



Teamcenter CAD Data Management

PLM World 2006
Lonny Greer



Agenda



- ▶ Teamcenter CAD data management
 - ▶ CAD Connectors
 - ▶ CAD Integrations
- ▶ Integration for I-deas
 - ▶ What's New & Roadmap
- ▶ Integration for NX
 - ▶ What's New & Roadmap
- ▶ Summary



- ▶ Teamcenter CAD data management
 - ▶ CAD Connectors
 - ▶ CAD Integrations
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 - ▶ What's New & Roadmap
- ▶ Summary



Teamcenter CAD data management

Enterprise Rich Client CAD Connectors



- Provide a **single source** of all product knowledge for the extended enterprise
- **Link global teams** including partners and suppliers
- Implement industry specific **business process** and control rules
- Provide **secure** global access to all product information “anytime, anywhere”



- ✓ Enterprise scalability
- ✓ Re-use of knowledge
- ✓ Document Management
- ✓ Configuration Management
- ✓ Change Management

- ✓ Option & Variant Management
- ✓ Process Management / Workflow
- ✓ Part Classification
- ✓ Supplier Management
- ✓ Reporting & business metrics

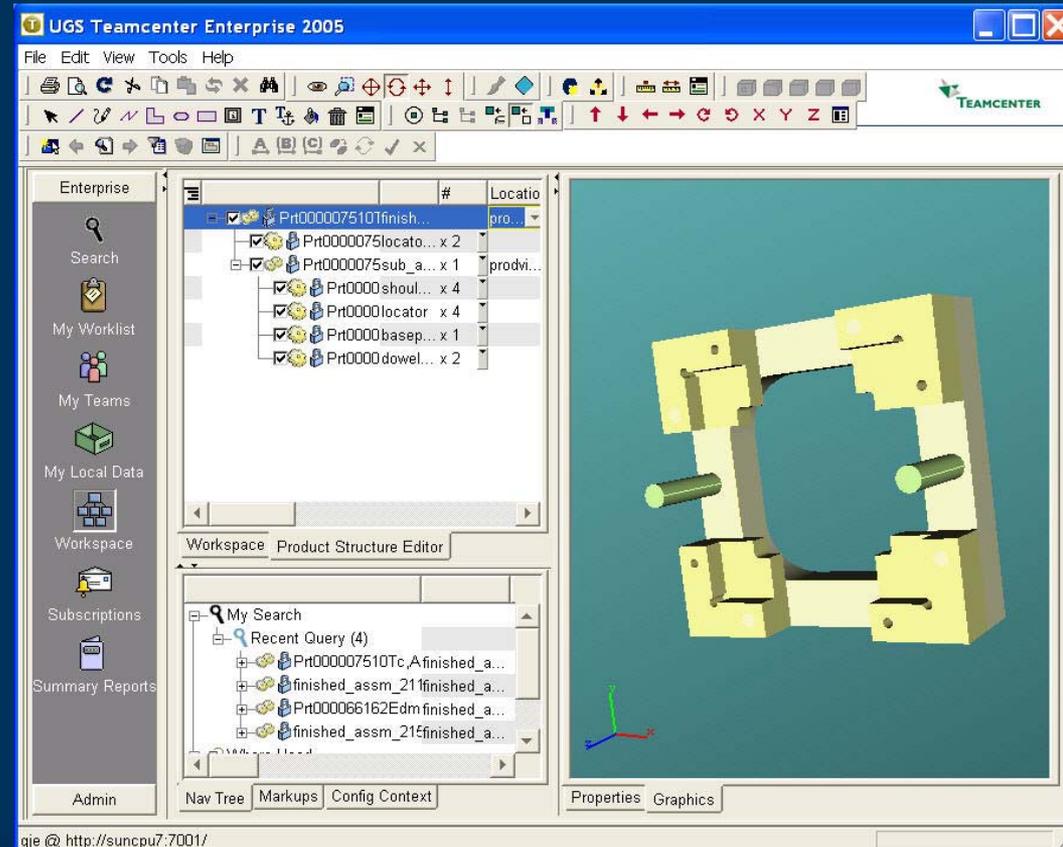


Teamcenter CAD data management

Enterprise Rich Client CAD Connectors



- ▶ Where Enterprise Knowledge Management is the focus enabling collaboration throughout the extended enterprise
 - ▶ *Enabling users to author MCAD data in support of enterprise-wide processes*



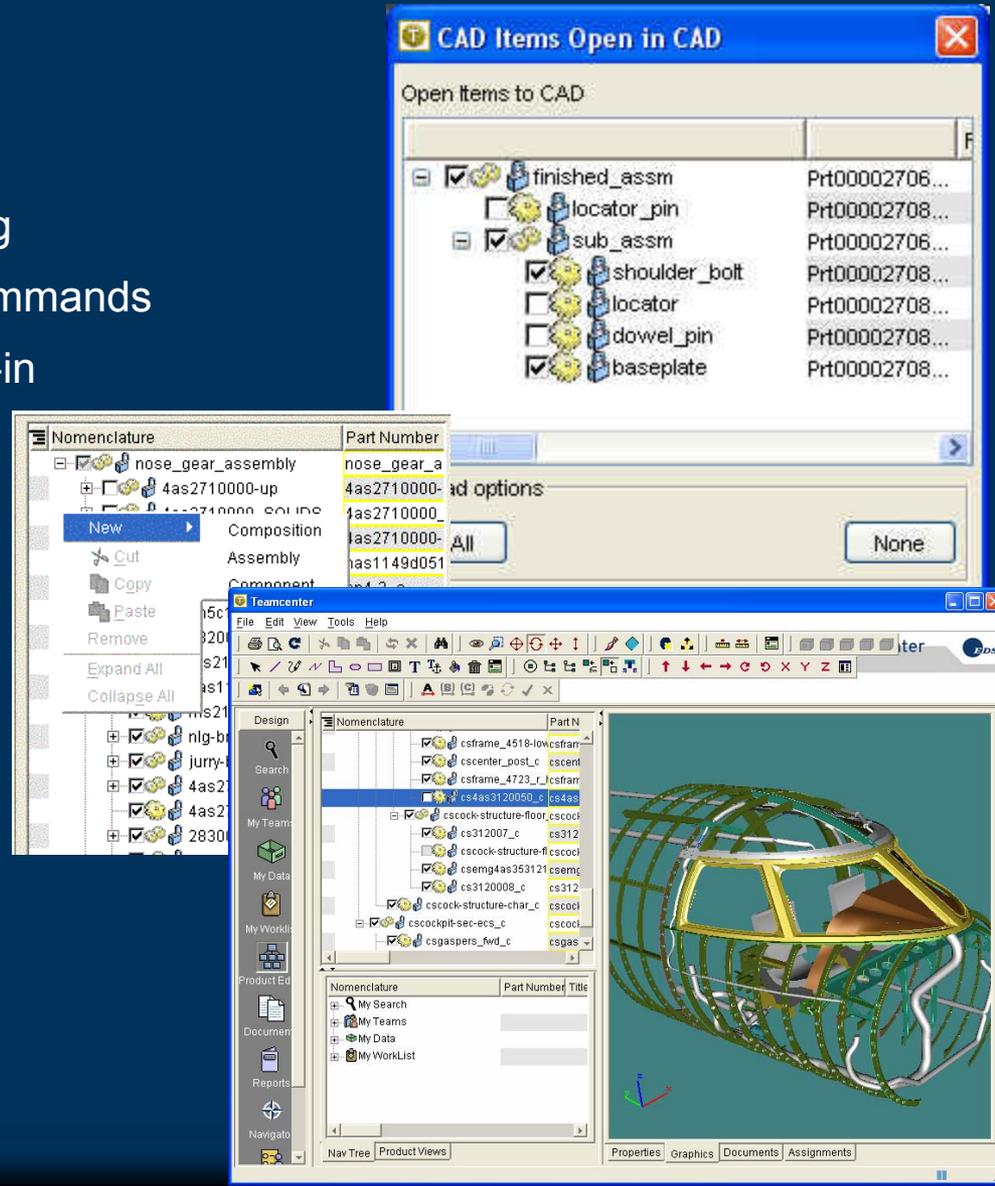


Teamcenter CAD data management

Enterprise Rich Client CAD Connectors



- ▶ PDM Centric
 - ▶ Simplicity of operation
 - ▶ Reduced requirement for training
 - ▶ Focus on core data management commands
 - ▶ Open, Save, Check-out / Check-in
 - ▶ Synchronize / Cancel / Release
 - ▶ Attribute Mapping
 - ▶ Create/Edit product structure
 - ▶ Resolve Key Collisions
 - ▶ Get Latest version from PDM
 - ▶ Support CAD Objects
 - ▶ Parts, Assemblies, Drawings
 - ▶ Embedded Visualization



