

Solution in Detail

Solutions for Small Businesses and
Midsize Companies

LOW COST AND LOW MAINTENANCE WITH HIGH PERFORMANCE

USING THE SAP® MaxDB™ DATABASE
WITH SAP SOFTWARE

The SAP® MaxDB™ database is the solution of choice for midsize companies looking for a solid, affordable database that seamlessly integrates with enterprise applications and reduces maintenance downtime through a high degree of self-management. The database management system scales easily for future increases in business volume, so you don't lose your responsiveness to customers as your company grows.

SAP MaxDB is available for the SAP Business All-In-One solution and the SAP Business Suite family of business applications, and it comes with the SAP NetWeaver® technology platform. It can meet or exceed stringent performance requirements in both SAP and non-SAP environments.



THE BEST-RUN BUSINESSES RUN SAP™



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EXECUTIVE SUMMARY

As your company grows into a midsize enterprise, you struggle not to leave behind the very things that made you great – your personal connections to your customers and your speed and flexibility in responding to their volatile demands. Meanwhile your back-office solutions, pieced together from separate single-purpose applications, no longer keep pace with your daily tasks and require costly and time-consuming maintenance downtime on an impossible jumble of schedules. And your communications with suppliers and partners become more complex even as your disjointed business applications make full visibility into operations next to impossible.

SAP can help with business software to support your growing company, the SAP® Business All-in-One solution, and a database to work with it, SAP MaxDB™. This low-cost, low-maintenance database is designed and tested to integrate quickly and work seamlessly with a wide variety of enterprise applications. With SAP MaxDB, you gain a single, proven business management

application that streamlines operations and supports your processes for accounting, sales, purchasing, inventory management, human capital management, and analytical reporting in one user-friendly environment. You retain your competitive edge without sacrificing your values or investing beyond your means, and your capacity for future growth is built in.

Integrate your SAP® and non-SAP applications with SAP MaxDB™, a time-tested database for midsize companies. Available for SAP Business Suite applications and the SAP Business All-In-One solution, and packaged with the SAP NetWeaver® technology platform, SAP MaxDB lets you perform all regular administrative chores online and completes many of them automatically, with no operator intervention.

RIGHT-SIZED DATA MANAGEMENT FOR YOUR GROWING COMPANY

AFFORDABLE POWER

SAP MaxDB is a cost-effective and powerful database management system that can help you run your small business or midsize company efficiently in a business climate with steadily shrinking allowances for time to value. To help you optimize processing for a nimble response to market change, SAP MaxDB offers built-in ease of use, low cost of ownership, and outstanding performance. It is highly scalable and reliable and boasts some of the shortest response times in the industry.

You can perform the vast majority of administrative tasks while SAP MaxDB is online, eliminating the loss of time and money associated with maintenance shutdown. Space management and log backup are automatic, for example, and you can make configuration changes on the fly. Except in extreme cases involving a system crash or a significant overhaul of your system landscape, the database is always available to users.

SAP MaxDB is a time-tested database management system that can be purchased with installations of SAP Business Suite applications and SAP Business All-in-One, and is included in the full-use license for the SAP NetWeaver® technology platform. It works with key SAP software supporting accounting, sales, purchasing, inventory management, human capital management, analytical reporting, and many other enterprise functions and is designed for online transaction processing (OLTP) and database sizes up to multiple terabytes. SAP MaxDB works on a wide range of operating

systems and hardware platforms, so that you can use the configuration that works best for your site. SAP MaxDB is also the database of choice for SAP-internal installations on UNIX and Linux. It currently runs in 13,000 installations at 6,000 SAP customer sites worldwide, approximately 1,100 of which are at small businesses and midsize companies.

Underpinning a Wide Range of Computing Environments

SAP MaxDB clearly performs well in ERP installations, which tend to be large, multiuser, server-based environments. But SAP MaxDB also performs well in desktop and laptop environments where its ability to self-manage makes it a nearly invisible database management system.

When you purchase SAP MaxDB for use with SAP Business Suite, you can also get patented SAP liveCache technology from SAP. An object-oriented extension of the SAP MaxDB database management system for C++ applications, SAP liveCache can improve performance for large tree or network data models by a factor of 20 to 50 compared to the average OLTP database management system. SAP MaxDB is also part of the SAP Business ByDesign™ solution.

