

# Planning and Conducting Your Teamcenter Enterprise Upgrade

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# The Alstom ITC

- Alstom ITC (Information Technology Centre)
- The IT service provider for most of the ALSTOM businesses.
- Purpose: Provide cost effective and required quality standard services to IT users for infrastructure, as well as application and project services
- Consists of 1250 persons (internal and external), 16 ITC countries and 50 local service centers \*
- Manages more than 40,000 computers \*
- Manages more than 9000 applications (of which 90% are local applications) \*
- \* As of January, 2006



# The Alstom ITC Worldwide Presence

Large world coverage

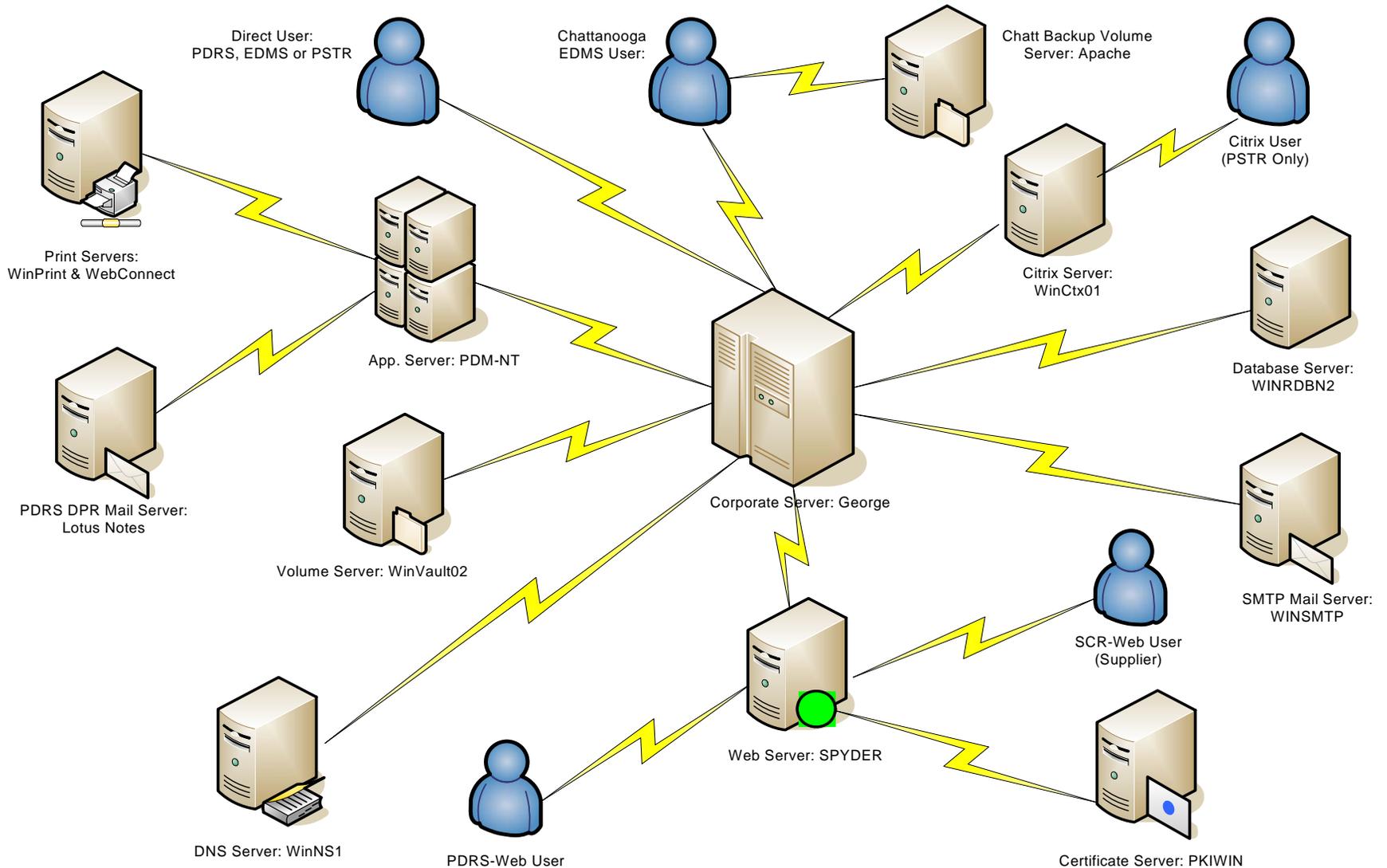


# Teamcenter Enterprise History at Alstom

- Started Using Teamcenter Enterprise (Metaphase 2.2) in 1995
- Approx. 500 Users located in 28 US sites and 4 Canadian sites
  - The Majority Located in Windsor, CT and Chattanooga, TN
  - All Users Use the Classic Client (non-Web) GUI for Access
- Three (3) Systems running on TC-Ent. 3.1