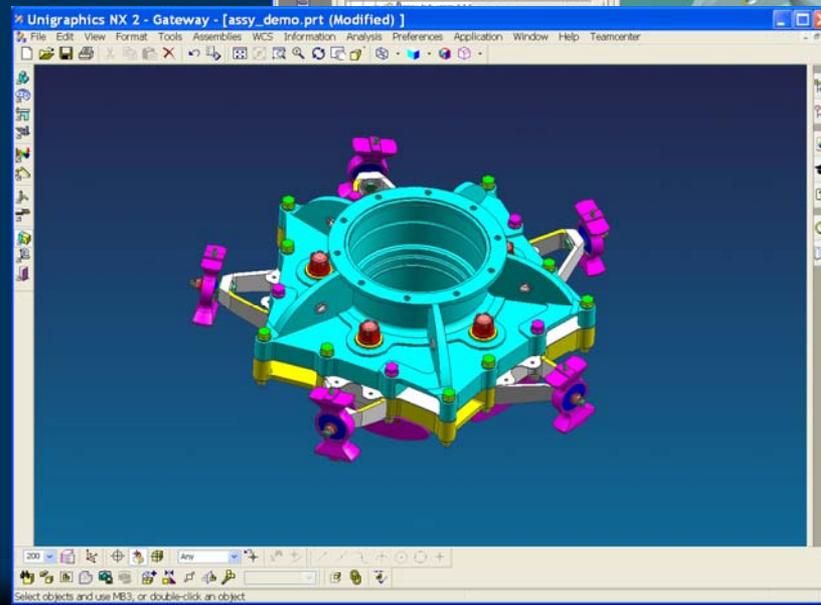
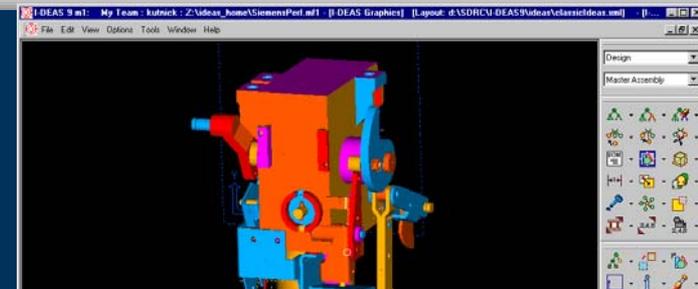


Teamcenter CAD data management

Enterprise Rich Client CAD Connectors



- ▶ Drag & Drop CAD Models to PDM
- ▶ CAD files cached locally
 - ▶ Users may work off-line
 - ▶ Data may be synchronized with PDM
- ▶ Support Multi-CAD product structure
- ▶ CAD Tool Specific Features
 - ▶ Inter-part relations (NX, I-deas, CATIA V5)
 - ▶ Wave, CWA, MML
- ▶ Design in Context
 - ▶ Use JT for non-native CAD
 - ▶ NX
 - ▶ I-deas
 - ▶ CATIA V5



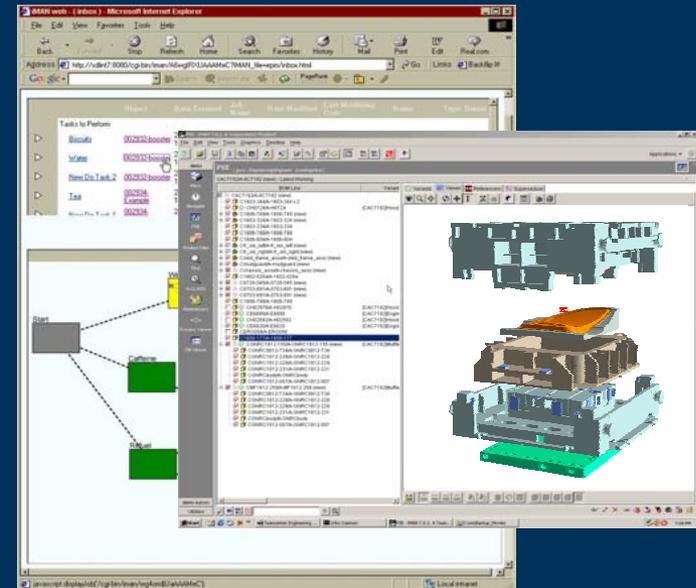


Teamcenter CAD data management

Engineering CAD Integrations



- Reduce **new product development** and introduction (NPD/I) timescales
- Enable rapid iteration to evaluate **multiple design concepts** early in process
- Automatically validate **multiple design variants**
- Synchronize distributed **multi-site**, multi-disciplinary design teams
- Enable **multi-CAD** collaboration
 - ✓ Knowledge Capture as created
 - ✓ Engineering Process Management
 - ✓ Repeatable Digital Validation
 - ✓ Multi-CAD Collaboration
 - ✓ Product Structure Management



- ✓ Option & Variant Management
- ✓ Configuration Management
- ✓ Change Management
- ✓ Part Classification
- ✓ Reporting

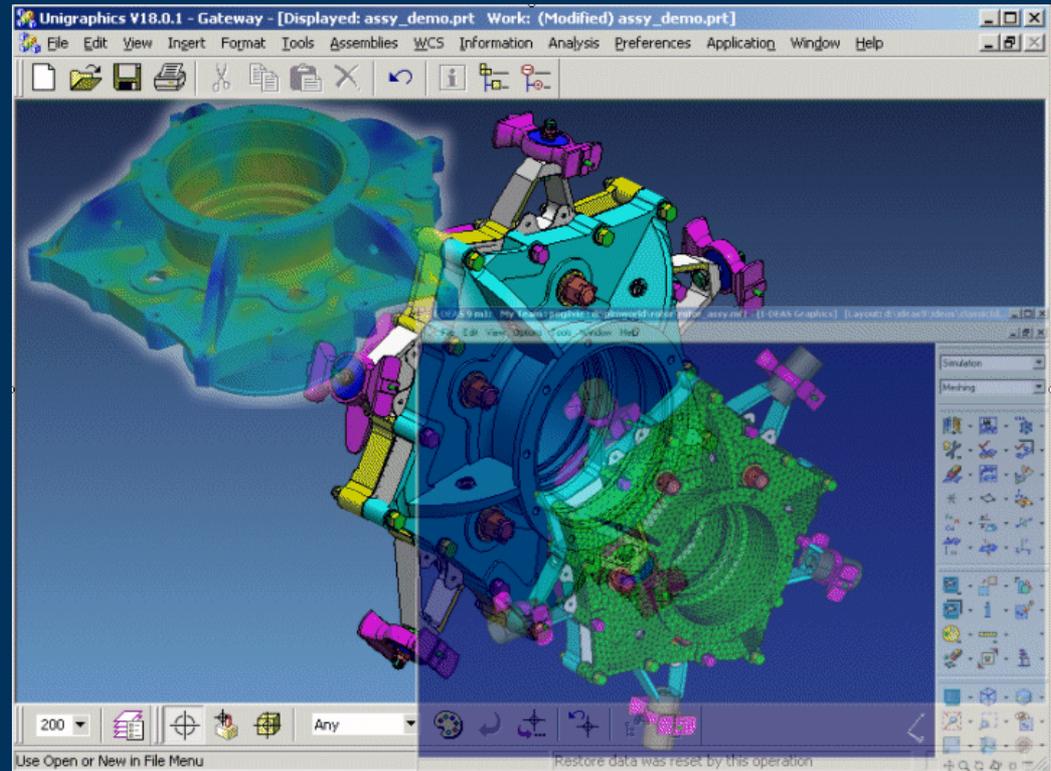


Teamcenter CAD data management

Engineering CAD Integrations



- ▶ Where Engineering Process Management is the focus enabling Work-in-Process and Pre-Released Configuration control
 - ▶ *Supporting deep, rich MCAD integration to get the most out of the CAD system*



