10150000	Foreign key to the TS_ID column of the TS_NAMESPACES table.

Values for TS_TYPE column:

SEARCH_STRING	1	Not used.
CURRENT_PROFILE	2	TS_VALUE is a foreign key to the TS_ID column of the SWC_PROFILE table. Specified profile is user's current active profile.
FAVORITE_SUBMIT_PROJECT	3	TS_VALUE is a foreign key to the TS_ID column of the TS_PROJECTS table. This project is added to a user's favorite projects for submits.
FAVORITE_SUBMIT_PROJECT_OF_SDF_SERVICE	4	TS_VALUE is a foreign key to the ID column of the SRP_SERVICE table. This service is added to a user's favorite services for submits.
MY_ACTIVITY_ORDERING	5	TS_VALUE contains a user's customization of activity view.
NOTIFICATION_POLLING_INTERVAL	6	TS_VALUE contains polling interval for fetching new notifications in Work Center.
PINNED_APPLICATION_GROUPS	7	TS_VALUE contains comma-separated list of pinned application groups or applications for the user.
SHOW_HOME_MENU	8	TS_VALUE specifies visibility of the top navigation menu "Home": visible (1) or hidden (0).
GROUP_APPLIED_SETTINGS	9	TS_VALUE contains comma-separated list of settings that were applied for the specified SBM group.

CSVC_REGISTRY

This table contains various settings stored by the SBM Common Services component.

Column Name	Data Type	DbVer	Description
ID	int	11000000	A database generated id for this row
NAME	varchar(256)	11000000	The name of this registry entry
DATE_VALUE	Date	11000000	The date value for this registry entry.
LONG_VALUE	Long	11000000	The long value fro this registry entry.
STRING_VALUE	varchar(256)	11000000	The string value for this registry entry.

REL_REGISTRY

This table contains various settings stored by the Relationship Service component.

Column Name	Data Type	DbVer	Description
id	int	10130000	A database generated id for this row
name	varchar(256)	10130000	The name of this registry entry
stringValue	varchar(256)	10130000	The string value for this registry entry.
value	Long	10130000	The long value fro this registry entry.

