

# 22 Reasons to move to MySQL 8

And 4 reasons not to



Peter Zaitsev,  
Founder at Percona  
10 June 2023



Lima, Peru 2023

**PERCONA**  
UNIVERSITY



Heatwave to melt  
Snowflake





# #1 MySQL 5.7 Goes EOL in October 2023



## #2 New Development Process

**Get new Features Frequently, Rather than once every 2-3 years**





# #3 Innodb based Data Dictionary

**Atomic, Crash Safe  
DDLs**

**Crash Safe Grants**

**Much Faster  
Information Schema**



## #4 More SQL, Better SQL

**Window Functions**

**CTEs (Common Table Expressions)**

**INTERSECT and EXCEPT**

**LATERAL JOIN**



# #5 Better Security

- **New Authentication Protocol**
- **Support for More Authentication Plugins**
- **Improvements to Transparent Data Encryption (TDE)**
- **Improvements to TLS**
- **Roles**

# #6 UTF8 Default

And Proper (MB4) UTF8 that is !





## #7 All Things Indexes

---

**Functional Indexes**

---

**Descending Indexes**

---

**Invisible Indexes**

---

**Multi Value Indexes (JSON)**

---

**Generated Invisible Primary Keys**

# #8 Better JSON Support



# #9 Improved Optimizer

Hash Joins among other things...





# #10 Improved EXPLAIN

1

**TREE Format**

2

**EXPLAIN  
ANALYZE**

3

**Default  
EXPLAIN  
Format**

# #11 Better Agility

Much more DDLs supported as  
**ALGORITHM=INSTANT**



# #12 SET PERSIST

New way to control  
MySQL Configuration




## #13 Optimizer Hints

**Number of new Hints Supported**

**SET\_VAR to set some variables for query duration only**

# #14 Resource Management

**Resource Groups to Prioritize or Restrict CPU Resources for some queries**



# #15 NOWAIT an SKIP\_LOCKED

**Flexible handling of  
encountered row level  
locks**





## #16 Proper AUTO\_INCREMENT

**Do not loose Auto  
Increment Counter  
value in Edge Cases**



## #17 Temptable Storage Engine

**Replaced aging HEAP  
for In Memory TMP  
Tables**

**Supports BLOBS**

**Separate  
Dynamically  
Sized  
location for  
Innodb Undo  
Space**

# #18 Undo Space



#19 Double  
Write

---

# Separate Location

---

---

# Configurable

---

---

# Detect Only Option

---

#20 Redo  
Logs

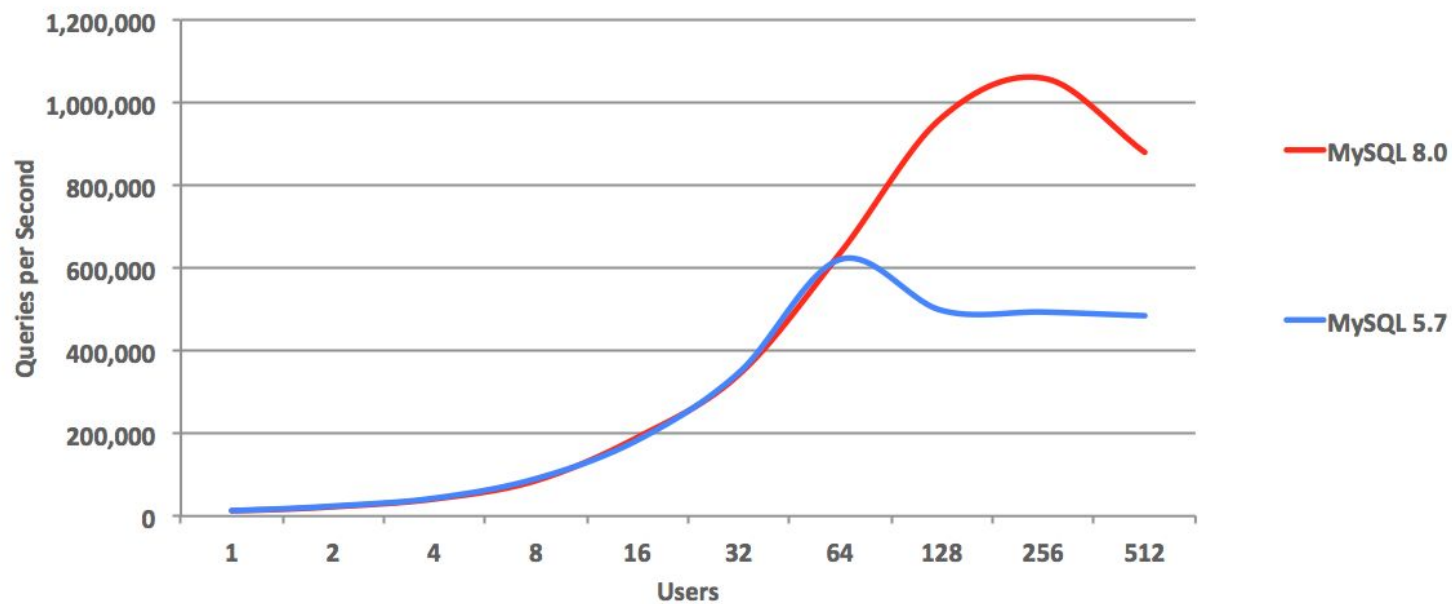
---

# Dynamically Sizable Online

---

**Can be Disabled for  
faster data loading**

# #21 Better Concurrency





# #22 User Comments and Attributes

**Store Meta-Data about user accounts  
directly in MySQL**

# Why not Upgrade to MySQL 8 ?





# Heatwave

**Is Oracle re-focusing MySQL Development on Proprietary cloud version only?**



# New Development Process

- **Lack of Stability**
- **Hard to downgrade**
- **Quality Problems**



# Performance

**Performance at low concurrency with simple queries perceived to be lower**



# Sharding

**No Built In transparent  
“Scale Out” Option makes  
developing large scale  
applications hard**





# Question

**Know Even Better “MySQL” ?**

# Want to know more about Percona Software For MySQL?



A background image of the Machu Picchu ruins in Peru, featuring terraced stone structures and steep mountains under a cloudy sky. The image is dimmed to serve as a backdrop for the text.

# Thank you, Let's Connect!

<https://www.linkedin.com/in/peterzaitsev/>

<https://twitter.com/PeterZaitsev>

<http://www.peterzaitsev.com>