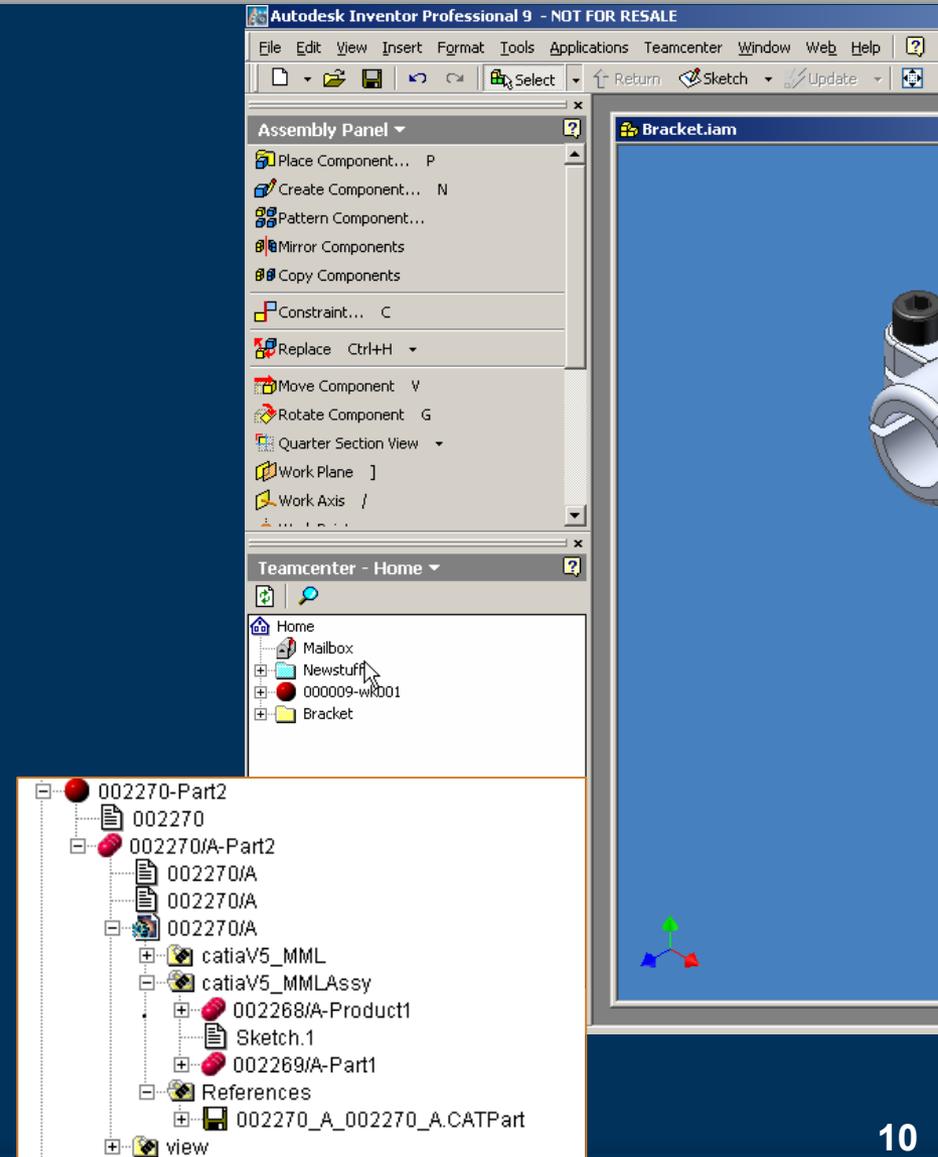


Teamcenter CAD data management

Engineering CAD Integrations



- ▶ Work in progress CAD support
 - ▶ CAD Centric **plus** PDM interaction
 - ▶ Familiar CAD User Interface
 - ▶ Extended CAD management
 - ▶ Open, Save, Check-out / Check-in
 - ▶ Synchronize / Cancel / Release
 - ▶ Attribute Mapping
 - ▶ Create/Edit product structure
 - ▶ Get Latest version from PDM
 - ▶ User Settings
 - ▶ Import / Export
 - ▶ Granular CAD relation support
 - ▶ Support CAD Objects
 - ▶ Parts, Assemblies, Drawings
 - ▶ Application specific

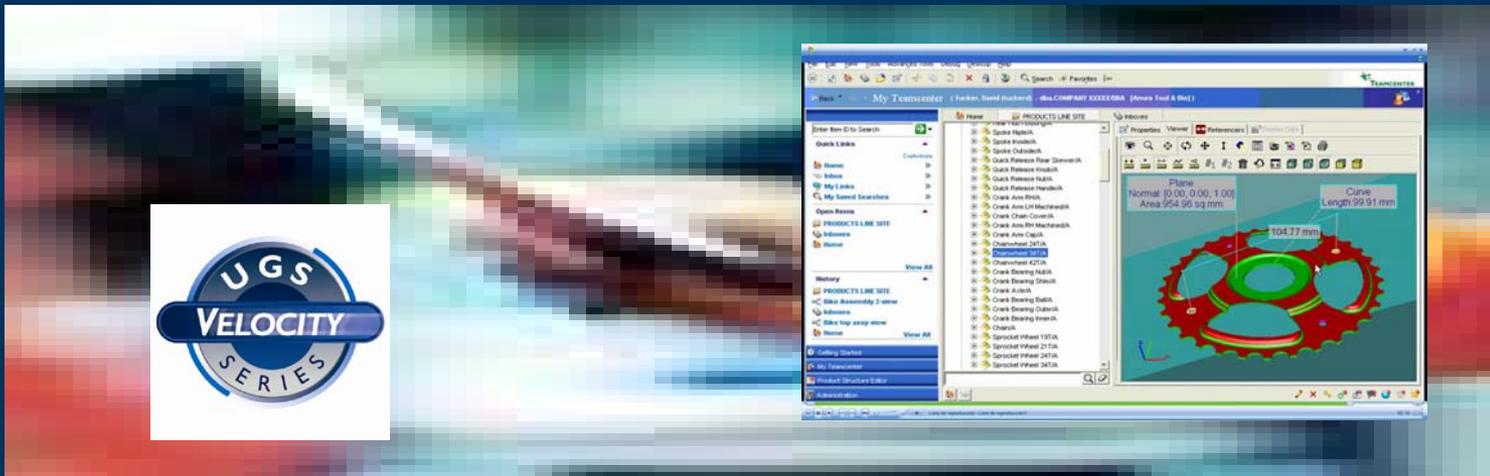




Teamcenter Express



Wed		
	3:30	Teamcenter Express for NX and I-deas NX Series Users <i>Barry Dudley</i>
Thur		



OOTB pre-configured Teamcenter processes
Simplified Installation, Set-up and Deployment
Built-in growth path to Teamcenter Engineering



Agenda



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Integration for I-deas Paths to NX



- ▶ Many Paths are Available from I-deas to NX
 - ▶ One Path
 - ▶ Is Validated All the Way to NX
 - ▶ CMM Results are Traceable to Original TDM Datasets
 - ▶ Customer is Ready & Prepared to Transition to NX
 - ▶ Is Supported & Strongly Recommended by UGS
 - ▶ Any Other Path
 - ▶ Will Not be Supported by Tool Automation & Functionality
 - ▶ Must be Carefully Considered and Reviewed
 - ▶ With the Services Transition Team





Integration for I-deas

The “One Path” to NX: Definition



- 
- ▶ “One Path” is a Set of Options that Must be Used in the Migration from I-deas to NX through Teamcenter Engineering
 - ▶ One Version Per Revision
 - ▶ During Metadata Migration
 - ▶ During Save to Teamcenter Engineering
 - ▶ Part, Assembly, Drawing & FEM Datasets
 - ▶ Each Dataset Type in It’s Own Item Revision
 - ▶ No Two Dataset Types in the Same Item Revision
 - ▶ One Acceptable Exception is to Have Drawings of a Single Part or Assembly with the Same Item ID (Part Number) in the Same Item Revision
 - ▶ *Integration for I-deas* Installation Defaults



Integration for I-deas Teamcenter Engineering Benefits



- ▶ Scalability
 - ▶ Number of Users
 - ▶ Amount of Data
 - ▶ Multiple Geographic Locations
- ▶ Search
 - ▶ More Powerful Than TDM
 - ▶ Faster Than TDM
- ▶ JT
 - ▶ Visualization
 - ▶ Check-out to I-deas for I-deas or Non I-deas Data
- ▶ Interoperability For CAM & CAE
- ▶ CAD, CAM, and CAE Support
- ▶ Performance is Better than TDM for More than Three Users
- ▶ Manage Non-CAD Data
- ▶ “One Path” Defined for I-deas to NX
- ▶ Team Data Sharing / Access
 - ▶ Multiple Sites
 - ▶ Multiple CAD Applications
- ▶ I-deas Package File Import/Export



Integration for I-deas functionality highlights

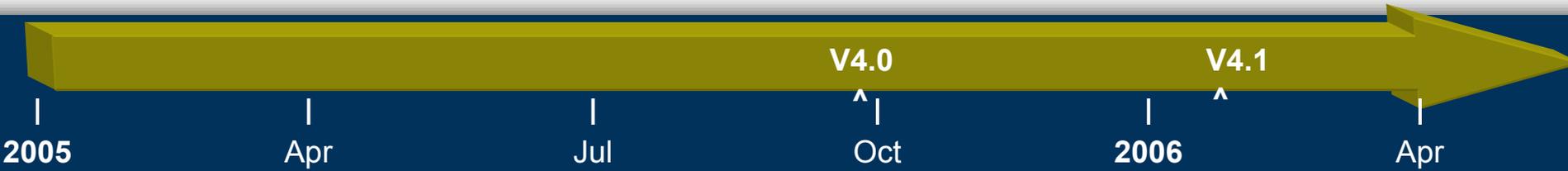


- ▶ Check-in/Check-out
- ▶ Where Used, Where Referenced
- ▶ Prune/Unprune
- ▶ Visualization support
- ▶ PSE support for Top-down design
- ▶ TDM migration tools
- ▶ Supports non- I-deas data
- ▶ Interoperability with NX and JT files
 - ▶ associative with NX
- ▶ Scalability





Integration for I-deas



V4.0

V4.1

V4.0

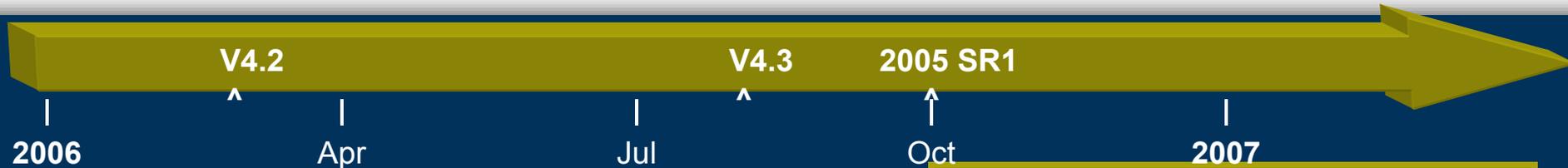
- ✓ TcEng 9.1.2 Released
- ✓ I-deas 10, 11, 12
- ✓ *Enhanced Freeze-Revise support*
- ✓ *Drawing Sets*
- ✓ *Detect RefMod condition*

V4.1

- ✓ TcEng 9.1.2, 9.1.3 Released
- ✓ I-deas 11
- ✓ WinXP, HP, Sun
- ✓ *Enhanced Save Form UI*



Integration for I-deas



V4.2

Released

- ✓ TcEng 9.1.3
- ✓ I-deas 11, 12
- ✓ *Hubless data sharing/migration*
- ✓ *Enhanced Check-in/out Performance*
- ✓ *Enhanced I-deas data audit tools*