Appendix A: Database Table Relationships

The following diagrams attempt to portray the relationships between the SBM database tables. Most, but not all, relationships may be shown. Diagram 1: Group and User Privileges Relationships
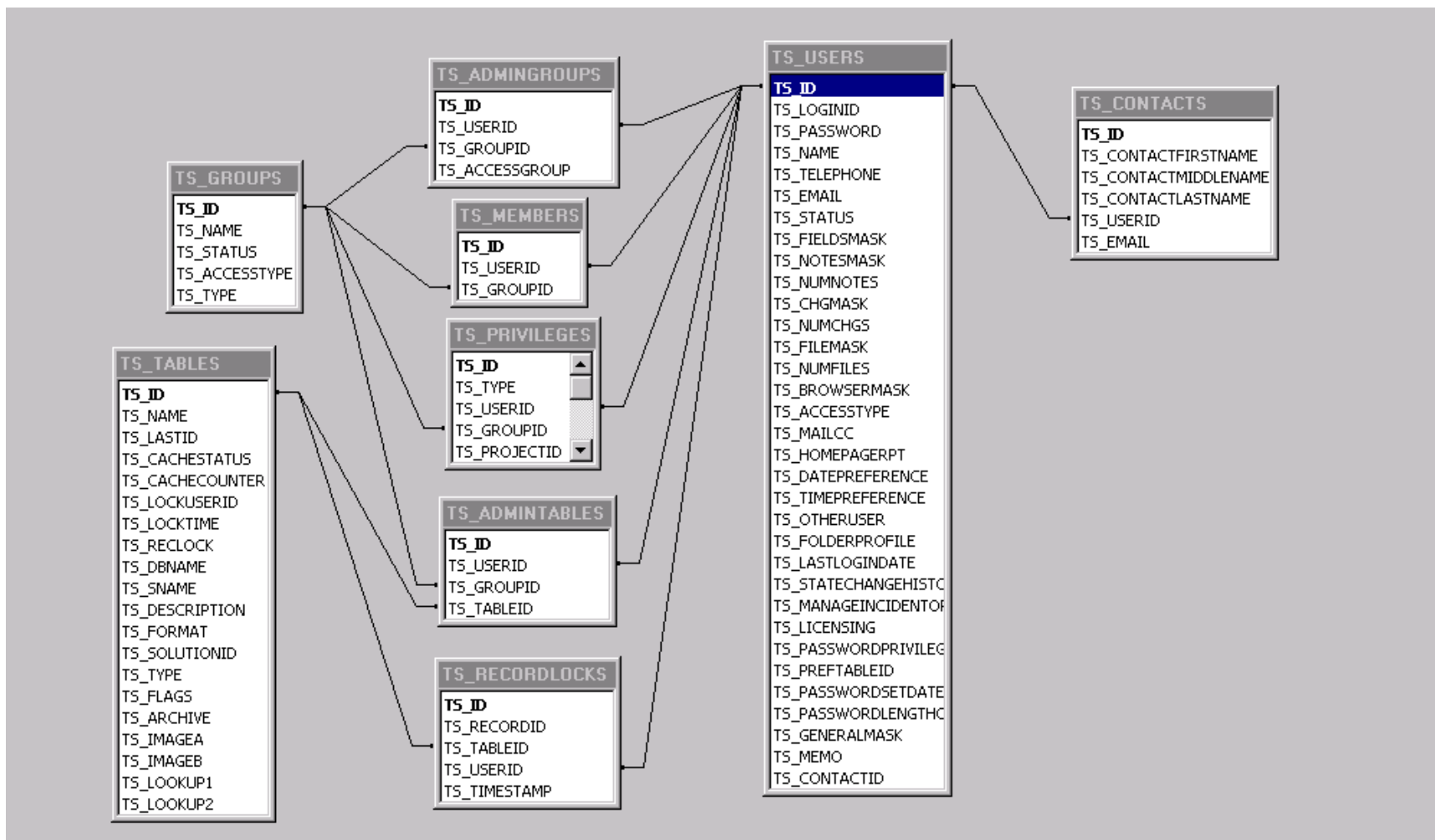
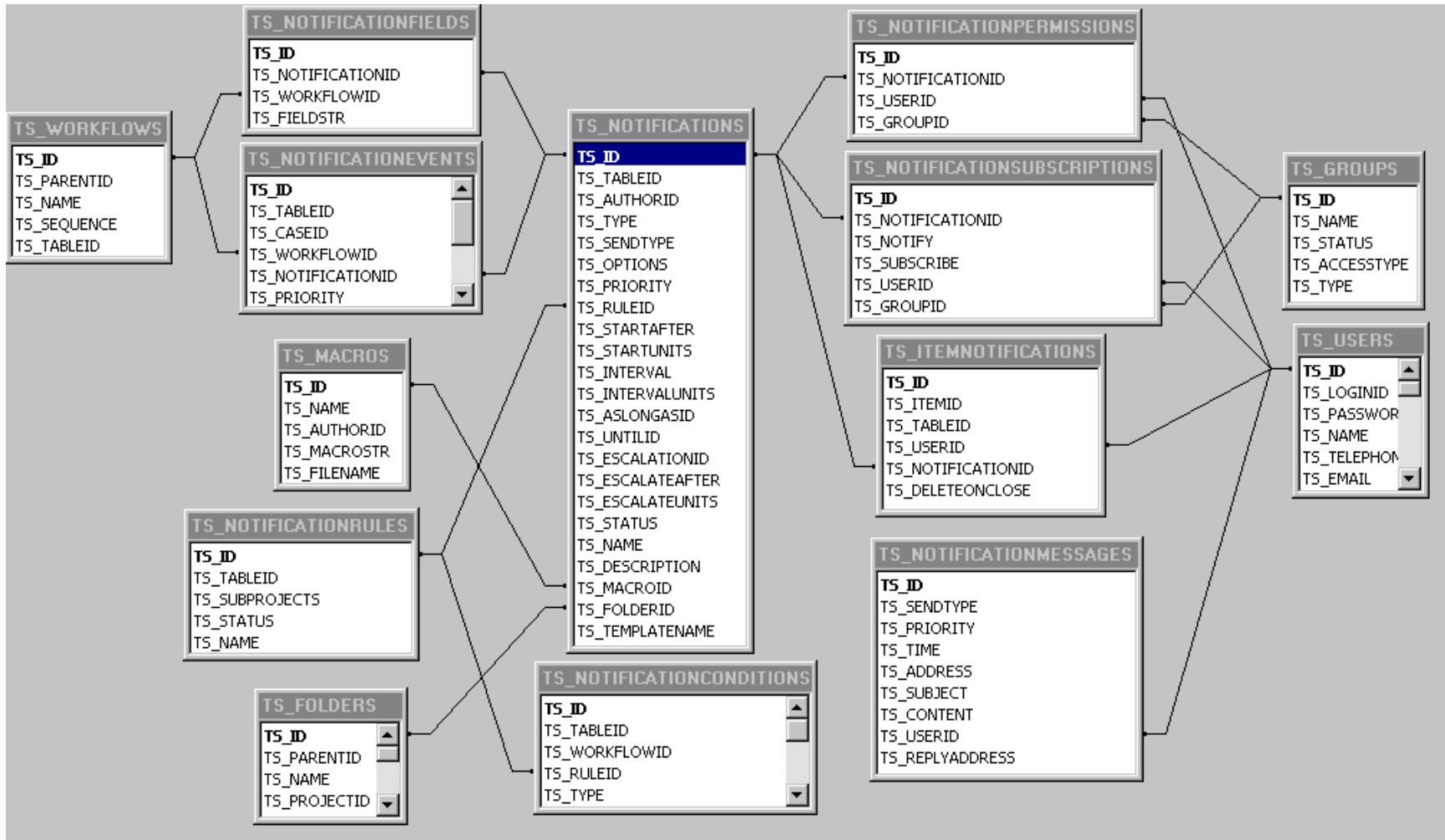**Diagram 2: Workflow, Project, State and Transition Relationships**
