Teamcenter Enterprise IDE Update

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Topics

- Requirement / Business Value
- Supported Features
- IDE Platform and Architecture
- Supported Product Versions
- Software Requirements
- Future Plans
- Support and Training
- Questions
Why Do Teamcenter Customers Customize?

- **Process Need**
  - **Data Model Change**
    - Sub-class; insert super-class; add attributes; relationship types
  - **Behavior Change**
    - New semantics on existing capabilities
    - New Application
    - Integrate/Exchange data w/ other enterprise or 3rd-party applications
    - Dynamic List of Values; Conditional Static value lists
  - **Terminology**
    - Change in UI

- **Performance Need**
  - Queries
  - Configuration Management

- **Conclusion**
  - More similarity in customization types and reasons
  - “Sweet spot” of customizations is common
Challenges and Business Value

Implementation Challenges
- Deliver OOTB Functionality with Local Flexibility for Business Practices
- Provide Ease in Configuration and Tailoring
- Reduce Dependence on Specialized Skills

Value Proposition
- Shorten Time to Implementation
- Improve Project Predictability
- Increase Productivity & Efficiencies
### Teamcenter IDE Business Drivers

<table>
<thead>
<tr>
<th>Customer - “I want an easier way to configure my system’s data model to align with our company’s business processes”</th>
<th>Response – leveraging the Teamcenter IDE will provide an environment for rapid configuration through use of a graphic representation of the data model to make changes to the delivered data model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer - “I want to be able to expose my specific data model changes to a browser based thin client user community”</td>
<td>Response – leveraging the Teamcenter IDE will provide an environment for quickly exposing customer specific data model to various screens within the Thin Client user interface</td>
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<tr>
<td>Customer - “I want all of this in an environment that is cost effective, industry leading and not vendor specific”</td>
<td>Response – the Teamcenter IDE is built on top of the open source Eclipse platform which provides for extensibility through a declarative extension point framework</td>
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Teamcenter Enterprise IDE

- Teamcenter 2005 includes a fully supported Integrated Development Environment (IDE)
  - Follow-on to the TcEnterprise 4.0 early adopter release
- Delivers Proven Core Product Extension Foundation
  - Business analyst-based configurations and extensions
  - Eclipse-based Framework
- Two Primary Development Categories
  - Business Logic Server
  - Thin Browser Client
Teamcenter Enterprise IDE
Server Features

Existing Diversity of Customer Customization Environments

- Multiple Server Projects, Source Directories, and Files
- Multiple Project Types
  - Test Environment
  - Production Environment
  - Meta Output Project
  - Development Environment
**Teamcenter Enterprise IDE Server Features**

**MODEl Analysis and Definition**

- Data Model Navigation and Extension
  - Tree Navigation and Searching of MODEl Hierarchy
- Adding Standard and Structured Classes
- Dialog Class Creation
  - Extend to support other dialog classes
- Inserting of Classes
- Modifying Class Constants
- Adding/Attaching Attributes
  - Define Like and Define As
MODeL Class and Custom Method Exposure

- Supports the exposure of classes to the Thin Client
  - Screens: Create/Update/Query/Properties/Extended Summary Page
- Exposing Classes to Menus
- Exposes Relationships to menus and pages
- Exposes attributes and attribute formatting on web pages
MODeL Class and Custom Method Exposure

- Generation of Presentation Tier components
- Wizards to generate Action Components and Enterprise Service classes to call custom server methods
- TextBundle file generation for support of localization
Teamcenter Enterprise IDE
Thin Client Features

Configuration of the Web Application User Interface

- Support for custom images/icons
- Supports re-ordering and modification of Navigation Bar
- Button Bars
Teamcenter Enterprise IDE
Thin Client Features

Configuration of the Web Application User Interface

- DOM Tree Support to allow for:
  - Complete viewing of Application Map
  - Viewing and editing the System Preferences nodes
  - TextBundle management
- Building and deployment of changes in WAR file
Teamcenter Enterprise IDE
Help Features

Assistance in Getting the Job Done

- Leveraging the Eclipse platform extension points
  - Example: Welcome page and “cheat sheets”
- Guides the user through the steps to perform a specific task
- While seamlessly integrating into the platform’s main help offerings
Teamcenter Enterprise IDE
Help Features

Assistance in Getting the Job Done

- Cheat sheets offer a very powerful method to guide individuals through a task.
- Cheat sheets can be produced by customers to capture their specific tasks which can include the ability to launch wizards, views, perspectives defined within the Teamcenter Enterprise IDE plug-ins.
Teamcenter Enterprise IDE Help Features