2005 SR1

- ✓ I-deas 12m1 PTF2
- ✓ *Support 4-tier architecture*
- ✓ *FMS support*
- ✓ *FEM: Update NX Assembly in Model File*

V4.3

- ✓ TcEng 9.1.3
- ✓ TcExpress 1.3
- ✓ I-deas 11, 12
- ✓ *Unprune from Assembly Hierarchy*
 - ✓ *Requires I-deas 12m1 PTF2*
- ✓ *MFV enhancements*
- ✓ *ACF Check-in enhancements*



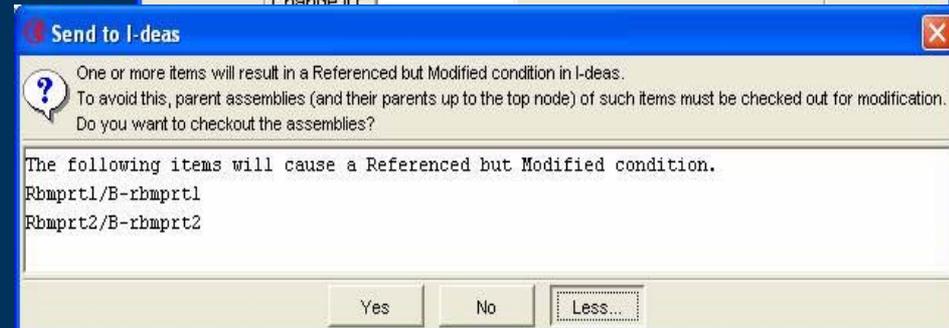
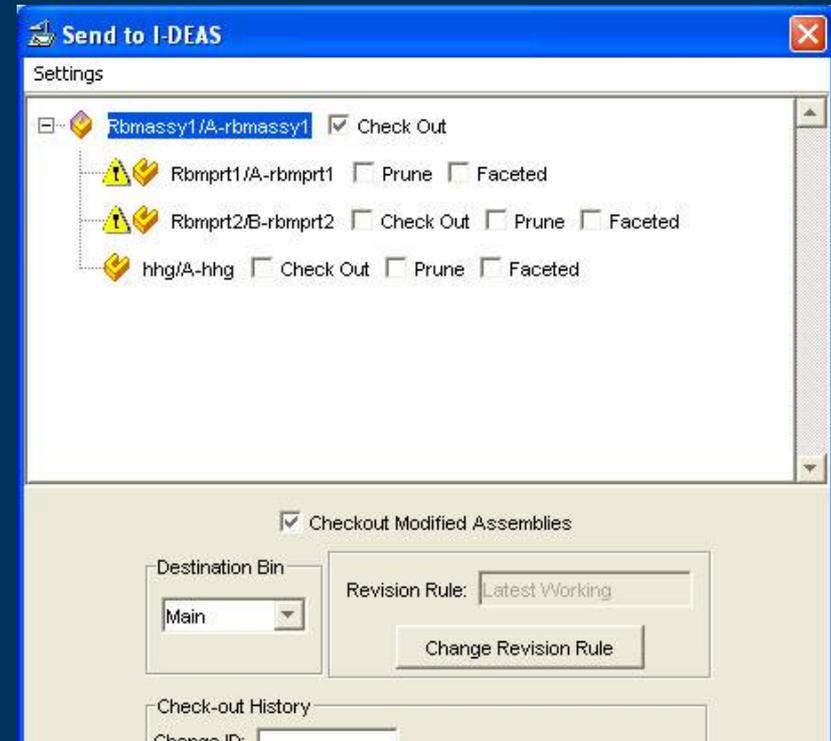
Integration for I-deas

What's New in V4.0



Detect RefMod condition

- ▶ Detect during the Send to I-deas command if the data being sent to I-deas is reasonably expected to result in a Referenced but Modified condition later during Save to Teamcenter Engineering
- ▶ Notice that user selected “Checkout Modified Assemblies”
- ▶ Items that may cause ref-mod condition will have a new “caution” icon
- ▶ Items that need to be checked out will have the Check Out boxes checked





Integration for I-deas What's New in V4.0



Detect RefMod condition

- ▶ This is the Send to I-deas form which is available in the My Navigator module of Teamcenter Engineering (it is not available in the Product Structure Editor)
- ▶ A new option was added on the form, “Checkout Modified Assemblies”
- ▶ When the user selects this option, all items that can cause Ref-Mod condition later on during check in will automatically be checked-out

Send to I-DEAS

Settings

Rbmassy1/A-rbmassy1 Check Out

Checkout Modified Assemblies

Destination Bin: Main

Revision Rule: Latest Working

Change Revision Rule

Check-out History

Change ID:

Comments:

OK Cancel



Integration for I-deas

What's New in V4.0



Detect RefMod condition

- ▶ This example shows the new icons in use on the Send to I-deas form if the user selects 'Checkout Modified Assemblies'
- ▶ Items that cause a Ref-Mod condition will be identified with an "info" icon. In the example, items on the second and third line have the "info" icon
- ▶ The affected assemblies will be identified with an "exclamation mark" icon. These are the items that will have to be checked-out. In the example the top level assembly is affected. The affected items will also have the "Check Out" boxes automatically selected
- ▶ Notice that the top item is automatically expanded (Expand All is executed)

Send to I-DEAS

Settings

- Rbmassy1/A-rbmassy1 Check Out
- Rbmprt1/B-rbmprt1 Check Out Prune Faceted
- Rbmprt2/B-rbmprt2 Check Out Prune Faceted
- hhg/A-hhg Check Out Prune Faceted

Checkout Modified Assemblies

Destination Bin:

Revision Rule:

Check-out History

Change ID:

Comments:



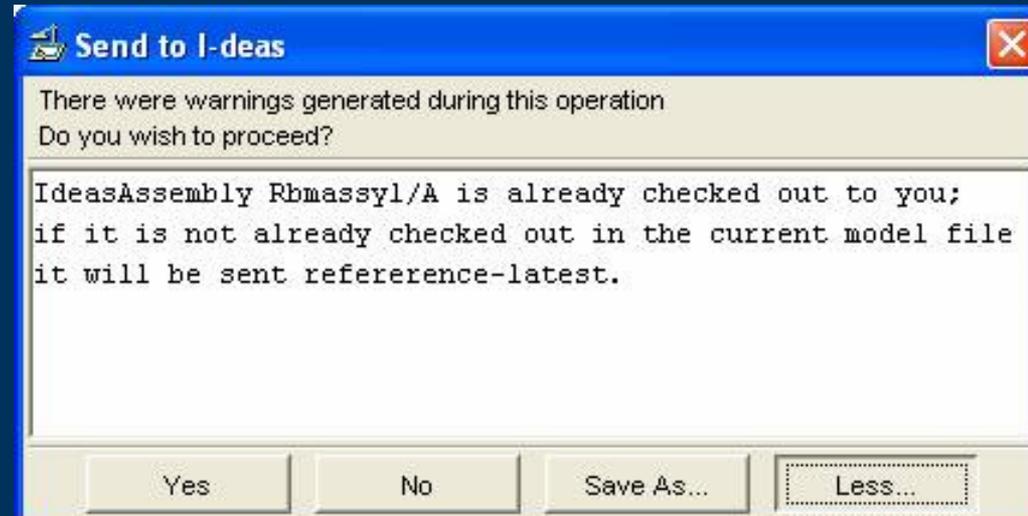
Integration for I-deas

What's New in V4.0



Detect RefMod condition

- ▶ If one or more of the assemblies affected by a Ref Mod condition cannot be automatically checked-out, the user will be informed what these items are and the reasons, including the user id of the person who has items checked-out.
- ▶ This information will also be output to a log file (that can be printed or saved). Select the "Save As" button.
- ▶ At this point the user will have an option to either cancel or continue (check-out as many items as possible)





Integration for I-deas

What's New in V4.1



Enhanced Save Form UI

- ▶ Enhanced Save Usability
- ▶ Assign Project during Save
- ▶ Enter mapped Attributes during Save
- ▶ Ability to define “required” fields for site
- ▶ Minimizes user entry compared to previous NXMI releases

Part Number	Itemid	Revision	Name	Item Type	Dataset Type	Projects	Checkin Intent
			sphere	Item	Part		Save & Checkin
			block	Item	Part		Save & Checkin
			asm	Item	Assembly		Save & Checkin
			asm	Item	Drawing		Save & Checkin

Select Projects to Assign Object to

Projects for Selection

- testProject
- TestProject2

Selected Projects

OK Cancel

Error

Error!!Incomplete Data,The Following Information is required

- 003193:Requies Project
- block:Requies ItemId, Project
- 003194:Requies RevisionId, Project

OK Less...



