

Understanding the MySQL Release Cadence

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ABOUT THE AUTHOR

RONALD BRADFORD

- 27 years with RDBMS/ 17 years with MySQL
 - Senior Consultant at MySQL Inc (06-08)
 - Consultant for Oracle Corporation (96-99)
- Published author of 4 MySQL books

<http://ronaldbradford.com/presentations/>

- OpenStack Core Contributor

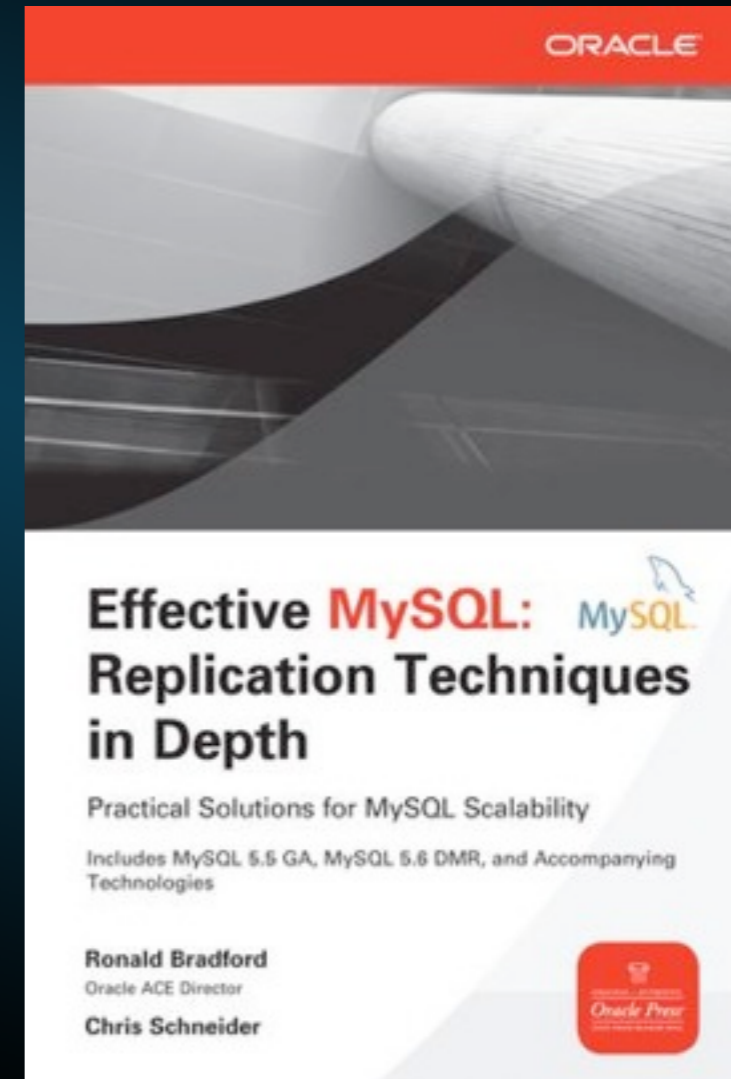
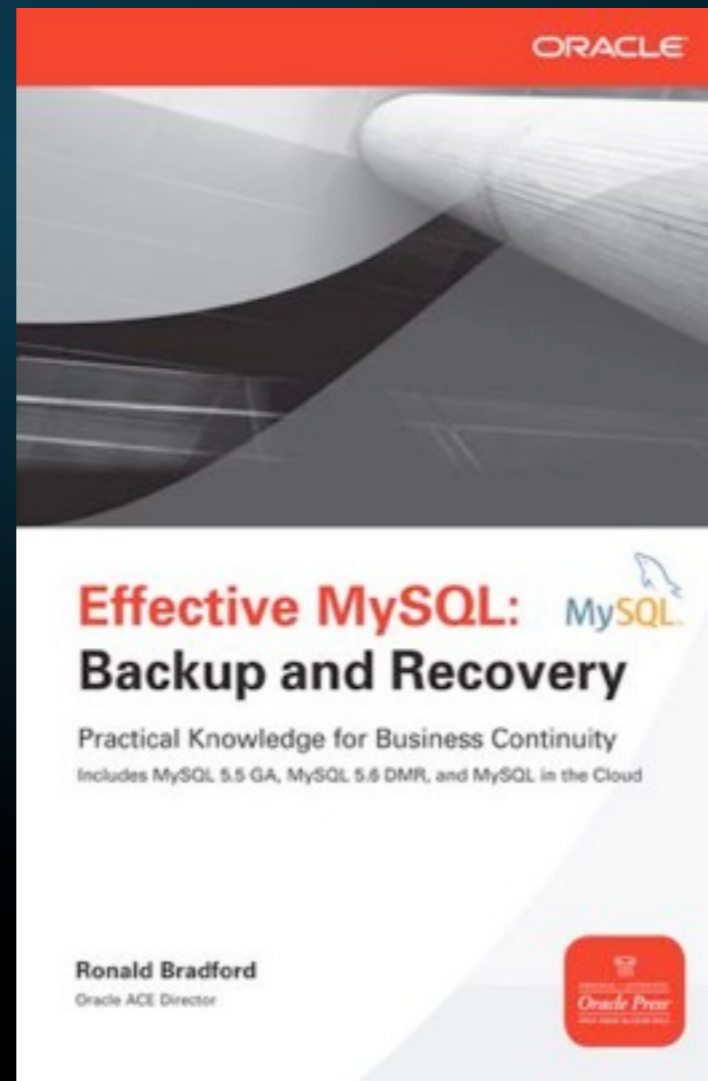
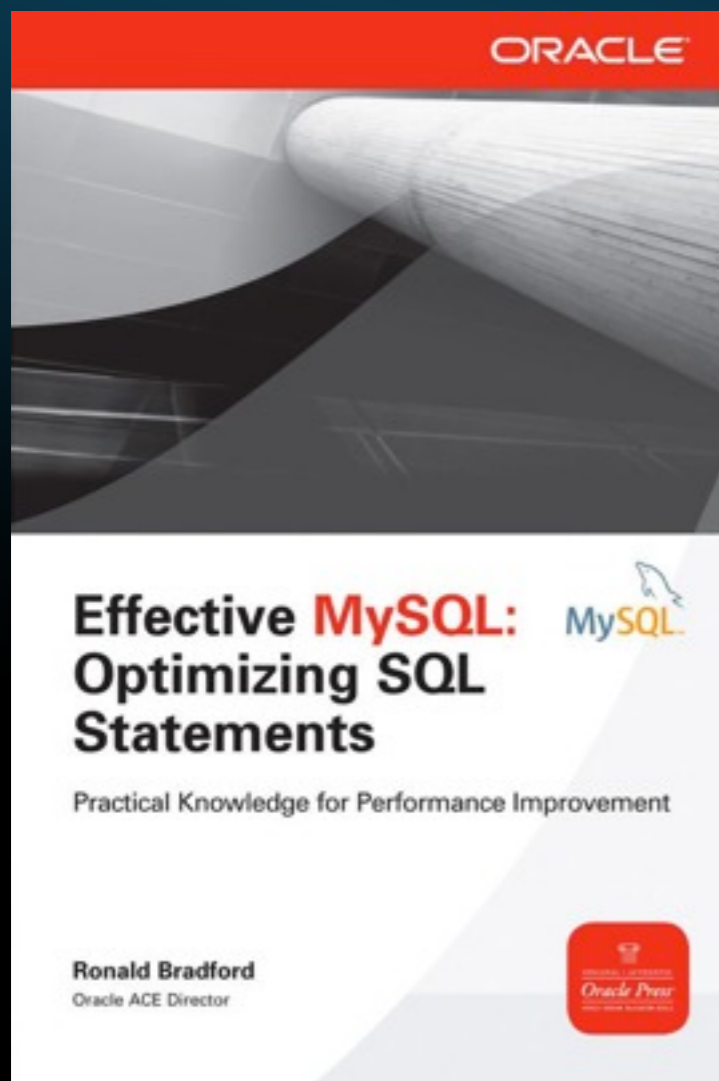