For SAP NetWeaver, you can use SAP MaxDB with the developer workbench and the SAP NetWeaver Composition Environment offering.

For testing, evaluation, and training purposes, and for running the database in your own internal data processing

operations under non-SAP applications, SAP MaxDB software is available free of charge under a community license.

Meeting Business Challenges for Small Businesses and Midsize Companies

As a technology manager in a small business or midsize company, you know firsthand the challenge of keeping back-office costs low while providing 24x7 availability and enabling integrated business processes for your company and customers. Instead of choosing and implementing a single, elegant solution, you probably inherited a messy homegrown network of inter-linked applications, each with its own support organization and upgrade cycle. With little financial margin for error, you must respond immediately and effectively to the challenges you encounter in today's light-speed business environment, where customers and suppliers initiate demand with the click of a mouse. And if you're lucky enough to get extra hands to help out, the lack of industry standards and best practices makes database administration nearly impossible to teach. SAP MaxDB can help relieve this squeeze by providing the following:

- A proven technology for business applications
- Technology that helps make configuration and integration easy
- Built-in restoration functionalities
- Sturdy, user-friendly administrative tools
- Interfaces to most popular programming environments

And remember that SAP MaxDB also brings the following business advantages to the table:

- Attractive pricing
- Availability for the vast majority of SAP software
- Availability for most popular operating systems and hardware platforms
- Support services, including development support, provided directly by SAP

Operating Systems Supported by SAP MaxDB

SAP MaxDB is suitable for the operating systems and hardware processor architectures listed in the following table.

Operating System	Architectures
IBM AIX	Power
HP-UX	PA-RISC IA64
Sun Solaris	Sparc X64
Linux (SuSE, Red Hat)	IA32 IA64 X86_64 Power
Microsoft Windows	IA32 IA64 X64

SAP MaxDB requires minimal administration and provides administration tools that help you keep training and IT staffing costs low.

Component Portfolio

The SAP MaxDB portfolio includes tools for installation and administration, tools for querying and moving data using structured query language (SQL), and interfaces for database programming, as summarized in the following table.

Operations	Tools	Interfaces
Database Studio		
<ul style="list-style-type: none"> ■ Installation manager ■ Database analyzer ■ Database manager (GUI and command-line interface [CLI] versions) 	<ul style="list-style-type: none"> ■ Loader ■ Synchronization manager ■ WebDAV ■ SQL studio (GUI and CLI versions) 	<ul style="list-style-type: none"> ■ SQL database connectivity (SQLDBC) ■ ODBC ■ JDBC ■ Perl ■ Python ■ PHP
SAP MaxDB kernel		

Features and Functions of SAP MaxDB

SAP MaxDB offers a robust portfolio of features and functions to help simplify database management tasks as outlined below.

Data Organization and Storage

SAP MaxDB requires no size estimation for individual tables and indexes. Each table can grow and shrink without human intervention – space management is fully automatic. You can configure SAP MaxDB to extend the database size automatically under conditions you specify: The extension occurs while SAP MaxDB is online, with no manual allocation or restructuring.

USING THE DATABASE MANAGEMENT SYSTEM

A FULL SET OF PRECISION TOOLS

SAP MaxDB provides a variety of tools for working with your databases. All SAP MaxDB tools can be used with both SAP and non-SAP applications.

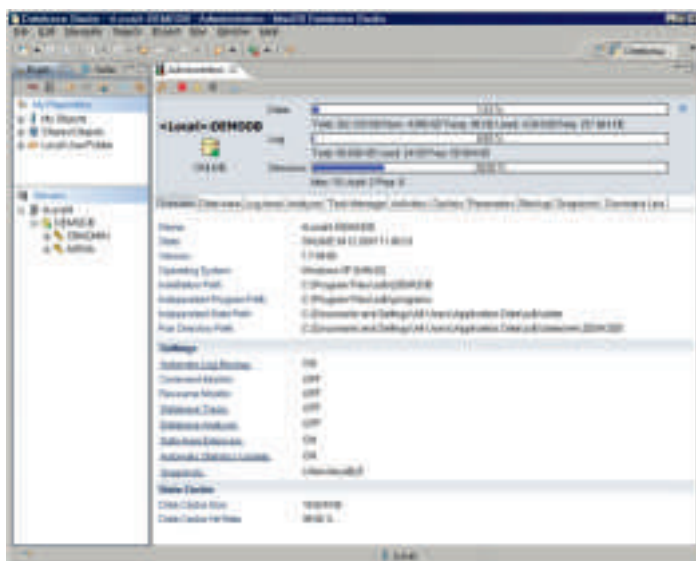
Managing Databases

You can manage SAP MaxDB database instances with the computing center management system integrated into your SAP business software, with the stand-alone database studio, or with the stand-alone database manager.

