

MySQL/NoSQL/Cloud Monitoring with New Relic

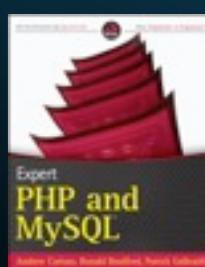
Ronald Bradford
<http://ronaldbradford.com>

Buenos Aires, Argentina
2013-10

ABOUT AUTHOR

RONALD BRADFORD

- 24 years of RDBMS experience, 14 years with MySQL
 - MySQL Inc (2006-2008)
 - Oracle Corporation (1996-1999)
- Published Author (4 books)
- Oracle ACE Director
- MySQL community member of the year (2009 & 2013)
- All time top MySQL blogger



**Provide independent MySQL/
LAMP/Cloud consulting**

Why Monitor?

Digg has broken an axle.

We might have to sell some oxen but we'll be back on the trail soon.



5 seconds

© Digg Inc. 2010

About Digg

Advertise

Partners

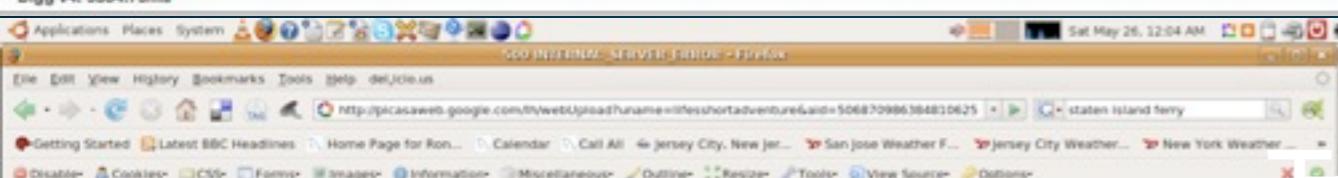
API & Resources

Blogs

Contact Us

J

Digg v4: 5384.75ms



Google Error

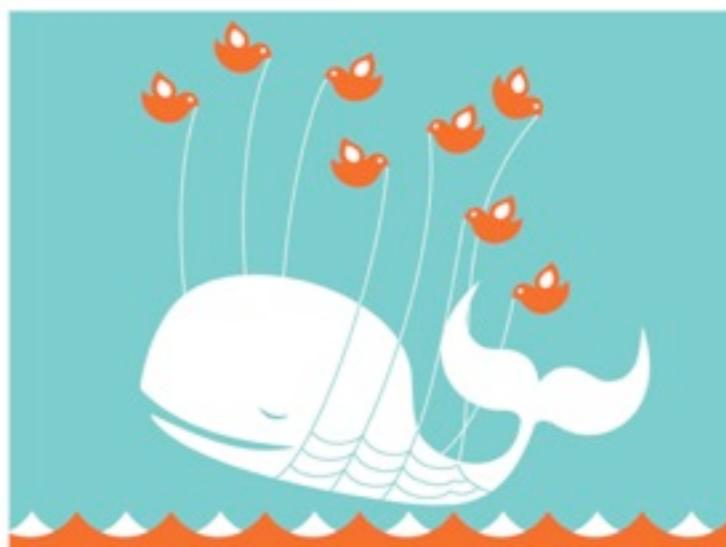
500 INTERNAL_SERVER_ERROR

Unable to process request.

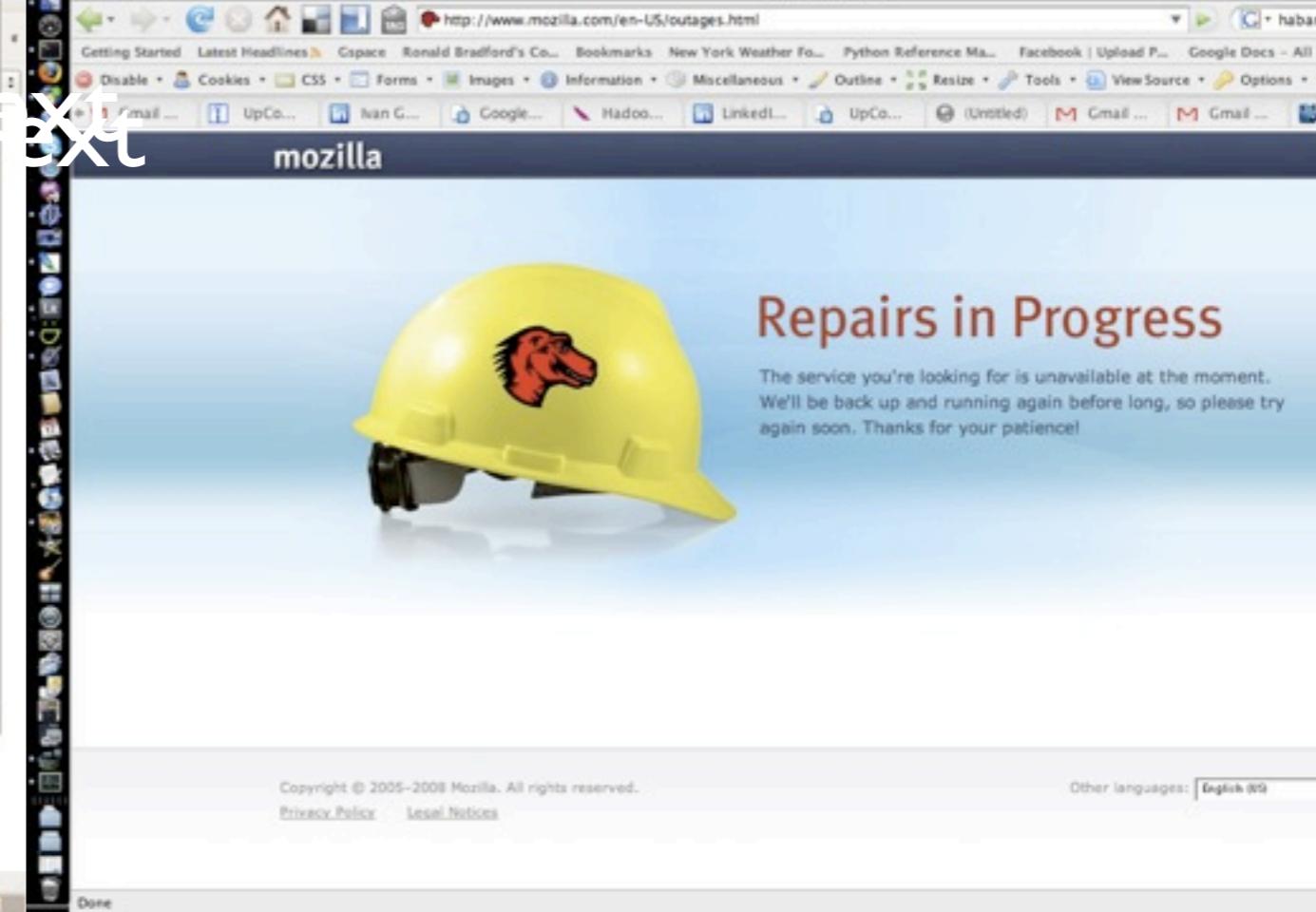
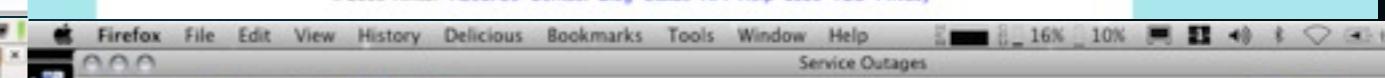


Twitter is over capacity.

Too many tweets! Please wait a moment and try again.



© 2008 Twitter About Us Contact Blog Status API Help Jobs TOS Privacy

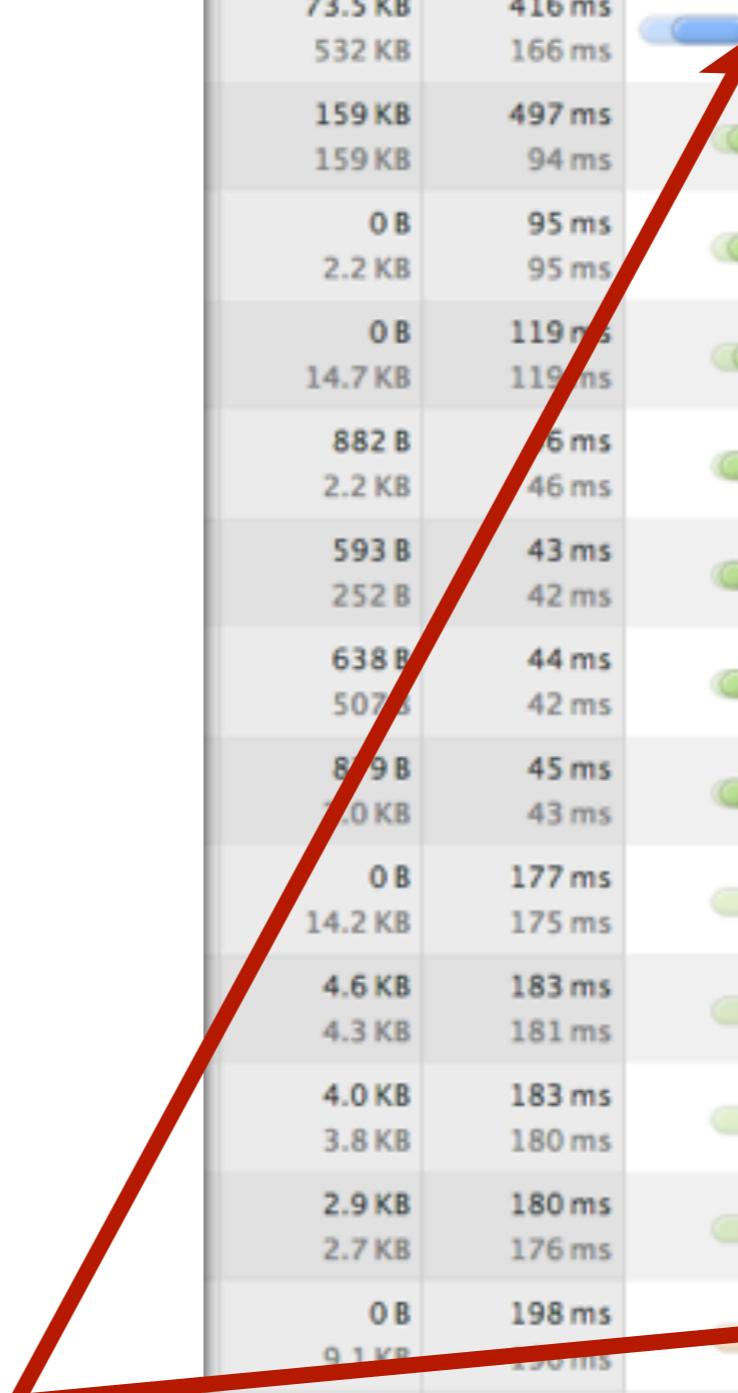


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Other languages: [English \(US\)](#)

