Comparison of relational database management systems

The following tables compare general and technical information for a number of relational database management systems. Please see the individual products' articles for further information. This article is not all-inclusive or necessarily up to date. Unless otherwise specified in footnotes, comparisons are based on the stable versions without any add-ons, extensions or external programs.

General information

	Maintainer	First public release date	Latest stable version	Latest release date	Software license
4D (4th Dimension)	4D s.a.s	1984	v12.2 SQL		Proprietary
ADABAS	Software AG	1970	8.1		Proprietary
Adaptive Server Enterprise	Sybase	1987	15.7		Proprietary
Advantage Database Server (ADS)	Sybase	1992	11.0	2012	Proprietary
Altibase	Altibase Corp.[1]	2000	6.1.1	2012-04-01	Proprietary
Apache Derby	Apache	2004	10.8.2.2	2011-10-24	Apache License
CUBRID	NHN Corporation[2]	2008-11	8.4.1	2012-02-24	GPL v2
Datacom	CA, Inc.	*?*	11.2		Proprietary
DB2	IBM	1983	10.1	2012-04-30	Proprietary
Drizzle	Brian Aker	2008	Build 1126		BSD, GPL v2
Empress Embedded Database	Empress Software Inc[3]	1979	10.20	2010-03	Proprietary
FileMaker	FileMaker[4]	1984	12.0	2012-04-12	Proprietary
Firebird	Firebird project[5]	2000-07-25	2.5.1	2011-10-04	IPL[6] and IDPL[7]
HSQLDB	HSQL Development Group	2001	2.2.6[8]	2011-11-20	BSD
H2	H2 Software	2005	1.3.160	2011-09-11	EPL and modified MPL
Informix Dynamic Server	IBM	1980	11.70.xC5	2012-05-26	Proprietary
Ingres	Ingres Corp.	1974	Ingres Database 10	2010-10-12	GPL and Proprietary
InterBase	Embarcadero	1984	InterBase XE	2010-09-21	Proprietary
Linter SQL RDBMS	RELEX Group	1990	6.x		Proprietary
LucidDB	The Eigenbase Project[9]	2007-01	0.9.3		GPL v2
MariaDB	MariaDB Community	2010-02-01	5.5.23[10]	2012-04-11	GPL v2
MaxDB	SAP AG	2003-05	7.6	2008-01	Proprietary
Microsoft Access (JET)	Microsoft	1992	14 (2010)		Proprietary
Microsoft Visual Foxpro	Microsoft	1984[11]	9 (2005)	2007-10-11[11]	Proprietary
Microsoft SQL Server	Microsoft	1989	2012 (v11)		Proprietary

Microsoft SQL Server Compact (Embedded Database)	Microsoft	2000	2010 (v3.5 SP2)		Proprietary
MonetDB/SQL	The MonetDB Developer Team	2004	11.9.1	2012-04	MonetDB Public License v1.1[12]
mSQL	Hughes Technologies	1994	3.9[13]	2011-02	Proprietary
MySQL	Sun Microsystems (now Oracle Corporation)	1995-11	5.5.17	2011-10-21	GPL or Proprietary
Nexusdb	Nexus Database Systems Pty Ltd[14]	2003-09	3.04	2010-05-08	Proprietary
HP NonStop SQL	Hewlett-Packard	1987	SQL/MX 2.3		Proprietary
Omnis Studio	TigerLogic Inc[15]	1982-07	4.3.1 Release 1no	2008-05	Proprietary
OpenBase SQL	OpenBase International[16]	1991	11.0.0		Proprietary
OpenEdge	Progress Software Corporation	1984	11.0		Proprietary
OpenLink Virtuoso	OpenLink Software[17]	1998	6.x	2011-11	GPL or Proprietary
Oracle	Oracle Corporation	1979-11	11g Release 2	2009-09	Proprietary
Oracle Rdb	Oracle Corporation	1984	7.2.5.0	2011-06-20[18]	Proprietary
Paradox	Corel Corporation[19]	1985	11	2003	Proprietary
Pervasive PSQL	Pervasive Software	1982	11	2011-07	Proprietary
Polyhedra DBMS	ENEA AB	1993	8.5	2011-06	Proprietary
PostgreSQL	PostgreSQL Global Development Group[20]	1989-06	9.1.3[21]	June 4, 2012	PostgreSQL Licence (a liberal Open Source license)[22]
R:Base	R:BASE Technologies[23]	1982	7.6		Proprietary
RDM Embedded	Raima Inc.[24]	1984	10.1	2011-08-31	Proprietary
RDM Server	Raima Inc.[25]	1993	8.3		Proprietary
ScimoreDB	Scimore[26]	2005	3.0	2008-03-03	Proprietary
SmallSQL	SmallSQL	2005-04-16	0.20	2008-12	LGPL
SQL Anywhere	Sybase	1992	12.0	2010-07-09	Proprietary
SQLBase	Unify Corp.[27]	1982	11.5	2008-11	Proprietary
SQLite	D. Richard Hipp	2000-08-17	3.7.13	2012-06-11[28]	Public domain
Superbase	Superbase	1984	Scientific (2004)		Proprietary
Teradata	Teradata	1984	13.10		Proprietary
UniData	Rocket Software	1988	7.2.12	2011-10	Proprietary
Xeround Cloud Database	Xeround Systems	2010	3.1	2011-10-11	SaaS

Operating system support

The operating systems that the RDBMSes can run on.

	Windows	Mac OS X	Linux	BSD	UNIX	AmigaOS	Symbian	z/OS[1]	iOS	Android
4th Dimension	Yes	Yes	No	No	No	No	No	No	No	No
ADABAS	Yes	No	Yes	No	Yes	No	No	Yes	No	No
Adaptive Server Enterprise	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes
Advantage Database Server	Yes	No	Yes	No	No	No	No	No	No	No
Altibase	Yes	No	Yes	No	Yes	No	No	No	No	No
Apache Derby[2]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	*?*	No
CUBRID	Yes	Partial[10]	Yes	No	No	No	No	No	No	No
Drizzle	No	Yes	Yes	Yes	Yes	No	No	No	No	No
DB2[5]	Yes	Yes (Express C)	Yes	No	Yes	No	No	Yes	Yes	No
Empress Embedded Database	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes
Firebird	Yes	Yes	Yes	Yes	Yes	No	No	Maybe	No	No
HSQLDB[2]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	*?*	*?*
H2[2]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	*?*	Yes
FileMaker	Yes	Yes	No	No	No	No	No	No	Yes	No
Informix Dynamic Server	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
Ingres	Yes	Yes	Yes	Yes	Yes	No	No	Partial	No	No
InterBase	Yes	Yes	Yes	No	Yes (Solaris)	No	No	No	No	No
Linter SQL RDBMS[6]	Yes	Yes	Yes	Yes	Yes[6]	No	No	No	*?*	Yes
LucidDB	Yes	Yes	Yes	No	No	No	No	No	No	No
MariaDB	Yes	Yes[29]	Yes	Maybe	Yes	No	No	No	*?*	*?*
MaxDB	Yes	No	Yes	No	Yes	No	No	Maybe	No	No
Microsoft Access (JET)	Yes	No	No	No	No	No	No	No	No	No
Microsoft Visual Foxpro	Yes	No	No	No	No	No	No	No	No	No
Microsoft SQL Server	Yes	No	No	No	No	No	No	No	No	No
Microsoft SQL Server Compact (Embedded Database)	Yes	No	No	No	No	No	No	No	No	No
MonetDB/SQL	Yes	Yes	Yes	No	Yes	No	No	No	*?*	*?*
MySQL[8]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	*?*	No
Omnis Studio	Yes	Yes	Yes	No	No	No	No	No	No	No
OpenBase SQL	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
OpenEdge	Yes	No	Yes	No	Yes	No	No	No	No	No
OpenLink Virtuoso	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
Oracle[4]	Yes	Yes	Yes	No	Yes	No	No	Yes	No	No