All tools let you administer an entire landscape of SAP MaxDB instances from one central location on any operating system SAP MaxDB supports. The database studio, with a GUI, is based on the Eclipse framework and is available for all operating systems supported by SAP MaxDB. The database manager is available as either a Microsoft Windows tool with a GUI or as a command-line tool. The command-line tool is typically used to create automated administration scripts; a command-line interface is available for each operating system supported by SAP MaxDB.

SAP MaxDB licenses are much less expensive than other database licenses, costing on average only 5% of your SAP application value.

Figure 2: Database Studio



Automating Administration Tasks

In addition to automatic log backup, automatic space management, and automatic updating of internal statistics, SAP MaxDB provides the following database administration (DBA) features:

- A DBA planning calendar that lets you automate additional routine tasks
- A scheduler that lets you set up the administration commands you want executed at specified times
- A database event definition that lets you set triggers, for example, to activate automatic e-mail notification of important system events

Defining and Changing Data Using SQL

If you want to access data in your database using SQL, for example, with third-party tools, SAP MaxDB provides query tools including the database studio, the SQL studio, and the SQL call level interface (SQLCLI) tools. They offer the following functions:

- Accessing data and database catalogs through SQL statements
- Inserting and processing data
- Querying data
- Creating and managing database objects and database users

The database studio and SQL studio each have a GUI. The SQLCLI tool can be used to execute command-line SQL.

Importing and Exporting Data

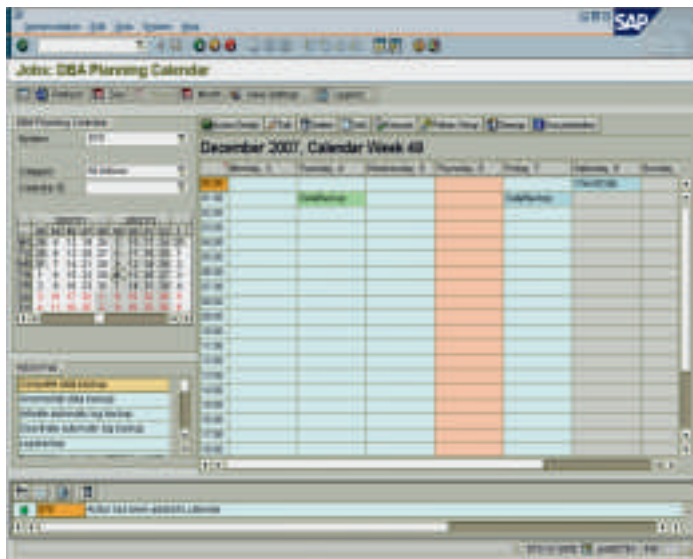
The loader for SAP MaxDB lets you import application data from the file system to an SAP MaxDB instance, export data from an SAP MaxDB instance to the file system, or transport data from one SAP MaxDB database instance to another. It supports a large number of data formats and record layouts.

Programming Interfaces

SAP MaxDB provides an open database connectivity (ODBC) driver and a Java database connectivity (JDBC) driver. Additionally, SAP MaxDB provides native call-level SQL database connectivity (SQLDBC) on all supported operating system platforms – for example for programming in C or C++. Fully Unicode-compliant, SQLDBC supports a wide range of SQL and C data types and an unlimited number of connections and SQL statements. It also provides flexible result sets and an additional large-object interface.

SAP MaxDB also provides native drivers for the scripting languages PHP, Perl, and Python.

Figure 3: DBA Planning Calendar



Implementing SAP MaxDB

This section provides information on downloading, installing, and licensing SAP MaxDB and obtaining consulting and training services.