		Method	Status Text	Type	Initiator	Size Content	Time Latency	Timeline	2.00 s	3.00 s	4.00 s
		GET	200 OK	text/html		73.5 KB	416 ms				
css		GET	200 OK	text/css		532 KB	166 ms				
scroll.css		GET	304 Not Modified	text/css		159 KB	497 ms				
non.css		GET	304 Not Modified	text/css		159 KB	94 ms				
family=Open+Sans:300italic,400... .googleapis.com		GET	200 OK	text/css		0 B	95 ms				
family=Abel .googleapis.com		GET	200 OK	text/css		2.2 KB	95 ms				
family=Montserrat:400,700 .googleapis.com		GET	200 OK	text/css		593 B	43 ms				
family=Lato:300,400,700,900,30... .googleapis.com		GET	200 OK	text/css		252 B	42 ms				
awesome.css awesome		GET	304 Not Modified	text/css		638 B	44 ms				
ll.css		GET	200 OK	text/css		507 B	42 ms				
ll-new-color.css		GET	200 OK	text/css		8.9 KB	45 ms				
-screens.css		GET	200 OK	text/css		0 B	177 ms				
y.modernizr.js ew		GET	304 Not Modified	text/javas...		14.2 KB	175 ms				
i-yui.js .cloudflare.com/ajax/libs/cufon/1		GET	304 Not Modified	application...		4.6 KB	183 ms				
y.min.js		GET	304 Not Modified	text/javas...		4.3 KB	181 ms				
y.ui.js ew		GET	304 Not Modified	text/javas...		4.0 KB	183 ms				
s		GET	304 Not Modified	text/javas...		3.8 KB	180 ms				
		GET	200			2.9 KB	180 ms				
						2.7 KB	176 ms				
						0 B	198 ms				
						9.1 KB	190 ms				
						0 B	27 ms				
						17.8 KB	25 ms				
						0 B	257 ms				
						91.7 KB	254 ms				
						0 B	261 ms				
						357 KB	259 ms				
						3.5 KB	268 ms				



Zabbix

Zenoss

Cacti

OpenTSDB

Hyperic

Munin

Nagios

MySQL Enterprise Monitor

Monitoring Options

Ganglia

CollectD

StatsD

http://en.wikipedia.org/wiki/Comparison_of_network_monitoring_systems

New Relic

Boundary

DataDog

New Relic



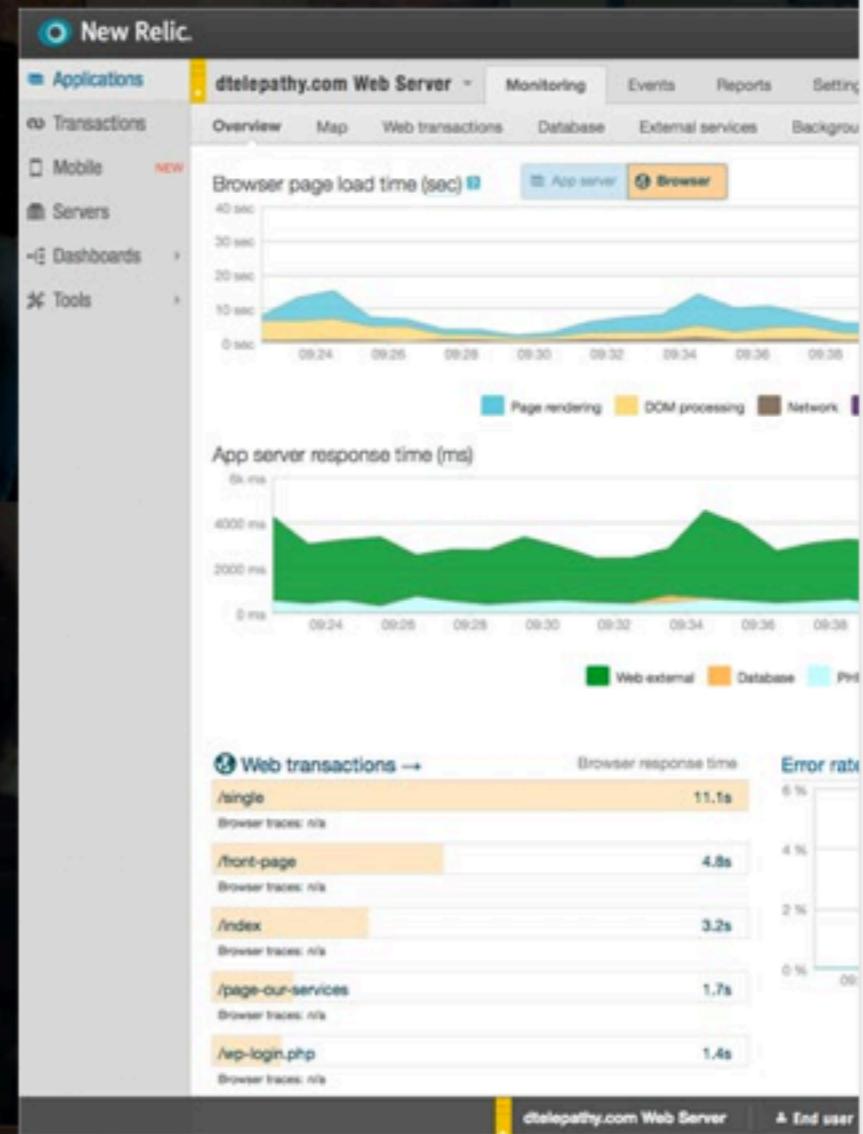
web & mobile

A Developer's Best Friend

for better performing apps

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TRY IT FOR FREE • NO COMMITMENT • NO CREDIT CARD REQUIRED



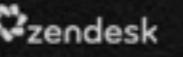
HAPPY CUSTOMERS WHO CHOOSE NEW RELIC



Bloomberg



ESPN



Have an App? You need New Relic

Instant visibility into your application • Identify bottlenecks • Troubleshoot your app

Application Performance Monitoring

A powerfully simple way to monitor your Web & Mobile applications

[Create My Free Account](#)

No credit card required · No commitment



Loved and Trusted

150 billion metrics captured each day
from millions of apps.

Bloomberg

zendesk

Disney

ESPN

Nike

Groupon

- Application Monitoring
- Server Monitoring
- Software as a Service (SaaS)
- Agent-like

Historically

THE CLOUD - SAAS

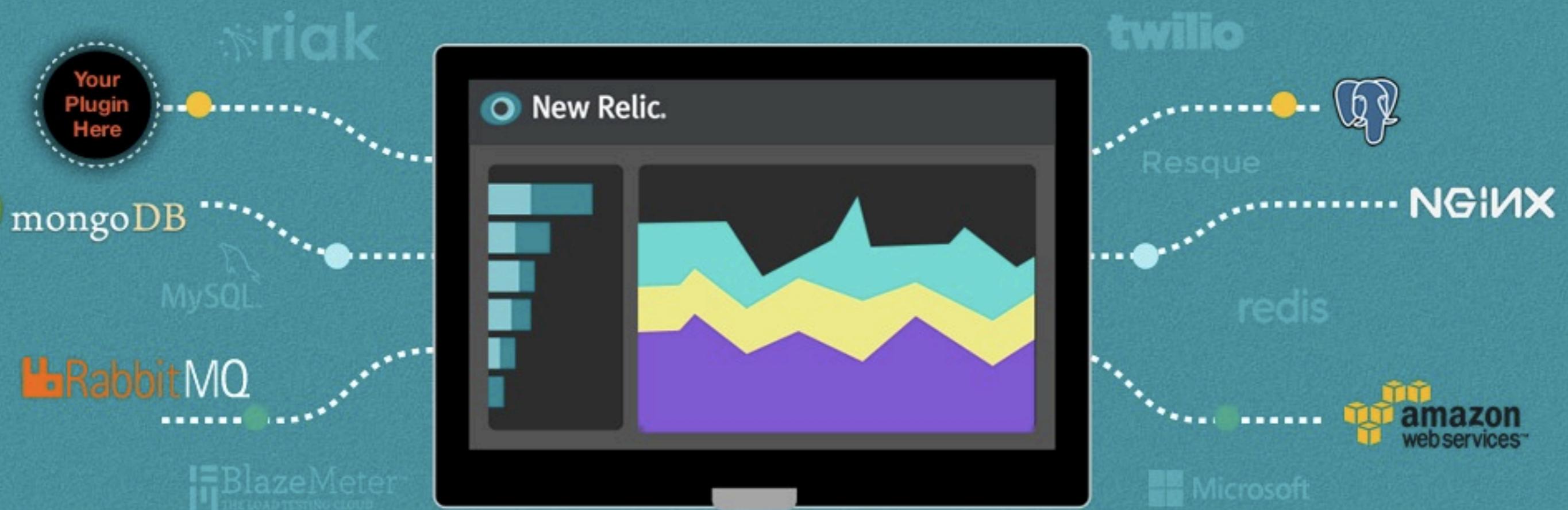
- Minimal installation
- Minimal administration
- Cloud based management
 - Web
 - Mobile
- Integrations to other products

- Application Monitoring
- Server Monitoring
- NOW - New Relic Platform
- <insert product here>

Introducing

One powerful and OPEN platform to monitor your entire stack

All the data, insights, and customized plugins you need. All for FREE.





YOU CAN MONITOR

PRICING

ABOUT

ENTERPRISE

BLOG | SIGN IN

Create Free Account



MySQL



Microsoft SQL S...



Rackspace Loa...



Memcached



RabbitMQ Moni...



Twilio



Redis



Microsoft Azure...



