UGS

Transforming the process of innovation

Teamcenter Content Management

PLM World 2006
Michael Coleman
May 10, 2006

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Overview

- Defining & supporting Products is very challenging
- Teamcenter is employed to improve the efficiency of the Product definition and support processes
- A critical element of the definition is the Support Documentation. An issue is this activity is traditionally managed employing stand alone content management systems.
- ***Content Management*** module enables Support Documentation to be managed as an integral element of the definition managed by Teamcenter

Defining the product and support documentation in a common environment results in significant benefits

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Challenges

- Ensure consistent structure, format and terminology
- Managing publications for each product variant
- On critical path but dependant on engineering data flow
- Multiple sources & formats of input data
- Maximize element reuse
- Large volume of elements
- Managing approval process
- Viewing status of a manual
- Multi-channel output
- Long product lifecycle – complex history

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Content Management

Description

- Content Management / Compound Documents – manage the generation and publishing of SGML/XML based information
- Applications of content management include:
  - Technical and Users Manual generation – aerospace, defense, automobile, machinery, consumer products
  - Online and off-line Parts and Product Catalogs generation
  - MRO – Logistics Support documents (e.g. maintenance or repair instructions)
  - Content Labels and Packaging – drug and CPG
  - Manufacturing Process Sheet generation
- Support for multiple language versions of components

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Typical Technical Publications Lifecycle

AUTHOR: Create / Layout / Manage Assets

PUBLISH: Export documents for viewing

INPUT: Leverage Enterprise Knowledge

VIEW: Examine authored documents

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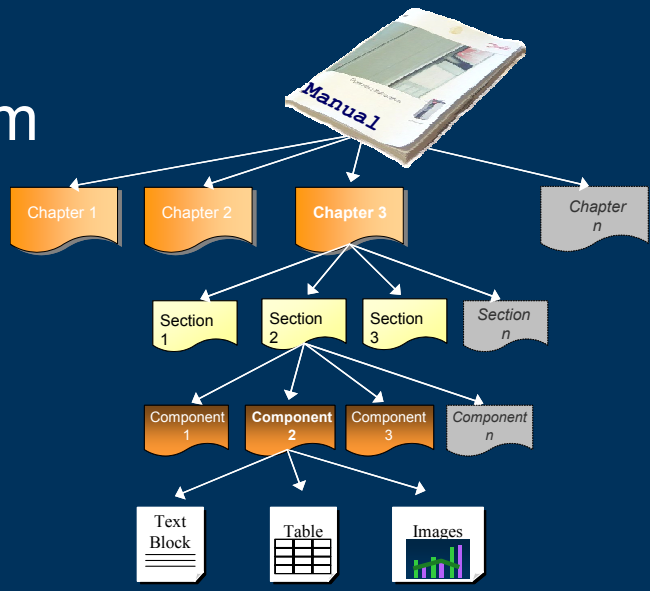
Compound Documents

XML/SGML Components

- Separates content from format
  - Enforces corporate standards
  - Ease of changing look and feel
  - Moves content contribution upstream
- Facilitates content reuse
- Supports intelligent content exchange
- Structured (SGML or XML)
  - Multi-channel output - Style sheets
  - Consistent structure - Schema / DTD
  - Validation - Schema / DTD
  - Archiving in standard format



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Disconnected Input

Often 2 systems (e.g. Documentum & XMetaL)

AUTHOR: Create / Layout / Manage Assets

PUBLISH: Export documents for viewing

Publications Content Management

INPUT: Leverage Enterprise Knowledge

VIEW: Examine authored documents

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Teamcenter Content Management

Seamless Solution

Function	Publications Content Manager	Product Data Manager	Teamcenter
Vaulting	✓	✓	✓
Version Control	✓	✓	✓
Structure Mgt	✓	✓	✓
Metadata Searching	✓	✓	✓
Full Text Searching	✓	✓	✓
Access Control	✓	✓	✓
Workflow	✓	✓	✓
Source & Rendition Mgt	✓	✓	✓
Variant Management	✓	✓	✓
Status Reporting	✓	✓	✓
Product Configuration Mgt	✗	✓	✓
CAD Integration	✗	✓	✓
Engineering Change Mgt	✗	✓	✓
ITAR / IP Mgt	✗	✓	✓
View & Mark-Up	✗	✓	✓
Program Mgt Integration	✗	✓	✓
Multi-site collaboration	✗	✓	✓
Composition	✓	✗	✓ ✉
Editor Tool Integration	✓	✗	✓ ✉
DTD/Schema Mgt	✓	✗	✓ ✉
Stylesheet Mgt	✓	✗	✓ ✉

✉ Introduced with Technical Publications Module Q2 2006

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Seamless Product & Publication Definition

Product

Support Documentation

Define → Author / Publish

Deliver As-Built

Modify Definition → Amend / Publish

Incorporate

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Content Management

Why Teamcenter

- More Robust Platform - Teamcenter functionality overlaps the specialized content management systems and Teamcenter is much more powerful in significant / key areas
  - Relation management
  - Workflow
  - Change management
  - Security – including ITAR
  - Configuration management
- Teamcenter owns the product definition

