

Migrating I-DEAS Data from Team Data Manager to Teamcenter Engineering: Our Experience

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Premium Partners:



Microsoft

Company Information

AEROJET

Aerojet – GenCorp

- World-recognized aerospace and defense leader principally serving the missile and space propulsion, and defense and armaments markets since 1942. Long recognized as a developer of new technology, Aerojet continues to meet emerging defense and aerospace propulsion needs and is well-positioned to benefit from the increased focus on and funding of defense and space programs.
- <http://www.aerojet.com>

Situation

- **Sacramento Engineering**
 - Company headquarters
 - Was already using NX 1 with Teamcenter Engineering (TcEng) 8
- **Virginia Engineering**
 - Formerly Atlantic Research Corporation, acquired by Aerojet in late 2003.
 - I-DEAS 11 and Team Data Manager (TDM). Modeler, Drafting, Assembly, Simulation. Wide range of users, daily to very infrequent.
 - Needed to get to NX/TcEng and ultimately Multi-Site Collaboration

**Trained Driver on Closed Course*

- Teamcenter Engineering Training Courses
 - Product Data Management +
 - Installation for UNIX +
 - Application Administration =
- UGS Master Certificate
- Teamcenter Engineering System Support

Clean up in aisle 4

- TDM cleanup with miadmin
 - First mistake: Failure to read and follow the “best practices” in the miadmin user guide Section 2.5
 - “Use miadmin in an iterative fashion. The amount and complexity of the information provided by miadmin makes it too difficult to understand everything and resolve it in one pass.”
 - “Use Analysis Type 1 first. Resolve the migrated drawing errors ... before resolving other issues ... Sometimes the problems with migrated drawings will also create other problems that are detected by miadmin. Once you update your installation by correcting the migrated drawing errors, you may see other errors are also resolved.”

- Started cleanup very early
 - 13 months before actual migration
 - Thousands of missing Part Numbers
 - If the user didn't need a part number, s/he won't care if we make one up.
 - In Excel, sort by Error Type then by Error Group number, then assign random part numbers for each new Item GUID.

Free UGS Migration Audit

- 10% TDM-to-TcEng information
- 90% I-DEAS-to-NX information

Licensing Issues

- Teamcenter Engineering “CAD Manager”
- NX Manager I-DEAS
 - TDM Upgrade pricing
 - This is the full Portal application!
 - Don't get shortchanged here!
- NX4 – ID12 Dual Licensing !!!!
- NXMgr – NXMI Dual Licensing ?????

System Installation

- Oracle
 - Install, configure
 - Create Database
- Teamcenter Engineering
 - Install on server, clients
 - Install imanfs
 - Configure the database
- NX Manager I-DEAS

System Configuration

- Attribute Mapping
 - I-DEAS Project and Library into IRM form user_datax fields
 - Hindsight: also map Creator, Last Modifier, Last Modified Date...

```
{ Dataset type="IdeasAssembly"
  # JCP 2005-07-26: THIS SECTION ADDED FOR IDEASPART FILES IN CONTEXT OF ITEMS OF ALL TYPES
  I-DEAS Project : IRM.project_id          /master=cad /description="I-DEAS Project"
  I-DEAS Library : IRM.user_data_1        /master=cad /description="I-DEAS Library"
}
{ Dataset type="IdeasPart"
  # JCP 2005-07-26: THIS SECTION ADDED FOR IDEASPART FILES IN CONTEXT OF ITEMS OF ALL TYPES
  I-DEAS Project : IRM.project_id          /master=cad /description="I-DEAS Project"
  I-DEAS Library : IRM.user_data_1        /master=cad /description="I-DEAS Library"
}
{ Dataset type="IdeasDrawing"
  # JCP 2005-07-26: THIS SECTION ADDED FOR IDEASPART FILES IN CONTEXT OF ITEMS OF ALL TYPES
  I-DEAS Project : IRM.project_id          /master=cad /description="I-DEAS Project"
  I-DEAS Library : IRM.user_data_1        /master=cad /description="I-DEAS Library"
}
{ Dataset type="IdeasFem"
  # JCP 2005-07-26: THIS SECTION ADDED FOR IDEASPART FILES IN CONTEXT OF ITEMS OF ALL TYPES
  I-DEAS Project : IRM.project_id          /master=cad /description="I-DEAS Project"
  I-DEAS Library : IRM.user_data_1        /master=cad /description="I-DEAS Library"
}
```

Where did it all go?

- TDM Projects and Libraries act like folders
- TcEng is just a big bucket
- To ease transition to Searching, create queries to find Items based on the legacy Project and Library on the IRM form.
- Show Hints in Query Builder.
- Hints are helpful; luck also required.
- LOVs (Lists of Values) also make these queries more user-friendly.