MongoDB



PostgreSQL



Apache HTTP



nginx web server



Varnish Cache



Resque



Riak



BlazeMeter Loa...



CouchDB



Haproxy



Logwatcher



MongoHQ



SendGrid



F5 LTM



PPAS



AWS Costs & Us...

- Subscription per server
 - Standard (\$24 p.s. p.m.)
 - Pro (\$149 p.s. p.m.)

YOU CAN GET UNLIMITED
STANDARD FREE BECAUSE BY THE
MySQL PLUGIN AUTHOR

<http://j.mp/newrelic-mysql>

[Sign up](#) » [Billing information](#) » [Enjoy](#)

Welcome to New Relic Standard for Effective MySQL!

Account details

Full name

Company name

* Email

* Password

Phone number

Applications

- .NET
- Python
- Ruby
- Node.js
- Java
- PHP
- Server

App environment profile

Select one

Promo code

By signing up for an account, you agree to accept our [terms of service](#).

[Create my account](#) or [cancel](#)

4

No Credit Card Details required

<http://j.mp/newrelic-mysql>

Setup New Relic - New Relic

https://rpm.newrelic.com/accounts/431504/applications/setup_mofu

New Relic.

Web Standard Mobile Lite Account settings My preferences 0 Help Logout

Last 30 minutes ▾ Ending now

Applications Transactions Mobile Servers Plugins NEW Tools ▾

Welcome, Ronald! Thanks for taking advantage of our partnership with Effective MySQL.

i Your account, Effective MySQL_1, has been created. Note that we changed your account name a bit to make it unique. You can change it using the "Account Settings" link in the top right.

Here's what you'll need in order to deploy:



An App



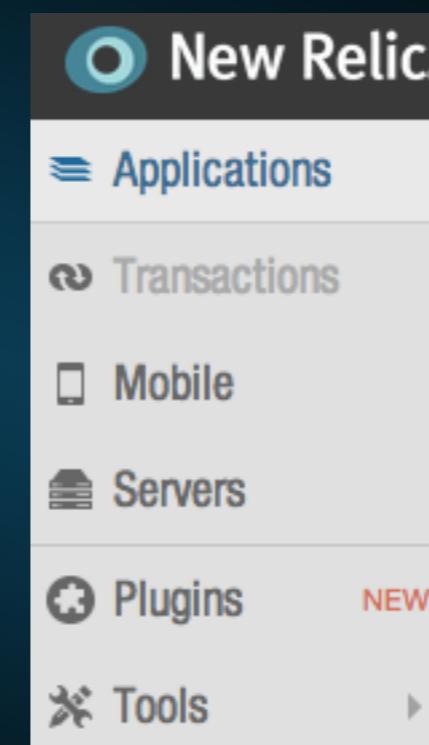
Access to Your App's Environment



7-10 Minutes

[Get Started](#)

NAVIGATION



The screenshot shows a user interface for account settings. At the top, there is a navigation bar with links for "Account settings", "My preferences", a dropdown menu showing "0", "Help", and "Logout". A large red arrow points from the top-left towards the "Account settings" link. Another red arrow points from the bottom-left towards the "License key" field. The main content area is titled "Account information" and contains the following fields:

- Name:
- Subscription:
 - Web Standard
 - Mobile Lite
- Billing CC Email: (with a pencil icon)
- License key: (containing the value "a90860edbcbab5f28a728")

Application alerting

I want to receive alert notifications

You will receive an email when your application exceeds the alert thresholds you have set. For more detail go [here](#) or [see a sample email](#)

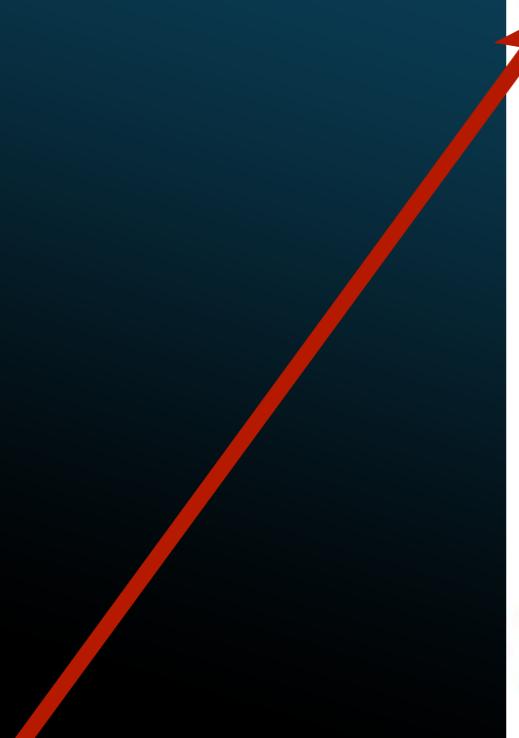
Web applications
You can control individual email alert settings for each web application.

ON PHP Application

ON webfront

Mobile applications
You do not have any mobile applications.

Save email preferences



Server

Ubuntu/Debian/RedHat/CentOS/Linux/Windows

- [Applications](#)
- [Transactions](#)
- [Mobile](#)
- [Servers](#)
- [Dashboards](#)

- [Plugins](#)
- [Tools](#)

Get started with Server Monitoring

Set up and start monitoring the servers that run your apps, at no extra cost

You can monitor servers even if you're not monitoring their apps

Choose a platform

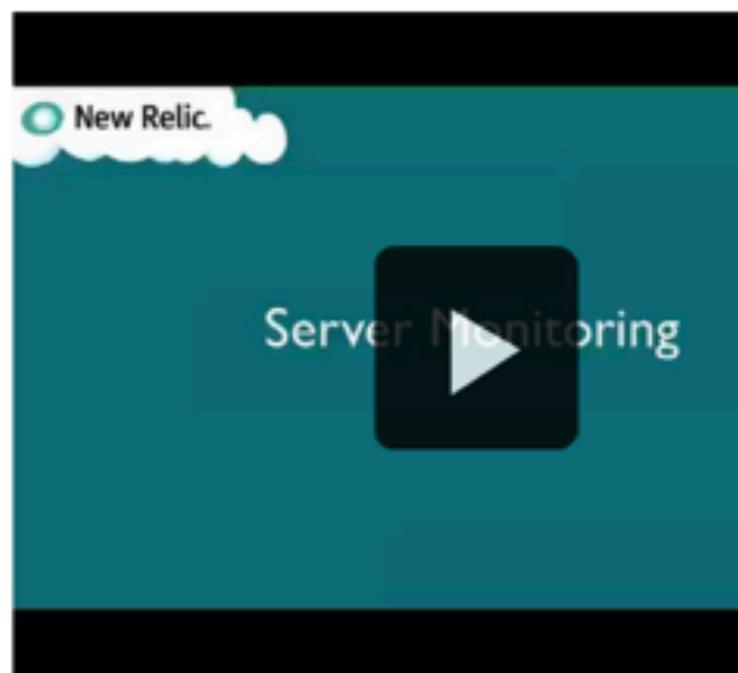
Platform	Version	
Ubuntu or Debian	Ubuntu 10.04 LTS and up Debian 5 or 6	Instructions
Red Hat or CentOS	Red Hat Enterprise Linux 5 & 6 CentOS 5 & 6	Instructions
Other Linux	glibc 2.5 or newer	Instructions
Windows	Windows Server 2003, Windows Server 2008	Instructions

We currently support Linux and Windows. For Linux, the current packages may work on any RPM or DEB based system, your mileage may vary. We may support more platforms in the future.

Curious about what you'll get?



Watch critical system metrics like CPU, Memory, Network and even your Processes with up-to-the minute results



Setup New Relic Server Monitor

https://rpm.newrelic.com/accounts/389698/servers/get_started#platform=rhel

NOTE: Must be **root** user to install

1 Add the New Relic yum repository

Install the newrelic-repo package, which configures a new package repository for yum:

```
rpm -Uvh http://download.newrelic.com/pub/newrelic/el5/i386,
```

2 Install the Server Monitor package

Run the install command:

```
yum install newrelic-sysmond
```

3 Configure & start the Server Monitor daemon

Add license key to config file: (See /etc/newrelic/nrsysmond.cfg for other config options)

```
nrsysmond-config --set license_key=a90860edbcab5f28a7286f37;
```

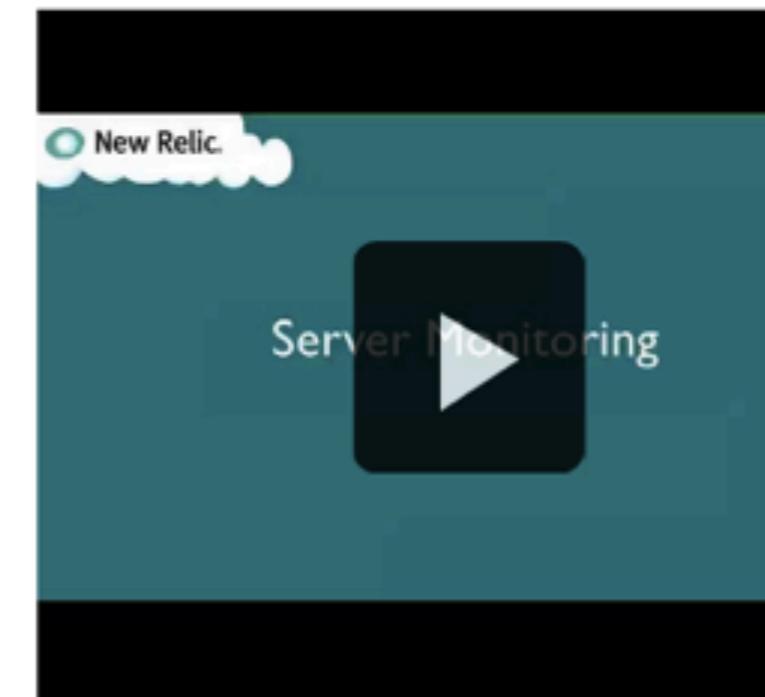
Start the daemon:

```
/etc/init.d/newrelic-sysmond start
```

Note: The configuration file is located at **/etc/newrelic/nrsysmond.cfg** and contains the license key and location for the log file:
/var/log/newrelic/nrsysmond.log

4 That's it!

In a few minutes your servers will send data to New Relic, and your application will be listed on the page you are currently viewing

The image shows the New Relic logo in the top left corner, consisting of a blue circle with a white 'N' and the word 'New Relic' next to it. To the right is a large black button with a white play triangle icon and the text 'Server Monitoring'.