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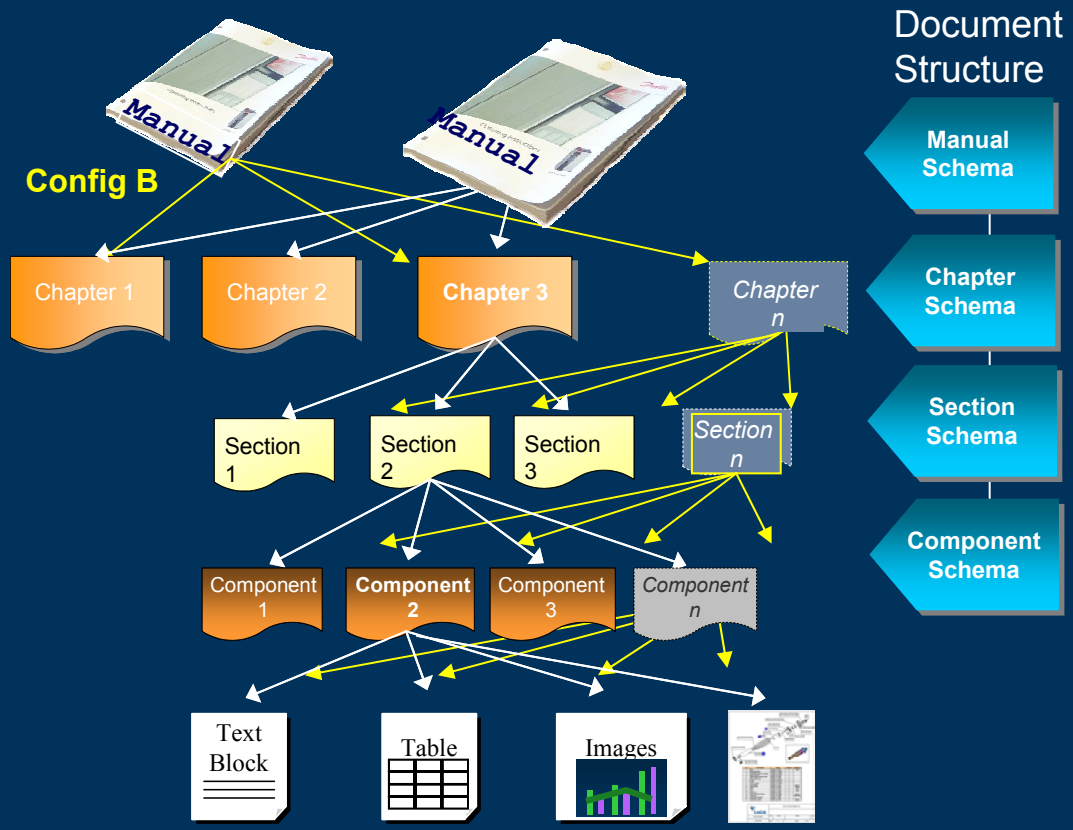
Compound Documents

- "Decompose" document to reuse individual "components"
- Leverage Teamcenter to manage document structure
  - Configuration
  - Effectivity
  - Change mgmt
- Manage multiple configurations
  - CBOM
  - MBOM
  - Service BOM



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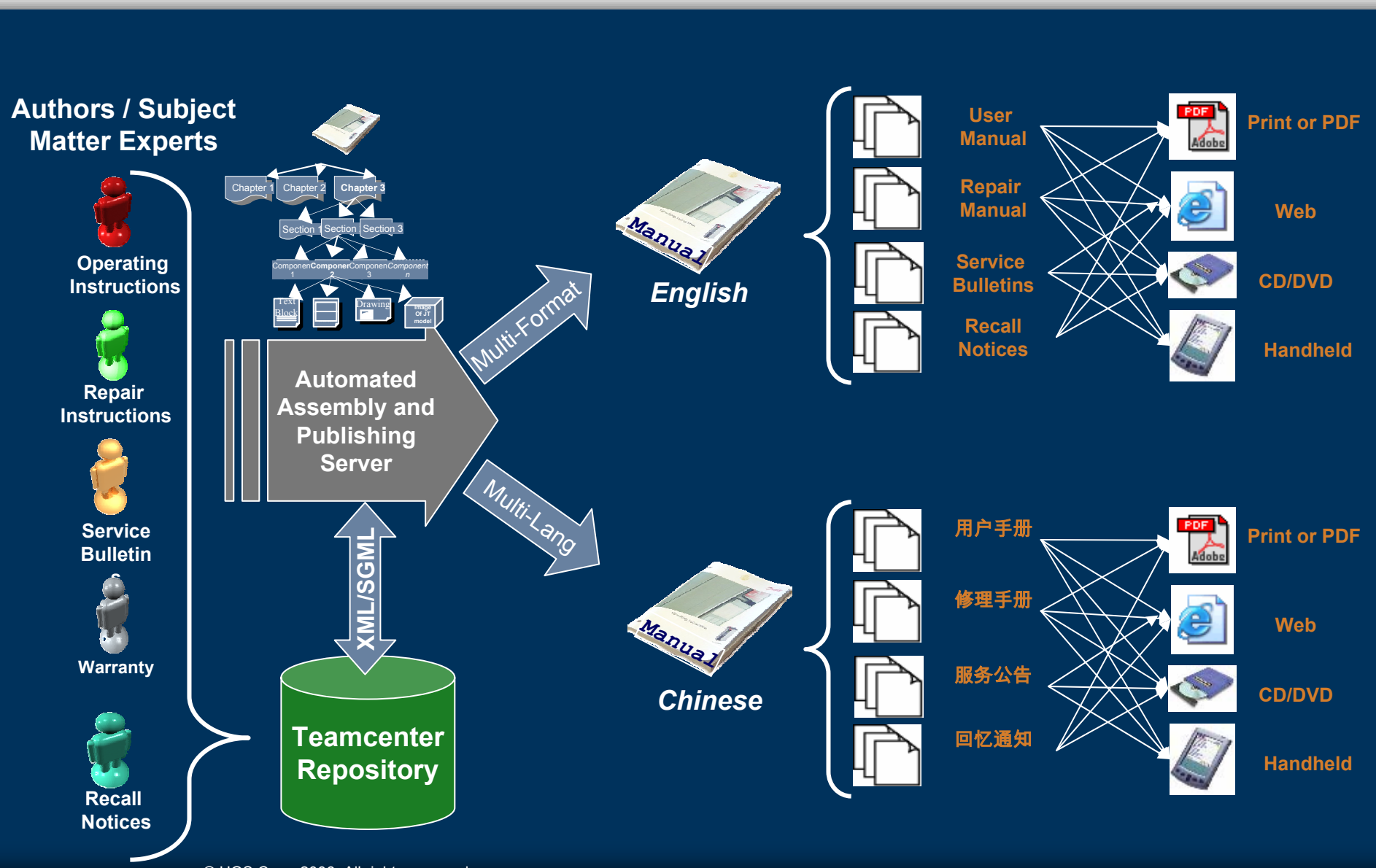
Content Management

