

# Siemens PLM Connection

Teamcenter Engineering:  
Preparing for Teamcenter multi-site consolidation,  
New Tools

David Geisler

Siemens  
PLM Connection



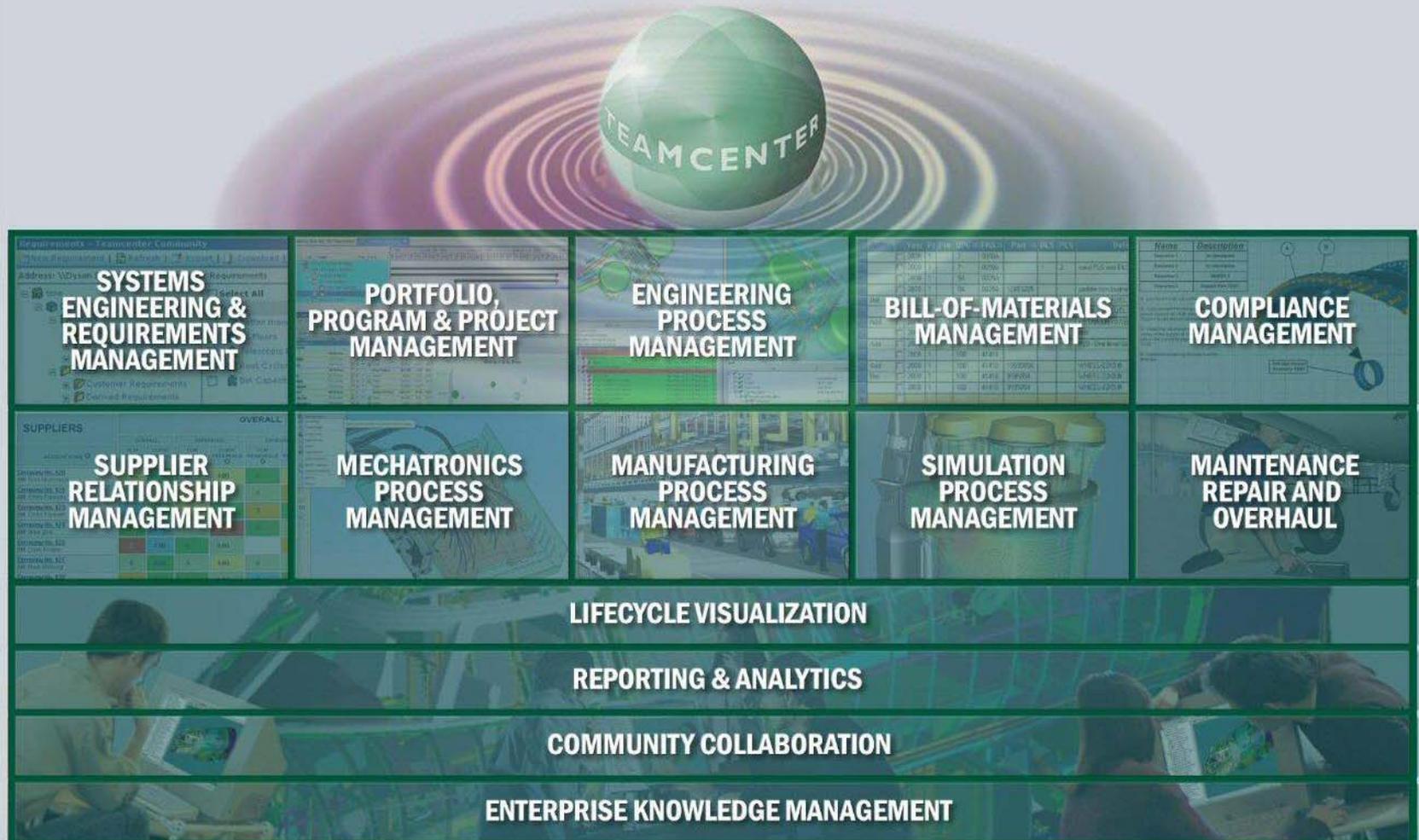
Americas 2008

PLM Software

Answers for industry.

**SIEMENS**

## Teamcenter Digital Lifecycle Management Solutions



## Engineering Process Management

### New tools to prepare for Teamcenter Multi-Site Consolidation

It is Time !

With current Teamcenter product advances, it is the right time to assess the cost and benefit value of consolidating multiple Teamcenter sites.

Tools are being planned for future Teamcenter releases to aid this process.

Early access to some of these tools for the current Teamcenter release platforms is available today.



## Agenda

### New tools, preparing for Teamcenter Multi-Site Consolidation

#### Multi-site

- Benefits
- Drivers

#### Consolidation

- Enablers
- methodology

#### Assessment and preparation utilities

- Multi-site Assistant
- Preference Configuration Assistant
- New Synchronous Site Transfer (SST) related tools