  - PDRS: Parts Data Retrieval System
  - PSTR: Product Structure System
  - EDMS: Engineering Document Management System
- Developed Two (2) Home Grown Java/Web Interfaces:
  - PDRS-Web: Uses the MetaWeb Interface w/ Secure Certificates to Access Data & Documents
  - PSTR SCR-Web: Uses the EVista! Interface to Enter Data & Upload Files
- Our Next TC-Ent Upgrade will happen mid-2007 at the Earliest



# Alstom USITC TC-Ent. Network Architecture

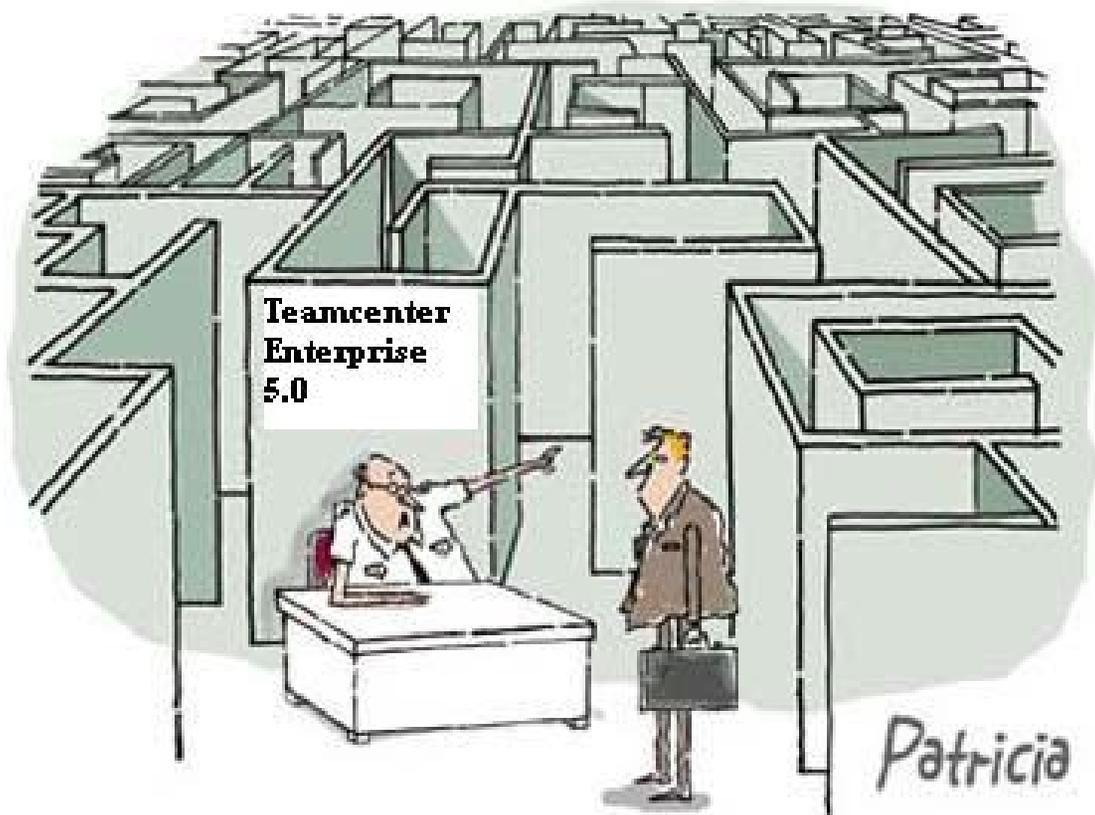


# Teamcenter Enterprise Upgrade Presentation



- This presentation will be in three parts.
- In part one I will discuss the reasons for upgrading to TeamCenter 5.0.
- In part two I will provide an overview of the upgrade process for planning purposes.
- In part three I will provide details of the upgrade process as outlined in the Teamcenter 3.1 to 5.0 Upgrade Guide.
- Please save questions until we get into part three or at the end of the presentation / QA session.
- Items to Think About During the Presentation:
  - How Can We Automate the Upgrade Process?
  - How Can UGS Simplify the Upgrade Process?