Multi-Channel Publishing



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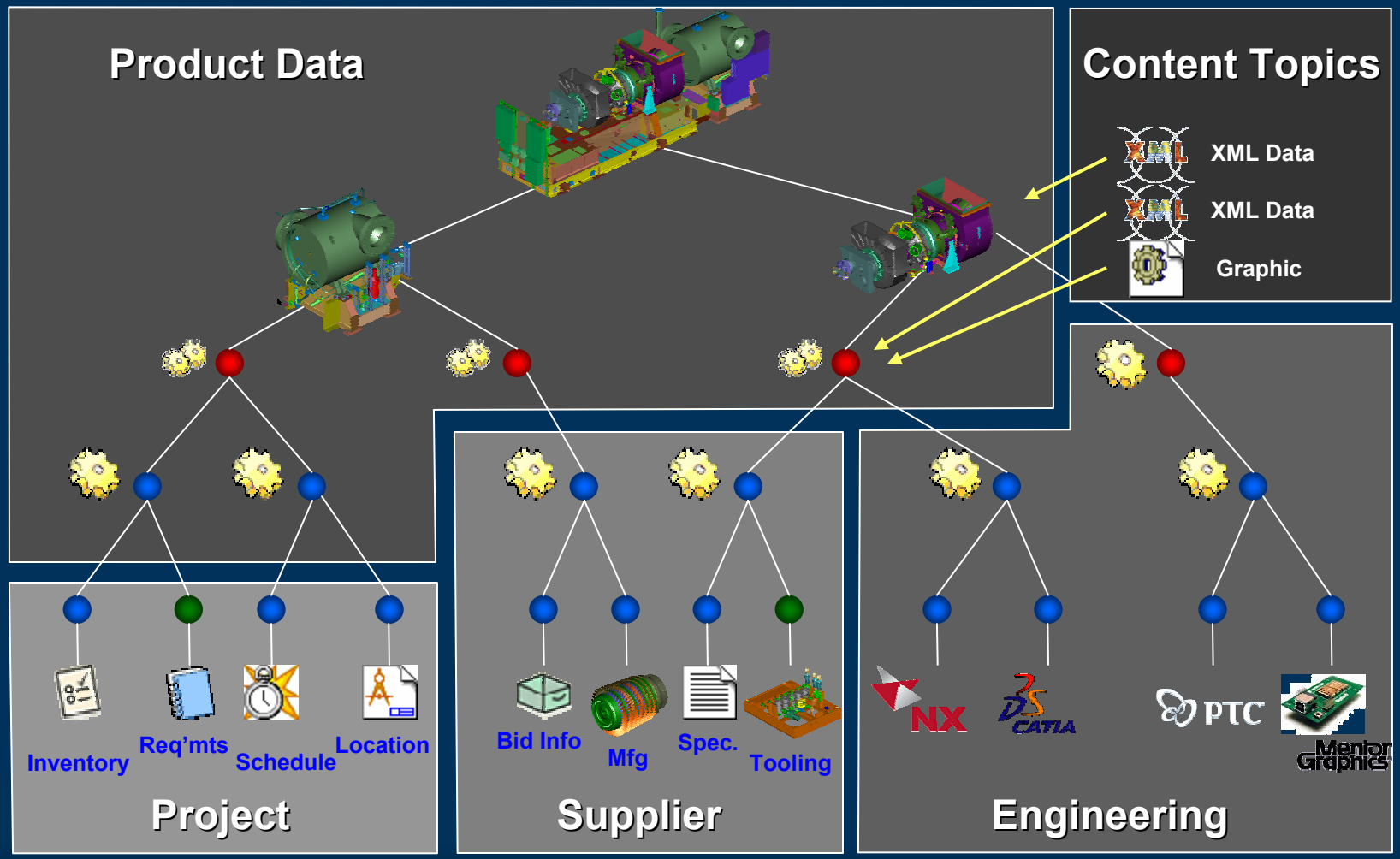
Product Centric Management

TEAMCENTER

Typical structure of configured product data



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Content Management
Approach

- Build “platform” for content management (components, structure, languages, …) on Teamcenter
- Provide framework to support any SGML/XML applications
- Manage graphic components
  - Multiple formats
  - Multiple languages
- Support leading SGML/XML applications
  - Authoring (e.g., XMetaL, Arbortext Editor, XMLSpy)
  - Publishing (e.g., XSL Formatter , XPP, Arbortext Publishing Engine)

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Content Management

Rich Client

Perspectives (Administrator, Content)