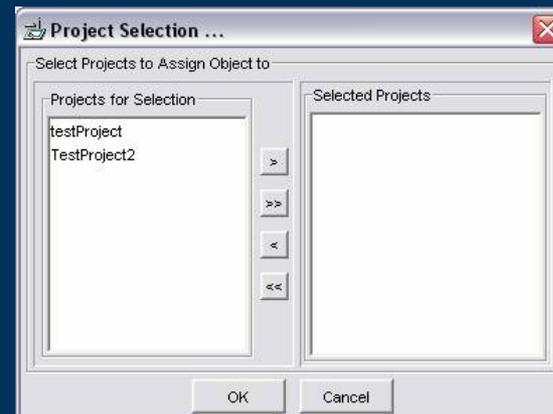
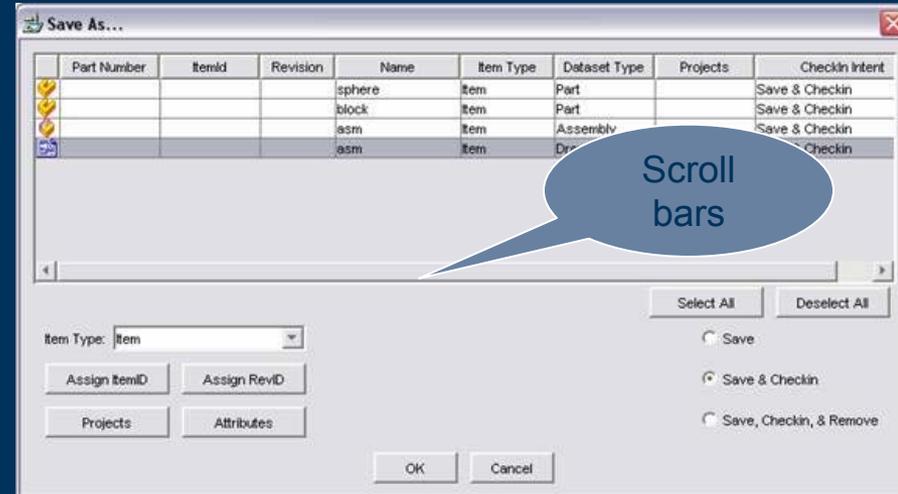
Integration for I-deas

What's New in V4.1



Enhanced Save Form UI

- ▶ Provides more options and control for saving items
- ▶ Provides columns for saving:
 - ▶ Part Number
 - ▶ ItemID
 - ▶ Revision ID
 - ▶ Name
 - ▶ Item Type
 - ▶ Dataset Type
 - ▶ Projects
 - ▶ Checkin Intent





Integration for I-deas What's New in V4.2



Enhanced Audit Tools

- ▶ Diagnostics and Wizards
 - ▶ Emphasis on improving the total migration process
 - ▶ Post migration validation and trouble shooting
- ▶ Further improvements planned to provide smart analysis of log files and automation for resolving issues

The screenshot displays the Teamcenter Engineering V4.2.0 interface with three wizard windows overlaid:

- Migrate to I-deas Registry Wizard:** Shows 'Extract I-deas Registry Information' with fields for Extract File, Batch Size, and Log File. It includes checkboxes for 'Report Replicas' and 'Extract from I-deas registry site'. A globe icon is visible on the left.
- Cleanup Wizard:** Shows 'Cleanup I-deas Registry' with fields for Extract/List File, Concat File, I-deas Registry File, Cleanup Target File, and Log File. A globe icon is visible on the left.
- Find Duplicates Wizard:** Shows 'Find Duplicate I-deas Items' with fields for Extract/List File, Concat File, and Report File. A globe icon is visible on the left.

The background shows the main Teamcenter interface with various toolbars and a sidebar.

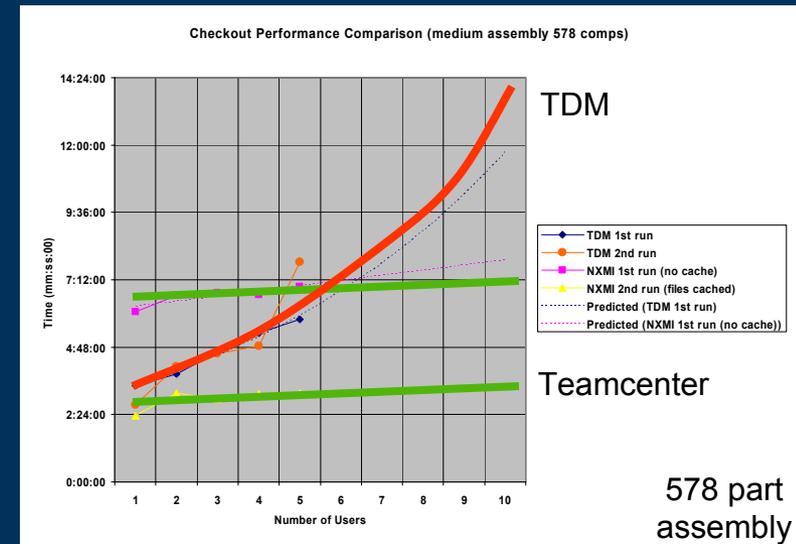
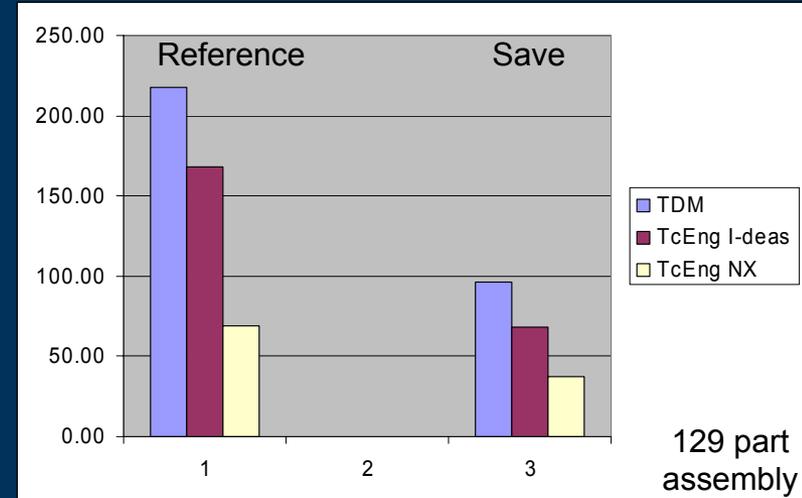


Integration for I-deas What's New in V4.2



Enhanced Performance

- ▶ Performance benchmarks represent the productivity improvement of using Teamcenter
- ▶ Focus benchmarks on concurrent access to Teamcenter
 - ▶ More realistic test and shows significant Teamcenter benefit over TDM
- ▶ Integration for I-deas 4.2 includes further performance improvements for Check-out and Check-in
- ▶ Pre-requisite to any performance testing is to configure Teamcenter according to performance guidelines





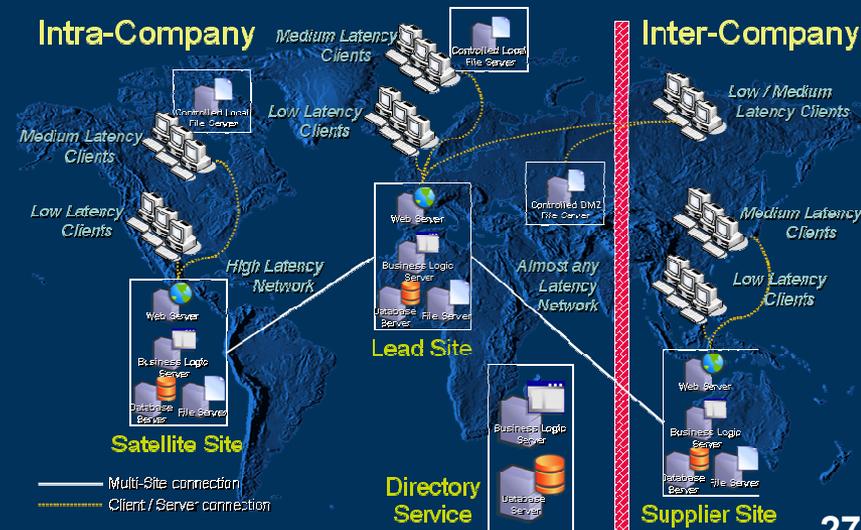
Integration for I-deas

What's New in V4.2



Multi-Site Enhancements

- ▶ Improved Multi-Site usage with I-deas
 - ▶ ODS extension to store I-deas GUID's as part of the Publication Record class
 - ▶ During I-deas data migration, this attribute will be populated and queried
 - ▶ Eliminates current requirement to define a Hub site for querying during data migration to prevent creation of items with duplicate GUID's
 - ▶ Does not require explicit Publishing and not effected by un-publishing
 - ▶ Simplified deletion
 - ▶ Reduces the administrative overhead (resource/machine/maintenance)
 - ▶ Independent of ItemID changes
 - ▶ Improves performance of Import and Migration
- ▶ Ownership Transfer
 - ▶ Full transfer
 - ▶ Remote Checkout
- ▶ Migration and TDM PKG Import into Multi-Site installations

