

# Tamino

## XML Database

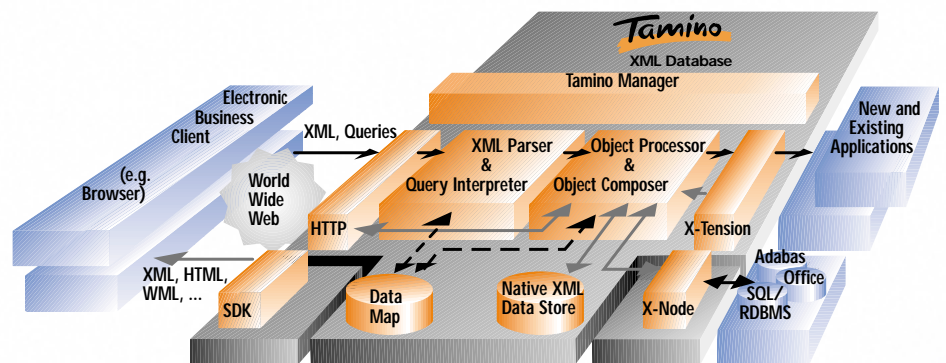
### The XML Database for Electronic Business

Tamino XML Database, the core component of Software AG's Tamino XML Platform, is a reliable, high-volume database for storing, exchanging and retrieving XML documents. It is the first and only data server capable of storing data directly in native XML format, providing faster response times and greater scalability than traditional databases. Tamino XML Database also integrates data from distributed heterogeneous data stores, providing one view of this data and making it accessible via the Internet as XML documents.

#### THE NATIVE XML ADVANTAGE

Tamino XML Database is the ideal database for organizations that need to integrate their heterogeneous business data for the deployment of Web-based electronic business applications. The novelty of Tamino lies in its unique XML-based architecture, founded on Software AG's long-standing experience developing highly reliable enterprise-scale mission-critical database management systems. As a truly native XML database, Tamino uses XML as its primary means for structuring, organizing and storing information. The advantages of XML-based storage over traditional databases are compelling.

For example, native XML systems run faster, more reliably and with less administration than their "XML-enabled" counterparts. Traditional databases may be well suited for data that fits into rows and columns, but cannot adequately handle rich data such as audio, video, nested data structures or complex documents, which are characteristic of typical Web content. To deal with XML, traditional databases are typi-



cally retrofitted with external conversion layers that mimic XML storage by translating it between XML and some other data format. This conversion is error-prone and results in a great deal of overhead, particularly with increasing transaction rates and document complexity. By avoiding this bottleneck, Tamino users reap advantages in speed, reliability and scalability.

Administration effort is significantly reduced because Tamino can easily structure any well-formed XML document and create a structural definition (DTD), even if none exists. Modification of information structure can be done on-the-fly. This exceeds the flexibility of traditional database sys-

tems whose structure is explicit and requires great effort to modify.

#### INTEGRATING WEB-BOUND DATA

The integration of existing heterogeneous databases is a prerequisite for electronic business applications. Tamino XML Database's X-Node option provides users with a single-server view of business data residing in distributed data sources, enabling applications to access data regardless of type or location. Disparate corporate data is presented to the client as if it were obtained from a single database. X-Node also supports the real-time conversion of externally stored data into XML data streams or from XML into other for-

mats. Tamino's Data Map contains schemas that hold the rules according to which XML objects are stored and composed. Through hybrid mapping, objects can be distributed to separate data stores. Through data mapping, data from multiple data stores can also be aggregated.

#### **EASY AND DIRECT WEB ACCESS**

Tamino XML Database's Web-server interface supports HTTP V1.0 and V1.1 protocols. Internet access is achieved through market-standard Web servers; no scripts or servlets are required. A standard Web server (Apache) is delivered with the product. Tamino objects can be addressed via URLs, making it possible to access the data in traditional databases like Adabas or an RDBMS from a Web browser.

#### **FLEXIBILITY THROUGH SERVER EXTENSIONS**

Tamino XML Database provides server extensions which allow custom application-specific server-side features to be easily programmed in C, C++, Java or in other COM / DCOM-enabled languages. Server extensions enable the programming of event-triggered data processing or predefined complex queries (e.g. with computations) and dynamic data mapping between XML structures and SQL tables or other data structures. As Tamino can store non-XML Internet objects, server extensions also allow queries to be applied to the content of these objects.

#### **XPATH-BASED QUERYING**

Sophisticated and powerful full-text queries can be executed with X-Query, Tamino XML Database's XPath-based query mechanism for document retrieval. Query parame-

ters trigger Tamino to apply the rules from the appropriate schema in the data map, causing information to be extracted from the source and delivered as an XML document. Although XPath is the current W3C Recommendation, Software AG will adopt any other standard W3C query language when it reaches the recommendation stage.

#### **MOBILE ACCESS TO DATA**

Tamino XML Database also enables the creation of read-only databases that can be used wherever online access is not available, for example, for travelling sales and service employees. The data can be distributed on CD-ROM and accessed by a locally installed version of Tamino XML Database.

#### **OPEN STANDARDS**

Tamino follows an open DBMS philosophy, providing interfaces such as DCOM, ODBC and JDBC. Tamino also follows the Unicode standard for internationalization to support multilingual documents with country-specific character sets. Adaptability to international character sets also applies to retrieval functions, including full-text queries.

#### **CENTRAL USER-FRIENDLY**

##### **ADMINISTRATION**

Because XML documents are self-describing, database administrators are relieved of the effort associated with setting up and maintaining database schemas for traditional databases. The system management tool Tamino Manager, part of Software AG's System Management Hub, enables DBAs to view the complete system from a Web browser and perform set-up and control functions via any HTTP connection.



#### **TAMINO PARTNERS**

Software AG also licenses Tamino technology to third parties for integration into their own solutions.

#### **SYSTEM REQUIREMENTS**

Hardware:

- INTEL Pentium<sup>TM</sup> II Processor 300MHz or higher or
- SUN SPARC/UltraSPARC Processor;
- Hard disk space: > 150 MB;
- RAM: 128 MB (NT, 256 MB recommended) or 256 MB (Solaris);
- Display: VGA graphics adapter and VGA monitor (SVGA, 17");
- Mouse.

Operating systems:

- Windows NT 4.0 (SP5);
- Windows 2000 Professional;
- Sun Solaris 7.
- Tamino will also be available for UnixWare7 and Linux.

Other Prerequisites:

- For Web communication Tamino requires a standard Web server (e.g. Apache, IBM HTTP server, iPlanet or Microsoft IIS). An Apache Web server is included.

#### **Software AG**

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