

Speedment Ace™

How To Speed Up Your Database 100 000 Times

Exploding data volumes have become a multi-industry problem. The amount of data, the number of transactions and the relationships between data grow more complex and become more dynamic every day. At the same time, there is a shift towards dynamic web applications, mobile applications and more users. There is a constant and growing need for more capacity and yet better performance while minimizing the IT cost. To solve the performance problems, IT departments previously relied on new and more powerful hardware and on redesign of application architecture.

Speedment presents a new, bold solution built and derived directly from the cloud – Speedment Ace, a Database Accelerator with extreme capabilities.



Speedment



Reap the Speedment Benefits Today!

”
...I was very
impressed
by its
performance.”

Go2Web20, April 24th,
2008; by Orli Yakuel

Extreme Speed

Speedment Ace offers extreme speed of reading large volumes of data. It is able to increase database speed performance 100 000 times or more.

Save Time and Cost

With Speedment Ace, organizations can significantly reduce their software licensing fees and their hardware, power, cooling, UPS and maintenance costs.

Quick and Easy Development and Implementation

Speedment Ace analyses the underlying data sources and automatically creates code which directly reflects the structure of the underlying data sources. The error-free code is quickly generated and can greatly reduce development time and the application quality.

Scalability

Speedment Ace application can scale linearly with the number of CPU cores. Further capacity increase and redundancy can be obtained using Speedment clusters. The nodes are arranged into clusters and super clusters, allowing organizations to grow and scale up their capacity linearly.

Coexistence with Current Legacy Systems

Speedment Ace allows for a stepwise implementation and old legacy system can co-exist with the Speedment platform.

Supported Databases

Supported databases are Oracle, MySQL, Microsoft SQL-Server, IBM DB2 and Informix.

Aligned to Current Computer Development Roadmaps

Speedment Ace is aligned to the prevailing computer trend where the number of simultaneously executable threads will increase vastly while at the same time only marginal improvements in single thread performance can be expected. The Speedment Aces capacity, as opposed to most database systems, scales linearly with the number of execution threads.

Open Plug-in

Using the Speedment's OpenPlugin™ API, developers can write their own code generation rules and extensions to further tailor their needs.

```
String flagName = null;

User user = UserMgr.getInstance().findByEmail(email);

if (user!=null) {
    Language language = user.getLanguageObject();
    flagName = language.getFlagName();
    out.println(flagName);
}

// The actual event handler

public class DotComEventHandler implements PropertyChangeListener {
    @Override
    public void propertyChange(PropertyChangeEvent evt) {
        User user = (User)evt.getNewValue();
        if (user!=null && user.getEmail().endsWith(".com")) {
            out.println("Hi " +user.getName());
        }
    }
}
```

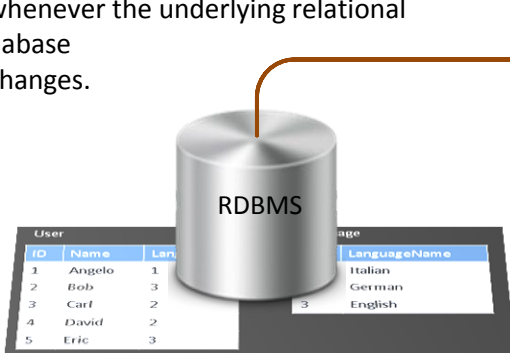
How does it work?

Graph Database

In a relational database, information is structured in tables. In a graph database, information is instead available as objects connected with graphs or pointers. A search that normally takes minutes can be made in nanoseconds.

Real-time Reflection

Speedment Ace automatically analyses the relational database's structure and content and creates a corresponding graph database. A database reflector updates the graph database in real-time whenever the underlying relational database changes.