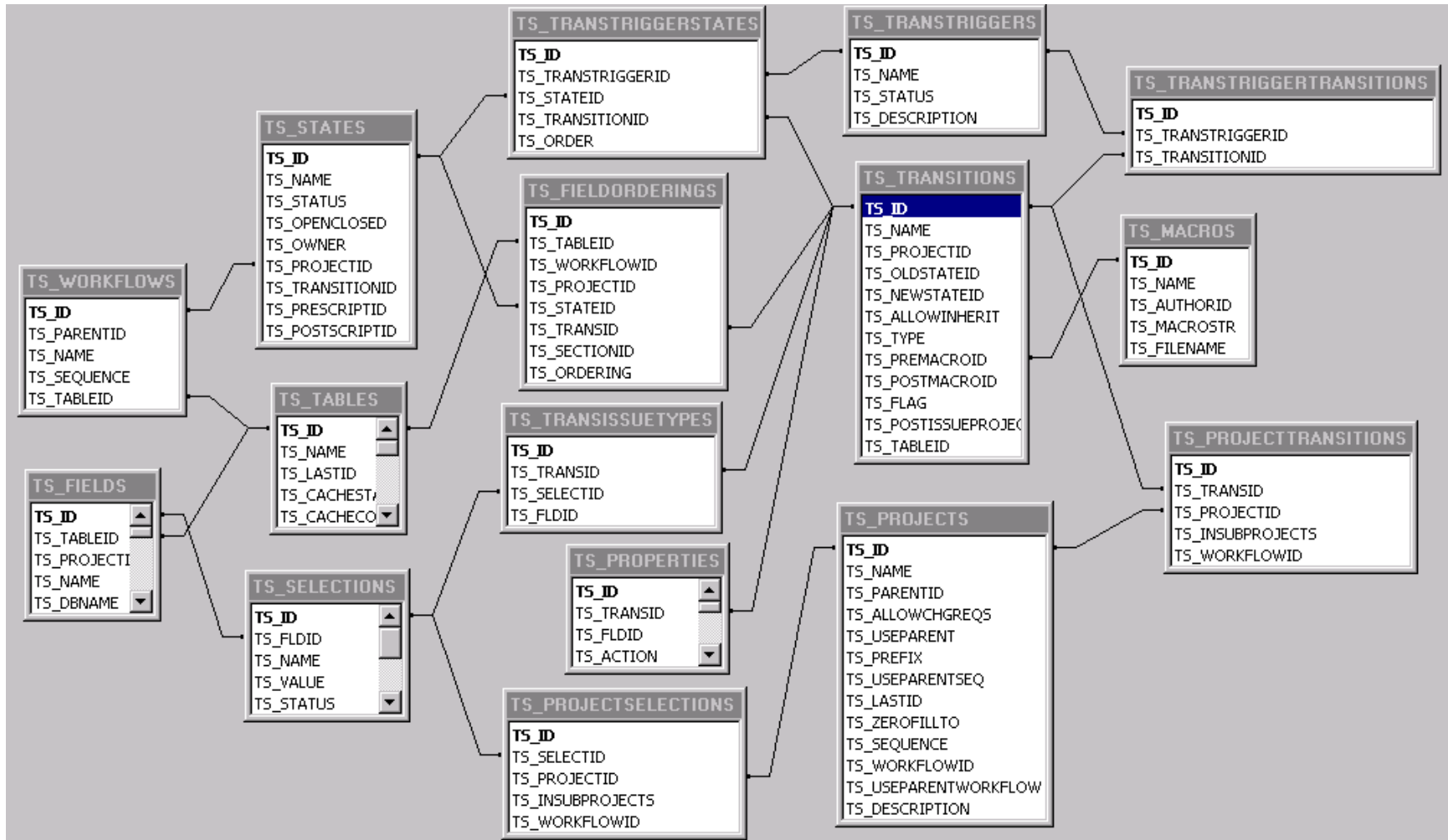
On the diagram above, any field called TS_TABLEID relates to TS_TABLES.TS_ID,, and any field called TS_FLDID relates to TS_FIELDS.TS_ID.