## Teamcenter Multi-Site Benefits

### What is “Classic” Teamcenter Multi-Site

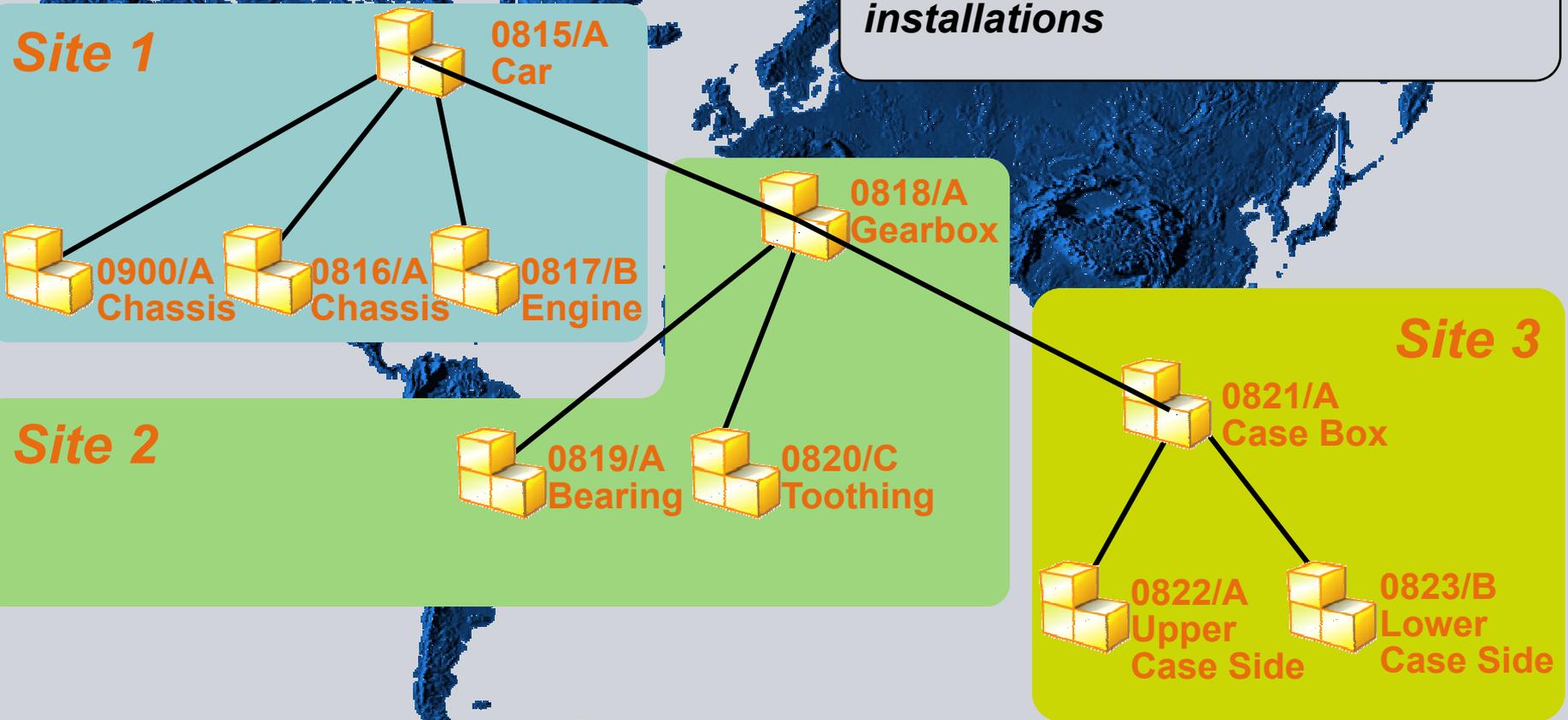
An extension to Teamcenter that allows multiple Teamcenter sites to share information with each other in a federated environment in a managed, timely manner, and perform global, collaborative design and development.

### Why is it Important

- Multi-Site provides capabilities to allow interactive sharing of information through
  - remote check-out and check-in,
  - off-line sharing through manual import/export,
  - on-demand sharing, and
  - process driven information sharing.
- provides a mechanism through which suppliers can participate in an integrated multi-level supply chain with OEMs.

## Teamcenter Multi-Site Benefits

*Collaborative development on distributed product structure over multiple geographically distributed installations*



## Teamcenter Multi-Site Benefits

### Advantage to the Organization

- Teamcenter Multi-Site provides
  - a proven technology platform to build a globally federated PLM implementation
  - ability to integrate separate sites that desire autonomy, or to build a common shared environment where global development can be accomplished
  - a reliable, secure, fault tolerant mechanism through which companies can perform concurrent engineering in a fully integrated global environment

## Teamcenter Multi-Site Drivers

### Drivers for multiple sites

- Functional Separation
  - Power train, Body, Interiors
  - Suppliers
- Security
  - Intellectual Property
  - Import/Export compliance
  - Government requirements
- Special Business Needs
  - Archival function
  - Acquisition & Transition
- End User performance in distributed environments sensitive to network performance.

### Drivers for Less sites

- Time lag in availability of shared data
- Release / Upgrade complexity
- Operational costs
  - Work flows and procedures – Publishing, Sharing, Synching
  - Issue resolution & fix-up
- Infrastructure costs
  - multiple “datacenter” facilities
  - Management and Administration
  - Increased infrastructure
    - Servers & Storage, Software, Network

## Teamcenter Multi-Site Drivers

### Enablers for Teamcenter multi-site consolidation

- Security
  - Secure Groups
  - Intellectual property protection
    - Classification and authorization levels for data and users
    - Need-to-Know Licenses
- Synchronous Site Transfer (SST) improve data integrity
- End User performance & scalability improvements
  - FMS
  - 4 tier architecture improvements
  - Reduction in client chattiness, current and future releases

