

GORDA

technology map

Funded by:
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Partners:



<http://gorda.di.uminho.pt>

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SERVERS

CLIENT

MANAGEMENT

COMMUNICATION

REPLICATION

RDBMS and SQL
The GORDA project targets relational database management systems exposing a SQL interface



Oracle Berkeley DB
<http://oss.oracle.com/berkeley-db.html>
Work-in-progress native implementation

Apache Derby
<http://db.apache.org/derby>
Reference implementation of GORDA protocols in a flexible and modular replication suite

MonetDB
<http://monetdb.cwi.nl>
Joint work with CWI for hybrid implementation

PL/J
Support for Java triggers and stored procedures in PostgreSQL

PostgreSQL
<http://www.postgresql.org>
Full support with a hybrid implementation

MySQL Server
<http://www.mysql.com>
Fully supported by the middleware implementation

Oracle 11g
<http://oracle.com>
Work-in-progress support by the middleware implementation

MinhaSSF
Extensive testing and benchmarking built on a centralized simulation platform

Embedded Replication
GORDA-enabled DBMS servers can be closely coupled with replication code to minimize overhead

TPC-B
Simple benchmark used for loading implementations while testing

TPC-W
Industry standard benchmark simulating a web application

TPC-C
Industry standard benchmark simulating a write-intensive OLTP application

PolePosition
Micro-benchmark collection used for measuring overhead of the GAPI

Carob
<http://carob.continuent.org>
C/C++ binding to the middleware wrapper

Other
Proprietary database access interfaces (DBMS specific or Perl, PHP, Python, etc) are supported natively or through Carob

ODBC
The standard database access interface in the Windows platform is supported natively or through Carob

JDBC
Standard database access interface in the Java platform

Jade
<http://jade.objectweb.org>
Autonomic management environment

Fractal
<http://fractal.objectweb.org>
Modular, extensible and programming language agnostic component model

Centralized Management
Observation and control of the replicated database system from a central location

GAPI
<http://gorda.di.uminho.pt/community/gapi>
Database reflection interface to observe and modify transaction processing

GORDA Management
Interfaces for deploying and managing replicated database management systems

jManage
<http://www.jmanage.org>
The GORDA Management Console builds on the jManage Open Source Application Management system

JMX
<http://java.sun.com>
Interoperability builds on Java Management Extensions

Autonomic
Ensuring self-repair, self-tuning and self-management of the replication database system.

jGCS
<http://jgcs.sourceforge.net>
Abstract group communication service interface

Appia
<http://appia.di.fc.ul.pt>
Reference implementation of GORDA protocols in a flexible and modular replication suite

Spread Toolkit
<http://www.spread.org>
Portable group communication that can be used through the jGCS interface

SSL/TLS
End-to-end security builds on standard secure socket protocols

JGroups
<http://www.jgroups.org>
Group communication in Java that can be used through the jGCS interface

LAN
Group communication in clusters

Spring IoC
<http://www.springframework.org>
Communication, database support and protocols are assembled using the Spring Container



Shared-nothing Cluster in LAN
Replication for scalability and high availability.

Inter-replication in WAN
Replication for disaster recovery and geographical distribution

WAN
Group communication in wide area networks poses additional challenges to latency sensitive replication protocols