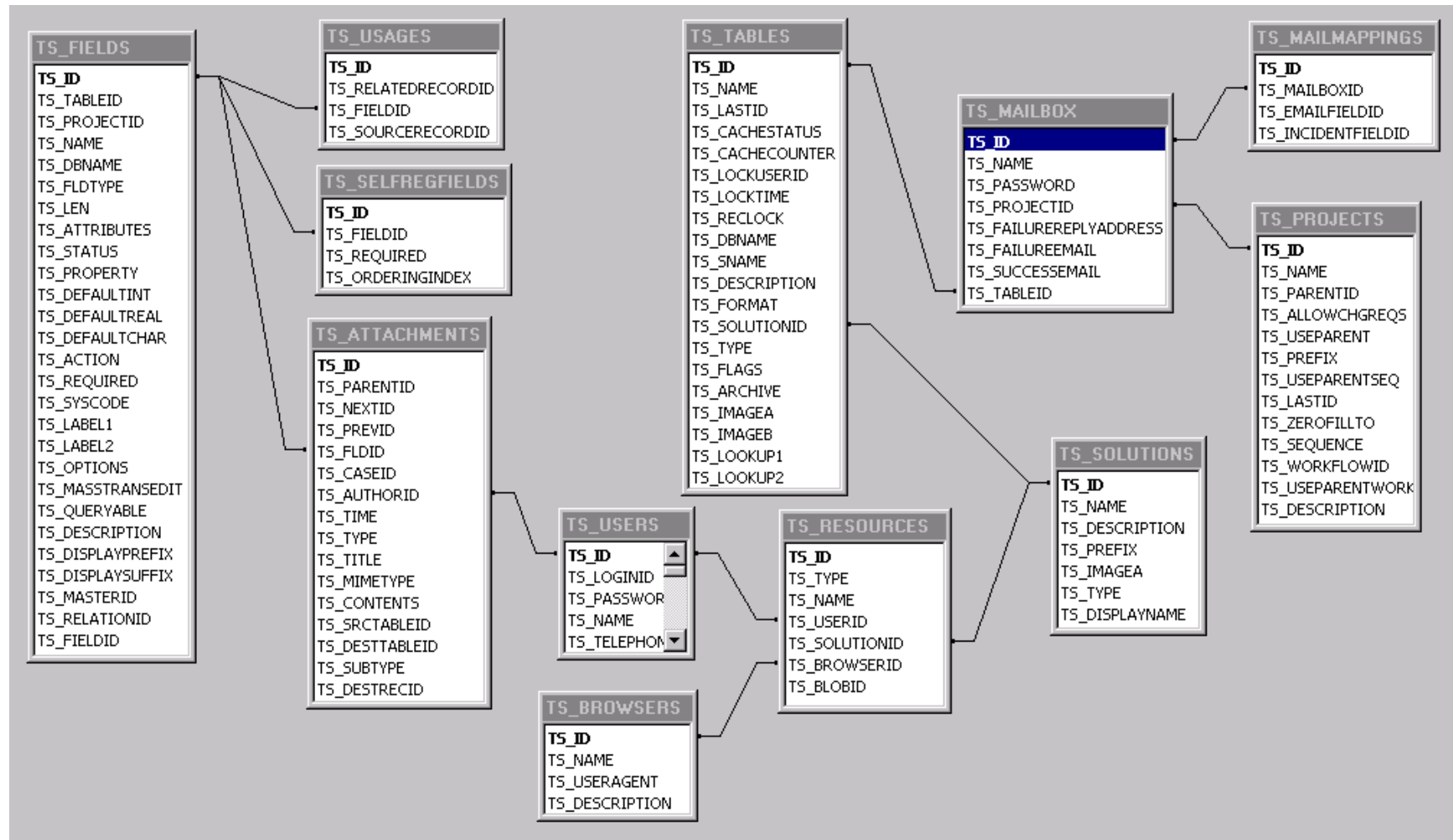
Diagram 3:   Change History and Folder Relationships
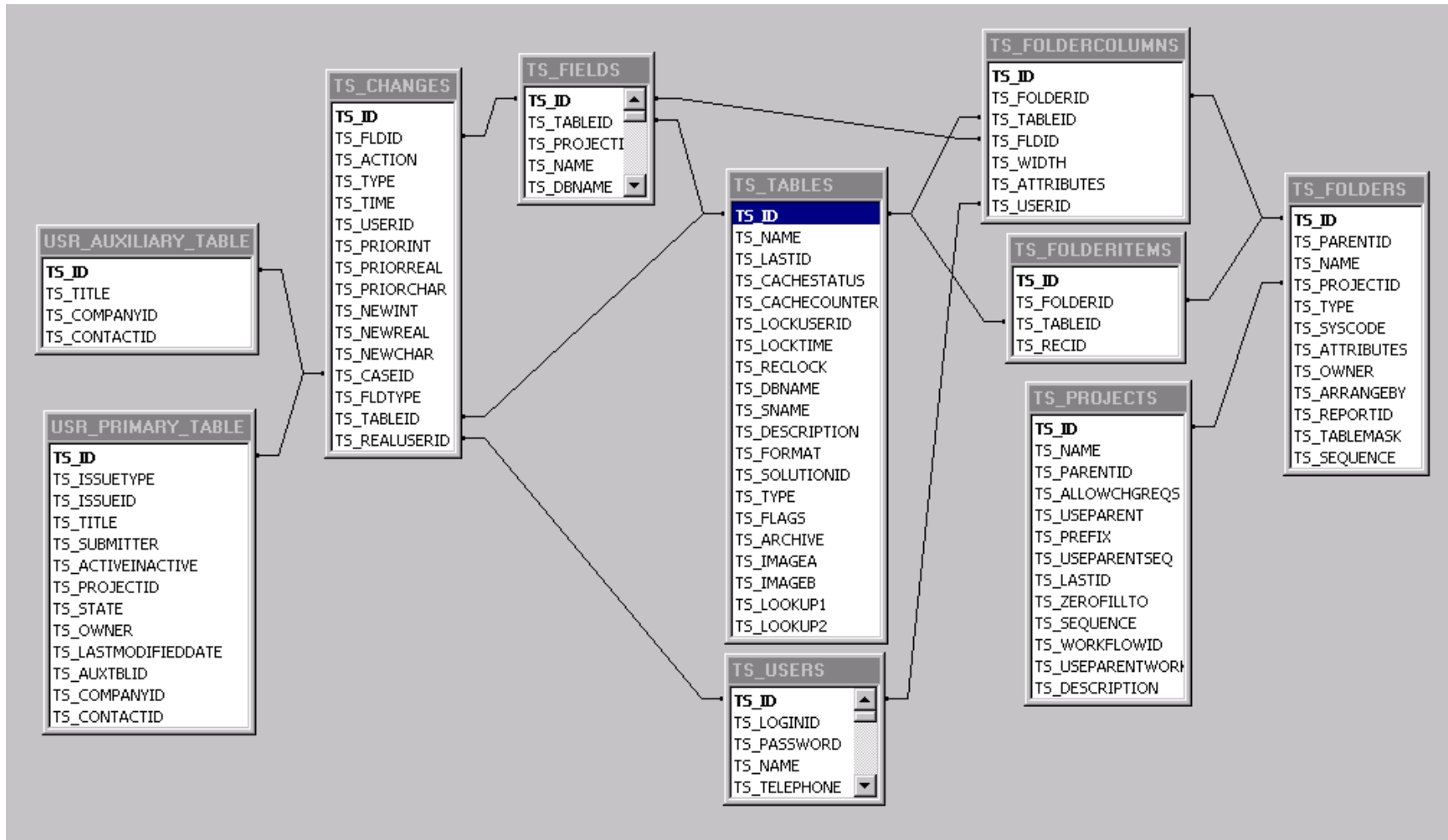
On the diagram above, USR_PRIMARY_TABLE represents any