Oracle Rdb[3]	No	No	No	No	No	No	No	No	No	No
Pervasive PSQL	Yes	Yes (OEM only)	Yes	No	No	No	No	No	No	No
Polyhedra[7]	Yes	No	Yes	No	Yes	No	No	No	No	No
PostgreSQL	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes
R:Base	Yes	No	No	No	No	No	No	No	No	No
RDM Embedded	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
RDM Server	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
ScimoreDB	Yes	No	No	No	No	No	No	No	No	No
SmallSQL[2]	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
SQL Anywhere	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes
SQLBase	Yes	No	Yes	No	No	No	No	No	No	No
SQLite	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe	Yes	Yes
Superbase	Yes	No	No	No	No	Yes	No	No	No	No
Teradata	Yes	No	Yes	No	Yes	No	No	No	No	No
UniData	Yes	No	Yes	No	Yes	No	No	No	No	No
UniVerse	Yes	No	Yes	No	Yes	No	No	No	No	No
Xeround Cloud Database	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Fundamental features

Information about what fundamental RDBMS features are implemented natively.

	ACID	Referential integrity	Transactions	Unicode	Interface
4th Dimension	Yes	Yes	Yes	Yes	GUI & SQL
ADABAS	Yes	No	Yes	Yes	proprietary direct call & SQL (via 3rd party)
Adaptive Server Enterprise	Yes	Yes	Yes	Yes	SQL
Advantage Database Server	Yes	Yes	Yes	Yes[4]	API & SQL
Altibase	Yes	Yes	Yes	Yes	API & GUI & SQL
Apache Derby	Yes	Yes	Yes	Yes	SQL
CUBRID	Yes	Yes	Yes	Yes	GUI & SQL
Drizzle	Yes	Yes	Yes	Yes	SQL
DB2	Yes	Yes	Yes	Yes	GUI & SQL
Empress Embedded Database	Yes	Yes	Yes	Yes	API & SQL
Firebird	Yes	Yes	Yes	Yes	SQL
HSQLDB	Yes	Yes	Yes	Yes	SQL
H2	Yes	Yes	Yes	Yes	SQL
Informix Dynamic Server	Yes	Yes	Yes	Yes	SQL
Ingres	Yes	Yes	Yes	Yes	SQL & QUEL

	ACID	Referential integrity	Transactions	Unicode	Interface
InterBase	Yes	Yes	Yes	Yes	SQL
Linter SQL RDBMS	Yes	Yes	Yes	Yes	GUI & SQL
LucidDB	Yes	No	No	Yes	SQL
MaxDB	Yes	Yes	Yes	Yes	SQL
Microsoft Access (JET)	Yes	Yes	Yes	Yes	GUI & SQL
Microsoft Visual FoxPro	No	Yes	Yes	No	GUI & SQL
Microsoft SQL Server	Yes	Yes	Yes	Yes	GUI & SQL
Microsoft SQL Server Compact (Embedded Database)	Yes	Yes	Yes	Yes	GUI & SQL
MonetDB/SQL	Yes	Yes	Yes	Yes	SQL
MySQL	Yes[2]	Partial[3]	Yes[2] except for DDL [30]	Yes	SQL
OpenBase SQL	Yes	Yes	Yes	Yes	GUI & SQL
Oracle	Yes	Yes	Yes except for DDL [30]	Yes	API & GUI & SQL
Oracle Rdb	Yes	Yes	Yes	Yes	SQL
OpenLink Virtuoso	Yes	Yes	Yes	Yes	API & GUI & SQL
Polyhedra DBMS	Yes	Yes	Yes	Yes	SQL
PostgreSQL	Yes	Yes	Yes	Yes	API & GUI & SQL
RDM Embedded	Yes	Yes	Yes	Yes	SQL & API
RDM Server	Yes	Yes	Yes	Yes	SQL & API
ScimoreDB	Yes	Yes	Yes	Partial	SQL
SQL Anywhere	Yes	Yes	Yes	Yes	SQL
SQLBase	Yes	Yes	Yes	Yes	API & GUI & SQL
SQLite	Yes	Yes	Yes	Optional[31]	SQL
Teradata	Yes	Yes	Yes	Yes	SQL
UniData	Yes	No	Yes	Yes	Multiple
UniVerse	Yes	No	Yes	Yes	Multiple
Xeround Cloud Database	Yes	No	Yes	Yes	SQL

Note (1): Currently only supports read uncommited transaction isolation. Version 1.9 adds serializable isolation and version 2.0 will be fully ACID compliant.

Note (2):MySQL provides ACID compliance through the default InnoDB storage engine.[32][33]

Note (3):"For other [than InnoDB] storage engines, MySQL Server parses and ignores the FOREIGN KEY and REFERENCES syntax in CREATE TABLE statements. The CHECK clause is parsed but ignored by all storage engines."[34]

Note (4): Support for Unicode is new in version 10.0.

Limits

Information about data size limits.

