Content management

Managing the development of structured documentation within PLM
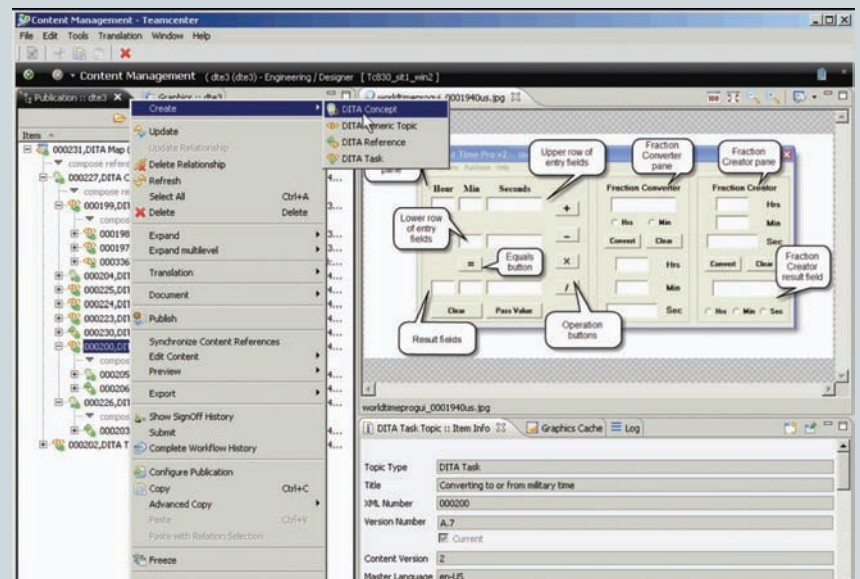
Benefits
- Improves productivity by establishing standards for document authoring/ collaboration
- Accelerates time-to-market by leveraging SGML/XML tools that enable you to rapidly author/publish documents and multiple product-related variants
- Improves compliance through the use of schemas that ensure documents conform to required structure and content
- Improves product launch success by providing a single source of product knowledge that facilitates concurrent engineering and aligned communications for synchronized launch activities
- Reduces translation costs for global publications by re-using document components and tracking translations work/content
- Reduces documentation costs by re-using content components at an efficient level and eliminating cut-and-paste practices

Summary
Teamcenter® software's structured content management suite provides dynamic solutions for automating the activities associated with authoring, assembling and publishing complex product and/or service documentation in multiple languages and delivery formats. Teamcenter provides advanced integrations and customer-selected SGML/XML authoring and publishing tools. You can leverage these integrations and Teamcenter's smarter and faster authoring, review and publication capabilities to unify your product engineering and authoring processes, as well as to create and publish highly flexible and accurate documentation.

Business challenges
Ideally, documentation should be developed in concert with your product development process. Unfortunately, all too often, authors create and manage their work in isolated environments, with the result that technical publications groups need to perform significant rework as engineering changes occur late in the development process or even worse, they fail to deliver a document on time for the product release.

TEAMCENTER

SIEMENS

Content management

Benefits *continued*
- Improves accuracy and quality by linking engineering and documentation components so that changes can be planned, completed and verified before publishing
- Improves interchange of document content by supporting industry standards, including S1000D and DITA

Features
Managing document content
- Document components at an appropriate level of granularity for management and re-use
- Document structures similar to bills of material
- Ability to maintain relationships between original documents and multiple outputs, including PDF and web

Clone and re-use by reference capability
- Ability to clone or reference existing topics to build document trees
- Ability to clone or reference within authoring tool
- Creation of template and boilerplate content as a starting point or for re-use

Search capability
- Where-used searching for impact analysis
- Saved and ad hoc queries
- Full-text searches

Change management
- Revision (document release)
- Sequence (interim or work-in-progress edits)
- Content-level (to correct relation of source versions to translated content versions)

Translation
- Ability to manage components in multiple languages and their relationship to each other

These unaligned and serial processes can cause companies to release their products to market without proper documentation, labeling or regulatory filings and often delay the product launch all together.