primary table, e.g., TTT_ISSUES and USR_AUXILIARY_TABLE represents any auxiliary table, e.g., TTS_PRODUCTS.
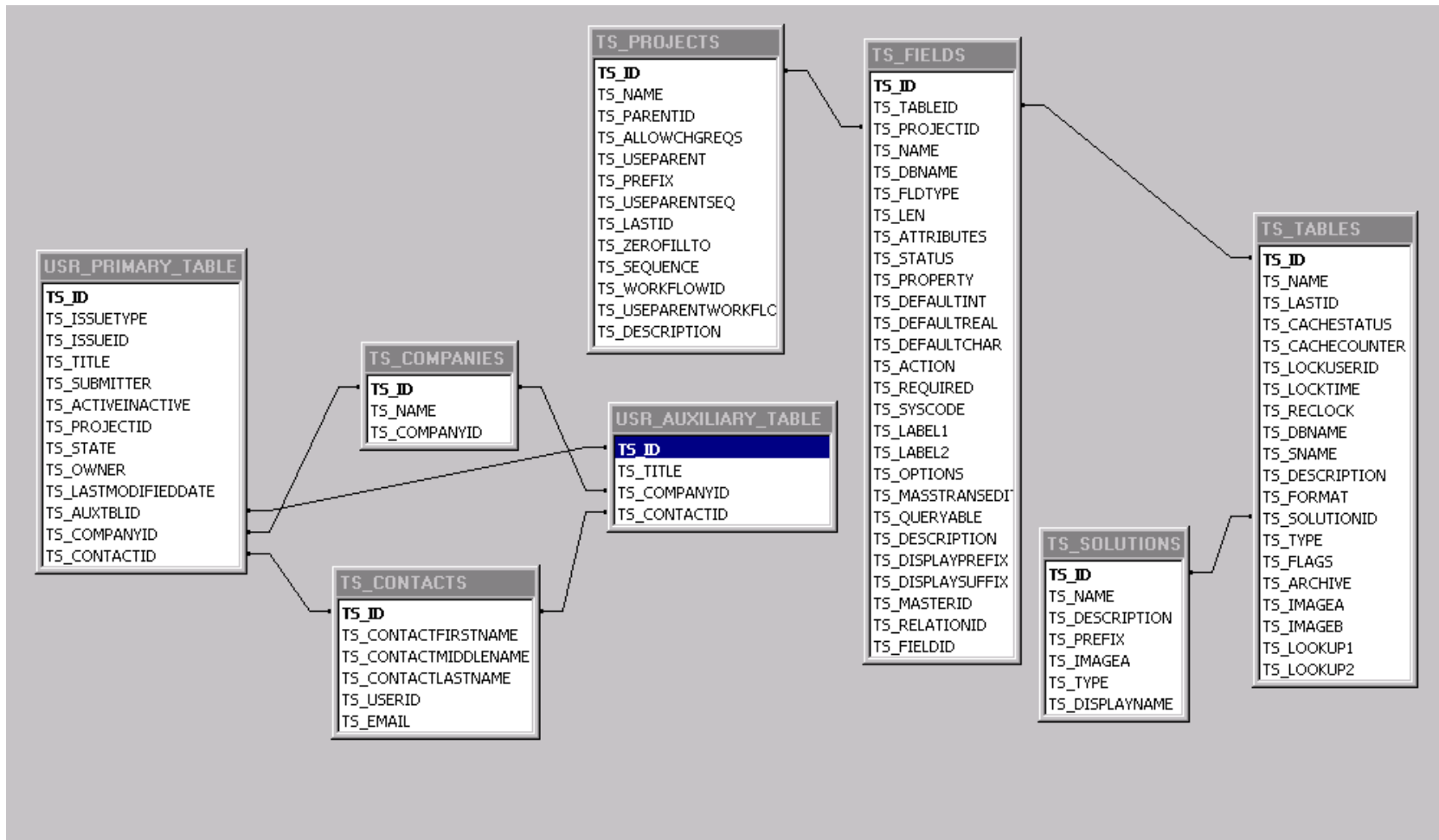
Diagram 4:   Notification Relationships