	Max DB size	Max table size	Max row size	Max columns per row	Max Blob/Clob size	Max CHAR size	Max NUMBER size	Min DATE value	Max DATE value	Max column name size
4th Dimension	limited	?	?	65135	200 GB (2 GiB Unicode)	200 GB (2 GiB Unicode)	64 bits	?	?	?
Advantage Database Server	Unlimited	16 EiB	65530 B	65135 / (10+ AvgFieldNameLength)	4 GiB	?	64 bits	?	?	128
Apache Derby	Unlimited	Unlimited	Unlimited	1012 (5000 in views)	2 147 483 647 chars	254 (VARCHAR: 32672)	64 bits	0001-01-01	9999-12-31	128
CUBRID	2 EB	2 EB	Unlimited	6400	Unlimited	1 GB	64 bits	0001-01-01	9999-12-31	254
Drizzle	Unlimited	64 TB	8 kB	1000	4 GB (longtext, longblob)	64 kB (text)	64 bits	0001	9999	64
DB2	512 TiB	512 TB	32 677 B	1012	2 GB	32 KiB)	64 bits	0001	9999	128
Empress Embedded Database	Unlimited	2^{63}-1 bytes	2 GB	32767	2 GB	2 GB	64 bits	0000-01-01	9999-12-31	32
FileMaker	8TB	8TB	8TB	256,000,000	4GB	10^9 characters	10^9 numbers w/ range 10^-400 to 10^400	0001-01-01	4000-12-31	100
Firebird	Unlimited[1]	~32 TB	65 536 B	Depends on data types used.	2 GB	32 767 B	64 bits	100	32768	31
HSQLDB	64 TB	Unlimited[8]	Unlimited[8]	Unlimited[8]	64 TB[7]	Unlimited[8]	Unlimited[8]	0001-01-01	9999-12-31	128
H2	64 TB	Unlimited[8]	Unlimited[8]	Unlimited[8]	64 TB[7]	Unlimited[8]	64 bits	-99999999	99999999	Unlimited[8]
	Max DB size	Max table size	Max row size	Max columns per row	Max Blob/Clob size	Max CHAR size	Max NUMBER size	Min DATE value	Max DATE value	Max column name size
Informix Dynamic Server	~128 PB	~128 PB	32 765 bytes (exclusive of large objects)	32765	4 TB	32765	10^{32}	01/01/0001[10]	12/31/9999	128 bytes
Ingres	Unlimited	Unlimited	256 kB	1024	2 GB	32 000 B	64 bits	0001	9999	256
InterBase	Unlimited[1]	~32 TB	65 536 B	Depends on data types used.	2 GB	32 767 B	64 bits	100	32768	31
Linter SQL RDBMS	Unlimited	2^{30} rows	64 kB (w/o BLOBs), 4 GB (BLOB)	250	4 GB	4 kB	64 bits	0001-01-01	2099-12-31	128

	Max DB size	Max table size	Max row size	Max columns per row	Max Blob/Clob size	Max CHAR size	Max NUMBER size	Min DATE value	Max DATE value	Max column name size
Microsoft Access (JET)	2 GB	2 GB	16 MB	255	64 kB (memo field), 1 GB ("OLE Object" field)	255 B (text field)	32 bits	0100	9999	64
Microsoft Visual Foxpro	Unlimited	2 GB	65 500 B	255	2 GB	16 MB	32 bits	0001	9999	?
Microsoft SQL Server	524 272 TB (32 767 files * 16 TB max file size)	524 272 TB	8060 bytes (Unlimited)[6]	30000	2 GB	2 GB[6]	126 bits[2]	0001	9999	128
Microsoft SQL Server Compact (Embedded Database)	4 GB	4 GB	8060 bytes	1024	500 MB	4000	126 bits [2]	0001	9999	128
MySQL 5	Unlimited	MyISAM storage limits: 256 TB; Innodb storage limits: 64 TB	64 kB[3]	4096[4]	4 GB (longtext, longblob)	64 kB (text)	64 bits	1000	9999	64
OpenLink Virtuoso	32 TB	DB size (or 32 TB)	4K	200	2 GB	2 GB	2**31	0	9999	100
Oracle	Unlimited (4 GB * block size per tablespace)	4 GB * block size (with BIGFILE tablespace)	8 kB	1000	Unlimited	4000 B	126 bits	-4712	9999	30
	Max DB size	**Max table size**	**Max row size**	**Max columns per row**	**Max Blob/Clob size**	**Max CHAR size**	**Max NUMBER size**	**Min DATE value**	**Max DATE value**	**Max column name size**
Polyhedra	Limited by available RAM, address space	2^{32} rows	Unlimited	65536	4 GB (subject to RAM)	4 GB (subject to RAM)	32 bits	0001-01-01	8000-12-31	255
PostgreSQL	Unlimited	32 TB	1.6 TB	250-1600 depending on type	1 GB (text, bytea) - stored inline or 2 GB (stored in pg_largeobject)	1 GB	Unlimited	-4713	5874897	63
RDM Embedded	Unlimited	2^{48}-1 rows	32 KB	1000	4 GB	char: 256, varchar: 4 KB	64 bits	0001-01-01	11758978-12-31	31
RDM Server	Unlimited	2^{64}-1 rows	32 KB	32768	Unlimited	32 KB	64 bits	0001-01-01	11758978-12-31	32
ScimoreDB	Unlimited	16 EB	8050 B	255	16 TB	8000 B	64 bits	?	?	?

	Max DB size	Max table size	Max row size	Max columns per row	Max Blob/Clob size	Max CHAR size	Max NUMBER size	Min DATE value	Max DATE value	Max column name size
SQL Anywhere	104 TB (13 files, each file up to 8 TB (32k pages))	Limited by file size	Limited by file size	45000	2 GB	2 GB	64 bits	0001-01-01	9999-12-31	?
SQLite	128 TB (2^{31} pages * 64 kB max page size)	Limited by file size	Limited by file size	32767	2 GB	2 GB	64 bits	No DATE type[9]	No DATE type[9]	Unlimited
Teradata	Unlimited	Unlimited	64 kB wo/lobs (64 GB w/lobs)	2048	2 GB	10 000	64 bits	?	9999-12-31 Select 80991231 (date);	30
UniVerse	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Xeround Cloud Database	Unlimited	Unlimited	32GB, depending on available memory	1000	4GB	64K	64 bits	1000	9999	64

Note (1): Firebird 2.x maximum database size is effectively unlimited with the largest known database size >980 GB.[35] Firebird 1.5.x maximum database size: 32 TB.

Note (2): limit is 10^{38} using DECIMAL datatype[36]

Note (3): InnoDB is limited to 8,000 bytes (excluding VARBINARY, VARCHAR, BLOB, or TEXT columns)[37]

Note (4): InnoDB is limited to 1,000 columns[37]

Note (6): Using VARCHAR (MAX) in SQL 2005 and later[38]

Note (7): When using a page size of 32 kB, and when BLOB/CLOB data is stored in the database file.

Note (8): Java array size limit of 2,147,483,648 (2^{31}) objects per array applies. This limit applies to number of characters in names, rows per table, columns per table, and characters per CHAR/VARCHAR.

Note (9): Despite the lack of a date datatype, SQLite does include date and time functions,[39] which work for timestamps between 0000-01-01 00:00:00 and 5352-11-01 10:52:47.

Note (10): Informix DATETIME type has adjustable range from YEAR only through 1/10000th second. DATETIME date range is 0001-01-01 00:00:00.00000 through 9999-12-31 23:59:59.99999.