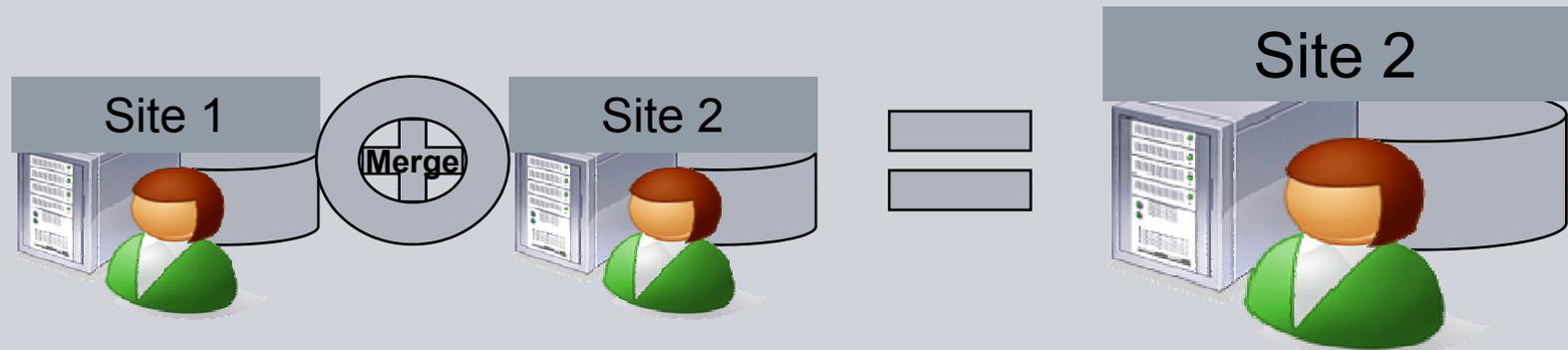
## Teamcenter Reference presentations

Presentations related to recent and future improvements in Teamcenter

- “What’s New in Multi-site?” by Alan Weatherall
- “Advanced Deployment Topics” & “File Management System Deployment Strategies” by Louis Boydston
- “Volume and Storage Management” by Ken Rogers
- “What's New in 4 Tier” & “Benefits of SOA”, by Steve Chesney
- “The Network is slow” by David Howe
- “Maximizing the benefits of Teamcenter Integration for Pro/ENGINEER” by Paul Angier
- “Teamcenter Integration for CATIA : What's New at Teamcenter Unified” by Michael, Harrison-Lowe
- “Search and Query Enhancements in Teamcenter” by Siva R. Jasthi

## Teamcenter Multi-Site Consolidation

So it is time to start considering and planning for multi-site consolidation



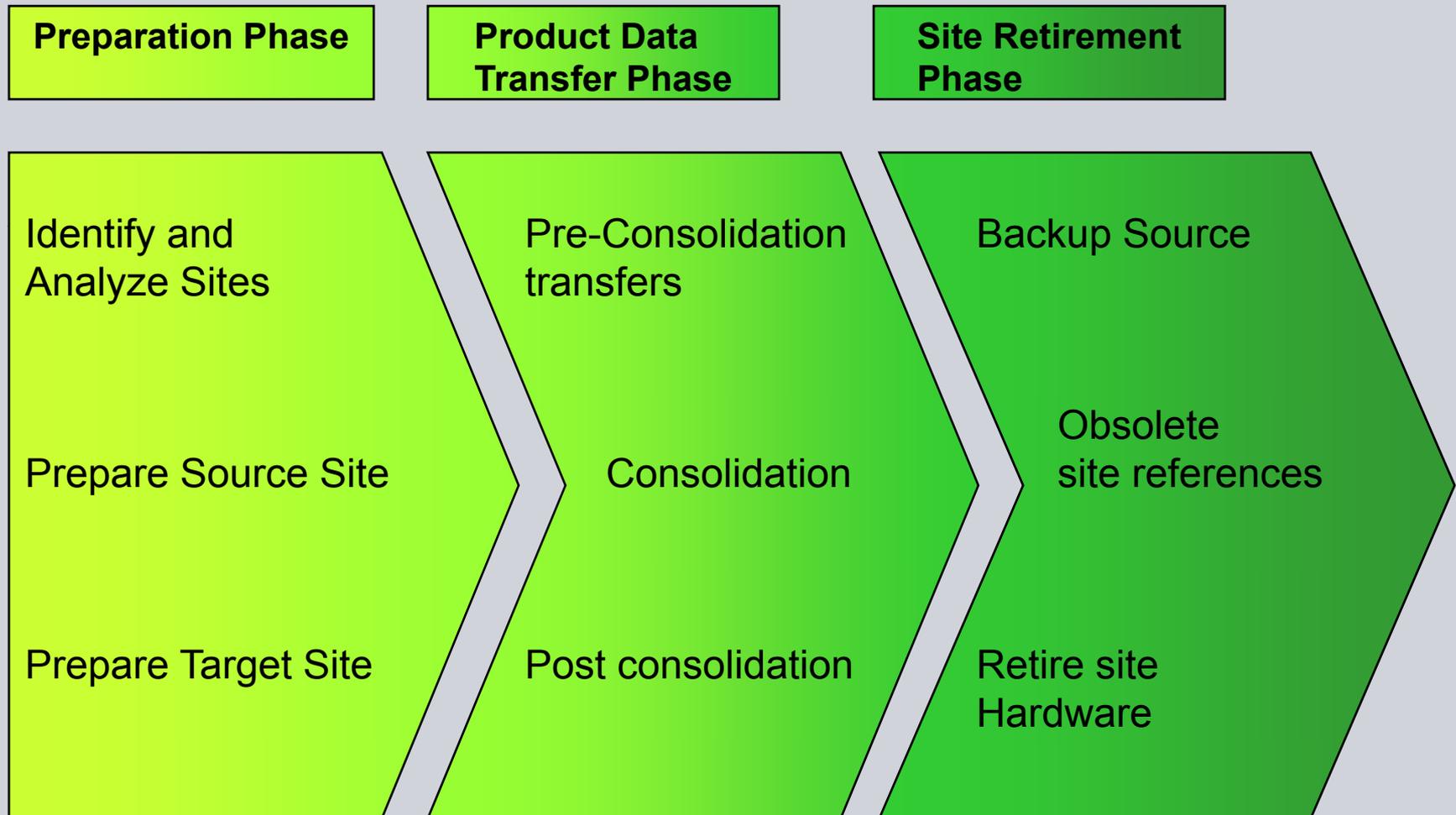
What can you do today?

- Address existing data issues
- Plan & analyze current sharing patterns
- Use standard tools to move data

New tools for Multi-site administration and assessment

- Multi-site Assistant
- Preference Configuration Assistant
- SST technology and related tools

# General Multi-site consolidation methodology



## New tools for Multi-site administration

### New Multi-site Assistant (MSA) data analysis utility

#### Support Preparation Phase

- Assist data cleanup
  - Assess legacy site ownership issues at a high level
  - Assess duplicate Item ID integrity issues across the multi-site installation
- Maintain site data integrity
  - Regular monitoring
  - Apply SST tools as necessary

#### Support Data Transfer Phase

- Assess sharing profiles and consolidation profiles across the installation
  - Compare contents of each site
- Compare and Align configuration between sites

## MSA Initial Release - Specific features

### Site consolidation

- Reports Duplicate Item Ids (and duplicate Item Revisions)
- Reports Out of Sync Item IDs (and Rev IDs)
- Report consolidation profile
  - Consolidation progress report