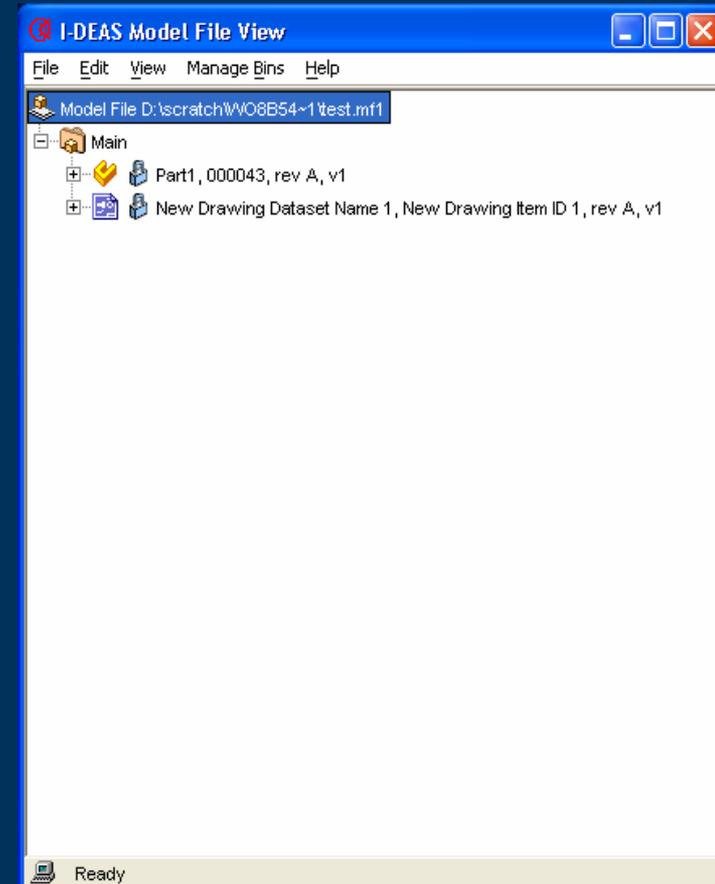




Integration for I-deas What's New in V4.3



- ▶ Unprune from Assembly Hierarchy
 - ▶ Today the user can only unprune from the I-deas Model File View window
 - ▶ This enhancement will allow the user to unprune from the I-deas Assembly Hierarchy Form
- ▶ Model File View enhancements
 - ▶ A new icon row under the menu bar of “I-deas Model File View” window
 - ▶ Removes user interaction steps
- ▶ ACF Check-in enhancements
 - ▶ Allows a user to work on the target part without requiring that user to have the source and context also checked out



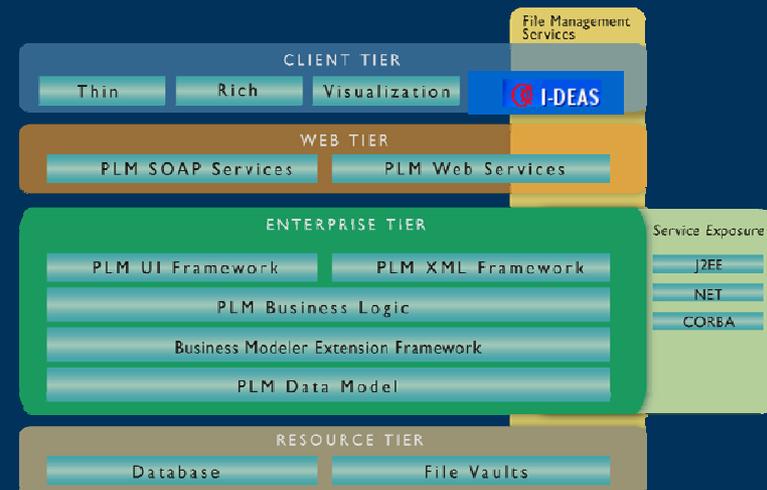


Integration for I-deas 2005 SR1

What's New



- ▶ Multi-tier Support
 - ▶ Enables Integration for I-deas to be deployed in the Teamcenter Engineering multi-tier environment
 - ▶ Easier Multi-Site deployments
- ▶ Update NX assembly in I-deas





Integration for I-deas 2005 SR1

What's New



- ▶ Detects an out-of-date version/revision of NX assemblies in an I-deas Model File
- ▶ Allows user to update an out-of-date NX assembly within the I-deas Model File
- ▶ I-deas Assembly FEM's created on NX assemblies retain associativity

The image displays three overlapping screenshots of the I-DEAS Model File View interface. The top-left screenshot shows the 'I-DEAS Model File View' window with a menu open, highlighting the 'Update' option. The top-right screenshot shows the same window with the 'Update' menu open, listing options like 'Unprune', 'Update', 'Update to Latest Revision', 'Update All', and 'Update Source Part'. The bottom screenshot shows the assembly hierarchy in the 'Main' folder, where the assembly 'nxassm1, 000357, rev A, v3' is highlighted, indicating it has been updated. A blue arrow points from the text 'Updated NX Assembly' to this assembly. Another blue arrow points from the text 'Out-of-date NX Assembly' to the assembly 'nxassm1, 000357, rev A, v2' in the previous screenshot.

Out-of-date NX Assembly

Updated NX Assembly



Agenda



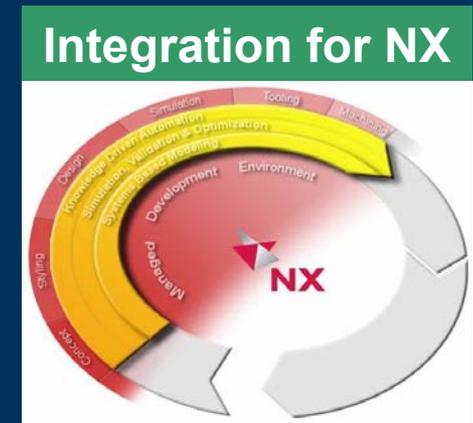
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Integration for NX functionality highlights



- ▶ Check-in/Check-out
 - ▶ Explicit & Implicit
- ▶ UDF Management
- ▶ Part number assignment
- ▶ Where Used, Where Referenced
- ▶ Visualization support
- ▶ PSE support for Top-down design
- ▶ Import/Export
- ▶ Interoperability with I-deas, Solid Edge and JT files
- ▶ Scalability





What Customers are telling us...



- Teamcenter browsing, searching and other Teamcenter interactions needs to be available in-NX
- Reduce the need to train NX designers on Teamcenter
- Reliable & foolproof structure synchronization
- Increase types of data that may be opened into an NX Session
- Define mandatory data entry when creating parts
- Import/Export needs to be less complicated
- Allow “acceptance” activities in NX before saving to Teamcenter



The In-NX Experience Vision / Strategy

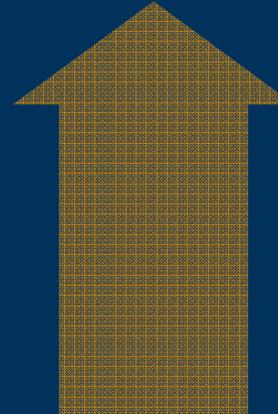
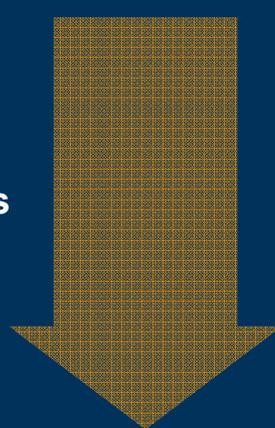
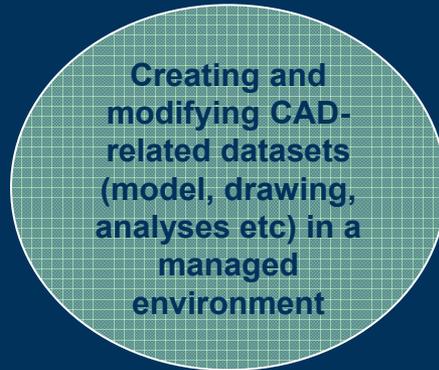


Scope of the “In-NX” experience for managed environment...

Designer - Engineer

“Touch Points” into Teamcenter for managed CAD design:

- ▶ **Navigate / Browse**
- ▶ **Attribute Search**
- ▶ **Spatial Search**
- ▶ **Classification Search**
- ▶ **Create New**
- ▶ **Open/Load Parts**
- ▶ **Open/Load Configurations**
- ▶ **Save / Vault**
- ▶ **Expose**
- ▶ **Import/Export, Clone**
- ▶ **Where-Used**
- ▶ **Where-Referenced**



“Touch Points” into CAD for managed Teamcenter processes:

- ▶ **New Item**
- ▶ **New Item Revision**
- ▶ **Digital Mock-Up**
- ▶ **Standards Control**
- ▶ **Review & Markup**
- ▶ **Change Order**
- ▶ **Work Order**
- ▶ **Project Control**
- ▶ **Item Release**