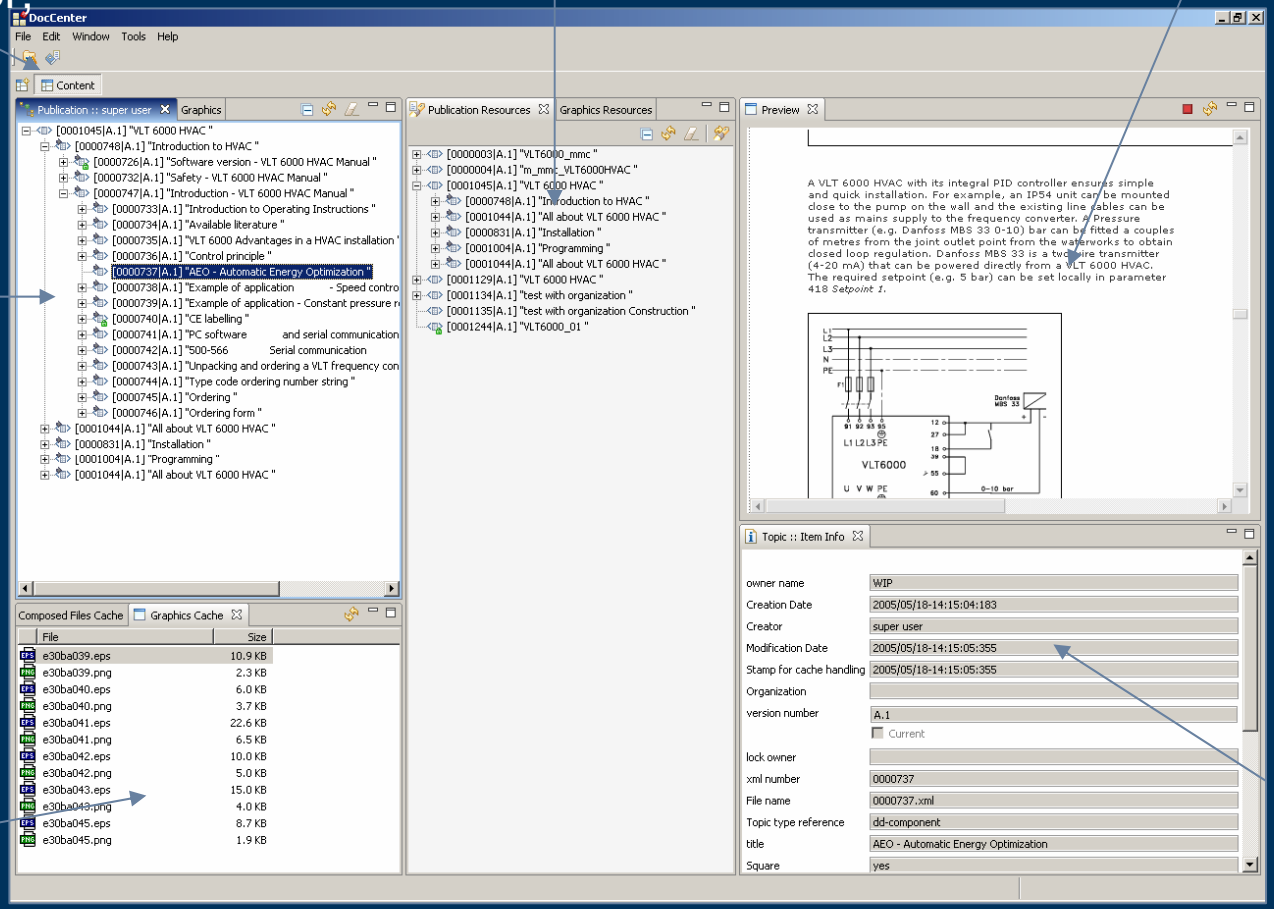
Query browser

Content preview Editor plugin (future)

Active work view

Cache view

Item info
Item create/ update forms



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Content Management

Authoring Application Integrations

- Application centric
  - Insert menu actions
    - Save to Teamcenter
    - Query – Topics, Graphics, Used By
    - Import Graphics
    - Publish
  - Update controls – topics the user can update
- Integration at a file level

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Teamcenter Menu

XMetaL Author - [005910_ema8knta.xml]

DocCenter File Edit View Insert Tools Table Comment Window Help

- Close Ctrl+Alt+C
- Save and Close Ctrl+Alt+S
- Save with same Translation
- Query Topic
- Query Graphic
- Query "Used By Publications"
- Import Graphic Option
- Publish
- About Plugin

The index-termLC filter reduces the

component

LCP control unit

Control unit with display and keypad f

Enclosure: IP 65.

component

Remote-mounting kits for L

The remote kit option makes it possib

tabletgroup PubTbl tgr

between VLT and unit:3 mr

component

IP 4x top cover

IP 4x top cover is an optional enclosu

If an IP 4x top cover is used, an IP 2

section / component / graphic / graphic-data

section title General - VLT 5000 Datasheet /title

component title Accessories for VLT 5000 Series /title

para /para graphic

Terminal cover

LCP control unit

IP4x, top cover

graphic-data/ /graphic

newpage/ /component

component title LC filter module /title

para The index-term label1 LC filter /label1 /index-term reduces the voltage rise time (dV/dt) and the ripple current (ΔI) to the motor, thereby making current and voltage almost sinusoidal. The acoustic motor noise is therefore reduced to a minimum. /para para See also instructions MI.56.DX.51. /para

line/ /component

component title LCP control unit /title

para Control unit with display and keypad for programming VLT frequency converters. Available as an option for IP 00 and IP 20 units.

newline/

Enclosure: IP 65. /para

line/ /component

component title Remote-mounting kits for LCP /title

para The remote kit option makes it possible to move the display from the frequency converter e.g. to the front panel of an integrated cabinet.

newline/ /para

table

tgroup

Insert Element

Used All

Change Insert Apply

Attribute Inspector

graphic-data

name	C:\DocCenter_Review
magnificatic	80
scale-to-fit	
repro-depth	
repro-width	
alignment	
column-no	one

005910_em...

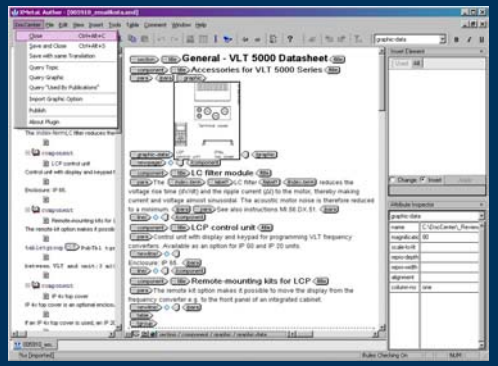
%s [imported]

Rules Checking On

NUM

Content Management

Authoring Process



- User create/update components/topics
  - Create new topics
  - Update existing topics
  - Support Read Only / Reference – in context operation
  - Cache topics in client
- Decomposition
  - Register topics into Teamcenter
  - Support attribute exchange
  - Supports import of new documents

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Content Management
Publishing