### Site Metrics (only data obtained from database records, not logs)

- Site Statistics
  - Total Items, Revisions, Export records, active user logins, published items
- Site Sharing Profile
  - Comma delimited file for excel import, spreadsheet & graphical viewing
  - Can be viewed by item, by item revision, by export record

## MSA Initial Release - Specific features

### Ownership Analysis

- Items With Multiple Master Sites
  - Export Records at multiple sites for the same item
- Items With No Master Sites
- Items and Revisions With Inconsistent Master Sites
- Item Publication Inconsistent With ODS
- Item Replicas Out-of-Sync With Master
- Item replicas without corresponding Export Record
- Obsolete Export Records

# What Can Go Wrong without Synchronous Site Transfer?

5. If step 4 fails, rollback of Ownership can also fail

4. Failure before database change

Site A  
IDSM

Site B  
ToServer

Status

PROBLEMS AT ANY STEP  
can leave some or all objects with no owner

1. Process Terminates

3. User Interrupt or Process Failure

2. Delivery Failure

0. End User Request

Transfer Area  
Metafile

Transfer Area  
Metafile

Replicated  
Item

Master  
Item



**jra2**

lightened up the earth background to make it more viewable.

also changed the text size and position to make the animation more readable after the build.

Jim Albrecht, 5/21/2008

## MSA Usage and Examples

How do you use MSA?

- Extract necessary data from individual sites using command line report tools (non-invasive ITK POM\_enquiry data report tools)
  - manually move detail reports to common staging location for analysis
- Run Analysis tool (command line) to generate summary reports
  - Review summary and Inspect detail in the Analysis report
- Correlate issues to documented Best Practices for resolution steps (manual initially)
  - Execute standard tools for affecting desired change or correction

## MSA - Process

Extract -> Analysis -> Correlate to Best Practices

1

3

```
#REPORT_ID=ITEMREVS
#TCTOOLS_VERSION=Teamcenter Tools 1.0.1 - Dec 19 2007 08:51:32
#REPORT_DELIM=
#TC_VERSION=Teamcenter Engineering V10.0.2.2b_build_7531
#SITE_ID=433892021
#SITE_NAME=PTT
#USER=infodba
#GROUP=dba
#DATE_TIME=2008-01-26 01:19:46
#DB_TABLE=ITEMREVS
-----
#REPORT_ID=SITESTAT
#TCTOOLS_VERSION=Teamcenter Tools 1.0.1 - Dec 19 2007 08:51:32
#REPORT_DELIM=
#TC_VERSION=Teamcenter Engineering V10.0.2.2b_build_7531
#SITE_ID=433892021
#SITE_NAME=PTT
#USER=infodba
#GROUP=dba
#DATE_TIME=2008-01-26 01:50:58
#DB_TABLE=SITESTAT
#DB_COL_TYPE=NUMERIC(12) NUMERIC(12) NUMERIC(12) NUMERIC(12) NUMERIC(12)
#DB_COL_NAME=TOTAL_ITEMS OWNED_ITEMS REPLICAS_ITEMS TOTAL_ITEMREVS OWNED_ITEMREVS
#Total Items Owned Items Replica Items Total ItemRevs Owned ItemRevs Replica Items
<datablock>
5401 4825 576 6462 5128 1334
</datablock>
#ROW_COUNT=1
#REPORT_ID=USERLIST
#TCTOOLS_VERSION=Teamcenter Tools 1.0.1
#REPORT_DELIM=
#TC_VERSION=Teamcenter Engineering V10.0
#SITE_ID=433892021
#SITE_NAME=PTT
#USER=infodba
#GROUP=dba
#DATE_TIME=2008-01-26 01:47:15
#DB_TABLE=USERLIST
#DB_COL_TYPE=VARCHAR(32) TIMESTAM
#DB_COL_NAME=USER_NAME LOGIN_DATE
#User Name Login Date Node Name
<datablock>
ets_user 2008-01-25 16:09:30 pittcesr
ets_user 2008-01-25 16:09:30 pittcesr
infodba 2008-01-25 20:09:40
ets_user 2008-01-25 16:09:30 pittcesr
infodba 2008-01-25 20:47:10 pittcesr
infodba 2008-01-25 19:43:58 pittcesr
</datablock>
#ROW_COUNT=6
#####
#-----
# Start: Items with Multiple Master Sites (MMS)
# Number of Items Found: 196
#####
MMS_ItemId: 100108823 PART
Master Sites: KOR, SGA
May 2008
```

2

**Teamcenter Multi-Site Assistant 1.0**  
User Guide

**Multiple Master Sites - Recovery Steps**

The following steps are suggested for resolving Multiple Master Sites (MMS) condition in the Teamcenter Multi-Site environment.

- Determine the Master Site:** Multi-Site Administrator has to determine which Teamcenter Site is the correct Master site (out of the current list of Master Sites). This is a manual step. Rest of the following steps are to bring Teamcenter Multi-Site environment to a state of having the particular item owned by the determined designated Master site and rest of sites have it's replica. This is the end goal.
- Unpublish the Item at each of the master sites, if the item is published:** This step will involve unpublishing the identified item at each of Master Sites. Master Sites are listed against "Master Sites:" in the MMS content block section of the item ownership analysis report. This can be done using "data\_share" tool using the following syntax.  
  
`data_share -item_id=<Item ID> -f=unpublish -site=<ODS site1> -site=<ODS site2>`
- Publish at the designated Master Site, if published previously:** This step will involve publishing the item at the new designated Master site to all the required ODS sites.  
  
`data_share -item_id=<...> -f=publish -site=<ODS Site1> -site=<ODS site2>`
- Delete existing replicas and masters at non-designated master sites:** This step will involve deleting existing replicas and masters that are present at the non-designated master site.
  - Delete all the replicas at the sites that have replica of the item.
  - Delete the masters that are present at the non-designated master site(s). Following steps are suggested for the deleting the masters.
    - Delete all the dataset attachments of the item.
    - Run `data_sync -verify -update`
    - Delete the master item.
- Create new replicas of item from the designated Master Site:** This step will involve creating new replicas of the item from the newly designated Master Site.  
  