SERVER INSTALL

```
LICENSE_KEY=""  
sudo rpm -Uvh http://download.newrelic.com/pub/newrelic/  
el5/x86_64/newrelic-repo-5-3.noarch.rpm  
sudo yum install -y newrelic-sysmond  
sudo nrsysmond-config --set license_key=${LICENSE_KEY}  
sudo /etc/init.d/newrelic-sysmond start
```

Helps to use good hostnames

Application

PHP/Ruby/.NET/Java/Python/Node.js

Get started with Web App Monitoring

1 Choose your language

PHP

2 Get your license key

Reveal license key

PHP, Ruby, .NET, Java, Python, Node.js

3 Install the PHP agent

(advanced instructions)

Select your environment:

RPM-based (Redhat, Centos, etc)

Add the New Relic repository:

[32-bit:]

```
sudo rpm -Uvh http://yum.newrelic.com/pub/newrelic/el5/i386/newrelic-agent-*
```

[64-bit:]

```
sudo rpm -Uvh http://yum.newrelic.com/pub/newrelic/el5/x86_64/newrelic-agent-*
```

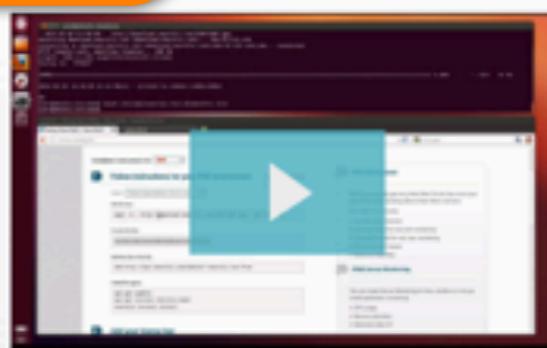
Install the agent:

```
sudo yum install newrelic-php5  
sudo newrelic-install install
```

Note: The installer will prompt you to enter your license key.

Note: The New Relic installer will try to drop a `newrelic.ini` file in place. Some PHP installations are hard for our installer to find, or will not accept files. In these cases you will need to manually edit your `php.ini` file.

To manually edit your `php.ini` file:



PRO Trial Included

Your account comes with a 14 day free trial of New Relic Pro. The trial begins once your application starts sending us data, after you've followed your language-specific installation instructions (located to the left).

FREE Server Monitoring

Any New Relic account comes with Server Monitoring free of charge.

[Server Monitoring instructions](#)

PHP INSTALL

```
LICENSE_KEY=""  
sudo rpm -Uvh http://download.newrelic.com/pub/newrelic/  
el5/x86_64/newrelic-repo-5-3.noarch.rpm  
sudo yum install -y newrelic-php5  
sudo newrelic-install install  
# prompted for LICENSE_KEY  
sudo service httpd restart
```

Platform

MySQL/Memcached/Apache/Redis/MongoDB/AWS/...

- Applications
- Transactions
- Mobile
- Servers
- Dashboards
- EC2
- MySQL
- RDS
- Plugins NEW
- Tools

Plugin Central



MySQL
New Relic Inc.

Capture performance and usage data about your MySQL 5.0+ databases to inform insights and improve troubleshooting.

Key, real-time metrics provide an overview of your databases and detailed measu...

★★★★★ (66)

[Get started](#)



Microsoft SQL Server
New Relic Inc.

Release v1.0.9

The plugin now supports proxy configurations. See the README.md in the install package.

Capture performance and usage data about your Microsoft SQL Server 2005+ dat...

★★★★★ (33)

[Get started](#)



Apache HTTP
MeetMe, Inc.

Trend and monitor Apache HTTP server statistics using the MeetMe plugin.

The MeetMe plugin agent polls numerous supported backend systems and submits the results to the New Relic platform. Curre...

★★★★★ (18)

[Get started](#)



Memcached
MeetMe, Inc.

Trend and monitor memcached server statistics using the MeetMe plugin.

The MeetMe plugin agent polls numerous supported backend systems and submits the results to the New Relic platform.

★★★★★ (16)



nginx web server
Nginx, Inc.

Visualize NGINX web server load and performance with this plugin provided by the original authors of NGINX.

Collect and display key load metrics to track your nginx instances behavior.

This p...

★★★★★ (41)

[Get started](#)



PostgreSQL
EnterpriseDB Corporation

Monitor PostgreSQL 8.4 and above. The PostgreSQL plugin allows our shared customers to view metrics from their database inside New Relic. Seeing the performance of the database alongside the perfor...

★★★★★ (16)

[Get started](#)



Perfmon
52projects

Perfmon Plugin for New Relic Platform

Collects and displays Performance Monitor (PerfMon) counters collected from local and remote Windows servers. Out-of-the-box, this plugin focuses on counter...

★★★★★ (17)

[Get started](#)



PostgreSQL
MeetMe, Inc.

Trend and monitor PostgreSQL server wide statistics using the MeetMe plugin. Information reported on includes backends, IO utilization, transactions, locks, replication rates, database...

★★★★★ (10)



Logwatcher
Dylan Evers



passenger
Platypus Software



Varnish
Varnish Software



Redis
Antirez

PLUGIN CENTRAL

Install MySQL ★★★★★ (65)

Capture performance and usage data about your MySQL 5.0+ databases to inform insights and improve troubleshooting.

Key, real-time metrics provide an overview of your databases and detailed measurements about queries, InnoDB, and replication.

Discover

Overview: SQL volume, database connections, network traffic, key database optimizations

Queries: SQL commands, internal temp tables, slow queries, query cache usage, select query types, table locks, sort query types

InnoDB metrics: buffer pool page operations, row operations, buffer pool pages breakdown, log writes, file sync, checkpoint age, history list length, internal thread queries, mutexes

Replication: lag, master binary log writes, slave relay log volume, slave I/O thread lag, slave errors

Requirements:

To use this plugin, you must have:

- a Java Runtime Environment (JRE) of 1.6 or higher
- at least one database to monitor (MySQL 5.0 or higher)
- a New Relic account

JRE (on some server)

Installation information

1. Download the MySQL plugin .tar.gz file from Plugin Central
2. Unpack the .tar.gz file in a new directory (typically tar zxvf newrelic_mysql_plugin-X.X.X.tar.gz)
3. Copy config/template_newrelic.properties to config/newrelic.properties
4. Open the config/newrelic.properties file and enter your license key (found in "Account Settings" menu at <https://rpm.newrelic.com>)
5. Copy config/template_mysql.instance.json to config/mysql.instance.json
6. Configure config/mysql.instance.json for each MySQL instance you want to monitor
7. Run java -jar <the plugin jar name> in your console

More in-depth installation and configuration details are included in the README file packaged with the plugin.

The source code is available on GitHub for full review. New Relic's MySQL plugin is offered under the MIT license.

Support

Plugin corner https://github.com/newrelic-platform/newrelic_mysql_java_plugin/

MYSQL INSTALL

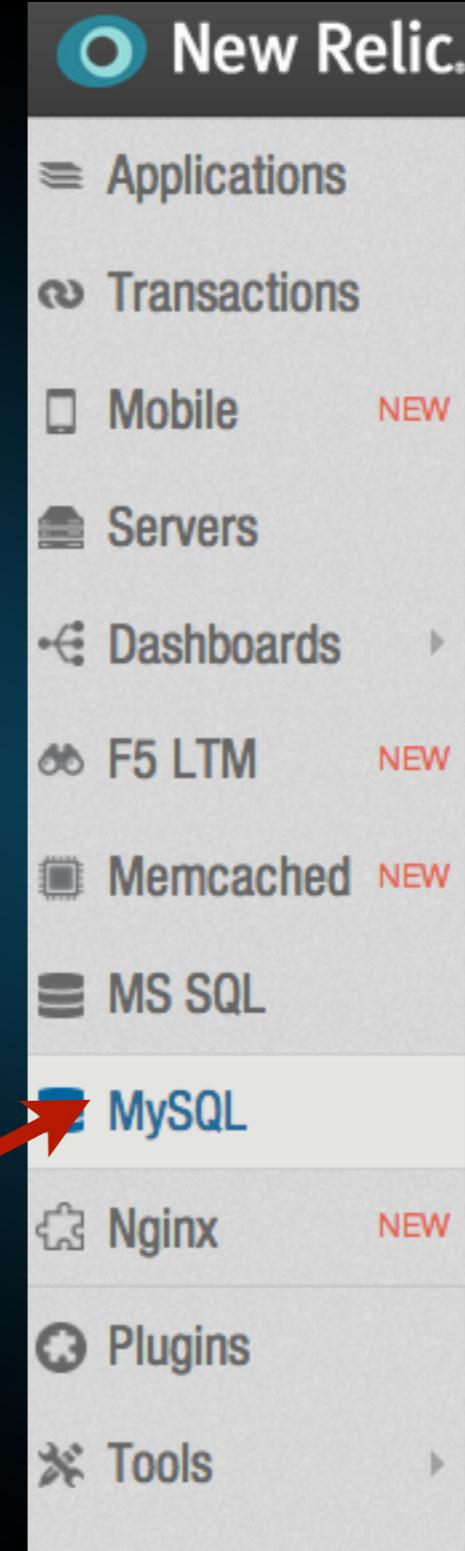
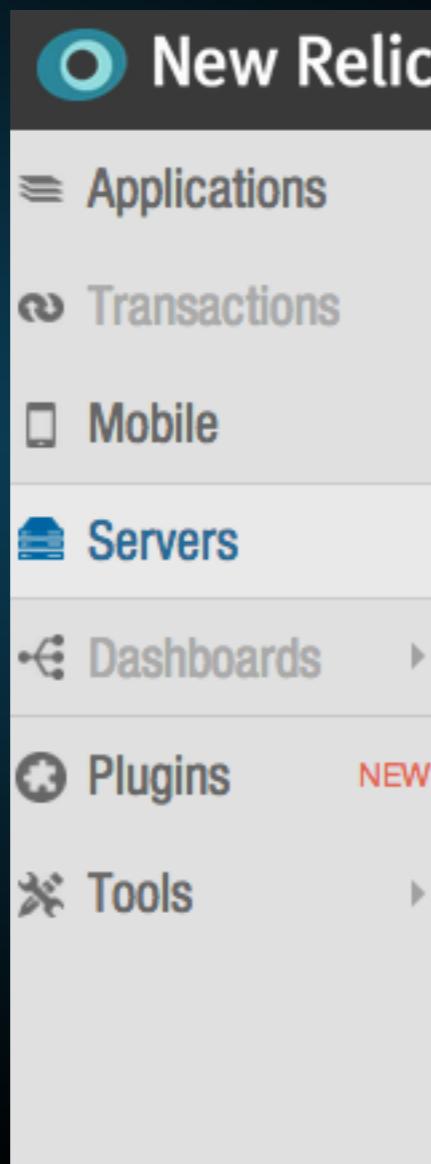
Version I - Needs streamlining

```
sudo su -
LICENSE_KEY=<enter key here>
wget -O /tmp/newrelic.tar.gz https://raw.github.com/newrelic-platform/
newrelic_mysql_java_plugin/master/dist/newrelic_mysql_plugin-1.0.6.tar.gz
cd /usr/local
tar xvfz /tmp/newrelic.tar.gz
mv newrelic_mysql_plugin-1.* newrelic_mysql_plugin
cd /usr/local/newrelic_mysql_plugin
echo "licenseKey=${LICENSE_KEY}" > config/newrelic.properties
echo "java.util.logging.ConsoleHandler.level = INFO
com.newrelic.metrics.publish.handlers = java.util.logging.ConsoleHandler" >
config/logging.properties
echo '['
{
  "name" : "'`hostname -s`'",
  "host" : "localhost",
  "metrics" : "status,newrelic,innodb,innodb_status,innodb_mutex,slave"
}
]' > config/mysql.instance.json
#mysql < mysql_user.sql
nohup java -jar newrelic_mysql_plugin*.jar &
```