- Composition - select the appropriate components
  - Follow Document Structure
  - Support attribute exchange
  - XML Content from Teamcenter reports
  - Graphics – format appropriate for target publication
- Provide entire content to publishing application
- Manage the rendition of the publication

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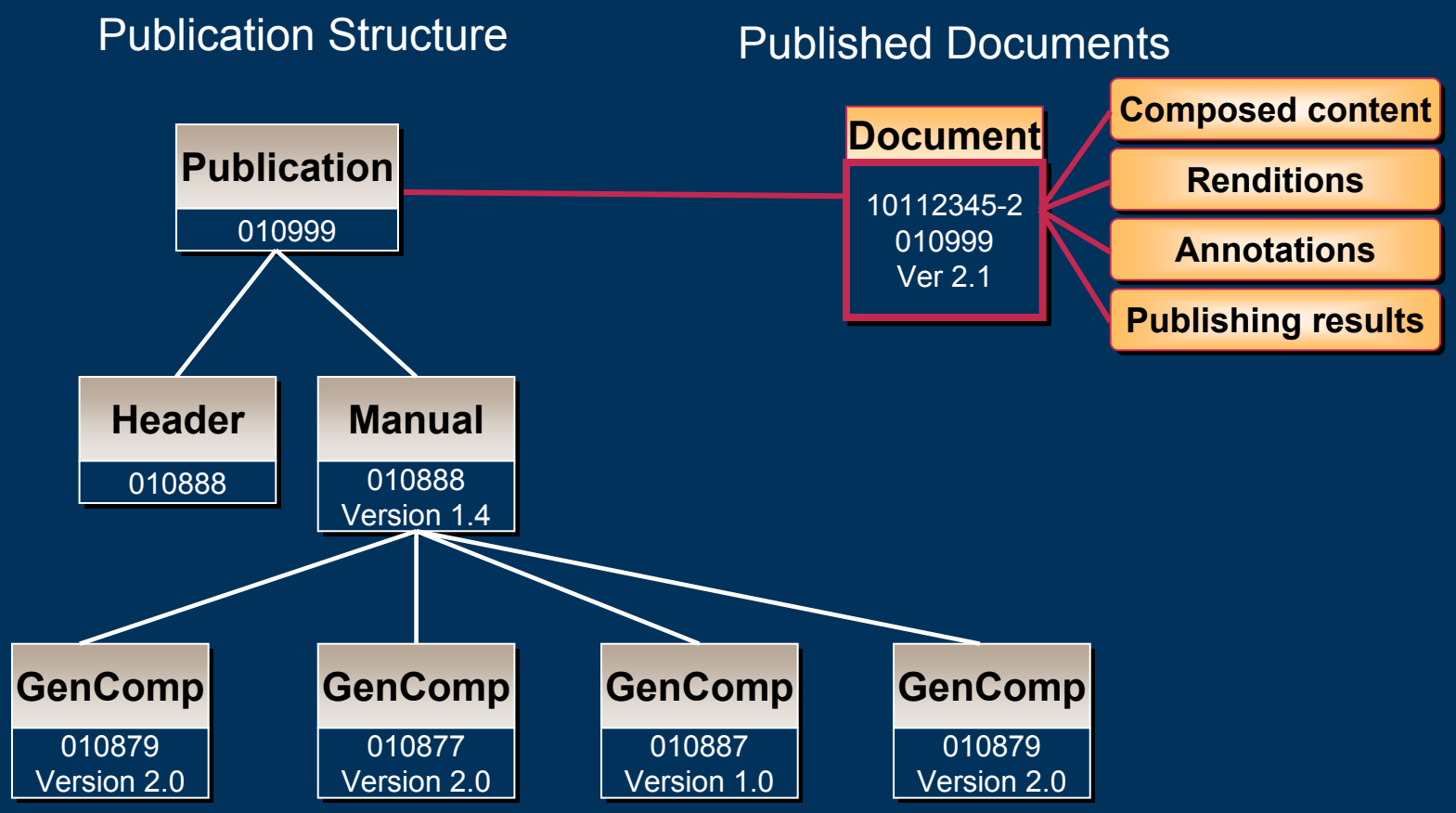
Managing Publishing



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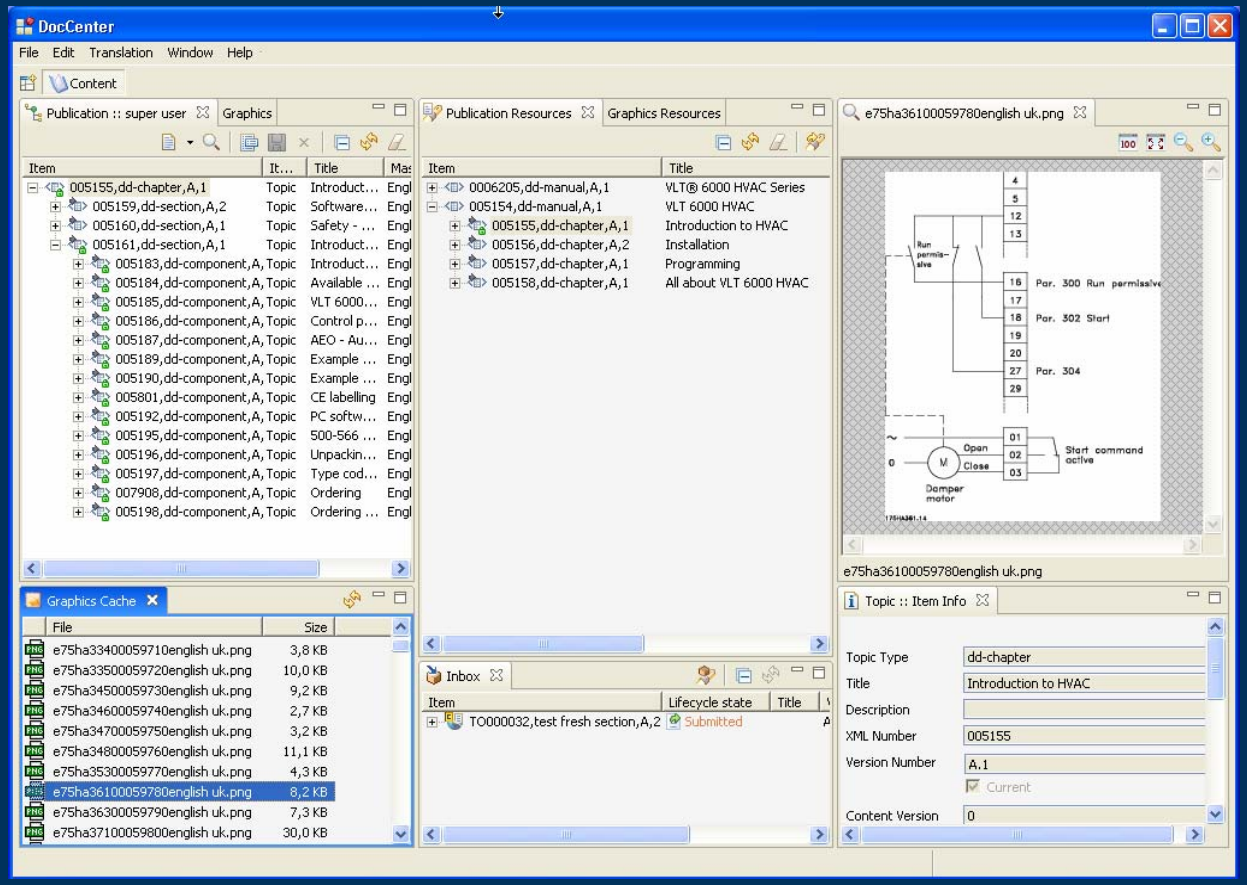
“Demo”