Tables and views

Information about what tables and views (other than basic ones) are supported natively.

	Temporary table	Materialized view
4th Dimension	Yes	Planned for inclusion in next major release
ADABAS	*?*	*?*
Adaptive Server Enterprise	Yes[1]	No
Advantage Database Server	Yes	No (only common views)
Altibase	Yes	No (only common views)
Apache Derby	Yes	No
CUBRID	No	No
Drizzle	Yes	No[4]
DB2	Yes	Yes
Empress Embedded Database	Yes	Yes
Firebird	Yes	No (only common views)
HSQLDB	Yes	No
H2	Yes	No
Informix Dynamic Server	Yes	No[2]
Ingres	Yes	Planned for inclusion in next major release
InterBase	Yes	No
Linter SQL RDBMS	Yes	Yes
LucidDB	No	No
MaxDB	Yes	No
Microsoft Access (JET)	No	No
Microsoft Visual Foxpro	Yes	Yes
Microsoft SQL Server	Yes	Yes[3]
Microsoft SQL Server Compact (Embedded Database)	Yes	No
MonetDB/SQL	Yes	No
MySQL	Yes	No[4]
OpenBase SQL	Yes	Yes
Oracle	Yes	Yes
Oracle Rdb	Yes	Yes
OpenLink Virtuoso	Yes	Yes
Polyhedra DBMS	No	No (only common views)
PostgreSQL	Yes	No[5]
RDM Embedded	Yes	No
RDM Server	Yes	No
SQL Anywhere	Yes	Yes
ScimoreDB	No	No
SQLite	Yes	No
Teradata	Yes	Yes

UniData	Yes	No	
UniVerse	Yes	No	
Xeround Cloud Database	Yes	No	

Note (1): Server provides tempdb, which can be used for public and private (for the session) temp tables.[40]

Note (2): Materialized views are not supported in Informix; the term is used in IBM's documentation to refer to a temporary table created to run the view's query when it is too complex, but one cannot for example define the way it is refreshed or build an index on it. The term is defined in the Informix Performance Guide.[41]

Note (3): Query optimizer support only in Developer and Enterprise Editions. In other versions, a direct reference to materialized view and a query hint are required.[42]

Note (4): Materialized views can be emulated using stored procedures and triggers.[43]

Note (5): Materialized views can be emulated with stored procedures and triggers using PL/pgSQL, PL/Perl, PL/Python, or other procedural languages.[44]

Indexes

Information about what indexes (other than basic B-/B+ tree indexes) are supported natively.

	R-/R+ tree	Hash	Expression	Partial	Reverse	Bitmap	GiST	GIN	Full-text	Spatial	FOT
4th Dimension	?	Cluster	?	?	?	?	?	?	Yes	?	?
ADABAS	?	?	?	?	?	?	?	?	?	?	
Adaptive Server Enterprise	No	No	Yes	No	Yes	No	No	No	Yes	?	
Advantage Database Server	No	No	Yes	No	Yes	Yes	No	No	Yes	?	
Apache Derby	No	No	No	No	No	No	No	No	No[45]	?	
CUBRID	No	No	No	No	Yes	No	No	No	?	?	
Drizzle	No	No	No	No	No	No	No	No	No	?	
DB2	No	?	Yes	No	Yes	Yes	No	No	Yes[46]	?	
Empress Embedded Database	Yes	No	No	Yes	No	Yes	No	No	No	?	
Firebird	No	No	Yes	No	Yes [1]	No	No	No	No[47]	?	
HSQLDB	No	No	No	No	No	No	No	No	No	?	
H2	No	Yes	No	No	No	No	No	No	Yes[48]	?	
Informix Dynamic Server	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ingres	Yes	Yes	Ingres v10	No	No	Ingres v10	No	No	No	?	
InterBase	No	No	No	No	No	No	No	No	No	?	
Linter SQL RDBMS[10]	No	No	No	No	No	No	No	No	Yes[49]	?	
LucidDB	No	No	No	No	No	Yes	No	No	No	?	

	R-/R+ tree	Hash	Expression	Partial	Reverse	Bitmap	GiST	GIN	Full-text	Spatial	FOT
MaxDB	No	No	No	No	No	No	No	No	No	?	
Microsoft Access (JET)	No	No	No	No	No	No	No	No	No[50]	?	
Microsoft Visual Foxpro	No	No	Yes	Yes	Yes[2]	Yes	No	No	No	?	
Microsoft SQL Server	?	Non/Cluster & fill factor	Yes[3]	Yes[4]	No[3]	No	No	No	Yes[51]	Yes[52]	
Microsoft SQL Server Compact (Embedded Database)	No	No	No	No	No	No	No	No	No[53]	?	
MonetDB/SQL	No	Yes	No	No	No	No	No	No	?	?	
MySQL	MyISAM tables only	MEMORY, Cluster (NDB), InnoDB,[5] tables only	No[54]	No	No	No	No	No	MyISAM tables only[55]	MyISAM tables only[56]	?
Oracle	Yes[11]	Cluster Tables	Yes	Yes[6]	Yes	Yes	No	No	Yes[57]	Yes[58]	
Oracle Rdb	No	Yes	?	No	No	?	No	No	?	?	
OpenLink Virtuoso	Yes	Cluster	Yes	Yes	No	Yes	No	No	Yes	?	
Polyhedra DBMS	No	Yes	No	No	No	No	No	No	?	?	
PostgreSQL	Yes	Yes	Yes	Yes	Yes[7]	Yes[8]	Yes	Yes	Yes[59]	PostGIS[60]	
RDM Embedded	No	Yes	No	Yes	Yes	No	No	No	No	No	No
RDM Server	No	No	No	Yes	Yes	No	No	No	No	No	No
ScimoreDB	No	No	No	No	No	No	No	No	Yes[61]	?	
SQL Anywhere	No	No	No	No	No	No	No	No	Yes	?	
SQLite	Yes[62]	No	No	No	Yes	No	No	No	Yes[63]	SpatiaLite[64]	
Teradata	No	Yes	Yes	Yes	No	Yes	No	No	?[65]	?	
UniVerse	Yes	Yes	Yes[3]	Yes[3]	Yes[3]	No	No	No	?	Yes[66]	
Xeround Cloud Database	No	Yes	No	No	No	No	No	No	No	No	

Note (1): The users need to use a function from freeAdhocUDF library or similar.[67]

Note (2): Can be implemented for most data types using expression-based indexes.

Note (3): Can be emulated by indexing a computed column[68] (doesn't easily update) or by using an "Indexed View"[69] (proper name not just any view works[70])

Note (4): Can be implemented by using an indexed view.[71]

Note (5): InnoDB automatically generates adaptive hash index[72] entries as needed.