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BOOKS

<http://effectivemysql.com/book/>



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MYSQL TERMINOLOGY



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MYSQL TERMINOLOGY

Community
Enterprise
Ecosystem



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MYSQL TERMINOLOGY

Community
Enterprise
Ecosystem

DMR
labs
RC
GA
EOL



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MYSQL TERMINOLOGY

	DMR	
	labs	
Community	RC	5.5.50
Enterprise	GA	5.6.31
Ecosystem	EOL	5.7.13
		5.8



MYSQL TERMINOLOGY

	DMR	
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		5.8
	MRU	
	QSP	



MYSQL TERMINOLOGY

Community Enterprise Ecosystem	DMR		
	labs		
	RC	5.5.50	
	GA	5.6.31	
	EOL	5.7.13	
		5.8	MariaDB
	MRU	Percona	
	QSP	Galera	



Product Options



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PRODUCT SCOPE

- MySQL Server
 - MySQL Standard Edition
 - MySQL Enterprise Edition
 - MySQL Embedded (OEM/ISV)
 - MySQL Community Edition
- MySQL Cluster Carrier Grade Edition

<https://www.mysql.com/products/>



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OPEN SOURCE

- MySQL Community Server
- Free to download
- Available under GPL v2 licence



MYSQL ENTERPRISE

PRODUCT FAMILY

- .. Monitor
- .. Backup
- .. HA
- .. Scalability
- .. Authentication
- .. TDE
- .. Encryption
- .. Firewall
- .. Audit
- .. Oracle Enterprise Manager for MySQL

<https://www.mysql.com/products/enterprise/>



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OTHER MYSQL PRODUCTS

- Connectors
- Workbench
- Utilities
- Shell
- Fabric
- Router



OPERATING SYSTEMS

- RHEL/OL
- SUSE
- Debian/Ubuntu
- Microsoft
- Solaris
- OS X
- FreeBSD
- Generic Linux



MYSQL ECOSYSTEM

SERVER

- Oracle MySQL Community Edition
- MariaDB
- Percona Server

- Galera Cluster



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MySQL Server



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MYSQL SERVER

ORACLE RELEASED

- Major versions
 - 5.5
 - 5.6
 - 5.7
- Don't be fooled, these are major releases



MYSQL SERVER

ORACLE RELEASED

- Next release will be 8.0
 - Not 5.8
- Anticipated first version at OOW 16



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MySQL Product Lifecycle



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DEV LIFECYCLE

- Development Milestone Release (DMR)
- Release Candidate (RC)
- General Availability (GA)
- End of Life (EOL)

- Labs



MYSQL 5.7

LIFECYCLE

● 04/13	5.7.1	DMR 11	● 04/15	5.7.7	RC
● 09/13	5.7.2	DMR 12	● 08/15	5.7.8	RC
● 12/13	5.7.3	DMR 13	● <u>10/15</u>	<u>5.7.9</u>	<u>GA</u>
● 03/14	5.7.4	DMR 14	● 12/15	5.7.10	
● 09/14	5.7.5	DMR 15	● 02/16	5.7.11	
● 03/15	5.7.6	DMR 16	● 04/16	5.7.12	
			● 06/16	5.7.13	