Scenario – a user needs to replace a graphic and add text to a section of an existing document.

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Graphic Management

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Graphic Management

- No restriction on the graphic format
  - Limited by the Authoring and Publishing applications
- Capture / Import Graphics
  - Manual entry
  - Document Decomposition
    - Document Import
    - User Authoring Session

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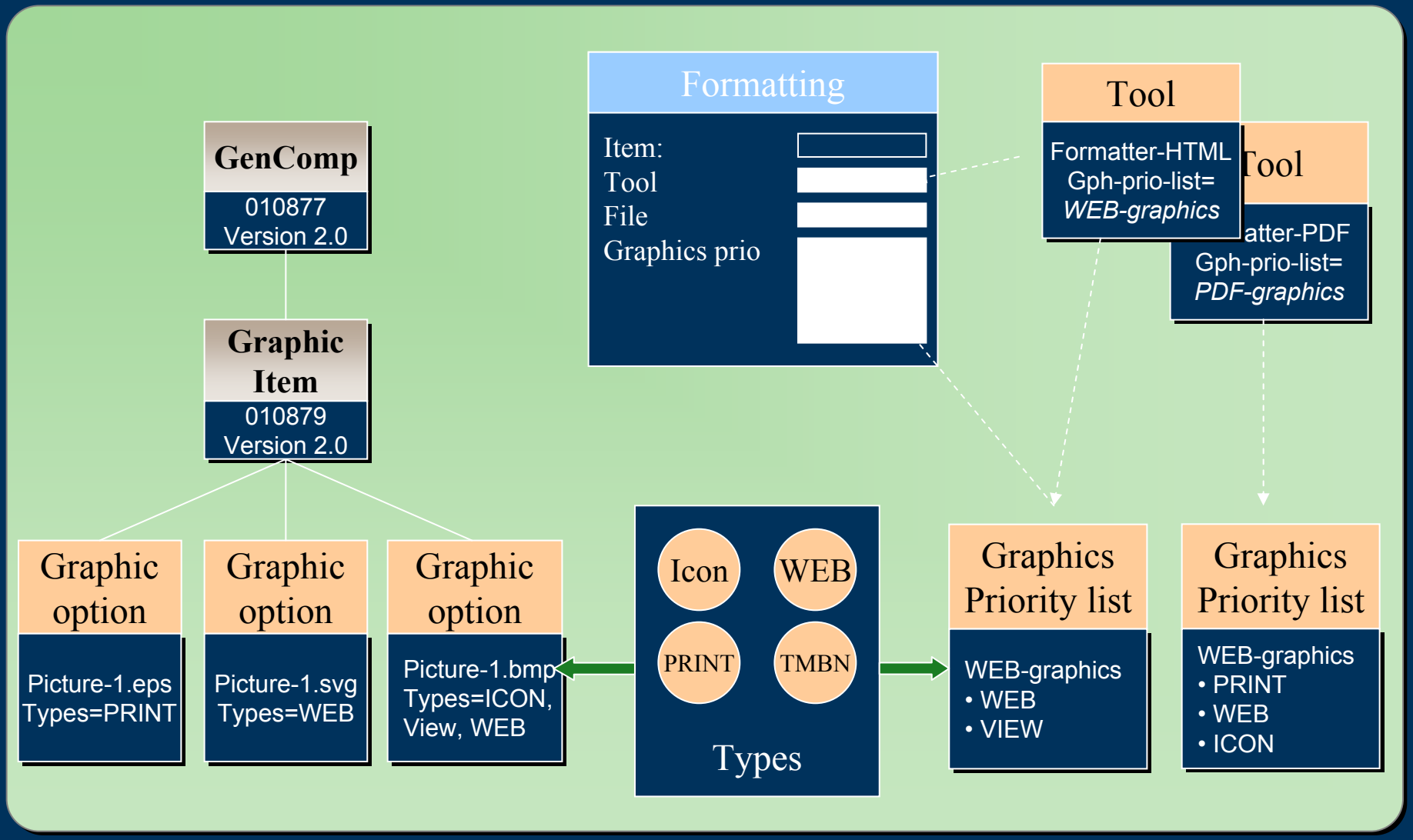
Graphic Management