Installation and Support

For a quotation on SAP MaxDB for existing SAP software, contact your nearest SAP sales office through www.sap.com/contactsap. For both SAP and non-SAP applications, SAP MaxDB can be made available for download through the SAP Service Marketplace extranet at www.service.sap.com. SAP provides consulting services for SAP MaxDB by separate agreement.

When you purchase SAP MaxDB along with SAP software, support services for SAP MaxDB are included in the SAP maintenance contract. SAP MaxDB customers using the database in combination with SAP solutions have full access to the SAP support infrastructure, including development support from SAP, instead of having to obtain last-level support from another vendor.

Also, there is a vibrant community for SAP MaxDB users in which users can correspond with and help each other. You can view or join the SAP MaxDB forum at <https://forums.sdn.sap.com>.

Training and Certification

SAP currently offers its customers one general course for SAP MaxDB and two advanced workshops. Because SAP MaxDB requires minimal intervention, most users will need only the three-day general course.

Called Database Administration SAP MaxDB, the general course introduces application developers, IT managers, and users working directly with the database to SAP MaxDB and its tools for implementing appropriate backup strategies and diagnosing performance bottlenecks.

The workshop called Empowering SAP MaxDB Performance Monitoring and Optimization presents the basics of database architecture. Students learn how to identify data-intensive transactions and monitor caches, volumes, and locks, and they practice bottleneck analysis. SAP MaxDB experts explain cost-based optimization and secondary index design.

The SAP MaxDB Internals workshop deals with the workings of SAP MaxDB on a detailed technical level. Intended for expert-level users and administrators, it explains the algorithms for logging, locking, parameter handling, error diagnostics, storage handling, and other important features of SAP MaxDB.

Certification to administer SAP software is based on a 20-day training program, including Database Administration SAP MaxDB, followed by a choice of platform-dependent administration courses.

A wealth of summary information, training material, and user documentation for SAP MaxDB is available online as follows:

- SAP MaxDB home page and Wiki on the SAP Developer Network site at: <http://sdn.sap.com/irj/sdn/maxdb>
- SAP MaxDB documentation at <http://maxdb.sap.com/documentation>
- SAP MaxDB course material at <http://maxdb.sap.com/training>

When you purchase SAP MaxDB along with SAP software, support services for SAP MaxDB are included in the SAP maintenance contract. You can call on the deep expertise of the SAP support organization to help with your database-related issues.

WHY SAP MaxDB?

Affordable and reliable from start-up, SAP MaxDB self-manages so effectively that you also reduce expensive downtime significantly and save on training costs.



SAP MaxDB has a database management system you can count on to manage your midsize company for current productivity and future growth, without compromising the flexibility your customers have come to expect. Affordable and reliable from start-up, SAP MaxDB self-manages so effectively that you also reduce expensive downtime significantly and save on training costs. SAP MaxDB supports a wide range of operating systems, eliminating the specter of new hardware constraints, and it wins consistent high marks for usability and performance. And when you choose additional world-class applications from SAP, integration is predictable and comfortable.

SAP MaxDB supports a wide range of operating systems, eliminating the specter of new hardware constraints. It wins consistent high marks for usability and performance.

Summary

When your company needs to implement a formal back-office strategy, the SAP® MaxDB™ database is the database of choice. SAP MaxDB is available for the SAP Business Suite family of business applications and the SAP Business All-In-One solution and is packaged with the SAP NetWeaver® technology platform. Running on hundreds of internal SAP servers, SAP MaxDB currently demonstrates its reliable self-management on over 13,000 customer installations across the globe.

Challenges

- Help legacy systems keep pace with increasing business volume
- Simplify a complex web of application interfaces
- Avoid multiple maintenance cycles for unintegrated applications
- Relieve technicians of database restructuring and load-balancing tasks
- Make database administration easy to teach to new staff members

Supported Business Processes and Software Functions

- Database administration – Allocate space and balance loads automatically
- Decision support – Query data quickly for thorough reporting
- Backup and recovery – Use a wizard to restore data in case of crash
- Software development – Integrate third-party software via programming interfaces

Business Benefits

- Decrease maintenance downtime by folding applications into single-vendor unit
- Reduce TCO by saving on licensing and implementation costs
- Increase ROI through shortened time to value

For More Information

To find out more about SAP MaxDB and learn how the database can transform your enterprise management capabilities, call your SAP representative or visit <http://sdn.sap.com/irj/sdn/maxdb>.

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