https://github.com/newrelic-platform/newrelic_mysql_java_plugin/

General Views

NAVIGATION



- Applications
- Transactions
- Mobile
- Servers
- Dashboards
- EBS
- EC2
- MySQL
- RDS
- Plugins
- Tools

MySQL

26 instances

Name	Reads	Writes	Connections	Repl Lag
NSI - db4	330 Queries/sec	33.4 Queries/sec	541 Connections	107 sec
NSI - db5	287 Queries/sec	39.8 Queries/sec	596 Connections	83 sec
NSI - db7	289 Queries/sec	35.2 Queries/sec	620 Connections	75.4 sec
NSI - db8	137 Queries/sec	1.85 Queries/sec	529 Connections	912 sec
NSI - db9	305 Queries/sec	41.6 Queries/sec	706 Connections	80.2 sec
Ad Reporting	0.571 Queries/sec	72.2 Queries/sec	2.03 Connections	0 sec
Ad Server	374 Queries/sec	72.1 Queries/sec	506 Connections	0 sec
Analytics	0.884 Queries/sec	6.79 Queries/sec	2.04 Connections	0 sec
NSI - db1	32.1 Queries/sec	17.4 Queries/sec	34.6 Connections	0 sec
NSI - db10	0 Queries/sec	18.8 Queries/sec	1.03 Connections	0 sec
NSI - db2	291 Queries/sec	17.5 Queries/sec	562 Connections	0 sec
NSI - db3	299 Queries/sec	17.5 Queries/sec	688 Connections	0 sec
NSI - db6	442 Queries/sec	57.7 Queries/sec	623 Connections	72.5 sec
Toolbar - db-t0	0 Queries/sec	358 Queries/sec	160 Connections	0 sec
Toolbar - db-t1	0 Queries/sec	0 Queries/sec	0 Connections	0 sec
Toolbar Server	0.427 Queries/sec	2.73 Queries/sec	4.06 Connections	0 sec
Traffic Log	7.61 Queries/sec	6.73 Queries/sec	3.03 Connections	0 sec
Web Cache2	1.04 Queries/sec	0.0375 Queries/sec	2.09 Connections	0 sec
DB Master				
Toolbar Reporting				
Web Cache				
Web Cache3				
WebDB3				
WebDB4				
WebDB5				

Summary View

PUBLISHED AND SUPPORTED BY



New Relic Inc.
[About us](#) | [Support site](#)

Recent MySQL events

All	✉	●	▲
In-Progress			
23:44	✉	●	Alert on NSI - db9 Details
23:42	✉	●	Alert on NSI - db7 Details
23:42	✉	●	Alert on NSI - db5 Details
23:37	●	●	Repl Lag > 10 newrelic/replication_lag (NSI - db9)
23:37	✉	●	Alert on NSI - db8 Details
23:37	●	●	Repl Lag > 10 newrelic/replication_lag (NSI - db7)
23:37	●	●	Repl Lag > 10 newrelic/replication_lag (NSI - db5)
23:32	●	●	Repl Lag > 10 newrelic/replication_lag (NSI - db8)
23:26	✉	●	Alert on NSI - db4 Details
23:21	●	●	Repl Lag > 10 newrelic/replication_lag (NSI - db4)
TODAY			
23:38	✉	●	Alert on NSI - db9 Details
23:31	✉	●	Alert on NSI - db8 Details
23:27	✉	●	Alert on NSI - db5 Details

COMPOSE

LowerMyBills - President Pass Refi Plan - If You Owe Less Than \$625K On Your Home, You Could Qualify For The President's Refi Program

Box (58)

red

Important

Out Mail

Items (6)

Issues

Incubator/Ventures

Websites

fectivemysq...

naldbradford.co...

osite Catalog

More



Search people...

alex

Alex Mendoza

Amar Shrivastava

Cooper Marcus

Jeremy Friedman

Kevin McGuire

new-relic-platform...

Randy Antler

Ronald Bradford

Timothy Trinidad

[New Relic] New alert on WebDB4

Inbox

New Relic Alerts <noreply@newrelic.com>
to Ronald

1:57 AM (14 hours ago)



In partnership with Effective MySQL

WebDB4 [alert opened](#)

New critical alert on WebDB4

[Start troubleshooting now](#)

Problem (1 during this alert) Start time Duration End time

[Repl Lag > 10](#) Today, 5:52 5 minutesYou may edit your [alert thresholds](#) or [notification preferences](#) to stop receiving these messages.For more information on alerts in New Relic please refer to [the documentation on our support site](#).[Log in to New Relic](#) Find us online: Would you like to [unsubscribe](#) or [update your email preferences](#)?

New Relic Inc. — 188 Spear Street, Suite 1200, San Francisco, CA 94105

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For The Pre...

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\$2.95 Dom...
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(3) Launch y...
today.
[www.LegalZ...](#)How To Wr...
Let AuthorHo...
To Publish E...
Guide!
[www.Author...](#)GEICO Aut...
\$100? \$200?
could you sa...
quote.
[www.GEICO...](#)

Done Writi...

Free How To...
Mailed To Yo...
[www.Xlibris...](#)

New Relic.

Web Pro Trial Mobile Lite New Relic Platform Demo My preferences 0 Help Logout

Applications Transactions Mobile Servers Dashboards F5 LTM Memcached MS SQL MySQL Nginx Plugins Tools

Example S - Master A Overview Query Analysis InnoDB Metrics Replication Last 7 days Ending now

Overview

SQL Volume
This graph shows the total Reads (SELECTs) and Writes (INSERTs,UPDATEs,DELETEs,REPLACEs) executed

2250
2000
1750
1500
1250
1000
750
500
250
0

05/29 00:00 05/30 00:00 05/31 00:00 06/01 00:00 06/02 00:00 06/03 00:00 06/04 00:00

Writes Reads

Add to note Embed

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New Relic Inc.
[About us](#) | [Support site](#)

Key Utilizations

	Percent
Innodb Buffer Pool Hit Ratio	99%
Query Cache Memory In Use	77.5%
Tmp Tables Written To Disk	41.5%
Query Cache Hit Utilization	36%
Connnection Utilization	16.6%

Database Connections
This graphs shows current database connection information

150
100
50
0

05/30 00:00 06/01 00:00 06/03 00:00

Running Connected Cached

Network Traffic
This graph shows the bytes received and set to/from the MySQL instar

4M
2M
0

05/30 00:00 06/01 00:00 06/03 00:00

Writes Reads

Recent events

All TODAY 13:00 Alert on Example S - Slave 1 Details →

Kiosk mode Permalink

- Applications
- Transactions
- Mobile NEW
- Servers
- Dashboards
- F5 LTM NEW
- Memcached NEW
- MS SQL
- MySQL
- Nginx NEW
- Plugins
- Tools

Example S - Master A

Overview

Query Analysis

InnoDB Metrics

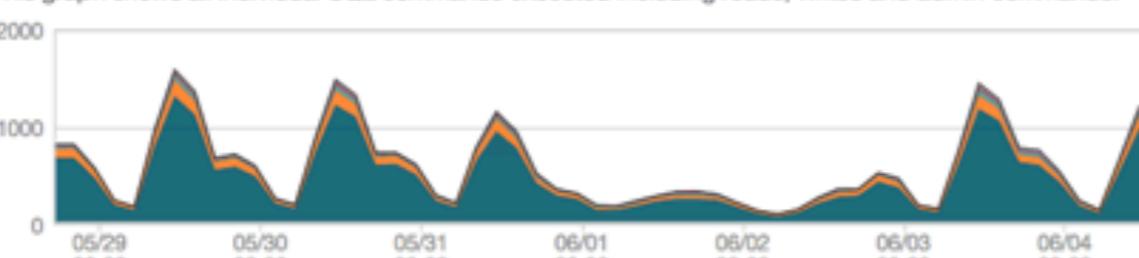
Replication

Last 7 days ▾
Ending now

Query Analysis

SQL Commands

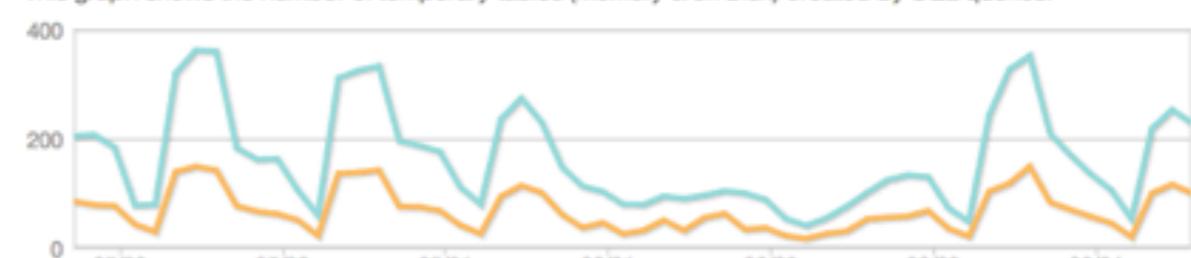
This graph shows all individual SQL commands executed including reads, writes and admin commands.