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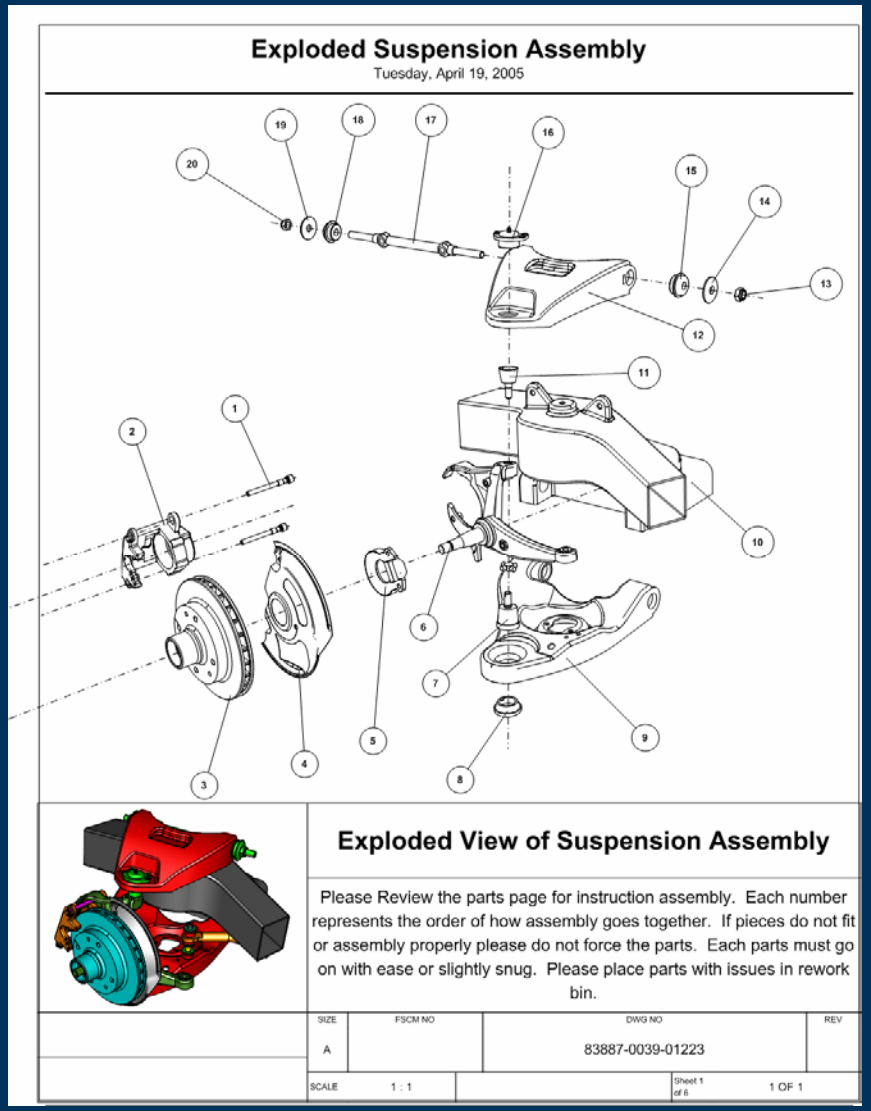
Teamcenter Visualization Publishing

- Significantly Reduce Time & Cost of Creating Graphics for Technical Publications
- Reduce Rework Effort with Automatic Geometry Updates
- Eliminate 2D Drawings with Dynamic 3D Viewing employing common viewers



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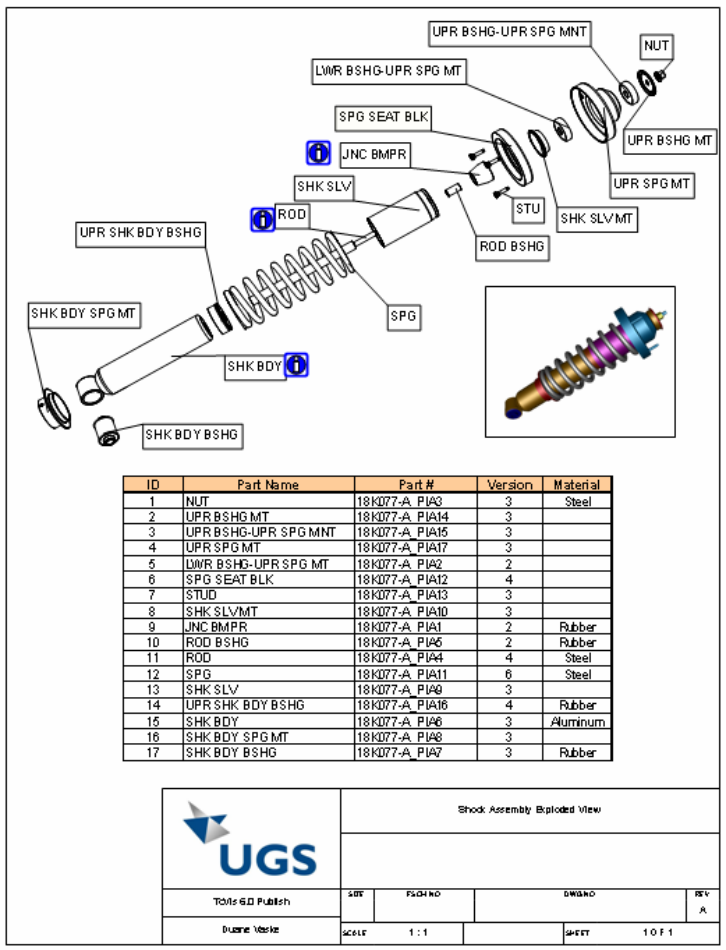
Key Functionality Overview

- Capture 3D Geometry Assets
- Author Technical Illustrations
- Advanced Editing
  - Callouts and Symbol Manager
  - Thrustline Editor
  - Advanced 3D Capture