Note (6): Can be implemented using Function-based Indexes in Oracle 8i and higher, but the function needs to be used in the sql for the index to be used.

Note (7): A PostgreSQL functional index can be used to reverse the order of a field.

Note (8): PostgreSQL will likely support on-disk bitmap indexes in a future version. Version 8.2 supports a related technique known as "in-memory bitmap scans".

Note (10): B+ tree and full-text only for now.

Note (11): R-Tree indexing available in base edition with Locator but some functionality requires Personal Edition or Enterprise Edition with Spatial option

Database capabilities

	Union	Intersect	Except	Inner joins	Outer joins	Inner selects	Merge joins	Blobs and Clobs	Common Table Expressions	Windowing Functions	Parallel Query
4th Dimension	Yes	Yes	Yes	Yes	Yes	No	No	Yes	?	?	?
ADABAS	Yes	?	?	?	?	?	?	?	?	?	?
Adaptive Server Enterprise	Yes	?	?	Yes	Yes	Yes	Yes	Yes	?	?	Yes
Advantage Database Server	Yes	No	No	Yes	Yes	Yes	Yes	Yes	?	No	?
Altibase	Yes	Yes	Yes, via MINUS	Yes	Yes	Yes	Yes	Yes	No	No	No
Apache Derby	Yes	Yes	Yes	Yes	Yes	?	?	Yes	No	No	?
CUBRID	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	?
Drizzle	Yes	No	No	Yes	Yes	Yes	No	Yes	No	No	No[73]
DB2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes[74]
Empress Embedded Database	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	?	?	?
Firebird	Yes	?	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	?
HSQLDB	Yes	Yes	Yes	Yes	Yes	Yes	Yes[75]	Yes	Yes	No	Yes[75]
H2	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	experimental[76]	No[77]	?
Informix Dynamic Server	Yes	?	Yes, via MINUS	Yes	Yes	Yes	Yes	Yes	Yes	?	Yes[78]
Ingres	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	?
InterBase	Yes	?	?	Yes	Yes	?	?	Yes	?	?	?
Linter SQL RDBMS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	?
LucidDB	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	?	?	?
MaxDB	Yes	?	?	Yes	Yes	Yes	No	Yes	?	?	?
Microsoft Access (JET)	Yes	No	No	Yes	Yes	Yes	No	Yes	No	No	?
Microsoft Visual Foxpro	Yes	?	?	Yes	Yes	Yes	?	Yes	?	?	?

	Union	Intersect	Except	Inner joins	Outer joins	Inner selects	Merge joins	Blobs and Clobs	Common Table Expressions	Windowing Functions	Parallel Query
Microsoft SQL Server	Yes	Yes (2005 and beyond)	Yes (2005 and beyond)	Yes	Yes	Yes	Yes	Yes	Yes	Yes[79]	Yes[80]
Microsoft SQL Server Compact (Embedded Database)	Yes	No	No	Yes	Yes	?	No	Yes	No	No	?
MonetDB/SQL	?	?	?	?	?	?	?	?	?	?	?
MySQL	Yes	No	No	Yes	Yes	Yes	No	Yes	No[81]	No	No[82]
OpenBase SQL	No	No	No	Yes	Yes	Yes	Yes	Yes	?	?	?
Oracle	Yes	Yes	Yes, via MINUS	Yes	Yes	Yes	Yes	Yes	Yes 1	Yes	Yes[83]
Oracle Rdb	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	?	?	?
OpenLink Virtuoso	Yes	?	?	Yes	Yes	Yes	?	Yes	?	?	?
Polyhedra DBMS	Yes	Yes	Yes	Yes	No	?	?	Yes	?	?	?
PostgreSQL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No[84]
RDM Embedded	No	No	No	Yes	Yes	No	No	Yes	No	No	No
RDM Server	Yes	No	No	Yes	Yes	Yes	No	Yes	No	No	No
ScimoreDB	Yes	?	?	Yes	LEFT only	Yes	Yes	Yes	?	?	?
SmallSQL	?	?	?	?	?	?	?	?	?	?	?
SQL Anywhere	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SQLite	Yes	Yes	Yes	Yes	LEFT only	Yes	?	Yes	No	No	?
Teradata	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
UniVerse	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	?
Xeround Cloud Database	Yes	No	No	Yes	Yes	Yes	No	Yes	No	No	No

Note (1): Recursive CTEs introduced in 11gR2 supersedes similar construct called CONNECT BY

Data types

	Type system	Integer	Floating point	Decimal	String	Binary	Date/Time	Boolean	Other
Altibase[85]	Static	SMALLINT (16-bit), INTEGER (32-bit), BIGINT (64-bit)	REAL(32-bit), DOUBLE(64-bit)	DECIMAL, NUMERIC, NUMBER, FLOAT	CHAR, VARCHAR, NCHAR, NVARCHAR, CLOB	BLOB, BYTE, NIBBLE, BIT, VARBIT	DATE		GEOMETRY
CUBRID[86]	Static	SMALLINT (16-bit), INTEGER (32-bit), BIGINT (64-bit)	FLOAT, REAL(32-bit), DOUBLE(64-bit)	DECIMAL, NUMERIC	CHAR, VARCHAR, NCHAR, NVARCHAR, CLOB	BLOB	DATE, DATETIME, TIME, TIMESTAMP	BIT	MONETARY, BIT VARYING, SET, MULTISET, SEQUENCE
Drizzle[87]	Static	INT (32-bit), BIGINT (64-bit)	DOUBLE (aka REAL) (64-bit)	DECIMAL	BINARY, VARCHAR, VARBINARY, TEXT,	BLOB	DATETIME, DATE, TIMESTAMP		ENUM, SERIAL
Empress Embedded Database	Static	TINYINT, SQL_TINYINT or INTEGER8 SMALLINT, SQL_SMALLINT or INTEGER16 INTEGER, INT, SQL_INTEGER or INTEGER32 BIGINT, SQL_BIGINT or INTEGER64	REAL, SQL_REAL or FLOAT32 DOUBLE PRECISION, SQL_DOUBLE or FLOAT64 FLOAT or SQL_FLOAT EFLOAT	DECIMAL, DEC, NUMERIC, SQL_DECIMAL or SQL_NUMERIC DOLLAR	CHARACTER, ECHARACTER, CHARACTER VARYING, NATIONAL CHARACTER, NATIONAL CHARACTER VARYING and NLSCHARACTER CHARACTER LARGE OBJECT, TEXT, NATIONAL CHARACTER LARGE OBJECT, and NLSTEXT	BINARY LARGE OBJECT or BLOB BULK	DATE, EDATE, TIME, ETIME, EPOCH_TIME, TIMESTAMP, MICROTIMESTAMP	BOOLEAN	SEQUENCE 32 SEQUENCE
HSQLDB[88]	Static	TINYINT (8-bit), SMALLINT (16-bit), INTEGER (32-bit), BIGINT (64-bit)	DOUBLE (64-bit)	DECIMAL, NUMERIC	CHAR, VARCHAR, LONGVARCHAR, CLOB	BINARY, VARBINARY, LONGVARBINARY, BLOB	DATE, TIME, TIMESTAMP, INTERVAL	BOOLEAN	OTHER (object), BIT, BIT VARYING, ARRAY
Informix Dynamic Server[89]	Static	SMALLINT (16-bit), INT (32-bit), INT8 (64-bit proprietary), BIGINT (64-bit)	SMALLFLOAT (32-bit), FLOAT (64-bit)	DECIMAL (32 digits float/fixed), MONEY	CHAR, VARCHAR, NCHAR, NVARCHAR, LVARCHAR, CLOB, TEXT	TEXT, BYTE, BLOB, CLOB	DATE, DATETIME, INTERVAL	BOOLEAN	SET, LIST, MULTISET, ROW, TIMESERIES, SPATIAL, USER DEFINED TYPES
Ingres[90]	Static	TINYINT (8-bit), SMALLINT (16-bit), INTEGER (32-bit), BIGINT (64-bit)	FLOAT4 (32-bit), FLOAT (64-bit)	DECIMAL	C, CHAR, VARCHAR, LONG VARCHAR, NCHAR, NVARCHAR, LONG NVARCHAR, TEXT	BYTE, VARBYTE, LONG VARBYTE (BLOB)	DATE, ANSIDATE, INGRESDATE, TIME, TIMESTAMP, INTERVAL	N/A	MONEY, OBJECT_KEY, TABLE_KEY, USER-DEFINED DATA TYPES (via OME)