# Teamcenter Enterprise Upgrade Maze



"You can't miss it. Turn right here, take a left, then right, then right again, then left, then right, then left, then right, then left, left, again, then right..."

# User Group Survey



- How many of you are running TC 5.0? 4.0? 3.1? 2.0? 1.0? Metaphase?
- How many of you have performed a TC-Ent Upgrade? To 3.1? To 4.0? To 5.0?
- Did you bring in an outside Consultant?
- Did you find the Upgrade Process Easy? Bearable? Difficult? Overwhelming?
- Did you complete the upgrade ahead of schedule? On-Time? Behind Schedule?

# Part One: Reasons to Upgrade to TC 5.0



- Why Upgrade?
  - Get Better Support from UGS
  - Take Advantage of New Features
  - Provide Better Support to Your Users
- When to Upgrade?
  - After Completing Preliminary Steps and Getting Approval from Management.
  - After all Data is Backed Up and Users are Informed of Shutdown Dates & Times

# Get Better Support From UGS



“Dear Teamcenter Enterprise Customer:

You are receiving this e-mail message because our records indicate that you may be using Teamcenter Enterprise 3.1 in a production environment. Recently we posted a Software Field Bulletin reminding all Teamcenter Enterprise customers that the end of life for version 3.1 is 31-March-2006. The end of life dates for all versions of Teamcenter Enterprise are posted and announced at the time of product release. The UGS policy is to support the current two major releases of any product. After 31-March-2006 we will continue providing full support for Enterprise4.0 and 2005 (5.0). “

# Get Better Support From UGS, Cont'd.



“After 31-March-2006 we will no longer provide bug fixes or enhancements for version 3.1 of Teamcenter Enterprise. If you contact GTAC to request support for version 3.1, an IR will be opened and an attempt will be made to resolve the problem. If, however, the problem is a software defect that has not already been corrected in a patch for Teamcenter Enterprise 3.1, or in Teamcenter Enterprise 4.0 or 2005 (5.0), the defect will not be corrected in Teamcenter Enterprise 3.1. If the defect has been corrected in a later version of Teamcenter Enterprise, the problem can be corrected only by upgrading to the later version.”

# New Features in TC 5.0



- Installation, Upgrade & Migration
- Administration
- Usage
- Customization
- Localization
- Global Services
- All new features documented at <http://support.ugs.com/docs/metaphase/tce2005/whatsnew/book.html>

# New: Installing Server Solutions



- **Teamcenter Enterprise 5.0 introduces *server solutions*, a new way to install features in your installation. Server solutions are groupings of modules that provide related or dependent functionality.**
- **Modules that are licensed as a group are installed as a single server solution.**
- **The introduction of server solutions simplifies Teamcenter Enterprise installation by enabling you to more easily identify and select the features you want to add to your installation.**

# New: Installing Server Solutions, Cont'd.



- If you are upgrading from a previous version of Teamcenter Enterprise, UGS recommends you convert your existing installation to server solutions, but you have the option to keep a module-based installation.
- If you choose to convert your installation to server solutions, the Configuration Editor may add modules during upgrade to complete server solution module groupings.

# New: Installing Server Solutions, Cont'd.



- Teamcenter Enterprise Foundation consists of the following modules:
- APC, C9T, CDS, DMM, EDT, EMG, ISC, LCM, MCI, OCC, PUP, TKT, TMS, VIS, VMS, VPD, WSM, WWW, XML, XRF
- All Server Solutions listed at <http://support.ugs.com/docs/metaphase/tce2005/whatsnew/book.html>

# New: Patch Set Package Manager



- **The Teamcenter Enterprise Patch Set Package Manager is a tool for downloading and installing the latest patch set packages for use in Teamcenter Enterprise.**
- **A patch set package is a grouping of patch sets created by a patch build and uploaded to the Global Technical Access Center (GTAC) for availability to customers.**
- **Use the Patch Set Package Manager to do the following:**
  - **Download entire patch set packages for multiple platforms from GTAC.**
  - **Install an entire patch set package.**

# New: Data-Driven Upgrade



- The process for upgrading to Teamcenter Enterprise 5.0 from previous versions is significantly changed.
- In previous versions, the upgrade software architecture was built using the C programming language. When developers added administration data to the **.dat** files of modules, they also added corresponding code into the module-specific **.c** files.
- The format of the code for the **.c** files differs from the format of the **.dat** files. After the code was added to the **.c** files, the upgrade programs were recompiled.