Teamcenter functionality
In today's fast paced global economy, documentation is critical to product launch and delivery. With this in mind, Teamcenter enables you to incorporate content management into your product lifecycle management (PLM) so that you can:
- Establish standards for documentation input and collaboration
- Leverage advanced content authoring and management
- Automate and optimize publication and distribution

For advanced documentation needs, you can extend your Teamcenter environment with content management capabilities that utilize SGML/XML applications to improve the processes associated with authoring, assembling and publishing product and service-related documents in multiple languages and output formats.

Facilitating seamless product and publication definition

Teamcenter addresses issues traditionally associated with document creation and technical publication, including risks introduced when processes:
- Fail to enforce consistent authoring
- Involve manual formatting and publication tasks that impose time delays
- Require difficult engineering changes that affect applicable publications

- Rely on cut and paste operations to multiple documents, instead of effective content re-use
- Require content rework for different delivery channels

In today's knowledge-based economy, companies are driven to meet customer demands for product and service information that is highly accurate, relevant and consistently up-to-date. Teamcenter eliminates the repetitive, error-prone processes normally associated with developing standard documents and technical publications. Teamcenter enables content authors and product teams to create, manage and publish vast amounts of technical systems information in sync.
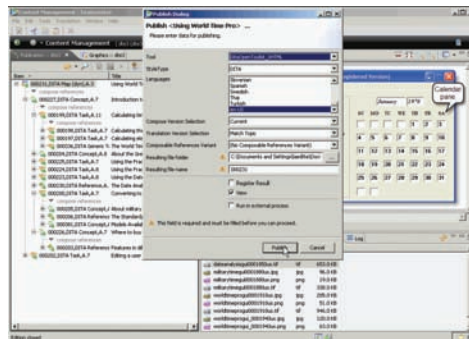
Teamcenter can automatically perform full text indexing and document rendering to facilitate reviews. Teamcenter supports dynamic publishing by applying style sheets to content based on configuration, revision or effectivity considerations.

When using Teamcenter's content management capabilities, a document's content is separated from the format defined by the style sheet; users can easily format or render the same document for print, web or interactive electronic technical publications (IETPs). Teamcenter also makes it easier to publish documentation in multiple languages for each required output format. You can use Teamcenter to author and publish:
- User and owner manuals
- Parts and product catalogs and data sheets
- Training documentation
- MRO logistics support documents
- Service and repair manuals
- Specifications
- Resource descriptions
- Costing and estimating documents

Underlying concepts
Teamcenter enables you to manage your product development processes and document/publication support processes in the same, single environment with common product knowledge available to your entire team. Teamcenter allows you to create connections between source

Features *continued*

- Translation orders and workflows to manage internal or external translation work assignments at any document level
- Matrix to track translation task status by components, vendor and language
- Ability to receive and import translations automatically

Graphics

- Built-in graphics viewer
- Ability to manage multiple formats and languages to optimize target output, including web and PDF
- Ability to easily search and reference graphics from XML/ SGML components

Ease of use

- Drag and drop topics to build documents
- Real-time access to topic metadata
- Document structure navigation at single or multiple levels with simple click
- Drag and drop relationship between style sheets, DTD and schemas to simplify configuration of document types
- Graphic workflow development and viewing
- Built-in preview and publish viewer
- Configurable lifecycle states to control access and processes at different stages of document development

content and related documents within the context of your workflow and business processes – for example, the relationships between a part or assembly definition (e.g., BOM and CAD data) and associated illustrations or parts tables that appear in technical documents.

Teamcenter provides open solutions that support industry-leading SGML/XML authoring and publishing engines, thereby enabling you to create and render documents in multiple formats using automated processes.

Use cases

Structured content management By letting you include technical writers in the PLM environment, Teamcenter enables these stakeholders to contribute directly to product launch processes and draw upon product engineering source data to create content as it is needed in your documents. Documentation teams can decompose documents into components that are the right size to justify their continued management and still support re-use in multiple instances. These components can be managed from a single source of information and leveraged to publish or update multiple documents.