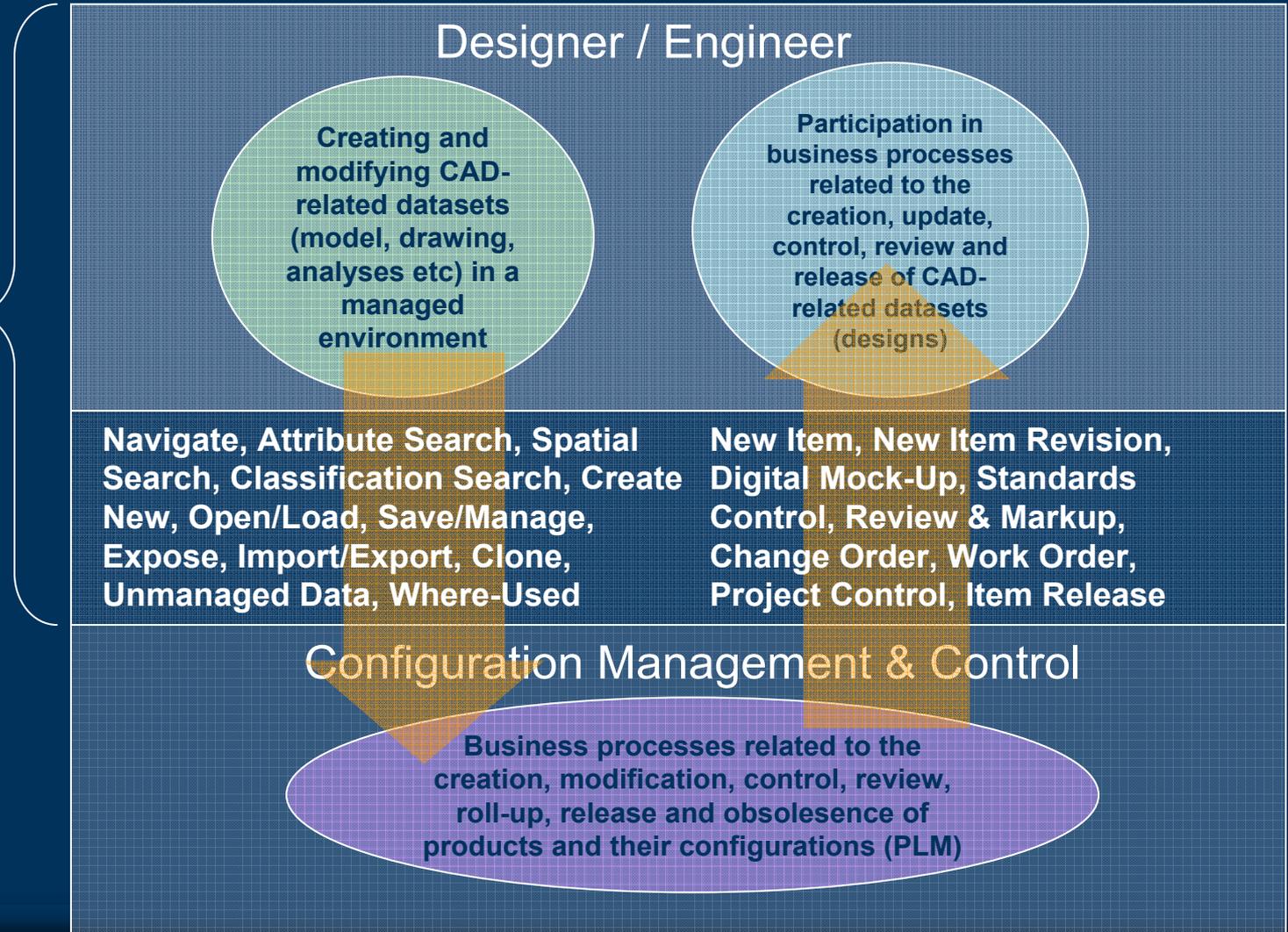


The In-NX Experience Vision/Strategy



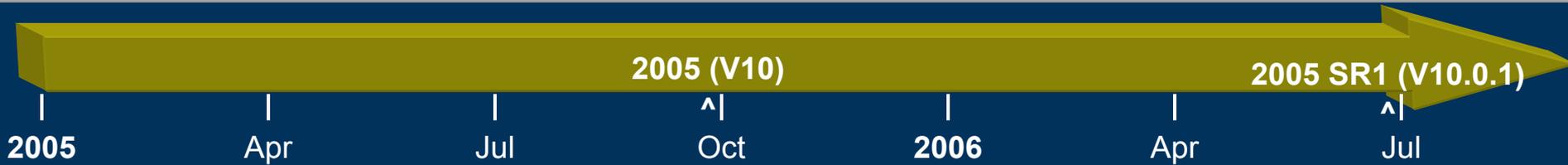
Scope of the “In-NX” experience for managed environment...

In - NX





Teamcenter 2005 Integration for NX



2005 SR1

- ✓ **NX 4 Support**
- ✓ **FMS support**
- ✓ **Support visualization of assemblies with Variable Component Positioning and Arrangements**
- ✓ **Incremental Change**
- ✓ **Improved variants functionality**
 - ✓ **Full support for modular variants**
 - ✓ **I-deas style wire harness variant assemblies**
- ✓ **Transient & Incomplete Assemblies**
- ✓ **NX Derived data**



Teamcenter Engineering 2005 SR1

What's New in NX 4.0.2



- ▶ Full FMS Support
- ▶ VCP & Arrangements
- ▶ Transient & Incomplete Assemblies
- ▶ NX Derived data
- ▶ I-deas style Wire Harness variant assemblies
- ▶ NX Routing
- ▶ Remote Checkin/Checkout
- ▶ Part Family improvements

All functionality listed requires Teamcenter Engineering 2005 SR1 and NX 4.0.2.

(This functionality is not supported with Teamcenter Engineering 9.1.3 or earlier releases.)

(This functionality is not supported with NX 4, NX 4.0.1 or earlier releases.)



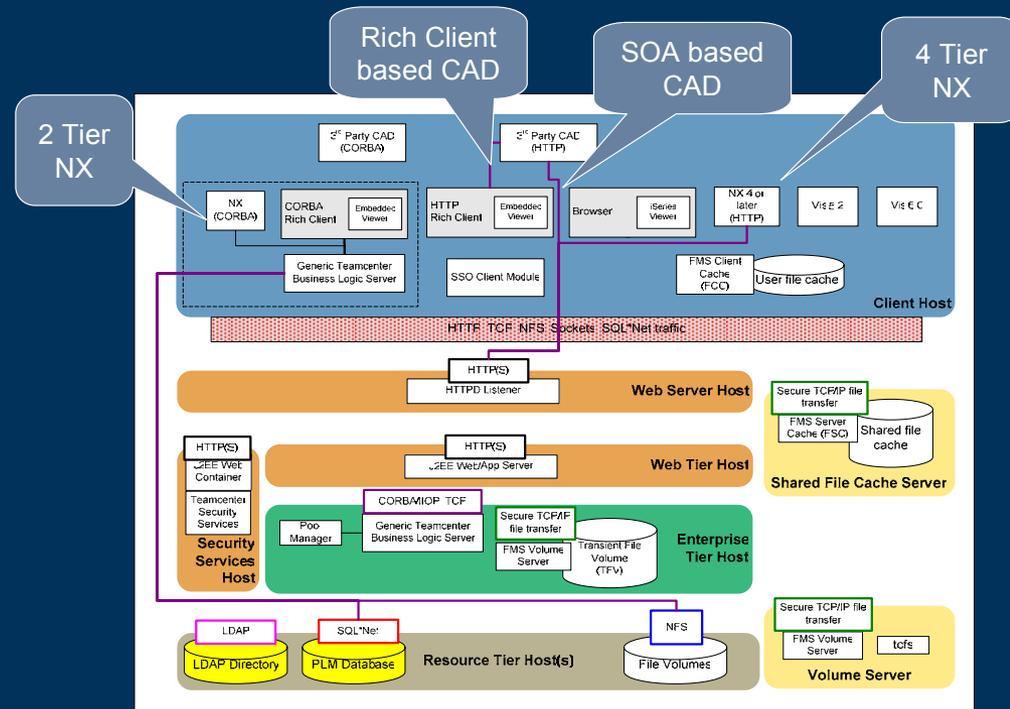
Integration for NX

What's New in 4.0.2



FMS Support

- ▶ Completes NX support of new FMS capabilities delivered with NX 4.0.1
- ▶ Enables partial download of files across the WAN/LAN for all security levels ... only those areas in the file needed by NX are downloaded into the local cache
- ▶ Provides security improvements by preventing direct access to files within Teamcenter volumes





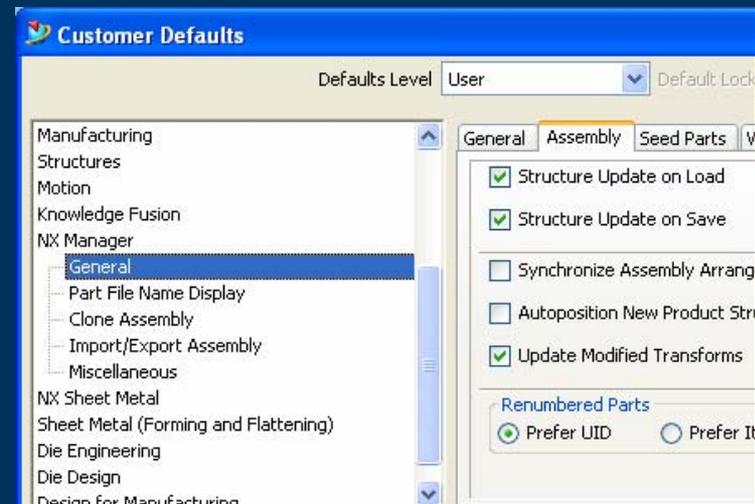
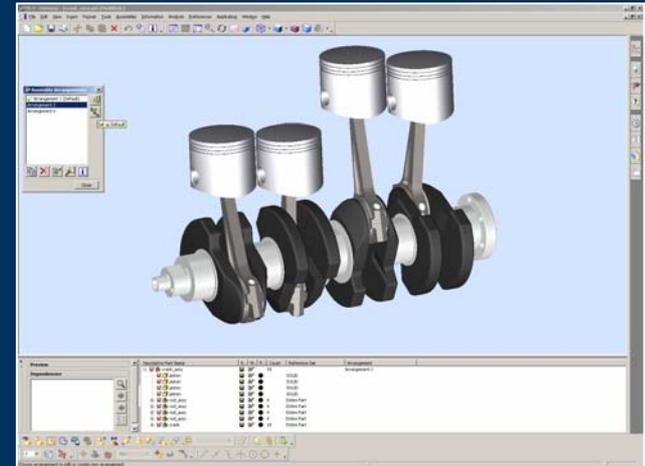
Integration for NX