# New: Data-Driven Upgrade, Cont'd.



- In Teamcenter Enterprise 5.0, upgrade code is contained in **.dat** files whose format is similar to the format of the **.dat** files of the base installation.
- This change reduces the possibility of introducing errors for the upgrade.
- In addition, by using the **.dat** files, the upgrade programs are not required to be recompiled with every addition or deletion of administration data.
- The new upgrade process also allows for upgrading asynchronous modules.

# New: Admin Features



- Product Structure Visualization
- Reports in XML / XRF
- Records Management App
- Translation Admin
- Bulk Data Replication
- DM Acrobat & Print Enhancements
- And Many Many More ...

# New: Usage Features



- Secure File Erase
- Configuration Management
- Autonomy Search Engine
- User Activity Logging
- Product Configuration
- And Many Many more ...

# New: Customization Features



- Teamcenter Enterprise IDE
- Web Tier Enhancements
- Presentation Tier Framework
- Web Services Manual

# New: Localization Features



- Hebrew Language Support
- Italian Language Support
- Spanish Language Support

# New: Global Services Features



- Global Services Functionality
- Platform Support
- Web Tier Implementation

# Part Two: Upgrade Phases



- I. Research
- II. Planning the Upgrade
- III. Performing a Test Upgrade
- IV. Repeating the Test Upgrade
- V. Planning the Production Upgrade
- VI. Preliminary Upgrade Steps
- VII. Performing the Upgrade
- VIII. Follow-up Steps

# Phase I: Researching the Upgrade



- Research & Document Your TC-Ent. Server Configuration and Infrastructure
- Read the Upgrade Guide from Cover to Cover and Create a Check List
- Search the Release Bulletin(s) for “Upgrade” Topics
- Perform New Install with latest patch sets
- Verify custom server & client code: vfysourc
- Run database validation scripts & cleanup database
  - Ref. Network & Database Administration Guide

# Phase II: Planning the Upgrade



- Estimate cost of Infrastructure Upgrades
- Estimate cost of Each Phase of Project
- Develop QA Plan & Establish Participants
- Consider working overnight or in different shifts to improve odds of success
- Present Findings to Management

# Phase III: Performing a Test Upgrade



- Run Database Verification Utilities
- Perform Infrastructure Upgrades
  - OS, Oracle, etc ...
- Complete All Steps on a Test Server
- Document All Steps and Time Yourself
- Complete a Full QA / Checklist
- Backup Resulting System and Data
- Present Results to Management

# Phase IV: Repeating the Test Upgrade



- Necessary if:
  - You Do not bring in outside consultants
  - You Would like to QA your upgrade process
  - Your Environment Has Changed
  - You Forgot to Time Yourself
- Restore System to Prior Release
- Repeat all Phase II Steps
- Update Documentation Along the Way

# Phase V: Planning the Production Upgrade



- Provide Estimate of Shutdown Dates & Times to Management
- Confirm System Resources are Available
- Confirm IT & Consultant(s) Are Available
- Plan Full System Backups
- Finalize Detailed Upgrade Checklist
- Develop Restoration Plan in Case of Failure
- Send out Heads Up Notice to Staff
- Freeze Development of Custom Source

# Phase VI: Preliminary Upgrade Steps



- Send out Reminder Notice to Staff
- Verify Full System Backups Completed
- Verify Availability of System Resources
- Verify Availability of IT Staff & Consultant(s)
- Verify Availability of QA Staff & Hours
- Rerun database validation Utilities/Scripts

# Phase VII: Performing the Upgrade



- Follow checklist to Complete The Upgrade
- Perform System QA using Check Lists
- Customer Performs QA using Check Lists
- Diagnose and Fix Problems As They Occur
- Rerun Database Validation Utilities

# Phase VIII: Follow-up Steps



- Notify Users of any GUI or Procedural Changes
- Provide Customer Support
- Keep Customer & Mgmt Aware of Outstanding Issues
- Document, Document, Document

# Part Three: The Upgrade Process



- In this section I will provide an overview of the upgrade process as outlined in the Teamcenter 3.1 to 5.0 Upgrade Guide.
- Feel free to ask questions as we go or save them until the end of the presentation.
- Any questions that I cannot answer will be noted. I will attempt to get answers to these Q's later in the week or immediately following the conference.