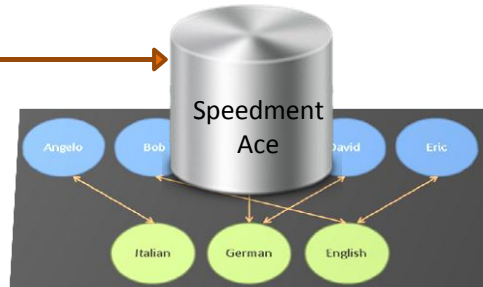


Get the best of two worlds

This means that the original database can be retained in a traditional safe RDBMS environment and that legacy tools can still be used while it is, at the same time, possible to benefit from the advantages of a graph database.

In-Memory Performance

Applications and the Speedment platform reside on the same node, allowing applications to directly access object caches.



Speedment reflects the RDBMS onto a graph database in real-time

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Case Studies

Case 1. Large Energy Provider with Measured Power Grid Data Points

Data is collected from 225 000 data points each hour over five years. A typical database search was previously about 2 minutes. Using the Speedment accelerator, the same search is 2.4 million times faster. The original database was >140 GB, but with Speedment's compression, the entire database fits into 8 GB memory.

Results	Oracle	Oracle+Speedment
Typical search	120 s	0,00005 s
CPU Load	30%	0,00%
I/O Load	high	none

System Properties

Sun Fire V445, 3 CPU 1.6 GHz UltraSPARC IIIi, Solaris 10, 24 GByte RAM, 500 GB RAID file system for database tables, Oracle 11 R2, 8 GB RAM allocated, 82GB data, 62 GB index.

Case 2. Cloud Application with Millions of Users

A cloud application got millions of subscribers worldwide accessing the site at the same time. The database and the number of transactions exploded in size. Already with 10.000 users the database became slow. By using the Speedment database-accelerator the system's capacity increased to 10 million users using just three off-the-shelf web -servers.

Results	MySQL	MySQL+Speedment
Users	10 000	10 000 000
Objects/User	100 000	3 000 000
Tot Capacity	1 billion	30 000 billion
Latency	2 s	0,000002 s

System Properties

2* HP Proliant ML 150 G5, 2 CPUs (E5405@2GHz), Linux CentOS 64-bit, 8/16 GB RAM, 1 TB RAID file system for database tables, MySQL 5.0.77, 7/15 GB RAM allocated, 100 GB data, 50 GB index.

Speedment Ace Licenses

Speedment Ace is available in different licenses. Each has been created to fit your enterprise's specific needs, at a price point that gives you the flexibility you desire.

Feature	Express	Basic	Advanced	Professional	Enterprise
License	Free trial	Comm.	Comm.	Comm.	Comm.
Functionality					
Common Functions(*), MySQL Connector	Yes	Yes	Yes	Yes	Yes
Oracle, DB2 ,SQL Server, Informix, Database Connector				Yes	Yes
Applicationside SQL module			Yes	Yes	Yes
Operations and Monitoring					
Speedment Web Management	Basic	Basic	Extended	Full	Full
Performance Charting			Yes	Yes	Yes
JMX Monitoring			Basic	Full	Full
Extended Logging, Performance Charting			Yes	Yes	Yes
Support & Services					
Support Interval		5x8	5x8	5x8	7x24
Response Time		72h	24h	4h	4h
Support Type		E-mail	E-mail	E-mail	Phone
Technical Alerts, Service Packs		Yes	Yes	Yes	Yes

About Speedment

Speedment AB is an IT company headquartered in Sweden. The company focuses on graph databases and optimization of databases. With the Speedment Ace the company has raised the standard for high performance accelerators within cluster based computing. It has been successfully deployed on a variety of platforms, ranging from small, embedded systems to high performance super servers.

To date, the team has received multiple high-tech awards and successfully created and sold +100 patents in various markets within IT. Customers include leading companies in manufacturing, media, bank, telecom, transport, retail, publishing and entertainment.

VISITING ADDRESS

Speedment AB
Västra Hamngatan 7A
411 17 Gothenburg
Sweden

CONTACT

Phone +46 702 69 24 01
info@speedment.com
www.speedment.com

WEB

www.speedment.com