Microsoft SQL Server[91]	Static	TINYINT, SMALLINT, INT, BIGINT	FLOAT, REAL	NUMERIC, DECIMAL, SMALLMONEY, MONEY	CHAR, VARCHAR, TEXT, NCHAR, NVARCHAR, NTEXT	BINARY, VARBINARY, IMAGE, FILESTREAM	DATE, DATETIMEOFFSET, DATETIME2, SMALLDATETIME, DATETIME, TIME	BIT	CURSOR, TIMESTAMP, HIERARCHYID, UNIQUEIDENTIFIER, SQL_VARIANT, XML, TABLE
Microsoft SQL Server Compact (Embedded Database)[92]	Static	TINYINT, SMALLINT, INT, BIGINT	FLOAT, REAL	NUMERIC, DECIMAL, MONEY	NCHAR, NVARCHAR, NTEXT	BINARY, VARBINARY, IMAGE	DATETIME	BIT	TIMESTAMP, ROWVERSION, UNIQUEIDENTIFIER, IDENTITY, ROWGUIDCOL
MySQL[93]	Static	TINYINT (8-bit), SMALLINT (16-bit), MEDIUMINT (24-bit), INT (32-bit), BIGINT (64-bit)	FLOAT (32-bit), DOUBLE (aka REAL) (64-bit)	DECIMAL	CHAR, BINARY, VARCHAR, VARBINARY, TEXT, TINYTEXT, MEDIUMTEXT, LONGTEXT	TINYBLOB, BLOB, MEDIUMBLOB, LONGBLOB	DATETIME, DATE, TIMESTAMP, YEAR	BOOLEAN (aka BOOL) = synonym for TINYINT	ENUM, SET, GIS data types (Geometry, Point, Curve, LineString, Surface, Polygon, GeometryCollection, MultiPoint, MultiCurve, MultiLineString, MultiSurface, MultiPolygon)
Oracle[94]	Static + Dynamic (through ANYDATA)	NUMBER	BINARY_FLOAT, BINARY_DOUBLE	NUMBER	CHAR, VARCHAR2, CLOB, NCLOB, NVARCHAR2, NCHAR	BLOB, RAW, LONGRAW, BFILE	DATE, TIMESTAMP (with/without TIMEZONE), INTERVAL	N/A	SPATIAL, IMAGE, AUDIO, VIDEO, DICOM, XMLType
Polyhedra	Static	INTEGER8 (8-bit), INTEGER(16-bit), INTEGER (32-bit)	FLOAT32 (32-bit), FLOAT (aka REAL; 64-bit)	N/A	VARCHAR, LARGE VARCHAR (aka CHARACTER LARGE OBJECT)	LARGE BINARY (aka BINARY LARGE OBJECT)	DATETIME	BOOLEAN	N/A
PostgreSQL[95]	Static	SMALLINT (16-bit), INTEGER (32-bit), BIGINT (64-bit)	REAL (32-bit), DOUBLE PRECISION (64-bit)	DECIMAL, NUMERIC	CHAR, VARCHAR, TEXT	BYTEA	DATE, TIME (with/without TIMEZONE), TIMESTAMP (with/without TIMEZONE), INTERVAL	BOOLEAN	ENUM, POINT, LINE, LSEG, BOX, PATH, POLYGON, CIRCLE, CIDR, INET, MACADDR, BIT, UUID, XML, arrays
RDM Embedded[96]	Static	tinyint, smallint, integer, bigint	real, float, double	N/A	char, varchar, wchar, varwchar, long varchar, long varwchar	binary, varbinary, long varbinary	date, time, timestamp	bit	N/A
RDM Server[97]	Static	tinyint, smallint, integer, bigint	real, float, double	decimal, numeric	char, varchar, wchar, varwchar, long varchar, long varwchar	binary, varbinary, long varbinary	date, time, timestamp	bit	rowid
SQLite[98]	Dynamic	INTEGER (64-bit)	REAL (aka FLOAT, DOUBLE) (64-bit)	N/A	TEXT (aka CHAR, CLOB)	BLOB	N/A	N/A	N/A
UniData	Dynamic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UniVerse	Dynamic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Xeround Cloud Database	Static	TINYINT (8-bit), SMALLINT (16-bit), MEDIUMINT (24-bit), INT (32-bit), BIGINT (64-bit)	FLOAT (32-bit), DOUBLE (aka REAL) (64-bit)	DECIMAL	CHAR, BINARY, VARCHAR, VARBINARY, TEXT, TINYTEXT, MEDIUMTEXT, LONGTEXT	TINYBLOB, BLOB, MEDIUMBLOB, LONGBLOB	DATETIME, DATE, TIMESTAMP, YEAR	BOOLEAN (aka BOOL) = synonym for TINYINT	ENUM, SET
	Type system	**Integer**	**Floating point**	**Decimal**	**String**	**Binary**	**Date/Time**	**Boolean**	**Other**

Other objects

Information about what other objects are supported natively.