`data_share -f=nd -item_id=<...> -site=<Replica Site1> -site=<Replica Site2>`

Rev. A - 12/25/2007 Multi-Site Assistant User Guide 21

## MSA - Site Item Revision Report example

### **tc\_extract\_itemrevs report utility**

Summary Usage:

```
tc_extract_itemrevs [-u=user_id] [-p=password or -pf=file] [-g=group]
                    <-item_id=item_id or -filename=file name >
                    <-report=file name> [-report_delim=delimiter]
                    [-batch_size=n]
```

### **tc\_msa\_analysis.bat analysis utility**

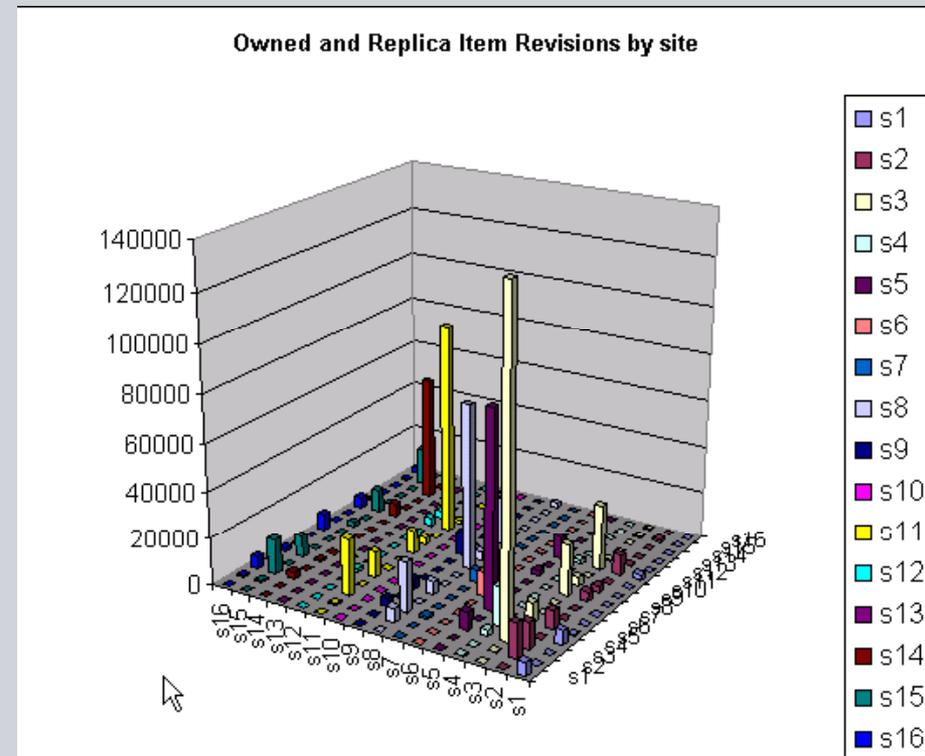
(script launches java plug-in)

Summary Usage:

```
tc_msa_analysis <-analysis_type=(Metrics or ItemOwnership) >
                <-data_dir=directory containing extract reports>
                <-report=file name> [-detail_level=level]
                [-duplicates] [-log_level=level]
                [-source_site=site name] [-target_site=site name]
```

## MSA – Sharing Profile example

- Owned data versus replica data (per owning site)
  - Comma separated value reports
    - \*\_sharing\_profile\_itemrevs.csv
    - \*\_sharing\_profile\_items.csv
  