5.7 LIFECYCLE

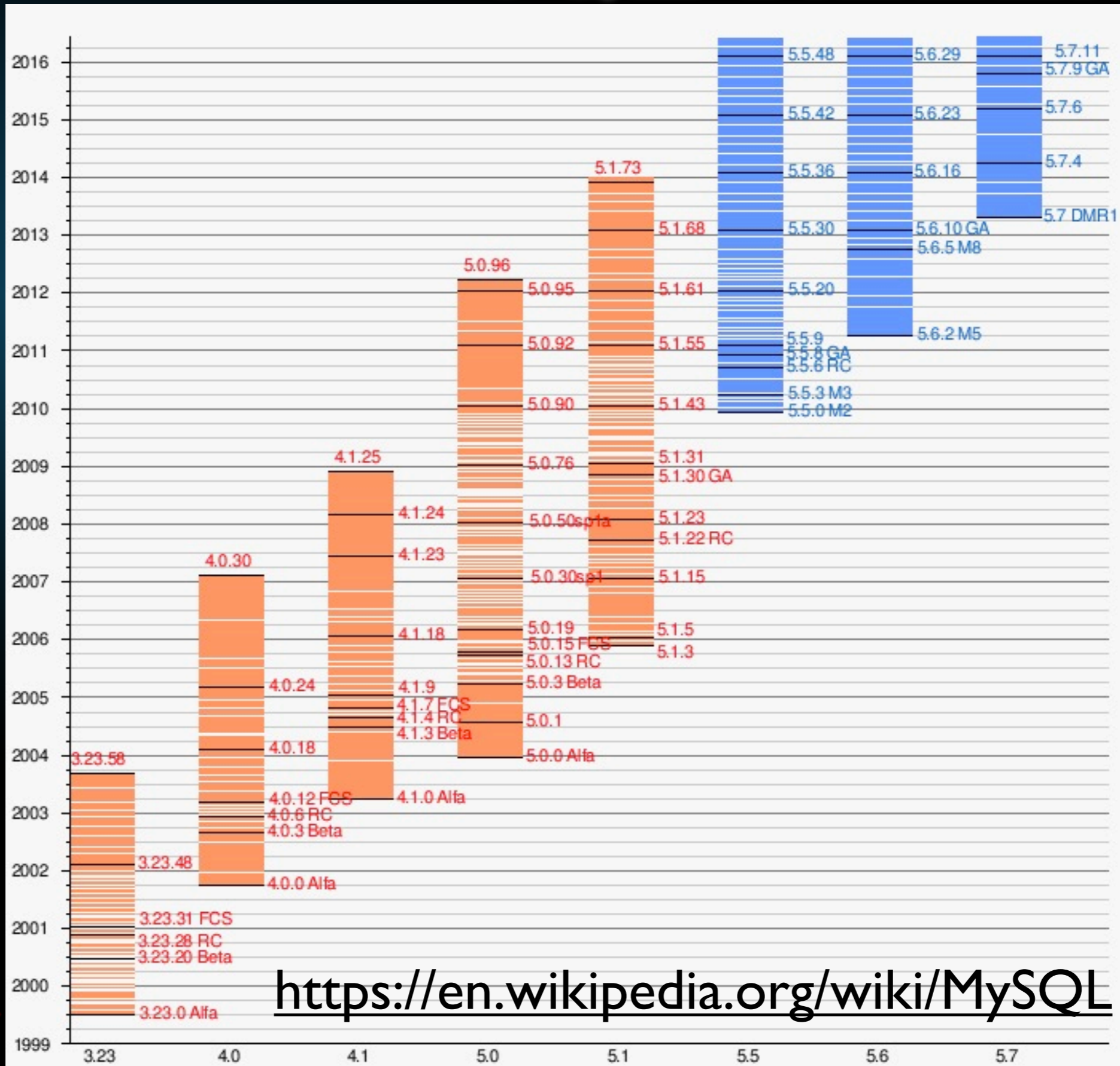
SUMMARY

- 8 DMR releases (2 years)
- 2 RC releases (6 months)
- 5 GA releases (8 months to date)

- What is stable?
- When do you consider a version?



MYSQL RELEASES



<https://en.wikipedia.org/wiki/MySQL>

SUPPORT

- Premier Support - 5 years from GA
- Extended Support - 8 years from GA

Oracle Lifetime Support for MySQL

Features	Premier (Years 1-5)	Extended (Years 6-8)	Sustain (Years 9+)
24x7 Support	•	•	•
Unlimited Support Incidents	•	•	•
Knowledge Base	•	•	•
Maintenance Releases, Bug Fixes, Patches, Updates	•	•	Pre-Existing only
MySQL Consultative Support	•	•	•

<http://www.mysql.com/support/>



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END OF LIFE (EOL)

- MySQL 4.1 - 12/09
- MySQL 5.0 - 01/12
- MySQL 5.1 - 12/13
- MySQL 5.5 (12/15 - 5 yrs 12/18 - 8 yrs)
- Does support ever die?
 - Oracle Lifetime Sustaining Support

<https://www.mysql.com/support/eol-notice.html>



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WHAT IS LABS?

- Development features that may/may not be included in DMR/RC/GA
 - Group Replication
 - Binary Log Events
 - Hadoop Applier
 - HTTP Plugin

<http://labs.mysql.com/>



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WHAT IS LABS?