You can access the Teamcenter repository to make a change to a single component that subsequently can be applied to multiple documents containing the original information. This practice is especially valuable for ensuring information integrity and accuracy. Managing a single source also reduces translation cost by enabling you to limit

translation requests only to those components that have changed – and then re-using these translated components in multiple documents.

Automating key documentation processes Teamcenter's workflow capabilities enable document teams to speed their review/approval processes, optimize their change processes and trigger audience-specific publication processes. Teamcenter-driven workflows enable companies to publish and deliver the right information to the right audience at the right stage in the product lifecycle.

Document teams can leverage Teamcenter's change management capabilities to ensure that product changes are executed through standardized best practices and include the necessary document changes. In addition, Teamcenter-driven workflows can automatically initiate processes that deliver audience-specific publications in the appropriate format.

Integrated total product development Teamcenter's single source of product knowledge brings product engineering and documentation teams together in an environment where change can be captured and communicated to all of the product launch's stakeholders. Engineering changes can be identified immediately and applicable content, such as parts, tables or graphics, can be automatically incorporated into documents and publications.

Document management
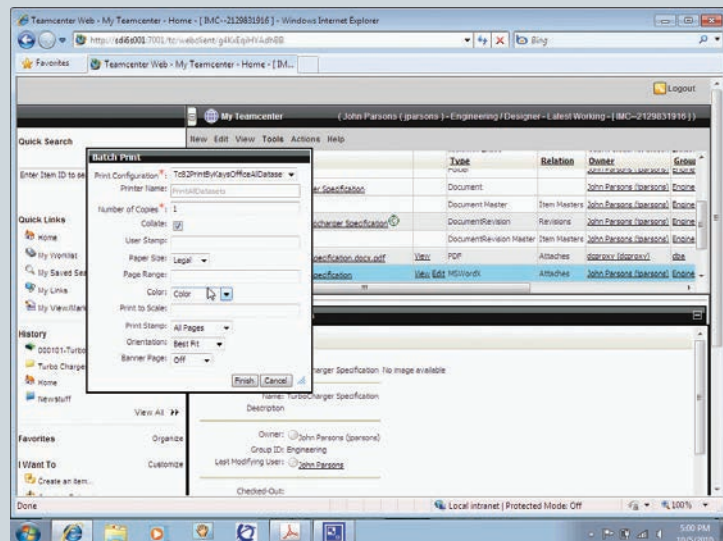
Solving the document dilemma with PLM

Benefits
- Improve productivity by establishing standards for document authoring/ collaboration and enabling key information (including document content and properties) to be exchanged and directly leveraged with Teamcenter
- Accelerate time-to-market by leveraging CAD and Microsoft Office tools to rapidly author/produce documents directly to and from Teamcenter
- Improve compliance by using templates to ensure that documents conform to required structure and content
- Improve product launch success by leveraging a single source of product knowledge that facilitates concurrent engineering and aligned launch activity
- Reduce document confusion by leveraging a single source for secure document authoring, review and access
- Improve accuracy by linking all engineering and document teams
- Improve quality by enabling product and document changes to be planned and verified

Summary
Teamcenter® software's document management solution enables knowledge workers using applications from CAD to Microsoft Office and everything in between to directly participate and contribute to the product lifecycle. Authors of spreadsheets, documents, presentations, diagrams and projects can interact with your product lifecycle management (PLM) environment from within their application of choice. Their involvement in this environment facilitates their contributions and enables supporting documents to be managed alongside engineering and manufacturing product information. Authors can use that product information within their documents and participate in multiple product-related processes. Teamcenter's document management capabilities facilitate the standardization and management of documents and document processes, thereby enabling greater productivity and reduced cycle time in the product lifecycle.

