MariaDB follow-up

Introduction

MariaDB is a MySQL fork created by Monty Widenius, one of the original MySQL founders. Right now it is, from a practical point of view, a MySQL clone. The versioning follows closely the MySQL versioning, certain MariaDB versions being drop-in replacements for specified MySQL versions. This correspondence is documented in the MariaDB website.

From the point of view of the administrators:

- The MariaDB daemon is named “mysqld” (identical to MySQL).
- The configuration file can be specified at the command line (default is /etc/my.cnf, identical to MySQL).
- The configuration file format is identical to MySQL.
- The options that apply to MySQL also apply to the corresponding MariaDB version.
- MariaDB offers additional configuration options for the new features it brings in (documented in the knowledge base).
- The data and table definition files are binary compatible and can be replicated by DRBD or backed up by “hot backup” tools.

From the point of view of the users:

- The client is named “mysql” (identical to MySQL).
- The shared libraries are named libmysqlclient*.so (identical to corresponding MySQL version).
- The API is identical.
- For all the practical purposes software linked against MySQL client library will run without modification with the MariaDB client library.
- The MySQL client library will also communicate with the MariaDB daemon; no changes needed.
- The other client tools installed by MySQL have identical counterparts in MariaDB (mysqldump, …).
- MySQL client tools work with MariaDB backend and MariaDB client tools work with MySQL backend.

SQL language:

MariaDB supports all MySQL language constructs and for all practical purposes a single query returns the same expected result in both MySQL and MariaDB.

There are new features available in MariaDB, documented in the knowledge base.

Replication:

MariaDB supports the following SQL keywords related to replication:

- RESET
- START SLAVE
- STOP SLAVE
- RESET MASTER
- RESET SLAVE
- SHOW SLAVE HOSTS
- CHANGE MASTER TO
- LOAD DATA FROM MASTER
- LOAD TABLE FROM MASTER
- SHOW MASTER STATUS
- SHOW SLAVE STATUS

All the replication features available with MySQL 5.1 are present with MariaDB. There may be more improvements and stability fixes that may become apparent when starting to use this feature.

Security:

User authentication is identical to MySQL (“new” and “old” password algorithms), including relating users to hosts and having users without passwords. MariaDB reads and follows existing MySQL users / privileges table; additions to this table are compatible to MySQL.

MariaDB follows the my.cnf file regarding the port to listen (default 3306) and the address to bind to.

There is a feature specific to MariaDB that is worth mentioning: in the configuration file the administrator can specify a secondary port (e.g. 3307) where one can perform an emergency connection if, by any reasons, the connection to 3306 is no longer possible (“too many

connections" errors, …). This helps cleanly solve certain problems that previously required server restarting.

Operational differences:

- The installation package names start with MariaDB (not MySQL)
- MariaDB also reads [mariadb] section of the my.cnf file
- CHECKSUM TABLE returns by default different results as NULL values are considered (MySQL ignores them); there is a configuration option that forces "compatible" calculation
- Slow query log is more complex, this possibly being incompatible with custom scripts written for log analysis
- By default MariaDB uses additional memory (a couple of megabytes, usually) compared to MySQL under the same conditions due to using a different handler for temporary tables (this value can be adjusted by a configuration parameter)
- Using MariaDB-only features can make reverting back to MySQL very hard (using the "common set" allows for seamless reverting, though)

Other than these there are no operational differences between MariaDB and MySQL.

IPV6:

Neither MySQL or MariaDB currently support IPV6 in any of the "stable" releases. Native IPV6 support was added in MySQL 5.6 (experimental). There is current work to add such support to MariaDB, too.

Using DRBD:

Using DRBD is identical to the current MySQL usage scenario. It is also possible to have 2 machines with a DRBD "shared partition", one with MySQL installed and the other with MariaDB (compatible versions) and have them both as a part of a high availability cluster; from the regular user's point of view there will be no difference (apart from the performance difference).

InnoDB hot backup:

Such tool can be used without changes on both MySQL and MariaDB due to binary compatibility of the backend files. Using an advanced tool such as Percona XtraBackup is advisable, though.

Updates:

- The current MariaDB stable branch is 5.2, a drop-in replacement for MySQL 5.1.
- The experimental branch is 5.3, also a drop-in replacement for MySQL 5.1 but with GPL variants of some features that were announced by Oracle for new or to be released MySQL Enterprise versions.
- There are plans to release MariaDB 5.5 drop-in replacement for MySQL 5.5 and also a future 5.6 version.

As the binary (InnoDB / MyISAM) backend is identical with MySQL 5.1 and 5.5 one can also "upgrade" MySQL 5.5 to MariaDB 5.2 even if such upgrade is not directly documented; differences in system tables can cause warnings in the log files, though.

Support:

- Community support is available (public knowledge base, mailing lists)
- 3rd party support is available through a number of companies that are listed here: http://montyprogram.com/support/
- Companies that currently offer 3rd party support for MySQL usually offer support for MariaDB and the other siblings (Drizzle, Percona server)