- Optionally, sharing can be expressed as item export records by site

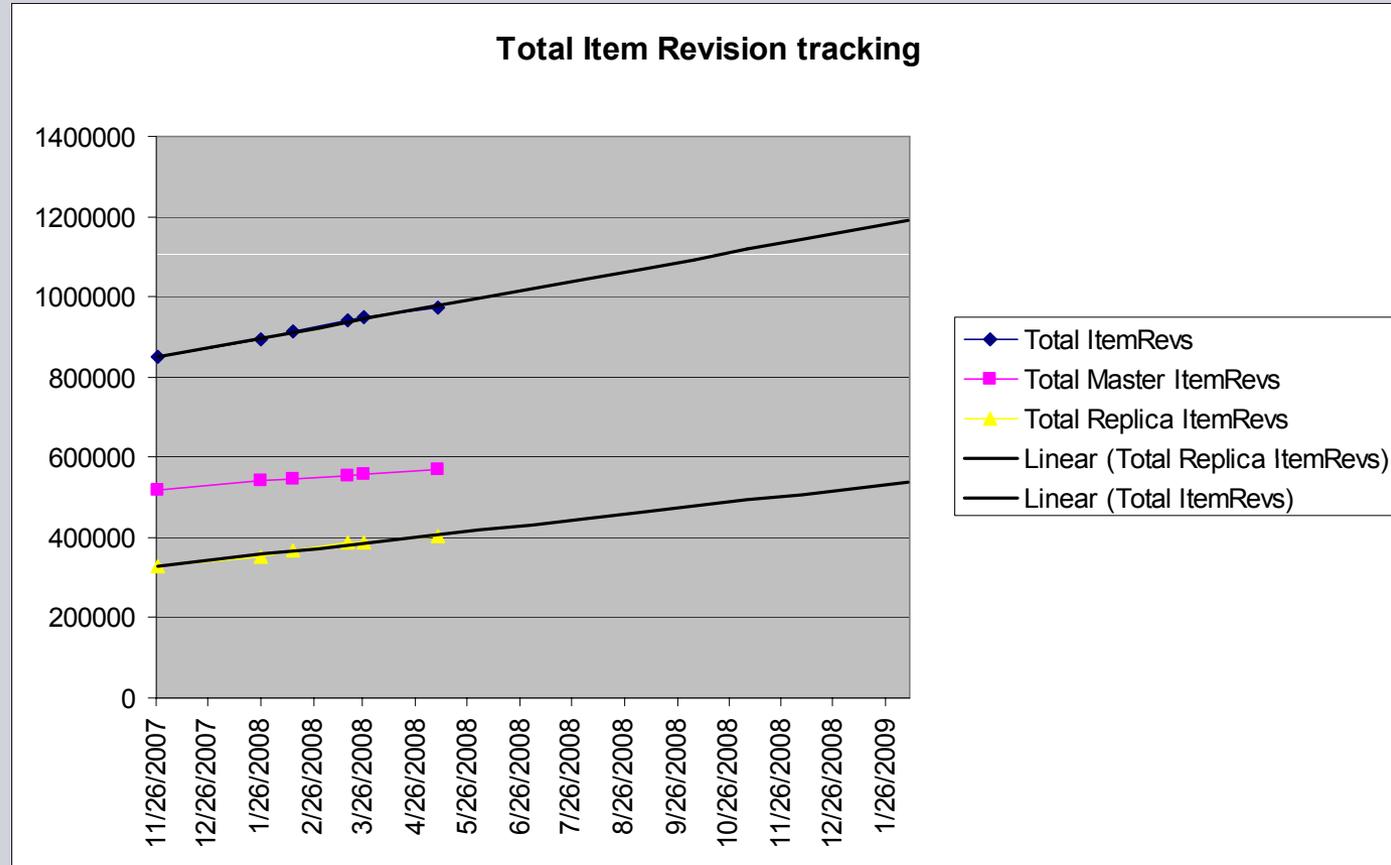


## MSA – Sharing Profile example

### Sharing Growth

#### Project

- future needs
- Consolidation needs



# MSA - Site Consolidation example

## Site Consolidation Profile - Sample

- 1<sup>st</sup> row is items at site S01 per owning site, eg. 4457 items owned by S01, 5604 replicas from site S04
- Subsequent data rows: number of items required to be replicated at target site on behalf of source site S01
  - Eg. For a target site of S02, 4449 of the 4457 must be transferred from S01, only 12 of the 58 must be replicated from S05
  - eg. Consolidating S01 with S04 requires the least amount of transfers

# Consolidation Profile - For Site: S01 2008-04-02 09:16:16

# Items for Site S01 - Total Items = 12087

# Site Name S01 S02 S03 S04 S05 S06 S07 S08 S09 S10 S11 S12 S13 S14 S15 S16 Total Transfer % Consolidated

S01	4457	0	16	5604	58	1	0	1	0	1	1949	0	0	0	0	0		
-----	------	---	----	------	----	---	---	---	---	---	------	---	---	---	---	---	--	--

# Consolidation Per Site For S01

S02	4449	0	9	5604	12	0	0	0	0	1	1423	0	0	0	0	0	11498	4.90%
S03	4439	0	0	5604	20	1	0	0	0	1	626	0	0	0	0	0	10691	11.50%
S04	4137	0	10	0	53	1	0	1	0	0	724	0	0	0	0	0	4926	59.20%
S05	4457	0	7	5604	0	1	0	0	0	1	1381	0	0	0	0	0	11451	5.30%
S06	4457	0	16	5604	55	0	0	1	0	1	1928	0	0	0	0	0	12062	0.20%
S07	4457	0	16	5604	58	1	0	1	0	1	1940	0	0	0	0	0	12078	0.10%
S08	4456	0	6	5604	20	1	0	0	0	1	346	0	0	0	0	0	10434	13.70%
S09	4457	0	8	5604	55	1	0	1	0	1	1936	0	0	0	0	0	12063	0.20%
S10	4457	0	16	5604	58	1	0	1	0	0	1940	0	0	0	0	0	12077	0.10%
S11	4443	0	6	5595	7	1	0	0	0	1	0	0	0	0	0	0	10053	16.80%
S12	4457	0	16	5604	58	1	0	1	0	1	1938	0	0	0	0	0	12076	0.10%
S13	4457	0	16	5604	49	1	0	1	0	1	1923	0	0	0	0	0	12052	0.30%
S14	4457	0	10	5604	54	1	0	1	0	1	1784	0	0	0	0	0	11912	1.40%
S15	4456	0	7	5604	11	1	0	0	0	1	1058	0	0	0	0	0	11138	7.90%
S16	4457	0	9	5604	27	1	0	1	0	1	1784	0	0	0	0	0	11884	1.70%

## MSA – Ownership Analysis example

### Analysis Summary :

Number of ITEMREVS records = 808070

Number of ITEMS records = 538111

Number of ODSITEMS records = 374766

# Summary: Items With Multiple Master Sites (MMS) = 152

# Summary: Items With No Master Sites (NMS) = 4

# Summary: Items and Revisions With Inconsistent Master Sites (IMS) = 38

# Summary: Item Publication Inconsistent With ODS (ODS) = 9

# Summary: Item Replicas Out-of-Sync With Master (SYNC) = 1101

NOTE: Exact Item ID/Site ID detail reported in the detail analysis report

# MSA – Ownership Analysis example

Ownership Analysis - Issue Report sample:

```
#-----
MMS_ItemId: 100xyz PART
```

Master Sites

```
-----
Site1
Site2
```

Replica Sites	Replica Owing Site
---------------	--------------------

-----	-----
Site3	Site2
Site4	Site5
Site5	Site2
Site6	Site2
Site7	Site5
Site8	Site2
Site9	Site2

ODS Sites	ODS Owing Site
-----------	----------------

-----	-----
ODS	Site1

## MSA - Site Consolidation example

### Duplicate Item ID Analysis

#### Summary :

# Summary: Duplicate ItemIds (DUPI) = 14518

# Summary: ItemIds Out-of-Sync With Master (SYNCI) = 410

# Summary: Duplicate RevIds (DUPR) = 67

# Summary: ItemRevs Out-of-Sync With Master (SYNCR) = 1345

#### Issue Report sample:

DUPI\_ItemId: P248

DUPI\_ItemUid: site1 : Ah40leJZwG0GuAAAAAAAAAAAAAAAAAAAA : (Master)

DUPI\_ItemUid: site2 : ASywjteJuwqo8EDAAAAAAAAAAAAAAAAAAAA : (Master)

ODS Entry: site1 : Ah40leJZwG0GuAAAAAAAAAAAAAAAAAAAA :

## MSA - Site Consolidation example

### Duplicate Item ID Analysis

#### Issue Report sample:

SYNCI\_ItemUid: BcNBjjAPwG0GuAAAAAAAAAAAAAAAA

SYNCI\_ItemId: site1 : L57016\_87910101 : (Master)