Business challenges
Ideally, documents that support product development efforts should be developed in concert with your product development processes. Unfortunately, all too often, document authors create and manage their work in environments with no connection to their product data. As a result, documents are

SIEMENS

Document management

Features

Microsoft Office interface
- Managed bi-directional data exchange between Teamcenter and Office documents
- Standardized template usage based on document types
- Embedded Office-centric Teamcenter interface
- Synchronization of MS Outlook tasks with PLM tasks

Full repository management
- Access and security management by document types, states, user roles, groups and individuals
- Animated and ad hoc workflow
- Change management of versions (releases) and sequences (interim edits)

Search capability
- Support for derived document relationships (where-used)
- Full metadata and full text search
- Saved and ad hoc queries

Editing
- Ability to easily search and add JT™ format and other graphic conventions directly into your documentation
- Mark-up management for simultaneous reviews
- Configurable lifecycle states to control release at different document stages

Ease of use
- Embedded Teamcenter tab in MS Office applications
- Automatic rendering to PDF and other neutral formats
- Batch printing with watermarks and stamps
- Graphic workflow development and viewing

often out of sync with product information and progress in an uncontrolled manner that may not support your product schedules and processes.

Misaligned and serial processes can cause companies to miss product launches due to incomplete or improper documentation, poor labeling or incorrect regulatory filings. In some cases, it is not the lack of documents that is the problem but an overabundance of documents that impedes progress as questions concerning accuracy, current status and redundancy frequently occur.

Teamcenter's document management functionality

In today's fast paced global economy, documents critical to product development, such as product plans, trade studies, regulatory filings and marketing materials, are generated by engineers and non-engineering knowledge workers alike. Ensuring that these documents are captured, conform to required formats, meet project deadlines and use the latest product information is hard to accomplish outside of a PLM system. Teamcenter enables you to incorporate document management capabilities into your product development environment so you can:
- Establish standards for document input and collaboration
- Enable knowledge workers to participate and contribute directly to product processes
- Leverage up-to-date product information across all authoring processes
- Automate and optimize publication and distribution

You can use Teamcenter to implement templates for standard document formats, ensuring compliance with policies and regulatory requirements. With a
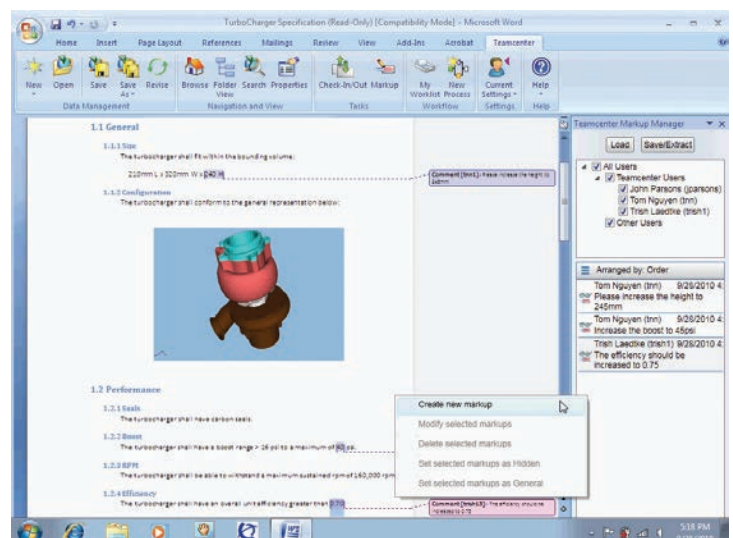
simple configuration, you can define document types, templates, full text indexing and document rendering requirements. This approach enables document authors to quickly create, modify and review documents in a familiar environment, thereby requiring less training to become productive. As a result, documents now can be authored in conjunction with product development to ensure correct content and alignment with your product launch processes.

Facilitating seamless product and document creation

Teamcenter addresses issues traditionally associated with document creation and management, including concerns that these processes:
- Fail to enforce consistent authoring
- Jeopardize schedule-related deadlines
- Fail to reflect product and project changes
- Inhibit rapid document review
- Promote redundancy

Teamcenter eliminates the repetitive, error-prone processes normally associated with developing and managing documents. Instead, it enables document authors and product teams to create, manage and publish vast amounts of technical systems information in unison. You can leverage Teamcenter to automatically perform full text indexing and document rendering, thereby facilitating more effective reviews. With mark-up management, multiple reviewers can simultaneously

provide comments on documents and reduce cycle time. You also can use batch printing with stamps and watermarks to ensure proper distribution and identify documents that must printed.