Diagram 5:   Miscellaneous Relationships

Diagram 6:   User-Defined Data Table Relationships

On the diagram above, any field named TS_TABLEID relates to TS_TABLES**.**TS_ID and any field named TS_FLDID relates to TS_FIELDS**.**TS_ID. TS_TABLES and TS_FIELDS hold the structural information for all variable-field tables, to include user-defined tables and archive tables.

Appendix B: Password Privilege Options

Because the TS_USERS.TS_PASSWORDPRIVILEGEOPTIONS column can store different values along with their combinations, we have provided this section to help illustrate real-life settings for this column.

The TS_PASSWORD_EXPIRESNOW_FLAG value, as either:

- 0x1000 in hexadecimal representation

- 4096 in decimal representation

- 0001 0000 0000 0000b in binary representation (all zeroes except the thirtienth bit)

…can be combined with the rest of the TS_PASSWORD_EXPIRESNOW_FLAG options, which can be either positive or negative integer numbers. (For the remainder of this appendix, two-byte binary numbers are used for brevity's sake).

For example, a binary representation of the positive number 180 (e.g. the number of days for the password to become expired) is 0000 0000 1011 0100b.

When combined with the TS_PASSWORD_EXPIRESNOW_FLAG, the thirtienth bit is set to 1:

0000 0000 1011 0100b OR 0001 0000 0000 0000b = 0001 0000 1011 0100b

This results in the TS_PASSWORDPRIVILEGEOPTIONS value 4276 in decimal representation.

For the binary representation of negative numbers, almost all higher bits are already set, as in

-2 = 1111 1111 1111 1110b

Thus, to change the thirtienth bit in a negative number it should be zeroed:

1111 1111 1111 1110b AND 1110 1111 1111 1111b = 1110 1111 1111 1110b

This results in -4098 in decimal representation.