Show Status	Admin Commands	Show Slave Status	New Relic	
Update Multi	Replace	Delete	Update	Insert
Set Option	Select			

Internal Temporary Tables

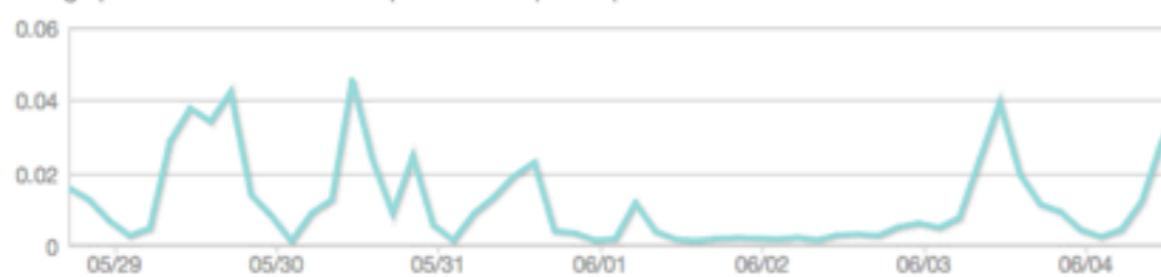
This graph shows the number of temporary tables (Memory & on Disk) created by SQL queries.



Tables	Disk Tables	New Relic
--------	-------------	-----------

Slow Queries

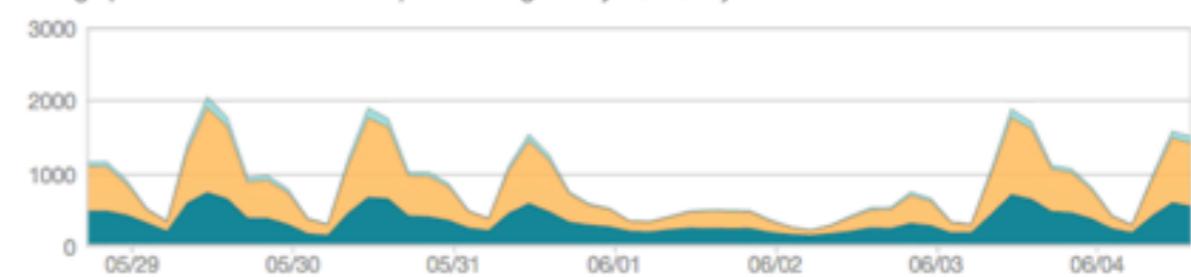
This graph shows the number of reported slow queries per second.



New Relic

Query Cache Usage

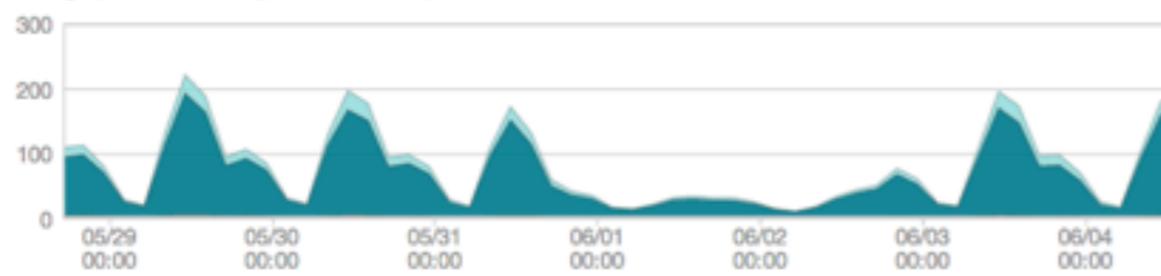
This graph shows the outcome of queries using the MySQL Query Cache.



Not Cached	Misses	Hits	New Relic
------------	--------	------	-----------

Select Query Types

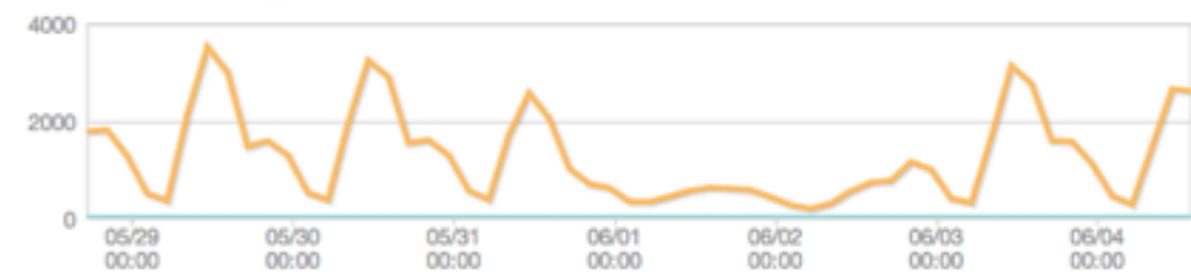
This graph shows the types of selects performed.



Scan	Range Check	Range	Full Range Join	Full Join	New Relic
------	-------------	-------	-----------------	-----------	-----------

Table Locks

This table shows the types of table locks for SQL Queries.



Waited	Immediate	New Relic
--------	-----------	-----------

Sort Query Types

This graph shows the types of sorts performed for queries.

MySQL

Example S - Master A

0 0 0 0

?

More

- Applications
- Transactions
- Mobile NEW
- Servers
- Dashboards
- F5 LTM NEW
- Memcached NEW
- MS SQL
- MySQL
- Nginx NEW
- Plugins
- Tools

Example A - Master A

Overview Query Analysis

InnoDB Metrics

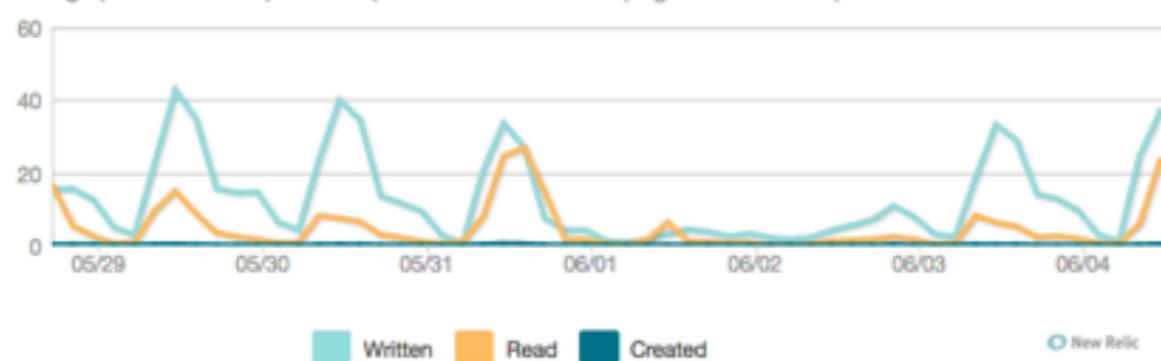
Replication

Last 7 days ▾
Ending now

InnoDB Metrics

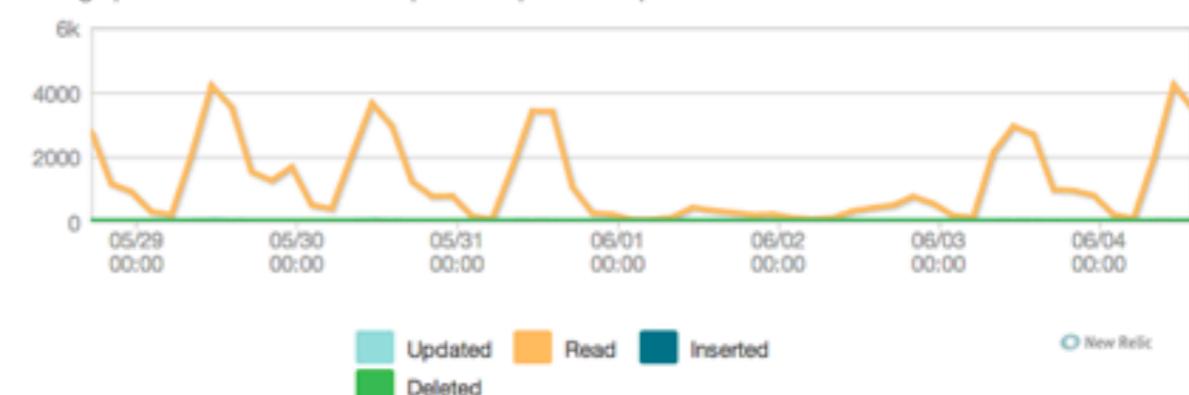
Buffer Pool Page Operations

This graph shows the operations per second for InnoDB pages in the buffer pool.



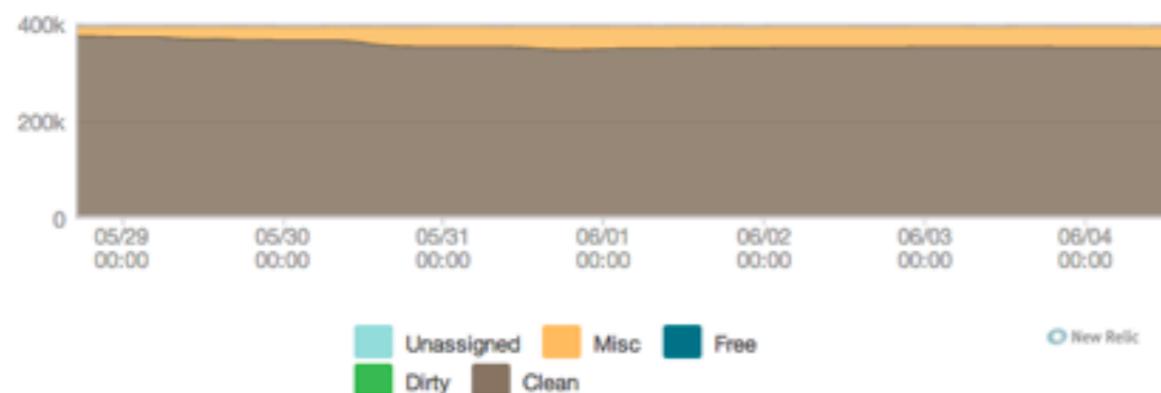
InnoDB Row Operations

This graph shows the InnoDB row operations performed per second.



