

# Teamcenter and Sun™

## Product lifecycle management for up to 1,000 concurrent users



Once the focus of automotive and aerospace applications, product lifecycle management (PLM) is now used in many industries to track product data creation and management. Traditionally used by only the largest of companies, reliable and scalable PLM solutions are now sought after by smaller organizations. Sun™ and Siemens PLM Software have partnered to offer a robust, high memory, high thread concurrency PLM solution configuration that does not break IT budgets.

### Highlights

#### Web and business logic tiers

- Sun SPARC Enterprise T5220 server or Sun Fire™ T2000 server, 64 GB RAM
- Web server software
- Solaris™ 10 Operating System (OS)
- Teamcenter 2007.1 software

#### Database tier

- Sun SPARC Enterprise T5220 server or Sun Fire™ T2000 server, 16 GB RAM
- Oracle® Database 10g R2
- Solaris 10 OS

#### Database storage

- Sun StorageTek™ 2540 array

#### Central file storage and vault data

- Sun StorageTek 5220 NAS appliance

### Design features

Designed for price/performance and low total cost of ownership, this affordable Teamcenter configuration uses Sun SPARC® Enterprise T5220 servers or Sun Fire™ T2000 servers. Based on extensive testing conducted by Sun and Siemens engineers, the solution can support up to 1,000 concurrent users to deliver a low-cost, powerful solution for PLM applications.

### Solution components

The Teamcenter solution employs a four-tier architecture with client, Web, business logic, and database tiers. The Web tier utilizes application server software and incorporates Enterprise JavaBeans™ (EJB™) technology. The business logic tier consists of Teamcenter software, and the database tier utilizes Oracle® database software. Figure 1 shows the topology.

### Sun Fire T2000 servers

Leveraging the record-breaking performance, dramatic energy savings, and space-saving compute density of Sun SPARC Enterprise T5220 servers, this affordable configuration combines the Web application and business logic tiers on a single Sun SPARC Enterprise T5220 server. A second server is deployed for the Oracle database layer for greater scalability and performance.

Sun SPARC Enterprise T5220 servers with CoolThreads™ technology incorporate UltraSPARC® T2 processors with breakthrough chip multithreading (CMT) technology in an energy-efficient design. These powerful servers provide up to eight processing cores with eight threads per core for a total of 64 simultaneous threads, along with high memory capacity. As a result, Sun SPARC Enterprise T5220 servers deliver twice the throughput of preceding UltraSPARC T1 processor-based servers, packing high performance into a rackmount package with significant space, power, and cooling savings. These servers contain redundant, hot-swappable components and other reliability, availability, and serviceability features to deliver enterprise-class availability and create an ideal platform for transaction and Web services.

### Sun storage systems

The Sun StorageTek 2540 array provides high density, flexible, enterprise-class storage and is ideal for deployment in smaller Teamcenter PLM configurations. With RAID functionality and exceptional availability, the Sun StorageTek 2540 array is optimized for rack-intensive environments and stores database information in a highly adaptable, scalable, and compact form factor.

The PLM storage vault in this configuration resides on a Sun StorageTek 5220 NAS appliance. Designed as an affordable storage solution for mixed, midrange network file system (NFS), common Internet file system (CIFS), and Internet SCSI (iSCSI) environments, the Sun StorageTek 5220 NAS appliance scales to 24 TB of capacity. In addition to simplifying file sharing and management across the Solaris Operating System (OS), Linux, and Windows environments, the Sun StorageTek 5220 NAS appliance also provides data protection with advanced business continuity features.

### Testing proves scalability and performance

Utilizing a multitiered approach, the new Teamcenter software is designed for powerful horizontal scaling. Sun and Siemens recently joined forces to test the Teamcenter 2007.1 software running on Sun servers. Siemens engineers designed the tests to determine the number of concurrent users. In addition, with structured tests to ensure consistency from one run to the next, the efforts aimed to gather sizing information and validate the scalability and performance of the multitier architecture.

To test the affordable Teamcenter configuration, Sun and Siemens engineers ran several Sun SPARC Enterprise T5220 server-based tests. Testing scenarios consisted of typical PLM interactions for data analysis, review, and documentation users. Simulated users performed heavy CPU-intensive tasks, such as workflow, searching, checking CAD parts in and out of the PLM system, and working with bills of materials (BOMs).

### Test Results

Configuring Teamcenter software for maximum memory utilization optimizes performance and takes full advantage of the highly scalable memory capacity of the Sun SPARC Enterprise T5220 server. The high density, double-data-rate synchronous dynamic random access memory (DDR2 SDRAM) utilized in Sun SPARC Enterprise T5220 servers offers increased flexibility and cost savings per server. As part of an affordable configuration, Sun SPARC Enterprise T5220 servers can scale to 64 GB of RAM, making them a cost-effective solution.

The Teamcenter 2007.1 multitier architecture delivers improved server transaction times over previous versions of the software. Logins take less than half the time, and most server transactions complete in less than two seconds. Oracle CPU utilization is significantly reduced, while simultaneously supporting more users. In fact, the configuration tested and identified in figure 1 supports a total of 1,000 concurrent users.

### Learn More

Visit [siemens.com/teamcenter](http://siemens.com/teamcenter), [sun.com/siemens](http://sun.com/siemens), or contact your local Sun sales representative for more information.

### Sun and Siemens PLM Software

Siemens has helped clients speed time-to-market, improve quality, and increase revenue for nearly forty years. For over two decades, Sun has produced flexible, scalable, innovative, and cost-effective solution infrastructures. Together, Sun and Siemens PLM Software offer a powerful, affordable solution for PLM implementations. Comprised of best-in-class components, a Siemens Teamcenter on Sun solution offers a smaller, scalable PLM suite that can grow with the business. By exploiting the power and capacity of Sun SPARC Enterprise T5220 servers, Sun and Siemens can place affordable PLM solutions within reach of businesses that previously were unable to consider a PLM application.

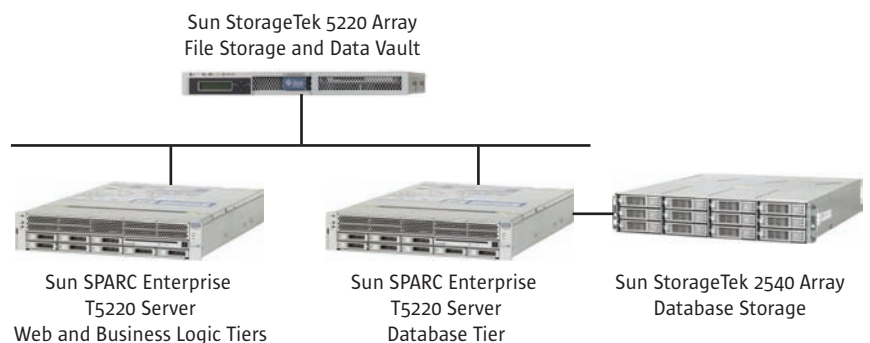


Figure 1. The Teamcenter multitier architecture.