ID	Part Name	Part #	Version	Material
1	NUT	18K077-A_PIA3	3	Steel
2	UPR BSHG MT	18K077-A_PIA14	3	
3	UPR BSHG-UPR SPG MNT	18K077-A_PIA15	3	
4	UPR SPG MT	18K077-A_PIA17	3	
5	LWR BSHG-UPR SPG MT	18K077-A_PIA2	2	
6	SPG SEAT BLK	18K077-A_PIA12	4	
7	STUD	18K077-A_PIA13	3	
8	SHK SLV MT	18K077-A_PIA10	3	
9	JNC BMPR	18K077-A_PIA1	2	Rubber
10	ROD BSHG	18K077-A_PIA5	2	Rubber
11	ROD	18K077-A_PIA4	4	Steel
12	SPG	18K077-A_PIA11	6	Steel
13	SHK SLV	18K077-A_PIA9	3	
14	UPR SHK BDY BSHG	18K077-A_PIA16	4	Rubber
15	SHK BDY	18K077-A_PIA6	3	Aluminum
16	SHK BDY SPG MT	18K077-A_PIA8	3	
17	SHK BDY BSHG	18K077-A_PIA7	3	Rubber

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Teamcenter Content Management Plans

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Planned Availability

- Enterprise 2005 SR1 — Q3 2006
- Teamcenter 2007 SR1 — Q2 2007

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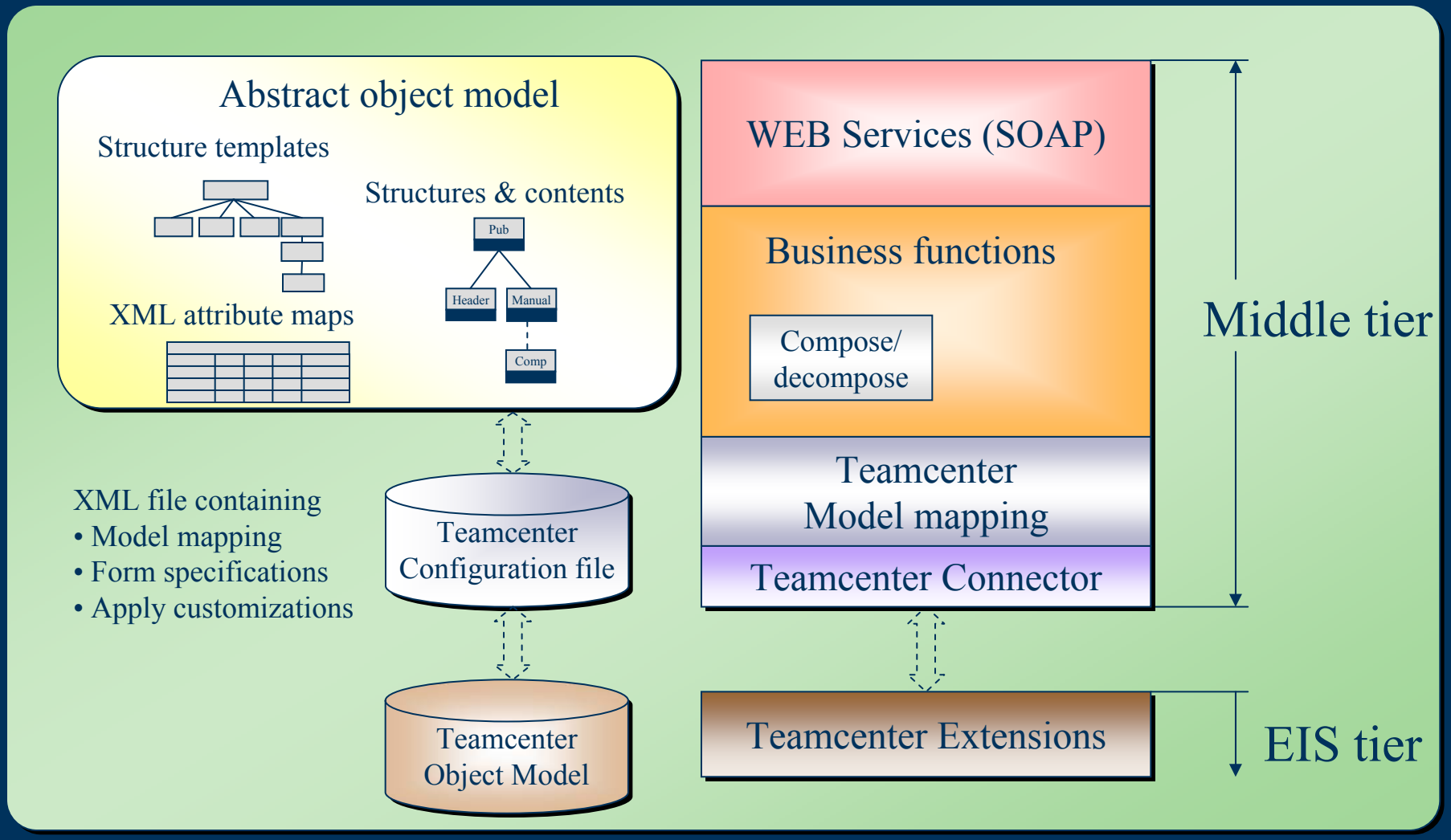
Content Management

Architecture



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Content Management

Planned Projects in 2007

- Enhance existing features
  - Thin client support - consumer
  - Usability Improvements
  - SGML Support
  - Authoring application integrations
- Support for S1000D and the CSDB

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Content Management

Potential Projects in 2008

- Enhance existing features
  - Thin client support - Author
  - Usability
  - Base Functions
- Support Product Structure for content management
- Tight Integration with Teamcenter Visualization Publish for graphics generation
- Support DITA
- Support for ATA

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Conclusion

- Complex Technical Publications led to introduction of compound documents and supporting content management systems
- Complex Product Development led to introduction of Product Data Management systems
- Issues:
  - Flow from product development to publications not well integrated
  - Major overlap in functionality of Content Mgt and PDM systems

Introduction of Teamcenter Technical Publications provides very cost effective integrated capability

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