	Data Domain	**Cursor**	**Trigger**	**Function** [1]	**Procedure** [1]	**External routine** [1]
4th Dimension	Yes	No	Yes	Yes	Yes	Yes
ADABAS	*?*	Yes	*?*	Yes?	Yes?	*?*
Adaptive Server Enterprise	Yes	Yes	Yes	Yes	Yes	Yes
Advantage Database Server	Yes	Yes	Yes	Yes	Yes	Yes
Altibase	Yes	Yes	Yes	Yes	Yes	Yes
Apache Derby	No	Yes	Yes	Yes [2]	Yes [2]	Yes [2]
CUBRID	Yes	Yes	Yes	Yes	Yes [2]	Yes
Drizzle	Yes	Yes	Yes [4]	Yes [4]	Yes [4]	Yes [4]
Empress Embedded Database	Yes via RANGE CHECK	Yes	Yes	Yes	Yes	Yes
DB2	Yes via CHECK CONSTRAINT	Yes	Yes	Yes	Yes	Yes
Firebird	Yes	Yes	Yes	Yes	Yes	Yes
HSQLDB	Yes	No	Yes	Yes	Yes	Yes
H2	Yes	No	Yes [2]	Yes [2]	Yes [2]	Yes
Informix Dynamic Server	Yes via CHECK	Yes	Yes	Yes	Yes	Yes
Ingres	Yes	Yes	Yes	Yes	Yes	Yes
InterBase	Yes	Yes	Yes	Yes	Yes	Yes
Linter SQL RDBMS	No	Yes	Yes	Yes	Yes	No
LucidDB	No	Yes	No	Yes [2]	Yes [2]	Yes [2]
MaxDB	Yes	Yes	Yes	Yes	Yes	*?*
Microsoft Access (JET)	Yes	No	No	No	Yes, But single DML/DDL Operation	Yes
Microsoft Visual Foxpro	No	Yes	Yes	Yes	Yes	Yes
Microsoft SQL Server	Yes (2000 and beyond)	Yes	Yes	Yes	Yes	Yes
Microsoft SQL Server Compact (Embedded Database)	No	Yes	No	No	No	No
MonetDB	No	No	Yes	Yes	Yes	Yes

	Data Domain	Cursor	Trigger	Function [1]	Procedure [1]	External routine [1]
MySQL	No [3]	Yes	Yes	Yes	Yes	Yes
OpenBase SQL	Yes	Yes	Yes	Yes	Yes	Yes
Oracle	Yes	Yes	Yes	Yes	Yes	Yes
Oracle Rdb	Yes	Yes	Yes	Yes	Yes	Yes
OpenLink Virtuoso	Yes	Yes	Yes	Yes	Yes	Yes
Polyhedra DBMS	No	No	Yes	Yes	Yes	Yes
PostgreSQL	Yes	Yes	Yes	Yes	Yes	Yes
RDM Embedded	No	Yes	No	No	Yes	Yes
RDM Server	No	Yes	Yes	No	Yes	Yes
ScimoreDB	No	No	No	No	Yes	Yes
SQL Anywhere	Yes	Yes	Yes	Yes	Yes	Yes
SQLite	No	No	Yes	No	No	Yes
Teradata	No	Yes	Yes	Yes	Yes	Yes
UniData	No	No	Yes	Yes	Yes	Yes
UniVerse	No	No	Yes	Yes	Yes	Yes
Xeround Cloud Database	No [3]	Yes	Yes	Yes	Yes	No

Note (1): Both **function** and **procedure** refer to internal routines written in SQL and/or procedural language like PL/SQL. **External routine** refers to the one written in the host languages, such as C, Java, Cobol, etc. "Stored procedure" is a commonly used term for these routine types. However, its definition varies between different database vendors.

Note (2): In Derby, H2, LucidDB, and CUBRID, users code **functions** and **procedures** in Java.

Note (3): ENUM datatype exist. CHECK clause is parsed, but not enforced in runtime.

Note (4): In Drizzle the user codes **functions** and **procedures** in C++.

Partitioning

Information about what partitioning methods are supported natively.

	Range	Hash	Composite (Range+Hash)	List	Expression
4th Dimension	*?*	*?*	*?*	*?*	
ADABAS	*?*	*?*	*?*	*?*	
Adaptive Server Enterprise	Yes	Yes	No	Yes	
Advantage Database Server	No	No	No	No	
Altibase	Yes	Yes	No	Yes	
Apache Derby	No	No	No	No	
CUBRID	Yes	Yes	No	Yes	
IBM DB2	Yes	Yes	Yes	Yes	

	Range	Hash	Composite (Range+Hash)	List	
Empress Embedded Database	No	No	No	No	
Firebird	No	No	No	No	
HSQLDB	No	No	No	No	
H2	No	No	No	No	
Informix Dynamic Server	Yes	Yes	Yes	Yes	Yes
Ingres	Yes	Yes	Yes	Yes	
InterBase	No	No	No	No	
Linter SQL RDBMS	No	No	No	No	
MaxDB	No	No	No	No	
Microsoft Access (JET)	No	No	No	No	
Microsoft Visual Foxpro	No	No	No	No	
Microsoft SQL Server	Yes	No	No	No	
Microsoft SQL Server Compact (Embedded Database)	No	No	No	No	
MonetDB	Yes (M5)	Yes (M5)	Yes (M5)	No	
MySQL	Yes	Yes	Yes	Yes	
OpenBase SQL	*?*	*?*	*?*	*?*	
Oracle	Yes	Yes	Yes	Yes	
Oracle Rdb	Yes	Yes	*?*	*?*	
OpenLink Virtuoso	Yes	No	No	No	
Polyhedra DBMS	No	No	No	No	
PostgreSQL	Yes[1]	Yes[1]	Yes[1]	Yes[1]	
RDM Embedded	Yes[2]	Yes[2]	Yes[2]	No	
RDM Server	No	No	No	No	
ScimoreDB	No	Yes	No	No	
SQL Anywhere	No	No	No	No	
SQLite	No	No	No	No	
Teradata	Yes	Yes	Yes	Yes	
UniVerse	Yes	Yes	Yes	Yes	
Xeround Cloud Database	N/A - partitioning provided transparently	N/A - partitioning provided transparently	N/A - partitioning provided transparently	N/A - partitioning provided transparently	
	Range	**Hash**	**Composite (Range+Hash)**	**List**	

Note (1): PostgreSQL 8.1 provides partitioning support through check constraints. Range, List and Hash methods can be emulated with PL/pgSQL or other procedural languages.[99]

Note (2): RDM Embedded 10.1 requires the application programs to select the correct partition (using range, hash or composite techniques) when adding data, but the *database union* functionality allows all partitions to be read as a single database.[100]

Access control

Information about access control functionalities (*work in progress*).