Test Migration

- Clean/Copy the TDM
- Migration using `ideas_migrate.pl`
 1. Generate `MyMigrationTL.txt` with `dmadmin` if you plan to use structured migration.
 - Sort to get “bigger” top-level items at the top. What does “bigger” mean? Instances, Children?
 2. Setup the controlfile
 - Basic or Structured migration
 3. Start migration
 4. Examine migration log files for errors
 5. Address errors/issues; adjust structure size
 6. Re-run migration (steps 2-5) until complete

Production Migration

- Clean/Copy the TDM
 - Using a Copy allows easy back-out plan if migration fails to complete
 - Original TDM remains available for potential benchmarking

Production Migration

- Migration using `ideas_migrate.pl`
 1. Generate `MyMigrationTL.txt` with `dmsadmin` if you plan to use structured migration.
 - Sort to get “bigger” top-level items at the top. What does “bigger” mean? Instances, Children?
 2. Setup the controlfile
 - Basic or Structured migration
 3. Start migration
 4. Examine migration log files for errors
 5. Address errors/issues; adjust structure size
 6. Repeat steps 2-5 until complete
 7. If original TDM changed, copy (TDM Copy!) over `.imd`, `.pmd`'s and all new shared files. Check to see if `MyMigrationTL.txt` will have new items.
 8. Repeat steps 2-5 until complete.

Problems

- Drafting Setup/Drafting Drawing pairs did not come over together.
 - Team.ExternalAppDataManager: TRUE
 - Parameter is set in the I-DEAS Site-wide Param file by the NXMI Setup.
 - Should be FALSE during migration
- Registering the Migration Orbix process
- Recommendation: GTAC is your friend.

Custom Perl scripts to assist migration

- milogscan.plx – Migration Log File Scanner
 - Works on Basic or Structured migration log files
 - Greps the whole file for you and organizes the pertinent information.
 - Assists in fixing errors and determining where to adjust structure size.
 - **Disclaimer** : *No warranties expressed or implied. Use at your own risk. Works on log files created in TcEng 9.1.2.3 with NXMI 3.1.5.1. You may need to modify the script significantly to work with newer versions. Etc. Etc.*
 - Right-click the icon below to copy the script to your computer.



milogscan.plx

Sample milogscan.plx output

```
.
.  =====
.  Migration log file: t:\team0\staging\migration2.log
.  =====
.  Number of files transferred to TcEng from TDM during this run (t:\team0\staging\migration2.log): ~7300
.
.  Stage 5 : 4 batches, 40 structures per batch
.  Batch 12 : PROBLEM : Structures : 40tot-[ 0skp, 40exp-( 0mis, 40sta-[ 39nor, 1pre, 0abr ] ) ] :
.  Structure 40 :
.  Error 1 :
.  Error: Invalid Tag NULL object (in object) - the requested object does not exist
.  Error: POM INTERNAL ERROR - please report this
.  Error: Invalid Tag NULL object (in object) - the requested object does not exist
.  Error: POM INTERNAL ERROR - please report this
.  Batch 13 : OK : Structures : 40tot-[ 0skp, 40exp-( 0mis, 40sta-[ 40nor, 0pre, 0abr ] ) ] :
.  No errors reported.
.  Batch 14 : OK : Structures : 40tot-[ 0skp, 40exp-( 0mis, 40sta-[ 40nor, 0pre, 0abr ] ) ] :
.  No errors reported.
.  Batch 15 : OK : Structures : 40tot-[ 0skp, 40exp-( 0mis, 40sta-[ 40nor, 0pre, 0abr ] ) ] :
.  No errors reported.
.  Stage 6 : 3 batches, 40 structures per batch
.  Batch 16 : OK : Structures : 40tot-[ 0skp, 40exp-( 0mis, 40sta-[ 40nor, 0pre, 0abr ] ) ] :
.  No errors reported.
.  Batch 17 : OK : Structures : 40tot-[ 0skp, 40exp-( 0mis, 40sta-[ 40nor, 0pre, 0abr ] ) ] :
.  No errors reported.
.  Stage 7 : 4 batches, 120 structures per batch
.  Batch 19 : PROBLEM : Structures : 120tot-[ 0skp, 120exp-( 78mis, 42sta-[ 40nor, 1pre, 1abr ] ) ] :
.  Structure 41 :
.  Error 1 :
.  Error: Invalid Tag NULL object (in object) - the requested object does not exist
.  Error: POM INTERNAL ERROR - please report this
.  Batch 20 : PROBLEM : Structures : 120tot-[ 0skp, 120exp-( 38mis, 82sta-[ 80nor, 1pre, 1abr ] ) ] :
.  Structure 81 :
.  Error 1 :
.  Error: POM INTERNAL ERROR - please report this
.  Stage 8 : 7 batches, 8 structures per batch
```

Custom Perl scripts to assist migration

- sharednag.plx – Team\shared and migration log file monitor
 - Use a cron job to run this file on 30 minute intervals
 - Emails the number of files left in the shared folder
 - Also sends error info and “End Batch” lines from the migration log files
 - Eliminates the need to baby-sit the migration all weekend. Go home and keep an eye on the Blackberry. Come back in when it appears the migration has stopped or finished.
 - **Disclaimer** : *No warranties expressed or implied. Use at your own risk. Works on log files created in TcEng 9.1.2.3 with NXMI 3.1.5.1. You may need to modify the script significantly to work with newer versions. Etc. Etc.*
 - Right-click the icon below to copy the script to your computer.



sharednag.plx

Custom Perl scripts to assist migration

- FileBreakdown.plx – Gives a breakdown of file types in a directory
 - Use on team\shared to understand makeup of your data.
 - Many of this scripts capabilities were commented out. All it does in current state is tell how many of each file type you have.
 - Perl hackers may turn some capabilities back on if they wish. Not sure if they work. See disclaimer!
 - **Disclaimer:** *No warranties expressed or implied. Use at your own risk. Etc. Etc.*
 - Right-click the icon below to copy the script to your computer.

FileBreakdown.plx