

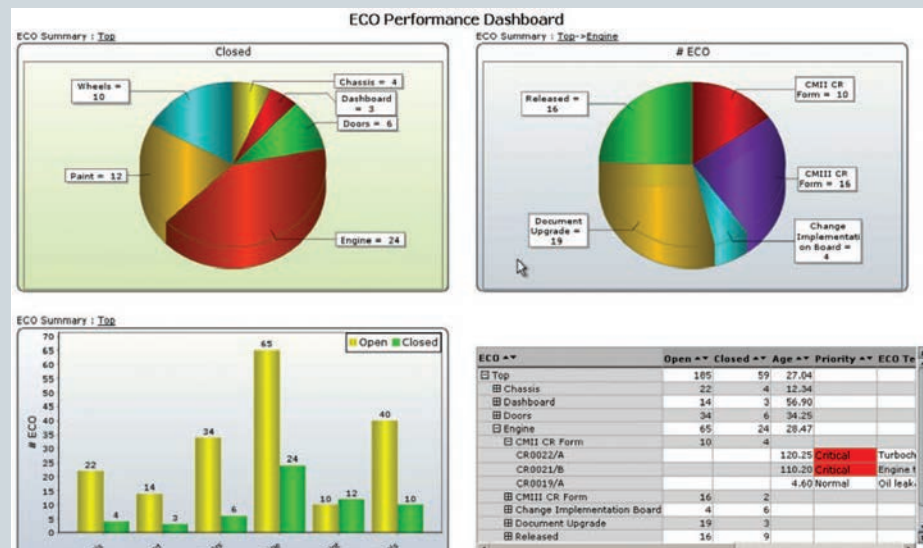
# Reporting and analytics

## Benefits

- Rapidly transform data from Teamcenter and other enterprise systems into actionable analyses for timely decisions
- Embedded dashboards and reports substantially leverage your Teamcenter investment enabling better products and smarter decisions
- Swiftly and accurately extract, aggregate, analyze and disseminate information from multiple sources for effective decision support
- Honor Teamcenter business rules, security model and client customizations for worry-free, secure deployment and distribution of information
- Simplifies end-users access for dashboards, reports, ad hoc reports and KPIs/metrics by embedding within Teamcenter or via a web browser window, portal, SharePoint portal or Teamcenter community
- Enables predetermined "actions" based on business "events", such as timely alerts or automating laborious and error-prone process steps

## Summary

Teamcenter® software's reporting and analytics solution provides capabilities that organizations can integrate into their PLM environment to gain unprecedented visibility into their business processes and Teamcenter-managed data. With the reporting and analytics solution, enterprises can establish an information infrastructure that allows them to quickly generate reports and analyses in a wide variety of formats from graphical dashboard displays to easily configurable HTML formats that are embedded in Teamcenter and can be delivered by email, generated as PDFs or exported to Excel spreadsheets.



## Transforming enterprise-wide data into actionable analyses

Teamcenter reporting and analytics solution enables organizations to transform Teamcenter-managed data into actionable analyses by using its extensive capabilities to extract, synthesize and intuitively represent product and process information in the form of reports, KPIs/metrics or dashboards. In turn, this knowledge can be used to better assess the needs of the business

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## Reporting and analytics

### Features

- Highly scalable SOA-compliant open architecture
- Embedded dashboards combine KPIs, graphs and reports directly within Teamcenter for reporting, business intelligence and analytics capabilities at all levels
- Intuitive and feature-rich end-user UI via web browser portal, SharePoint portal and Teamcenter community
- Current, historical and point-in-time reporting and trend analysis
- Executive, program and process metrics/dashboard capabilities that can drill through data and metrics for organization-specific KPIs, trend analysis, root cause analysis
- Visual and intuitive mapping of views of data or “cubes” from one or multiple data sources
- Dynamically and rapidly form a single view of data (data cube) for actionable analysis eliminating the need for a data warehouse or data mart

by addressing business questions, such as:

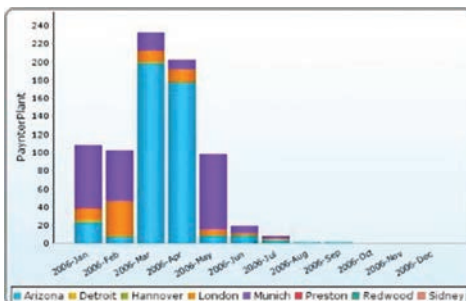
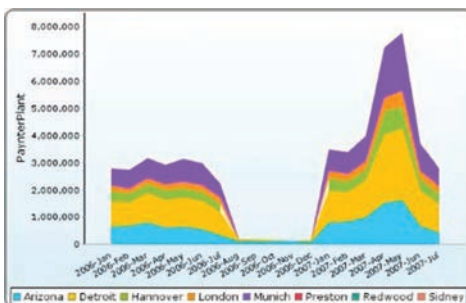
- How productive is your current product release process?
- How many documents were delivered on time or were late?
- What is the closure rate of change incorporation?
- Where are the bottle-necks in the release process?
- Out of the total delivery time, what percent is NVA?
- What products have the most reported problems?
- What are the root-causes for engineering process quality issues?
- What are the changes in the full product BOM from prior release to the current one?
- How do project A and project B compare in terms of their release volumes?
- What is the current status of supplier performance on project XYZ?

