

## INSIGHT

### SAP and Sybase: A Marriage Made in Database Heaven

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#### IDC OPINION

With all the talk about how Sybase brings a mobile story to SAP's overall product strategy and vision, little attention has been paid to the aspect of this merger that just might, in the long run, turn out to be the big story here. SAP's effort to extricate itself from its Oracle orbit with its emerging SAP HANA technology and Sybase's need to revitalize its database management system (DBMS) market position may be combining to form a significant new power in the DBMS industry, and one that could shake up multiple markets in a very significant way in the years to come. Benefits of this combination in the area of data management include the following:

- ☒ Sybase mobile technology extends SAP business data management and analysis to the edge of the enterprise.
- ☒ SAP HANA could enable Sybase DBMS products to leapfrog the competition.
- ☒ By providing Sybase database technology together with SAP's transactional and analytic applications, SAP will enable customers to acquire a combination of leading relational database and application software from the same vendor.
- ☒ SAP's expertise selling to the business and Sybase's expertise selling to the technologists should prove synergistic if the combined company can capitalize on this expertise.

#### IN THIS INSIGHT

This IDC Insight examines information about SAP and Sybase, a year after their merger, provided at analyst briefings in May. These briefings were held at the SAPPHIRE NOW conference in Orlando, Florida, and the Sybase Analyst Summit in New York. Based on this information, this Insight details the development and alignment of database management technologies in the combined company, projects the outlook for these technologies, and offers an opinion of the future trajectory of the combined company in this area.

## SITUATION OVERVIEW

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### Highlights

#### ***SAP and the DBMS Business***

SAP has long excelled at delivering enterprise management software solutions in both the transactional (that is, enterprise resource planning [ERP]) and the analytic spheres. The company's culture and business model have evolved with a focus on application and business solution selling rather than technology selling. As a consequence, SAP has excelled at developing and selling both transactional and business applications, but various attempts at selling, reselling, or partnering for complementary database management systems technologies have not worked out so well.

SAP acquired the right to distribute Adabas D from Software AG in 1997, and dubbed the product SAP DB. The idea was to provide a relational DBMS (RDBMS) that could be used with SAP's flagship ERP system, then called R/3, and also that SAP could sell in its own right. It never really gained acceptance in either context. SAP later decided to cut the cost of maintaining the product by open sourcing it under the name of MaxDB and jointly managing the project with MySQL AB. MySQL AB was subsequently acquired by Sun Microsystems, and the MaxDB program also went nowhere.

#### ***SAP HANA***

For the past two years, SAP has been promoting the idea of in-memory data analysis and management and has rolled out technology that delivers on that concept. SAP calls this technology SAP HANA (the acronym HANA originally referred to **H**igh-performance **A**nalytic **A**ppliance), the "SAP In-Memory Appliance."

SAP HANA was originally produced as a data platform for BusinessObjects, evolving from an earlier in-memory-based analytic solution called SAP BusinessObjects Explorer, Accelerated Version, which delivered the ability to analyze large amounts of data (via an intuitive BI front end) at a high rate of speed by managing the data in memory and performing analytic functions close to the data. It has become a broad-based in-memory data management platform that SAP calls "an In-Memory Appliance." This platform contains a columnar in-memory DBMS that, in its first instance, acts as a data collection and analysis platform, receiving data from a source database (typically a data warehouse) via Sybase Replication Server and enabling BusinessObjects to execute analytic queries and operations against that data. That functionality was unveiled to great fanfare and strong attendee acceptance at SAPPHIRE NOW in Orlando, which took place May 15–18, 2011.

Although SAP HANA was originally designed as a columnar system, SAP officials indicated that it will over time support multiple formats for holding data in memory depending on the workload — columnar for analytics, and perhaps some optimized row or cell format for transactional and other workloads. SAP HANA will be the enabling platform for in-memory database management for SAP going forward.

## ***Sybase and the DBMS Business***

Sybase started out as a developer of database management software in 1987 when it released its first RDBMS, Data Server, which later evolved into both the Sybase and the Microsoft versions of SQL Server. Sybase has further evolved that technology, which is now called Adaptive Server Enterprise (ASE). Sybase has a separate RDBMS product line for the analytical database market, which is a column-oriented RDBMS called IQ. Most RDBMS products are row oriented, which means they store their data in rows, while a column-oriented, or columnar, RDBMS stores its data in columns, making it suitable for wide-ranging ad hoc random queries of the database. Sybase IQ is based on technology the company got when it acquired Expressway in 1995. The first release of IQ came in 1996, and the product has evolved steadily since, making it probably the most mature and fully developed columnar RDBMS on the market. Sybase also has a mobile RDBMS product called SQL Anywhere, which runs on both desktop and laptop computers as well as embedded and handheld mobile devices.