Teamcenter can be leveraged to author and publish a variety of documents, including:
• Specifications
• Resource descriptions
• Marketing presentations
• Costing and estimating documents
• Trade studies
• Correspondence
• Regulatory filings

Underlying concepts
Authors can create documents based on template and boilerplate files managed in Teamcenter by document type or access rights, thereby ensuring proper format and content. In-process and completed documents can be saved to Teamcenter, indexed for searching, rendered to neutral formats for review and submitted to workflow processes aligned with product development processes.

Teamcenter lets document authors manage their work in the PLM environment directly from their Microsoft Office applications in the same way that engineers access Teamcenter from within integrated CAD applications. This approach allows authors to use Teamcenter to directly search and access product information and then include this information in documents such as MS Word documents, Excel spreadsheets, Visio diagrams and PowerPoint presentations. An advanced Teamcenter integration for Microsoft Office increases productivity because users stay in a familiar application environment while benefiting from the power of Teamcenter. Document properties and content can be exchanged with

Teamcenter to reduce the need for keystroking (typing), while providing up-to-date content in both the document and PLM environment. A single, secure, global source of documents reduces document confusion that would otherwise lead to product decision errors, misfiled regulatory information or poor collaboration.
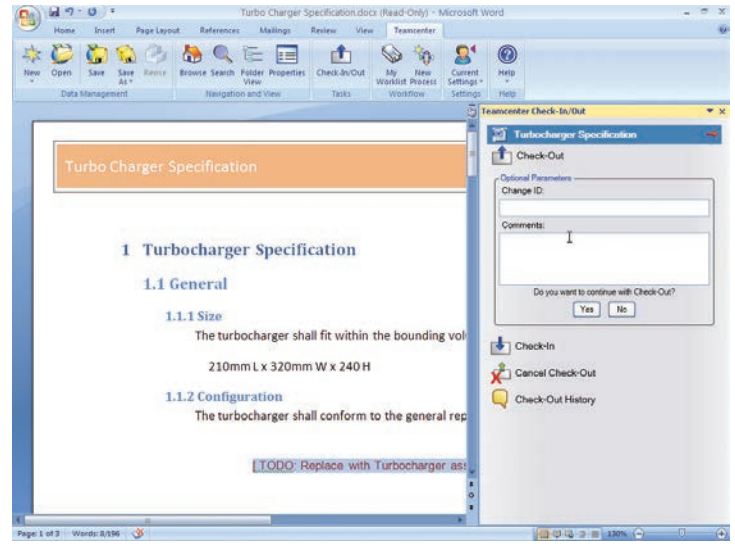
Teamcenter's document management solution embeds PLM power in Microsoft Office so that you can synchronize your PLM tasks with your Outlook tasks, maintain MS Office documents with related product information and directly participate in product processes that improve schedule and budget performance.

Use cases
Including document authors in your PLM environment enables them to contribute directly to product launch processes and draw upon product content as it's needed in your documents. Teamcenter also facilitates global document collaboration without risking document redundancy as documentation teams work in consistent and more accurate product development processes that drive on-time schedules.

Automating key document processes
Teamcenter's workflow capabilities enable document teams to speed review/approval processes, optimize change processes and trigger rendering and printing processes. You can leverage Teamcenter-driven

workflows to automatically deliver the correct documents to the right people at the right time, thereby facilitating on-time schedules and process efficiency. Document teams can use Teamcenter's change management capabilities to ensure that product changes are executed through standardized best practices and include necessary document changes. Teamcenter-driven workflows also can enforce standardized document review, approval and delivery processes.

Integrated total product development
Teamcenter's single source of product knowledge brings product engineering and document authors together in an environment where change can be captured and communicated to all product launch stakeholders. Regulatory filings can be created on the basis of current product information. Trade studies, reports and analysis-related spreadsheets can be revision controlled and linked directly to product processes and decisions to facilitate scheduling success.

Contact
Siemens Industry Software
Americas   +1 800 498 5351
Europe   +44 (0) 1276 702000
Asia-Pacific +852 2230 3333

www.siemens.com/teamcenter