SYNCI\_ItemId: site2 : L57016\_87900101 :

ODS Entry: site1 : L57016\_87910101 :

DUPR\_ItemId: XYZ066

DUPR\_RevId: F1

DUPR\_RevUid: site1 : nplZTql\_BsvslCAAAAAAAAAAAAAAAAA : (Master)

DUPR\_RevUid: site2 : y4GZzBxqwG0GuAAAAAAAAAAAAAAAA : (Master)

SYNCR\_ItemId: ABCG01AA-DWG

SYNCR\_RevUid: gO34fqUVBsvslCAAAAAAAAAAAAAAAAA

SYNCR\_RevId: site1 : 2 : (Master)

SYNCR\_RevId: site2 : 0\_2 :

## MSA Initial Release Availability

### GTAC download

- Release package includes
  - Site Report Utilities – Tc<rel>\_MultiSiteAssist\_2.0\_<plat>.zip
    - Server side, ITK based, POM\_enquiry data reporting
  - Analysis client – Tc\_MultiSiteAssist\_2.0\_client.zip
    - Simple command line, java based client
    - Independent of Teamcenter release
  - User Guide - Tc\_MultiSiteAssist\_2.0\_UserGuide.pdf
  
- Teamcenter Release
  - Teamcenter 9.1, Teamcenter 2005 SR1 availability June 2008
  - Teamcenter 2007 (unified architecture) base availability July 2008

## Summary Multi-site Assistant

- MSA is an easy to use utility to monitor and assess multi-site issues
  - It is command line based so automation (batch) is easy
- Data clean up issues that would hamper site consolidation are easy to identify
  - Namely, site ownership and item ID duplication issues
  - Suggested resolution included in the analysis report
- MSA provides convenient view of multi-site sharing patterns and metrics
  - sharing profiles
- Unique consolidation report provide ability to...
  - estimate consolidation efforts required
  - report progress of consolidation

## Preference Configuration Assistant

Utility to manage Teamcenter preference settings

### Motivation

- Teamcenter core platform has 3000+ preferences and properties today and the number is growing
- Some of these preferences must be set to particular values in order to function (depending on specific applications)
- Recommended settings for optimal performance vary depending on the application that is being used and how it is being deployed (Eg: single site versus multi-site)
- Required & recommended settings are documented in several places... some are not documented
- It is all manual process with high probability for human error
- There are no Teamcenter tools available at present to make sure that the required settings are set or not, set to recommended values or not.

## Preference Configuration Assistant

### Overview of features

- Evaluate current configuration versus a template of recommended values
- Export configuration settings
  - Helps capture configuration data in one place
  - Provides a starting point for defining new templates
- Compare configuration settings
  - Any two exported configurations
  - Exported vs. Active
- Manage configuration templates (Create/Modify/Delete/Deploy)

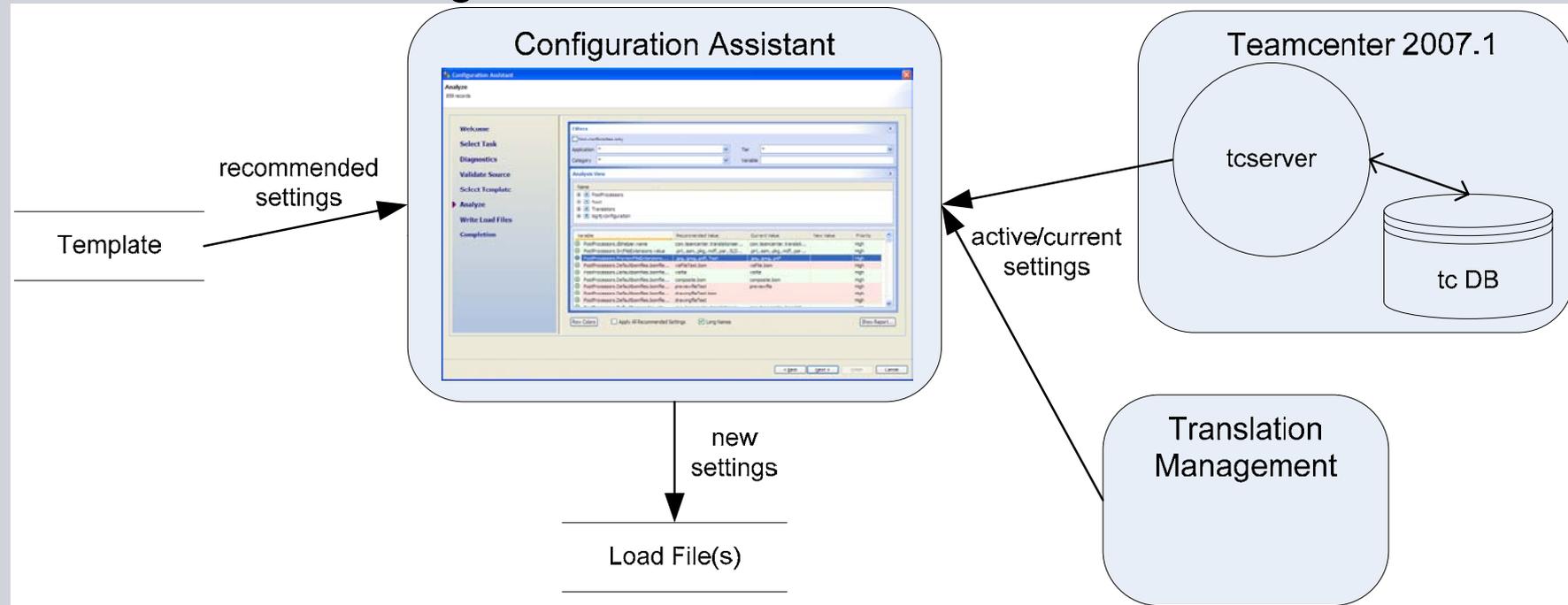
## Preference Configuration Assistant

### Target Users

- All Teamcenter customers can benefit
  - Product rollout validation & Capture baseline configuration
  - Interrogate configuration during trouble shooting
  - Record and document changes over time
- Multi-site configuration
  - Baseline, share and monitor configuration between sites
  - Deploy changes to all sites
- Incident reporting
  - Capture environment definition to assure recommended settings are deployed