Assistance in Getting the Job Done

- IDE User Guide is integrated into the IDE and accessible from the cheat sheets for context sensitive help.
IDE Metrics – Basic Customization

► Initial Customization
  1. Create 1 class, 6 dialogs, 1 attribute, & 1 value set
  2. Expose class on all primary pages in the thin client

► Time to Implement without IDE: ~1 week
  ▶ Developer needs to know code syntax
  ▶ Manual entry introduces bugs which need more thorough testing

► Time to Implement with IDE: ~2 hours
  ▶ Coding standards and best practices built into IDE
Why Eclipse?

- Open tool
- Multi-platform support
- Free to use, extend, distribute
- Add your own features through plug-in and extension point technology
- Includes basic IDE capabilities: Java editor, project workspace, compilation, debug, CVS plug-in support
- eclipse.org is a consortium made up of industry leaders who help ensure its strategic life and code quality
The Eclipse platform provides many extension points and core functionality that we are able to build from.
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The Server plug-ins offer extension capabilities such as:
- Service Broker access to the data model in the individual server projects
- Class Constants Preference page allows for extension from your own tool
- Allow for extension to the existing views, menus, and editors
The Thin Client plug-ins offer extension capabilities such as:

- Allow for extension to the existing views and menus
- Service Broker access to Application Map and Preferences XML DOM trees
- Allows for extension to the base context filters to add custom filters for the Context View
- If a customer has produced custom screens, these can be included as part of the exposing of new classes
The IDE supports the following versions of Teamcenter Enterprise:

- Teamcenter Enterprise 3.1
- Teamcenter Enterprise 4.0
- Teamcenter 2005 Enterprise
Software Requirements

- Eclipse 3.0
  - Eclipse is available on [www.eclipse.org](http://www.eclipse.org)
- jdk1.4.2
  - jdk is available on [java.sun.com](http://java.sun.com)
- Teamcenter 2005 Enterprise IDE plug-ins
  - Available today on GTAC and released on the Teamcenter Enterprise CD
2005 SR1

- App Map Navigation & Editing
- Pattern Based Code Generation
- Application Map Verification Tool
- Relationship Viewer
- Value Set support
- Eclipse 3.1 support
New **Navigate To & Referenced From** actions allows users to follow a response chain from beginning to end.

Results are displayed in the search tab and are saved for later retrieval.
Thin Client Plug-In
Class Update Wizard

- Simplifies the creation of web pages to update specific attributes on a class.
- Collects user input to generate an enterprise service and related action handlers.
Thin Client Plug-In
Application Map Verification Tool

- Verifies correctness of customization files in each change set.
- Notifies user of missing or poor xml code before running unit tests in the web browser.
Verification results displayed in tabular format for easy navigation to faulty xml files

<table>
<thead>
<tr>
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<th>File</th>
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<tr>
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Enterprise Server Plug-In
Relationship Manager

- New Relations Perspective displays valid relationships for left and right classes
- New Relationship Creation Wizard automatically generates MODeL code
- Relationship classes linked to source code for modification
Enterprise Server Plug-In
Value Set Support

- Value set support is integrated into the class display tabs
- Define and attach values sets directly to attributes
The IDE can be found on GTAC

- [http://support.ugs.com](http://support.ugs.com)
- Select Uploads & Downloads
- Enter webkey username/password
- Select Product Updates (Teamcenter Enterprise)
- Select Patch
- Select IDE

Periodic updates are released

- Fixes and/or add new functionality

Supported Product

- GTAC and Development
- Got a request or find a problem?
  - Create and ER or PR
Teamcenter Enterprise IDE is included in the training courses available today!

- [http://training.ugs.com](http://training.ugs.com)
- course code PKM370

Teamcenter Enterprise Thin Client Customization provides a fundamental understanding of the new Teamcenter Enterprise interface, architecture and the flow of control as data moves through the three-tiered architecture. Students will use the Eclipse IDE. They will learn to create new classes and attributes. In addition, they will learn how to customize and localize the environment to suit their needs.

**WHO SHOULD ATTEND**

This course is intended for:
- End-user client interface implementation engineers and consultants who need to understand how to tailor and customize the Teamcenter Enterprise interface.

**ADVANCED**

- Basic understanding of Web server architecture, Java Server Pages, Java, JavaScript, and XML.
## Further Information Contacts

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