Sybase ASE sales have grown robustly since the release of ASE 15 a few years ago, and Sybase IQ has shown steady double-digit growth for a few years and is the leading columnar RDBMS on the market. Sybase SQL Anywhere is a very popular mobile RDBMS, though its sales have softened in recent years. Sybase does not do nearly the volume of business that the top 3 RDBMS vendors — Oracle, IBM, and Microsoft — do but has solidly maintained and even grown its market share in recent years and is a supplier that is known and respected in the database world.

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## **Analysis**

It is estimated that over 80% of SAP's ERP customers keep their data on Oracle Database. Oracle is an intense competitor to SAP for both transactional and analytic applications and for strategic positioning within client organizations. The Sybase acquisition gives SAP a practical first step toward breaking the Oracle influence over SAP customers' management of ERP data. SAP is urgently moving to certify and promote Sybase ASE as the preferred RDBMS for its ERP software. It also wants to promote IQ as the preferred RDBMS for the data warehouse that drives SAP BusinessObjects analytics, as these products are already well integrated. It also will be the preferred platform for building an enterprise data warehouse when it includes data from sources outside of SAP software, or a blend of data from SAP and non-SAP sources. Sybase Replication Server will be the vehicle for moving data among these databases and between various data sources and SAP HANA. But that's just the beginning.

SAP's plan is to develop SAP HANA into a data management platform that will deliver embedded DBMS capability to both SAP Business Suite and BusinessObjects. This would make those products database independent in a sense, but interoperability with the greater IT environment calls for the continued use of an application-neutral RDBMS, and that's where Sybase comes in. Sybase ASE and IQ are perfectly well equipped to fill that role for SAP customers today. It seems likely that SAP will insinuate SAP HANA into ASE and IQ to deliver fully in-memory RDBMS products that can be sold on their own.

SAP excels at selling solutions to the business but has never done well selling technology to technologists, as evidenced by its failure to move the SAP DB/MaxDB product. Sybase has always done well selling technology to technologists but missed the strategic business-level sales that Oracle and IBM have done well at, so has found itself something of a niche player in the RDBMS market. The combination of SAP and Sybase, not only their products but also their sales strategies and business practices, could result in a company that can address the entire range of decision makers and influencers involved in a software stack sale. A fully integrated firm with business-targeted SAP sales teams and technology-targeted Sybase sales teams working cooperatively to sell a stack of products, from transactional and analytic applications (Business Suite and BusinessObjects) to middleware (NetWeaver) to DBMS (ASE and IQ), with unwired connectivity (Sybase Mobile) and services (Sybase 365) could be a disruptive force in multiple markets over the next few years.

## **FUTURE OUTLOOK**

The big future trends in database technology include heterogeneity (with an attendant emphasis on data connectivity and cross-database data management), cloud computing for some workloads, appliances for others, big data initiatives (mostly around MapReduce and Hadoop), and in-memory DBMS for a growing range of database use cases. SAP and Sybase already address a number of these trends directly (including in-memory DB, data connectivity, and cloud computing) and should be able to adopt, develop, or acquire technologies and practices necessary to address the others either directly or via partners.

Areas that will require additional attention over the next year include:

- ☒ Integration of Hadoop or Hadoop-like functionality with Sybase IQ and SAP HANA in BusinessObjects
- ☒ Leveraging SAP BusinessObjects Enterprise Information Management (EIM) product line with Sybase Replication Server to provide more complete strategic EIM and master data management (MDM) capability
- ☒ A data warehouse appliance alliance with a hardware vendor that can compete with Oracle's Exadata, HP-Microsoft Warehouse Appliance (and a possible HP Vertica appliance), and EMC's Greenplum appliance

SAP has indicated that projects to accomplish the first two items listed are already well under way, although SAP has no timetable to share as of this writing. With the right strategies and management philosophy unifying the combined firm, the merged company has an excellent opportunity to assume a leadership position in enterprise data and application management.

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