New Data Dictionary

<http://mysqlserverteam.com/a-new-data-dictionary-for-mysql/>

<http://mysqlserverteam.com/a-preview-on-lab-release-with-new-data-dictionary-in-mysql/>

MySQL Worklog

<http://dev.mysql.com/worklog/task/?id=6379>

<http://dev.mysql.com/worklog/task/?id=6380>

<http://dev.mysql.com/worklog/task/?id=7284>

<http://dev.mysql.com/worklog/task/?id=6382>



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MySQL Release Frequency



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GA RELEASE FREQUENCY

- Historically
 - Monthly Rapid Update (MRU)
 - Quarterly Service Pack (QSP)

No longer valid



GA RELEASE FREQUENCY

- When needed
 - security or performance based
 - combined bug fixes
- Customers can still request “hot fixes” builds



GA RELEASES

- Release Notes are best source

<https://dev.mysql.com/doc/relnotes/mysql/5.7/en/>

- 2/16 OpenSSL 1.0.1q
- 4/16 OpenSSL 1.0.1s
- 6/16 OpenSSL 1.0.1t

MySQL Community less effected.
uses yaSSL not OpenSSL



RELEASE NOTES

- Security Notes
- Functionality added or changed
- Bugs Fixed
- Installation Notes
- Compilation Notes
- Packaging Notes



RELEASE NOTES

5.7.13 - 6/16

- New Functionality example
 - SQL interface for keyring key management

<https://dev.mysql.com/doc/refman/5.7/en/keyring-udfs.html>



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MySQL Upgrades



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INITIAL DOCUMENTS

- Features List

<http://dev.mysql.com/doc/refman/5.7/en/mysql-nutshell.html>

- Release Notes

<https://dev.mysql.com/doc/relnotes/mysql/5.7/en/>

- White Paper

<https://www.mysql.com/why-mysql/white-papers/whats-new-mysql-5-7/>



MAJOR RELEASES

- Each major release (5.5, 5.6, 5.7) has infrastructure changes
 - Change in initialization process
 - `mysqld --initialize`
 - Client programs rewritten as server
 - Change in meta data
 - `mysql.user.password` column



MYSQL_UPGRADE

- Used between major releases
- Synchronizes meta schema/data
- `$ mysql_upgrade`

Now point releases

If you upgrade to this MySQL release from an earlier version, you must run **mysql_upgrade** (and restart the server) to incorporate the changes to the `mysql` system database. A server from MySQL 5.7.13 or higher for which **mysql_upgrade** has not been run continues to permit a maximum of 77 characters in the system tables mentioned previously, and an `ER_USER_COLUMN_OLD_LENGTH` error will occur in those system table contexts where `user_name@host_name` value from 78 to 93 characters long is given.

<https://dev.mysql.com/doc/relnotes/mysql/5.7/en/news-5-7-13.html>



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MYSQL 5.5

REASONS TO UPGRADE

- If not already on 5.5, plan your upgrade path
- 5.5 is already at EOL



MYSQL 5.6

REASONS TO UPGRADE

Three reasons to upgrade

- Replication improvements
- Statements instrumentation (P_S)
- InnoDB FULLTEXT
- <many more>



MYSQL 5.7

REASONS TO UPGRADE

Three reasons to upgrade

- Native JSON support
- 'sys' schema
- Security improvements and features
- <many more>

3x Faster



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UPGRADE SCOPE

- Upgrade lifecycle has to identify and manage all MySQL related products and (third party) connectors



What's Next



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MYSQL 8.0

- Hopefully a DMR at OOW 16
 - Data Dictionary
- Potentially different release cycles
 - Group Replication
 - X Protocol



CONCLUSION

- Major server releases every 2-3 years
- Related products different release cycles
- Potential change for component releases

- Update your MySQL every 3-6 months



RELATED PRESENTATIONS

- Managing MySQL version upgrades

<http://ronaldbradford.com/blog/managing-mysql-version-upgrades-presentation-2015-08-23/>

- The history and future of the MySQL ecosystem
 - Overview of MySQL forks and storage engines

<http://effectivemysql.com/presentation/the-history-and-future-of-the-mysql-ecosystem/>



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Ronald Bradford

Enterprise Architect - Performance and Scalability Expert - Data Strategist

Core technology skills with Cloud Computing (AWS/OpenStack), Unix/Linux, MySQL, NoSQL, Oracle, Java, PHP, Python.



System Design

Crafting architectural solutions for growing business needs



Technology Lead

Guiding software excellence in the engineering lifecycle



Site Reliability

Ensuring a consistent and reproducible consumer experience



Efficiency Management

Optimizing an ongoing continual improvement process

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