

Server

Together we stand

Various client-versions for heterogenous networks

Data around the clock

Backup during 24 hour a day operation

No disappering without a trace

Integrated tools for recovery and database diagnostics ensure database integrity

Start from pole position

Single-user version with full functionality

Ready and able for larger tasks

Scalability through SMP-support, minimized network-load and optimized CPU-load

Speed doesn't kill

Access even large sets of data at a constant high speed

Change your partner

Change your operating system without changing your database server

Share the weight

Tasks are performed by both client and server



Server architecture

The CONZEPT 16 database-server is designed as a 32/64-bit multi-threaded program with special emphasis on keeping the server's CPU-load low. Each database user is assigned his own thread exclusively responsible for his requests. The use of 2V2PL (two versions-two phases-locking) in combination with an LRU/LFU-cache system allows for a high degree of parallel processing.

The server supports closed nested transactions and transaction logging, as well as automatic deadlock-recognition and elimination. It also provides functions for database diagnostics, recovery, rollback and repair. The server's architecture and an even distribution of the working load facilitate the extension of existing installations. The size of a database can amount to up to 4 terabytes. Even with data sets of such size, data is accessed at a constant high speed.

Reduce your network load

The crucial item with all client/server-systems is the distribution of the CPU-load between workstation and server. The CONZEPT 16-server avoids extreme CPU-loads by an optimized assignment of functions. The CONZEPT 16-server's main tasks are as follows:

- Database administration
- Basic database operations
- Updating of keys and indices
- Complete processing of transactions
- Filtering functions
- Preselections

This distribution of tasks guarantees an optimized use of your hardware's resources. Where less powerful client-computers are in use, load can be transferred from the client to the server, with the server taking over tasks normally performed by the client.

Parallel processing

The CONZEPT 16 server program handles requests by parallel processing. In doing so, the available CPU-power is evenly distributed among simultaneous requests, thus avoiding unnecessary wait-states. The use of systems with multiple CPUs (SMP) is supported as well.

Parallel working instead of waiting

With the CONZEPT 16 client/server-version, only blocks of data are locked instead of entire logical files. Consequently, there are hardly any occurrences of conflicts between parallel processes. The 2V2PL locking method ensures that there is no waiting for read-only operations. In addition to the data modified, a second version of the same data in it's original form is copied to main memory and accessed in read-only operations.

Nested transactions

The CONZEPT 16-server supports nested transactions. This is a crucial feature especially with database operations of great complexity as may be performed by bookkeeping programs, for example.

A must - data security

A high degree of data security is provided by the CONZEPT 16-server's exclusive right of access to a database. Since there is no need to assign network users any rights to a database, unauthorized manipulations such as deleting or copying are impossible. In order to facilitate troubleshooting in networks, the integrity of the communication between client and server can be verified by CRC check sums.

In case of failure

While in operation, the data processed in transactions is not transferred to the database before it has been written in it's entirety into the transac-

tion log on the harddisk. In case of a system breakdown, a REDO function ensures that all the data from closed transactions will be written into the database. As a general rule, data from open transactions is not written into the database. When opening a database not properly closed, a rollback of data is performed automatically, followed by a diagnosis of the entire database.

No contradiction - backup and 24 hours of operation

The CONZEPT 16-server permits backups even while a database is in use. With each database, up to 16 timed backups can be scheduled. On top of that, program functions allow you to perform backups at any given time. During backup, a database is accessed exclusively in read-only mode. The data modified is written to a temporary file, the contents of which are automatically written into the database as soon as the backup has been finished.

Client/Server and communication

The client/server-version of CONZEPT 16 has been designed to give flawless performance even in heterogeneous networks, allowing the clients of various operating systems to communicate with the same server. Additional interfaces allow you to establish communication between the CONZEPT 16-server and web-servers, ODBC-clients and other programs. TCP/IP can be used as communication protocol. The CONZEPT 16-server can also be run in single-user mode.

Availability

The CONZEPT 16 database server is available for the following operating systems: Windows 2000 / XP / 2003 / Vista / 2008 / 7 as well as Linux starting from Kernel 2.4. Under 64Bit-Architecture the operating systems Windows XP / 2003 / Vista / 2008 / 7 / 2008 R2 and Linux kernel 2.6 (Intel) are supported.

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