## Preference Configuration Assistant

### Validate Current Configuration



- Select a configuration template
- Login to a Teamcenter instance and establish a session
- Analyze recommended settings in template against current system settings
- Apply desired changes
- Write load files – changes are not directly applied to given environment

# Preference Configuration Assistant - Analyze

Configuration Assistant

Analyze  
859 records

[Welcome](#)  
[Select Task](#)  
[Diagnostics](#)  
[Validate Source](#)  
[Select Template](#)  
**► Analyze**  
[Write Load Files](#)  
[Completion](#)

**Filters**

Non-conformities only

Application: \* Tier: \*

Category: \* Variable:

**Analysis View**

Name

- EaiFileNameChg
  - ChangeFrom
  - ChangeFrom
  - ChangeFrom

Variable	Recommended Value	Current Value	New Value	Priority
Translators.EaiTranslatorCommon.EaiFil...	-	-		Low
Translators.EaiTranslatorCommon.EaiFil...	-	-		Low
Translators.EaiTranslatorCommon.EaiFil...	.	.		Low
Translators.EaiTranslatorCommon.EaiFil...	.	.		Low
FileServer.Type	1	2		High
FileServer.MaximumUpload	5	8		Medium
Scheduler.MaximumTry	175	150		Low
log4j:configuration.xmlns:log4j	http://jakarta.apache.org/log4j/	http://jakarta.apache.or...		High
log4j:configuration.appender.name	appender	appender		High

Apply All Recommended Settings
  Long Names

## Preference Configuration Assistant

### GTAC Availability

- Teamcenter Engineering  
[http://ftp.ugs.com/teamcenter\\_engineering/irm/<platform>/Teamcenter\\_Engineering\\_2005\\_SR1/](http://ftp.ugs.com/teamcenter_engineering/irm/<platform>/Teamcenter_Engineering_2005_SR1/)
  - TcEng2005SR1\_ConfigAssist\_2.1.1\_<plat>.zip (plat is hpp, sol, or win)
  - TcEng2005SR1\_ConfigAssist\_2.0\_TemplatePack.zip
  - TcEng2005SR1\_ConfigAssist\_2.1.1\_UserGuide.pdf
  
- Teamcenter unified architecture  
<http://ftp.ugs.com/teamcenter/MP/<plat>/>
  - Tc2007\_ConfigAssist\_2007.1\_wnti.zip
  - Tc2007\_ConfigAssist\_2007.1\_unix.zip
  - Tc2007\_ConfigAssist\_2007.1\_UserGuide.pdf

## Summary Configuration Assistant

- Easy to use utility to compare Teamcenter preference settings
- Easy to use utility to baseline site preference settings for sharing to all sites for multi-site consistency
- Available on GTAC today for Teamcenter 2005 SR1 and Teamcenter unified architecture

# New Synchronous Site Transfer (SST) technology tools



Teamcenter Engineering 2005SR1 MP3 (Teamcenter 2007 MP3) and Teamcenter unified architecture MP3

- Introduced Synchronous Site Transfer (SST) technology
  - Improvements to the multi-site, multiple database transaction management
  - more robust and resilient to failures caused by
    - Network drops
    - Hardware failures
  - Improvements to the transaction failure reporting and recovery
    - data left in a consistent state and cleanup administration reduced
- New site ownership report and recovery utilities
  - `item_report`
  - `ensure_site_consistency`

# New Synchronous Site Transfer (SST) technology tools



**item\_report** – site ownership report for item and product structure hierarchy

- Provides a comprehensive multi-site report of a Product Structure given a starting Item ID(s)
- Consolidated report with data from all sites gathered up in one excel spreadsheet that includes
  - Site Ownership claims, Last Modified Dates, Users, and Check Out Statuses (Both Local and Remote)
- Classifies items as Consistent or Inconsistent
  - Report identifies patterns of Ownership of each object traversed
  - Report identifies inconsistencies across parent and child ownerships pattern
- Useful for ownership consistency issues (prior to MP3 upgrade)
- Very useful when inconsistency exists below the item / item revision level

# New Synchronous Site Transfer (SST) technology tools



**ensure\_site\_consistency** – ownership transfer failure recovery tool

- Only applies to multi-site ownership transfer failures tracked by SST enabled Teamcenter
  - Legacy issues must be addressed with traditional practices
- Required for resolution of failures tracked by SST enabled
  - Previous traditional recovery tools do not apply
- “-report” option to identify issues that need resolution
- “-recover” option for completing failed SST transactions

## Suggested Practice

### Synchronous Site Transfer (SST) technology

1. When deploying a Teamcenter MP with SST technology, the Oracle parameter `SQLNET.EXPIRE_TIME` must be set to a valid value. The recommended value is '10'. It must not be '0' or unset
  - This is required so that `ensure_site_consistency` utility does not fail to due to locked objects associated with dead processes
  - If this is not set properly, you will likely see the following message when trying to perform the `-recover` operation.  
"A Synchronous Site Transfer on the object ... is in progress."
2. Setup regular monitoring of site for occurrence of SST lock
  - Use new stored query or `-report` option of `ensure_site_consistency`
3. Use `item_report` for assessing complex legacy ownership issues

### Synchronous Site Transfer (SST) technology

- Greatly reduced vulnerability to site inconsistency and other data integrity problems due to ownership transfer operations
  - Worst case scenario is neither site owns data
- Persistent lock enhances data integrity and tracks failures
- Greatly reduced vulnerability to unbalanced remote check out condition.
  - More robust “roll back” mechanism under non-crash error conditions
- New Easy-to-use **ensure\_site\_consistency** utility for recovery operations
  - Note: this utility must be used to recover any failure locked by SST flag

## Contact

David Geisler  
Development Consultant  
Teamcenter Strategy/Methodology/Process

E-mail: [david.geisler@siemens.com](mailto:david.geisler@siemens.com)

[www.siemens.com/plm](http://www.siemens.com/plm)