Table 1. Samples of combined password privilege options

Combination of values		Bitwise operation with Expires Now and rest of options
Expires Now and **Cannot Change**	-4097	-4097 And -1
Expires Now and **Use System Settings**	-4098	-4097 And -2
Expires Now and **Does Not Expire**	-4099	-4097 And -3
Expires Now and **Expires In** 1 day	4097	4096 Or 1
Expires Now and **Expires In** 2 days	4098	4096 Or 2
Expires Now and **Expires In** 100 days	4196	4096 Or 100
Expires Now and **Expires in** 180 days	4276	4096 Or 180

Samples of database queries

As Oracle 11g has only one bitwise operator in the standard package (bitand(x,y) which is equivalent to operator '&' in SQL Server),

the remaining missing operators in the samples below were implemented as follows :

1) Bitwise NOT (i.e. operator '~' in SQL Server) : ((0-x)-1)

2) Bitwise OR   (i.e. operator '|' in SQL Server)   : (x+y) – bitand(x,y)

      <u>Select all users with Password Expires Now temporary flag set:</u>

SQL Server :

```
select TS_ID, TS_LOGINID, TS_NAME, TS_PASSWORDPRIVILEGEOPTIONS from TS_USERS
where ( TS_PASSWORDPRIVILEGEOPTIONS >= 0 and TS_PASSWORDPRIVILEGEOPTIONS  & 0x1000 <> 0 ) or
      ( TS_PASSWORDPRIVILEGEOPTIONS < 0 and ~TS_PASSWORDPRIVILEGEOPTIONS & 0x1000 <> 0 )
```

Oracle:

```
select TS_ID, TS_LOGINID, TS_NAME, TS_PASSWORDPRIVILEGEOPTIONS from TS_USERS
where ( TS_PASSWORDPRIVILEGEOPTIONS >= 0  and bitand(TS_PASSWORDPRIVILEGEOPTIONS, 4096) <> 0  ) or
      ( TS_PASSWORDPRIVILEGEOPTIONS < 0  and bitand(0-TS_PASSWORDPRIVILEGEOPTIONS-1, 4096) <> 0  )
```

Set Password Expires Now flag for particular users:

SQL Server :

```
update TS_USERS
set TS_PASSWORDPRIVILEGEOPTIONS =
(case  when  TS_PASSWORDPRIVILEGEOPTIONS >= 0
  then  TS_PASSWORDPRIVILEGEOPTIONS | 0x1000
  else  TS_PASSWORDPRIVILEGEOPTIONS & (~4096)
  end )
where TS_LOGINID in ( 'bill','joe')
```

Oracle:

```
update TS_USERS
set TS_PASSWORDPRIVILEGEOPTIONS =
(case when  TS_PASSWORDPRIVILEGEOPTIONS >= 0
  then  ( TS_PASSWORDPRIVILEGEOPTIONS + 4096 )- bitand(TS_PASSWORDPRIVILEGEOPTIONS, 4096)
  else  bitand( TS_PASSWORDPRIVILEGEOPTIONS, ((0-4096)-1) )
  end )
where TS_LOGINID in ( 'bill','joe')
```

Clear Password Expires Now flag for particular users:

SQL Server :

```
update TS_USERS
set TS_PASSWORDPRIVILEGEOPTIONS =
(case  when  TS_PASSWORDPRIVILEGEOPTIONS >= 0
  then  TS_PASSWORDPRIVILEGEOPTIONS & (~4096)
  else  TS_PASSWORDPRIVILEGEOPTIONS | 0x1000
  end )
where TS_LOGINID in ( 'bill','joe')
```

Oracle:

```
update TS_USERS
set TS_PASSWORDPRIVILEGEOPTIONS =
(case when  TS_PASSWORDPRIVILEGEOPTIONS >= 0
  then  bitand( TS_PASSWORDPRIVILEGEOPTIONS, ((0-4096)-1) )
  else  ( TS_PASSWORDPRIVILEGEOPTIONS + 4096 )- bitand(TS_PASSWORDPRIVILEGEOPTIONS, 4096)
  end )
```

```sql
where TS_LOGINID in ( 'bill','joe')
```