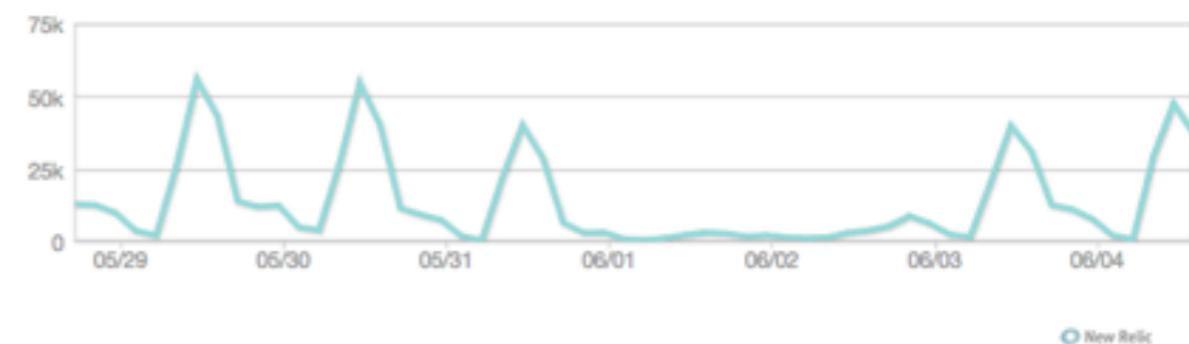
Buffer Pool Pages Breakdown

This graph shows the allocation of pages in the buffer pool.



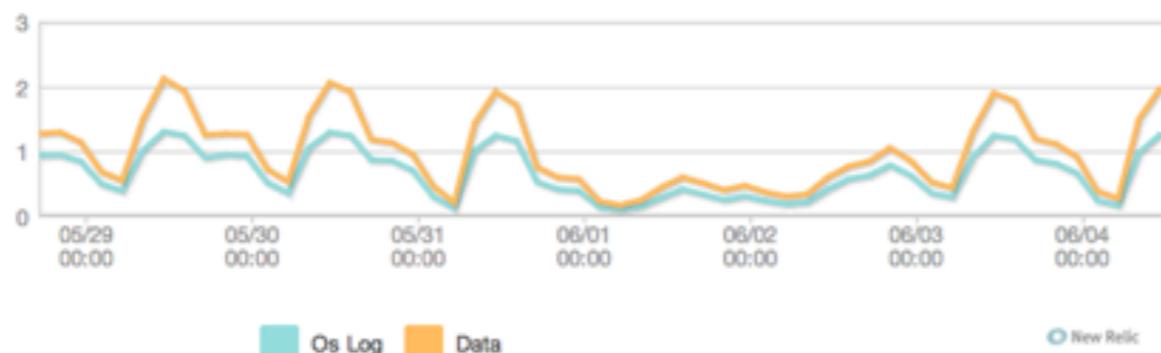
InnoDB Log Writes

This graph shows the number of bytes written to the InnoDB Redo Logs.



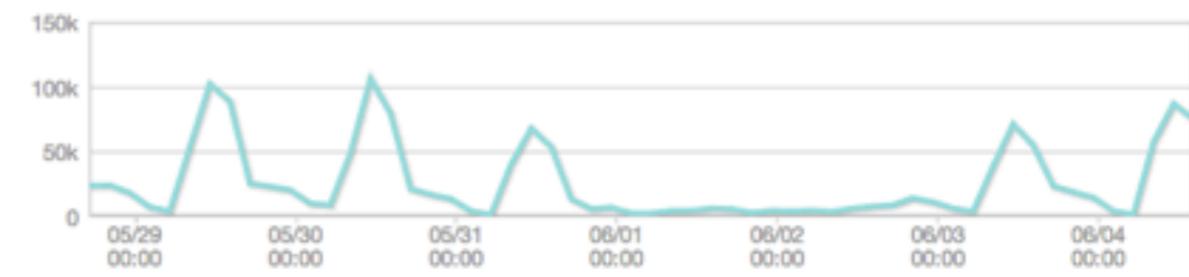
File Syncs

This graph shows the expensive Disk I/O fsyncs.



InnoDB Checkpoint Age

This graph shows the outstanding bytes to be checkpointed.



More

History List Length

This graph shows the unpurged old transaction pages.

MySQL

Example A - Master A

0 0 0 0

?

Final Thread Queries
Is the state of queries inside InnoDB

- Applications
- Transactions
- Mobile NEW
- Servers
- Dashboards >
- F5 LTM NEW
- Memcached NEW
- MS SQL
- MySQL
- Nginx NEW
- Plugins
- Tools >

Example S - Slave 1

Overview

Query Analysis

InnoDB Metrics

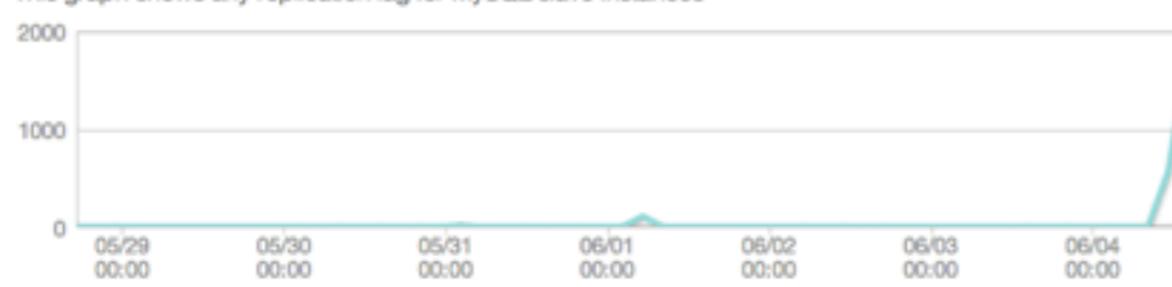
Replication

Last 7 days -
Ending now

Replication

Replication Lag

This graph shows any replication lag for MySQL slave instances



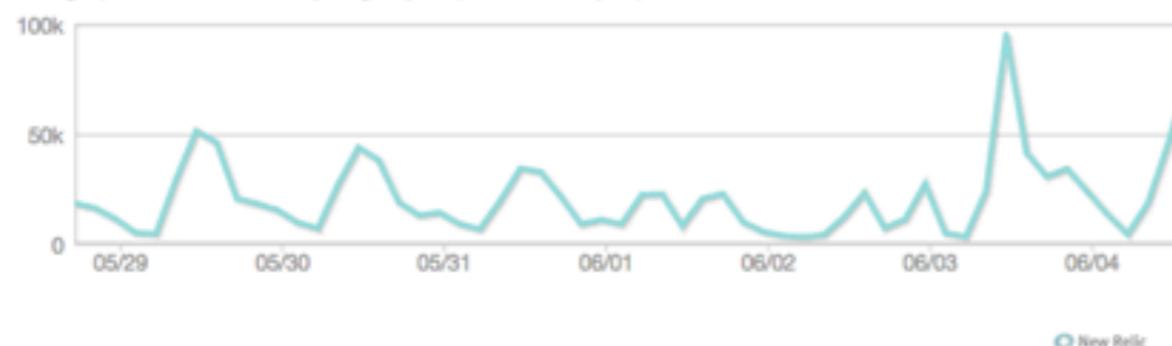
Master Binary Log writes

This graph shows the master binary log writes (empty for slaves)



Slave Relay Log Volume

This graph shows the Relay Logs bytes processed by replication



Slave I/O Thread lag

This graph shows the delay in recording master binary log events



Slave Errors

This graph shows any reported slave errors.