# The Basic Upgrade Process



- I. Perform Infrastructure Updates
- II. Installing Teamcenter Enterprise 5.0
- III. Upgrade Test Systems and Customizations
- IV. Upgrade Production Environment

# I. Perform Infrastructure Updates



- Items to Upgrade or Update:
  - The Database Manager
  - The Operating System
  - Java Security (for Web Based Clients)
  - HTML Conversion
  - HTML, JavaScript and Java
- Contact UGS ahead of Time to Ensure compatibility w/ existing TC-Ent systems
- Perform on Test server first and QA to verify compatibility w/ existing TC-Ent systems

# I. Perform Infrastructure Updates, Specifics 1



- **Updating Oracle:**
  - TC-Ent 5.0 Binaries are released with Oracle 9.2.0.4. Hence, you should be at that level or higher.
- **Updating Java Security:**
  - Update `java.policy` to grant Java permission to launch TC-Ent exe files.
  - Update `java.security` file to ref. `java.policy`

# I. Perform Infrastructure Updates, Specifics 2



- HTML Conversion
  - Requires a Java 2-compliant VM
  - Sun's VM meets these requirements
  - HTML files installed w/ 5.0 have already been converted.
  - If you want to continue to use existing HTML files, those files must be converted.
  - An HTML converter is available from Sun Microsystems at <http://java.sun.com/products/plugin/index.html>

# I. Perform Infrastructure Updates, Specifics 3



- Online (HTML) Documentation Web Browser Requirements:
  - HTML v3.2 or later
  - JavaScript 1.0 or later
  - Java 1.0.2 or later
    - Both Netscape Navigator 4.0 (and later) and MS IE 4.0 (and later) meet the required criteria.
    - Web Browsers that support e!Vista clients also meet the required criteria.

## II. Install Teamcenter Enterprise 5.0



- Req'd. if your site has client or server customizations (don't we all?)
  1. Install TC-Ent 5.0 as a standalone, *disposable* installation for the purpose of verifying and updating your customizations
  - 2. Create a Customization Environment
  - 3. Copy source files into your Customization Environment
  - 4. Test and Update your Customization files as needed
  - 5. Apply custom modules in production instance of the new/disposable installation.
  - 6. Repeat steps 1-5 for all platforms where the customizations are to be applied.

## II. Install Teamcenter Ent. 5.0, Specifics 1



- Create a TC-Ent. 5.0 Installation Environment
- Copy Installation Files
- Install TC-Ent Licenses
- Launch the Installation Utility
- Modify Class Configuration Variables
- Modify Mixin Configuration Variables
- Modify the host\_db\_map for MetaSM
- Verify and Generate the Configuration Files
- Execute the pushall command
- Verify the Installation

## II. Install Teamcenter Ent. 5.0, Specifics 2



- Upgrade Installations on Non-corporate Hosts
  - Complete steps listed in the TC-Ent server installation manual for (Windows or UNIX)

## II. Install Teamcenter Ent. 5.0, Specifics 3



- Upgrade TC-Ent 5.0 Clients
  - UNIX Systems:
    - Install the client as described in the Client Installation manual.
  - Windows Systems:
    - Close all Web browsers
    - Delete the *mitinstance-name.ini* file from the Windows home directory
    - Install the client as described in the Client Installation Manual

# III. Upgrade Test Systems and Customizations



- Create a Full/Cold Backup the Database(s)
- Create a Customization Directory
- Create a Merged MODeL File
- Create a New Test Db if you do not already have one that you can afford to loose
- Verify and Complete Prerequisites
- Upgrade a Test Database System
- Verify the Upgrade (Ch. 6)
- Install the Customization
- Perform Post-installation Steps
- Run Db Validation Utilities / Scripts

# IV. Upgrade Production Environment



- Create a Full/Cold Backup the Database(s)
- Verify and Complete Prerequisites
- Clear Event Ques
- Integrate Database Indexes
- Run the Upgrade Program
- Verify the Upgrade (Ch. 6)
- Upgrading in a Multi-Host Environment
- Perform Post-Installation Steps
- Run Db Validation Utilities / Scripts
  - Ref. Ch. 7 of Network and Database Admin. Guide)

# Congratulations on Your Successful Upgrade





# How Can UGS Simplify the Upgrade Process?



- Please Automate the Validation Process
- Provide Source Compilation Service to eliminate the need for a full/disposable install.
- Log errors from Update program into separate log files for easier review/analysis.

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# Questions and Answers



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# Can You Name All 14 Languages?