The reporting and analytics solution fully leverages the entire object, business and security models of the underlying Teamcenter PLM system. Its highly flexible and scalable SOA-compliant architecture enables enterprises to rapidly collate and leverage data from disparate enterprise business systems, including PLM, into

actionable analyses for timely decisions. Its advanced adapter framework enables seamless native connectivity to enterprise applications through each application’s APIs, or to legacy applications via database specific plug-ins, or through web services. Therefore, it leverages each installation’s specific customizations while honoring its access control and security rules.

Embedded in Teamcenter are decision-support capabilities that allow users at all levels to:

- Quickly and effortlessly perform information queries
- View, analyze and report on the organization’s integrated data from multiple perspectives
- Generate drill-up, drill-down and drill-through data-centric and graphical information views
- Intuitively present results via KPIs/metrics and dashboards
- Perform ad hoc analyses as well as leverage predefined reports
- Perform historical trends analysis and identify patterns
- Optional features support export to Excel and PDF from Scheduler or via a portal



Parts per million (PPM) analysis by plants.



### Features *continued*

- Open, flexible data input formats, including application-specific APIs, relational database, XML, flat file, Excel and “star-schema” data
- Powerful integrated report scheduler
- End-user ability to submit an analysis to a queue via “schedule now” functionality
- Advanced caching techniques to re-use a cached “cube” for many different types of analysis – called “variations”
- Extensive historical performance analysis capability via “snapshots”
- Intuitive end-user defined “conditional formatting”
- Out-of-the-box reports for schedule management and service data management
- Flexible ad hoc report generation
- Optional features available to support export to PDF and Excel

An integrated powerful scheduler is able to run the analyses at user-defined intervals and is able to save the analyses as “snapshots”. Additionally, end-users are able to run various templates for ad hoc analyses and save their analyses as snapshots. For the valid shelf-life of each such snapshot, authorized users are able to view and further analyze these snapshots without burdening the source systems. Snapshots can also be stored for historical trend analysis.

Advanced caching techniques allow re-use of a cached “cube” for many different types of analysis – called “variations”. With the integrated Scheduler, the cubes with variations can be scheduled to run at pre-determined frequencies.

Combination of the following capabilities reduces the load on source system production servers and Teamcenter reporting and analytics servers: integrated Scheduler, Schedule Now, snapshots, variations, role-based access control, mandatory filters for ad hoc analyses and the overall Teamcenter architecture.

### Use cases

#### Complex report generation and analysis

Teamcenter reporting and analytics capabilities produce a variety of complex reports, including:

- Detailed BOM/part list reports
- Costed BOM/part list reports
- BTP package status reports
- BOM comparison reports

- Part failure analysis reports
- ITAR reports
- Process status and performance reports
- Orphan part reports

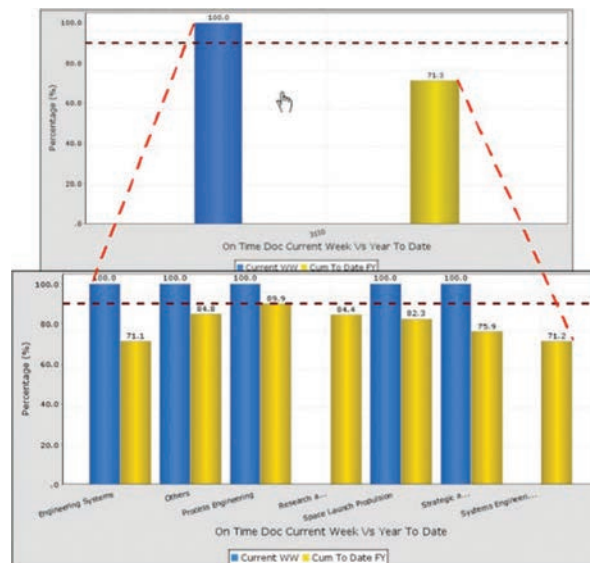
Once these types of extensive/complex reports are mapped, they can be scheduled via the integrated and powerful Scheduler or by submitting to a queue via Schedule Now functionality.

#### Customized analytics and drill-through capability

You can use Teamcenter to perform a variety of customized analytics, including:

- Organization-specific process status metrics and KPIs
- Multi-level root-cause analysis
- Mean time between failure/to failure (MTBF, MTTF) analysis

With Teamcenter, organizations can define their own formulas for status interpretation and color-code this information for visual display. This allows end users to quickly recognize high-level issues and drill down into areas of specific concern (such as immediate process levels) or drill further down into detailed data that can be used to identify trends and specific issues that need to be addressed.



With drill-through capability, you can make smarter decisions.

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