	Native network encryption[1]	Brute-force protection	Enterprise directory compatibility	Password complexity rules[2]	Patch access[3]	Run unprivileged[4]	Audit	Resource limit	Separation of duties (RBAC)[5]	Security Certification
Adaptive Server Enterprise	Yes (optional; to pay)	Yes	Yes (optional ?)	Yes	Partial (need to register; depend on which product)[101]	Yes	Yes	Yes	Yes	Yes (EAL4+ [1])
Advantage Database Server	Yes	No	No	No	Yes	Yes	No	No	Yes	?
DB2	Yes	?	Yes (LDAP, Kerberos…)	Yes	?	Yes	Yes	Yes	Yes	Yes (EAL4+[6])
Empress Embedded Database	?	?	No	No	Yes	Yes	Yes	No	Yes	No
Firebird	No	Yes[102]	Yes (Windows trusted authenification)	No	Partial (no security page)[103]	Yes	No	No	No[7]	?
HSQLDB	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	No
H2	Yes	Yes	?	No	?	Yes	?	Yes	Yes	No
Informix Dynamic Server	Yes	?	Yes[10]	?[10]	Yes	Yes	Yes	Yes	Yes	?
Linter SQL RDBMS	Yes (with SSL)	Yes	No	Yes (length only)	No	Yes	Yes	Yes	Yes	Yes
MySQL	Yes (SSL with 4.0)	No	Yes (with 5.5)	No	Partial (no security page)[104]	Yes	?	?	?[8]	No
OpenBase SQL	Yes	?	Yes (Open Directory, LDAP)	No	?	?	?	?	?	?
Microsoft SQL Server	Yes	?	Yes (Microsoft Active Directory)	Yes	Yes	Yes	Yes (From 2008)	Yes	Yes	Yes (EAL1+[1])
Microsoft SQL Server Compact (Embedded Database)	No (not relevant, only file permissions)	No (not relevant)	No (not relevant)	No (not relevant)	Yes	Yes (file access)	Yes	Yes	No	?
Oracle	Yes	Yes	Yes	Yes	?	Yes	Yes	Yes	Yes	Yes (EAL4+[1])
PostgreSQL	Yes	Yes (for 9.1)	Yes (LDAP, Kerberos…[9])	Yes (as of 9.0 with passwordcheck module)	Yes[105]	Yes	No	Yes	Yes	Yes (EAL1[1])

	Native network encryption[1]	Brute-force protection	Enterprise directory compatibility	Password complexity rules[2]	Patch access[3]	Run unprivileged[4]	Audit	Resource limit	Separation of duties (RBAC)[5]	Security Certification
RDM Embedded	No	No	No	No	No	Yes	No	No	No	No
RDM Server	Yes	No	No	No	No	Yes	Yes	No	Yes	No
SQL Anywhere	Yes	?	Yes (Kerberos)	Yes	?	Yes	Yes	No	Yes	Yes (EAL3+[1] as Adaptive Server Anywhere)
SQLite	No (not relevant, only file permissions)	No (not relevant)	No (not relevant)	No (not relevant)	Partial (no security page)[106]	Yes (file access)	Yes	Yes	No	No
Xeround Cloud Database	Yes (SSL with 4.0)	No	No	No	N/A - database as a service	Yes	No	No	No	No

Note (1): Network traffic could be transmitted in a secure way (not clear-text, en general SSL encryption). Precise if option is default, included option or an extra modules to buy.

Note (2): Options are present to set a minimum size for password, respect complexity like presence of numbers or special characters.

Note (3): How do you get security updates? Is it free access, do you need a login or to pay? Is there easy access through a Web/FTP portal or RSS feed or only through offline access (mail CD-ROM, phone).

Note (4): Does database process run as root/administrator or unprivileged user? What is default configuration?

Note (5): Is there a separate user to manage special operation like backup (only dump/restore permissions), security officer (audit), administrator (add user/create database), etc.? Is it default or optional?

Note (6): Common Criteria certified product list[107]

Note (7): FirebirdSQL seems to only have SYSDBA user and DB owner. There are no separate roles for backup operator and security administrator.

Note (8): User can define a dedicated backup user but nothing particular in default install[108]

Note (9): Authentication methods[109]

Note (10): Informix Dynamic Server supports PAM and other configurable authentication. By default uses OS authentication.

Databases vs schemas (terminology)

The SQL specification makes clear what an "SQL schema" is; however, different databases implement it incorrectly. To compound this confusion the functionality can, when incorrectly implemented, overlap with that of the parent-database. An SQL schema is simply a namespace within a database, things within this namespace are addressed using the member operator dot ".". This seems to be a universal amongst all of the implementations.

A true fully (database, schema, and table) qualified query is exemplified as such: `SELECT * FROM database.schema.table`

Now, the issue, both a schema and a database can be used to isolate one table, "foo" from another like named table "foo". The following is pseudo code:

- `SELECT * FROM db1.foo` vs. `SELECT * FROM db2.foo` (no explicit schema between db and table)
- `SELECT * FROM [db1.]default.foo` vs. `SELECT * FROM [db1.]alternate.foo` (no explicit db prefix)

The problem that arises is that former MySQL users will create multiple databases for one project. In this context, MySQL databases are analogous in function to Postgres-schemas, insomuch as Postgres lacks off-the-shelf cross-database functionality that MySQL has. Conversely, PostgreSQL has applied more of the specification implementing cross-table, cross-schema, and then left room for future cross-database functionality.

MySQL aliases *schema* with *database* behind the scenes, such that `CREATE SCHEMA` and `CREATE DATABASE` are analogs. It can therefore be said that MySQL has implemented cross-database functionality, skipped schema functionality entirely, and provided similar functionality into their implementation of a database. In summary, Postgres fully supports schemas but lacks some functionality MySQL has with databases, while MySQL does not even attempt to support true schemas.

Oracle has its own spin where creating a user is synonymous with creating a schema. Thus a database administrator can create a user called PROJECT and then create a table PROJECT.TABLE. Users can exist without schema objects, but an object is always associated with an owner (though that owner may not have privileges to connect to the database). With the Oracle 'shared-everything' RAC architecture, the same database can be opened by multiple servers concurrently. This is independent of replication, which can also be used, whereby the data is copied for use by different server. In the Oracle view, the 'database' is a set of files which contains the data while the 'instance' is a set of processes (and memory) through which a database is accessed.

Informix supports multiple databases in a server instance, like MySQL. It supports the CREATE SCHEMA syntax as a way to group DDL statements into a single unit creating all objects created as a part of the schema as a single owner. Informix supports a database mode called ANSI mode which supports creating objects with the same name but owned by different users.

The end result is confusion between the database factions. The Postgres and Oracle communities maintain that one database is all that is needed for one project, per the definition of database. MySQL and Informix proponents maintain that schemas have no legitimate purpose when the functionality can be achieved with databases. Postgres adheres to the SQL specification, in a more intuitive fashion (bottom-up), while MySQL's pragmatic counterargument allows their users to get the job done while creating conceptual confusion.

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