What's New in 4.0.2



Arrangements support

- ▶ Provides more accurate visualization of NX assemblies saved in Teamcenter Engineering
 - ▶ Save multiple NX Arrangements (not just the default)
 - ▶ Save Variable Component Positioning (VCP) information
 - ▶ Select any one of the arrangements to view in Teamcenter Engineering's PSE
- ▶ Provides the ability to modify positioning data in any arrangement and have those modifications sent back to NX through Teamcenter Engineering





Integration for NX

What's New in 4.0.2



Transient & Incomplete assemblies

- ▶ Enables NX to work with assembly information from Teamcenter that is “empty” or contains a “foreign” geometry definition
- ▶ Enhances integrated multi-CAD capability; allows users to work with “virtual” assemblies, or those not authored in NX
- ▶ Supports workflows appropriate to multi-CAD

The screenshot displays the 'Engineering Multi-CAD' interface. At the top, it lists 'Available' CAD systems: NX, I-deas, Solid Edge, Inventor, NX (CAE), CATIA, Pro/E, AutoCAD, SolidWorks, and Mentor (Capital Harness). A large blue arrow labeled '2005 Plans' points towards the right. Below the CAD systems, there are logos for 'MCAD' and 'ECAD', and 'Cadence (PCB)'. The main window shows a 3D model of a blue valve assembly with red handles. The interface includes a 'My Navigator' pane on the left, a 'Variants' pane at the top right, and a 'Manufacturing' pane at the bottom left. The title bar indicates 'PSE - Teamcenter P10.0.0.13'.



Integration for NX

What's New in 4.0.2



NX Derived data

- ▶ Enables NX part files to reference geometry in JT files (NX requires an NX part file be created and persisted)
- ▶ Provides a new method to attach persisted dataset(s) to the dataset it is derived from with a non-specification relationship (removes hard-coded relationship)
- ▶ Supports Access control and Workflows appropriate to multi-CAD

The screenshot displays the 'Engineering Multi-CAD' interface. At the top, it lists 'Available' systems: NX, I-deas, Solid Edge, Inventor, and NX (CAE). Below this, it shows '2005 Plans' for CATIA V4/V5, Pro/E, AutoCAD, SolidWorks, and NX (Routing). Further down, it lists 'ECAD' systems: Mentor (Capital Harness) and Cadence (PCB). The bottom part of the image shows a 3D model of a blue valve assembly in the Teamcenter software environment, with a detailed tree view on the left showing the assembly structure.



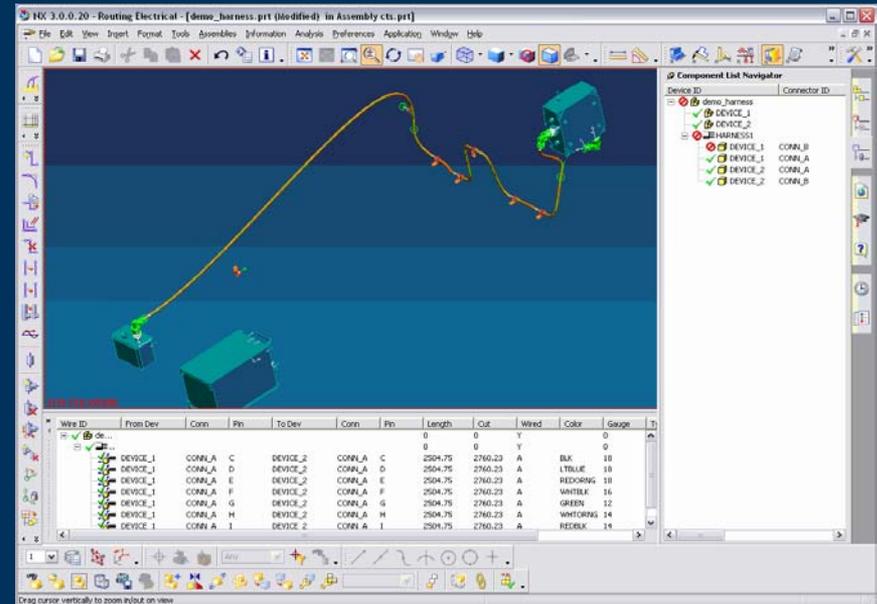
Integration for NX

What's New in 4.0.2



Wire Harness variant assy support

- ▶ Provides support of the I-deas style of variant wire harness assemblies
- ▶ Utilizes Teamcenter Options and Variants to selectively display the NX part
- ▶ Enables NX variant wire harness assemblies to be properly displayed in the embedded Teamcenter Viewer





Integration for NX

What's New in 4.0.2



NX Routing support

- ▶ Enables on-demand exchange of NX routing data with Teamcenter
- ▶ Enables Harness creation based upon knowledge driven rules and constraints
- ▶ Reduces harness design time through knowledge driven design





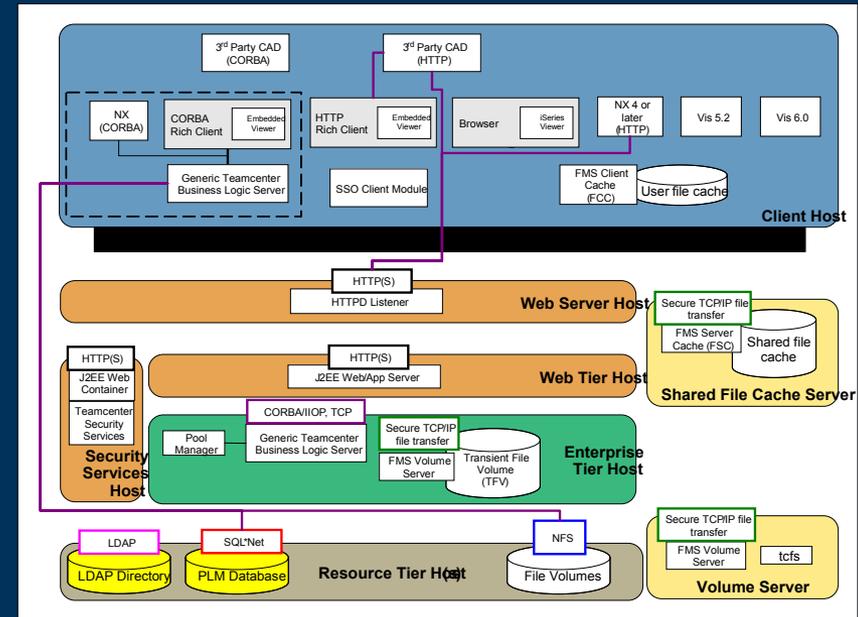
Integration for NX

What's New in 4.0.2



Remote CICO support

- ▶ Enables manual Remote Check-out / Check-in on the part or assembly 'ugmaster' owned by a remote site
- ▶ Enables manual Remote Check-out / Check-in on the 'non-master' owned by a remote site
- ▶ Provides automatic locking policy for Remote Items
- ▶ Facilitates a managed and controlled working environment with remote sites





Integration for NX

What's New in 4.0.2



Part Family enhancements

- ▶ Enables mapping part family attributes to Classification attributes
- ▶ Part Family Templates can be automatically added to an Import/Export when a Part Family Member is referenced
- ▶ Improved support for Part families in Multi-Site implementations

The screenshot shows the 'Part Families' dialog box. It has a title bar 'Part Families' and a checked checkbox 'Exportable Part Family Template'. Below this is the 'Available Columns' section with a dropdown menu set to 'Expressions' and a list containing 'p0', 'p1', and 'p2'. An 'Add Column' button is below the list. The 'Chosen Columns' section contains 'DB_PART_NO' and 'OS_PART_NAME', with a 'Remove Column' button below. The 'Part Family Spreadsheet' section has buttons for 'Create', 'Edit', 'Delete', 'Resume', and 'Cancel'. At the bottom are 'OK', 'Back', and 'Cancel' buttons.



Teamcenter Integration for NX



Functionality supported with NX 4	Teamcenter Engineering 2005 SR1
Full FMS Support	NX 4.0.2
VCP & Arrangements	NX 4
Transient & Incomplete Assemblies	NX 4.0.2
NX Derived data	NX 4.0.2
I-deas style Wire Harness variant assemblies	NX 4
NX Routing	NX 4
Remote Checkin/Checkout	NX 4.0.1
Part Family improvements	NX 4.0.2



Agenda



- ▶ Teamcenter CAD data management
 - ▶ CAD Connectors
 - ▶ CAD Integrations
- ▶ Integration for I-deas
 - ▶ What's New & Roadmap
- ▶ Integration for NX
 - ▶ What's New & Roadmap
- ▶ Summary



Teamcenter 2005 SR1 Supported CAD Releases



	Rich Client CAD Connector	CAD Integration
I-deas 11	✓	
I-deas 12	✓	✓
I-deas 13	✓	✓
NX 3	✓	✓
NX 4	✓	✓
NX 5	✓	✓



Teamcenter Value



- ▶ Establishes common procedures to **improve** efficiency, reduce development time and lower costs
- ▶ Enables **collaboration** across a range of CAD tools, organizational disciplines and geographic locations
- ▶ **Consistent** tools making it easier to **find** existing designs and eliminate duplication
- ▶ Preserves integrity, reduces error, improves **quality** through change and configuration management
- ▶ Is a **scaleable** solution from Engineering Process through Enterprise Knowledge lifecycle management



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