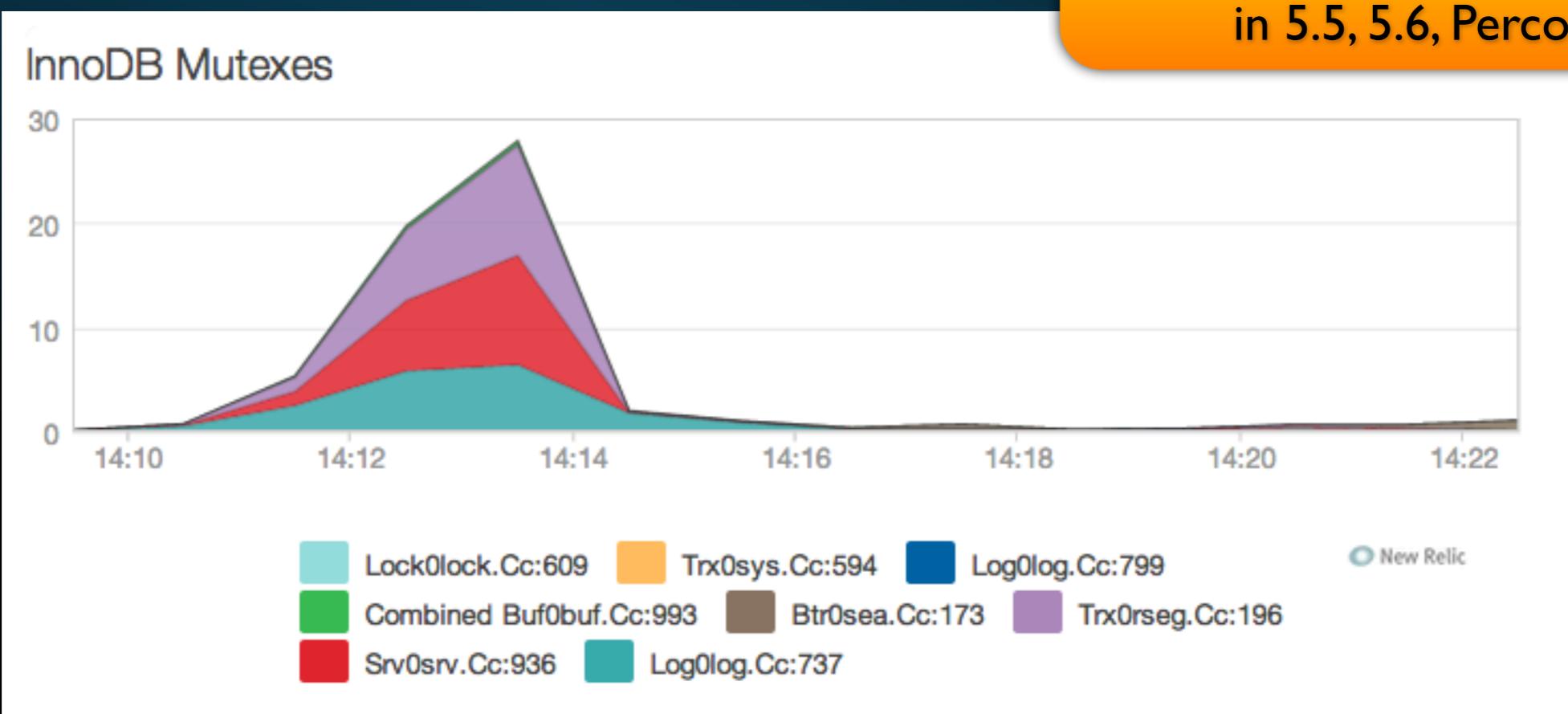
MYSQL SOURCES

- SHOW GLOBAL STATUS
- SHOW MASTER STATUS
- SHOW SLAVE STATUS
- SHOW ENGINE INNODB STATUS
- SHOW ENGINE INNODB MUTEX
- <Any SQL statement>

CODING FEATURES

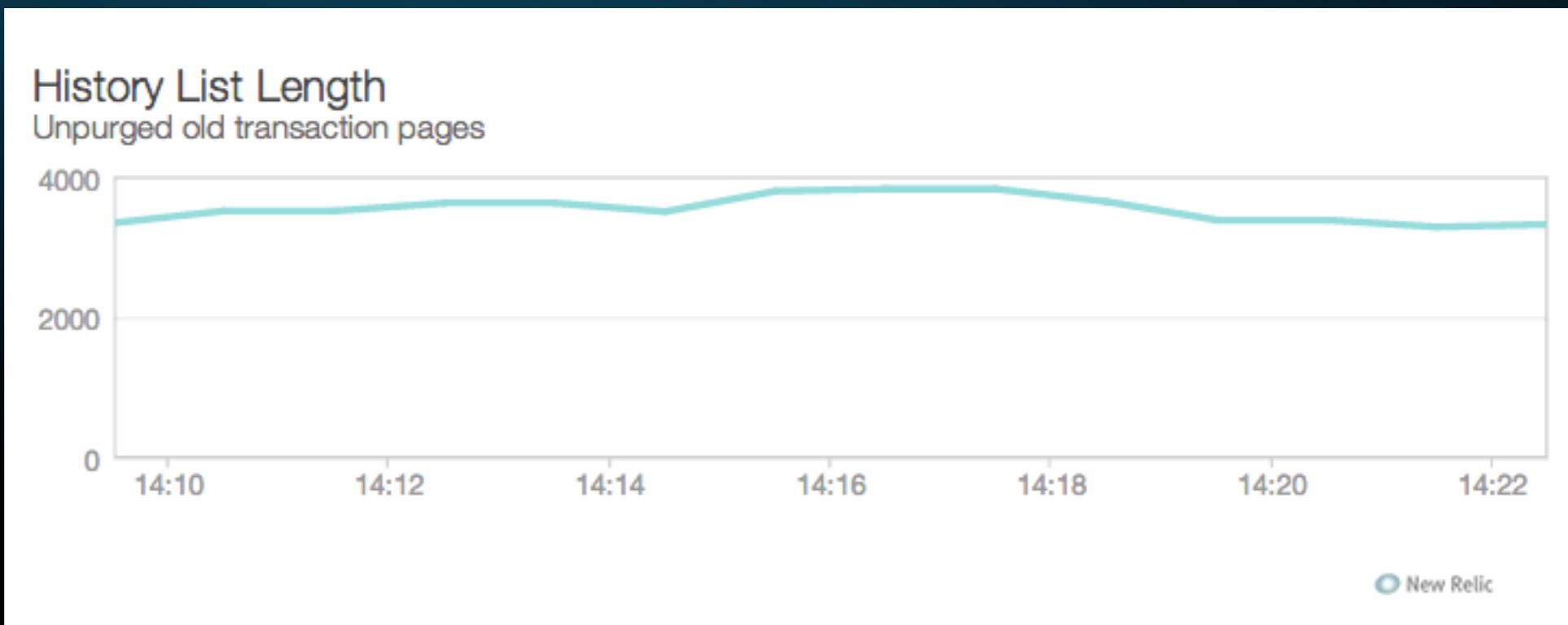
- SHOW ENGINE INNODB MUTEX
- Dynamic metric names

Rollup, supporting different formats
in 5.5, 5.6, Percona etc

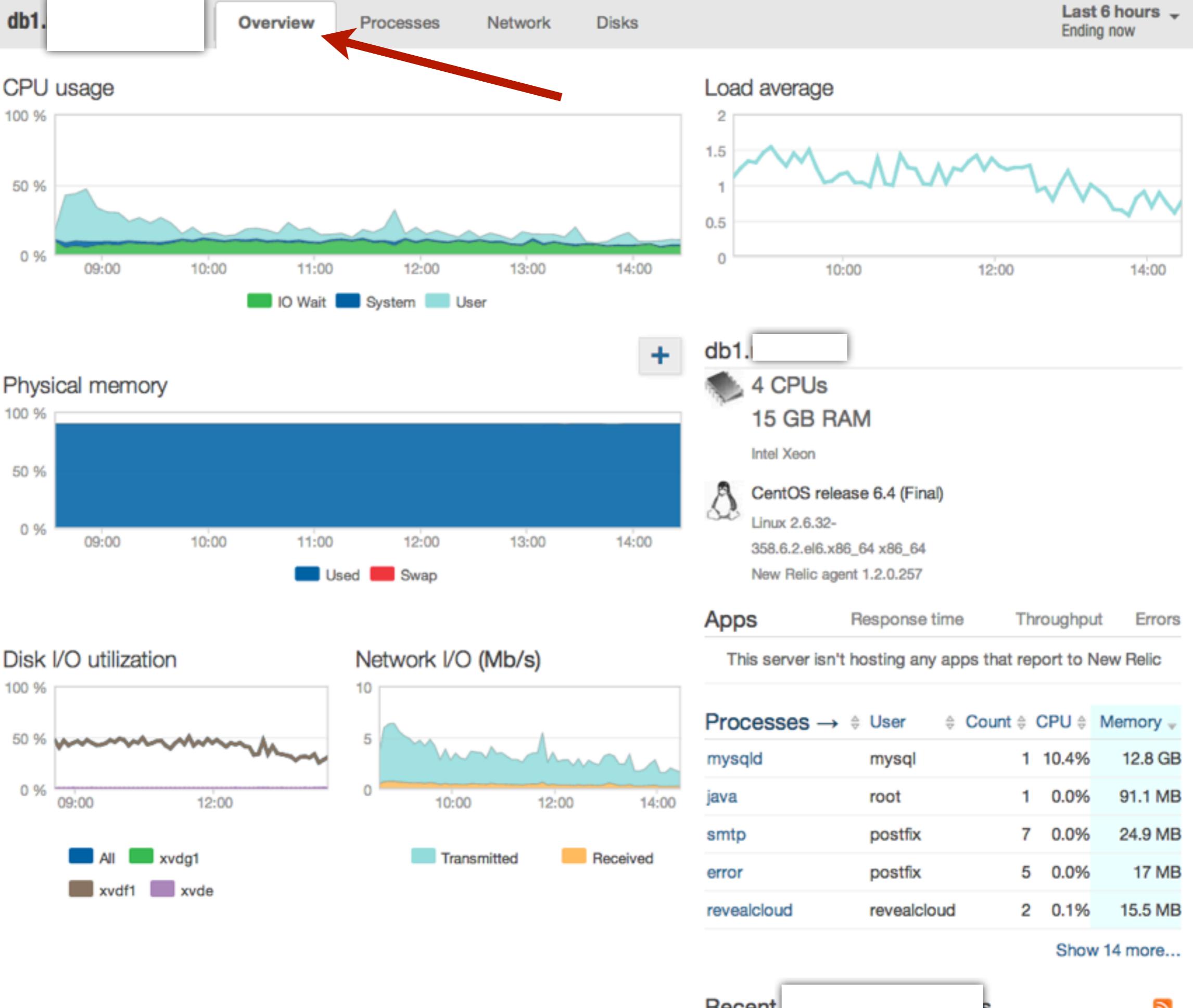


CODING FEATURES

SHOW ENGINE INNODB STATUS



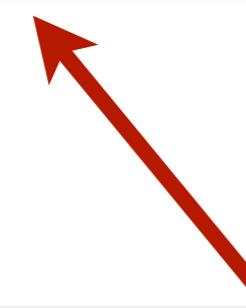
- Your input and feedback
- See limitations



Applications

 Filter applications[Add more](#)

Name	End user	Page views	App server	Throughput	Error %	
webfront	6.46 s	1.51k ppm	128 ms	14.5k rpm	0.00 %	



Default is “PHP Application”

/etc/php.d/newrelic.inc
newrelic.appname = "PHP Application"

Recent events

All 🔥 📈 ⚪ ⚫ 🔍

TODAY

8:37 ▲ End user Apdex score PHP Application

8:32 ▲ End user Apdex score webfront

7:36 ▲ End user Apdex score PHP Application

7:02 ▲ End user Apdex score webfront

YESTERDAY

6:16 ▲ End user Apdex score PHP Application

6:16 ▲ End user Apdex score webfront

THIS WEEK

22:14 Wed 📧 Alert on webfront Details

21:59 Wed ⚫ Error rate > 5.0% webfront

21:23 Wed 📧 Alert on webfront Details

webfront

Monitoring

Events

Reports

Settings

Servers
All servers (19)Last 30 minutes
Ending now

Overview

Map

Web transactions

Database

External services

Background tasks

Geography

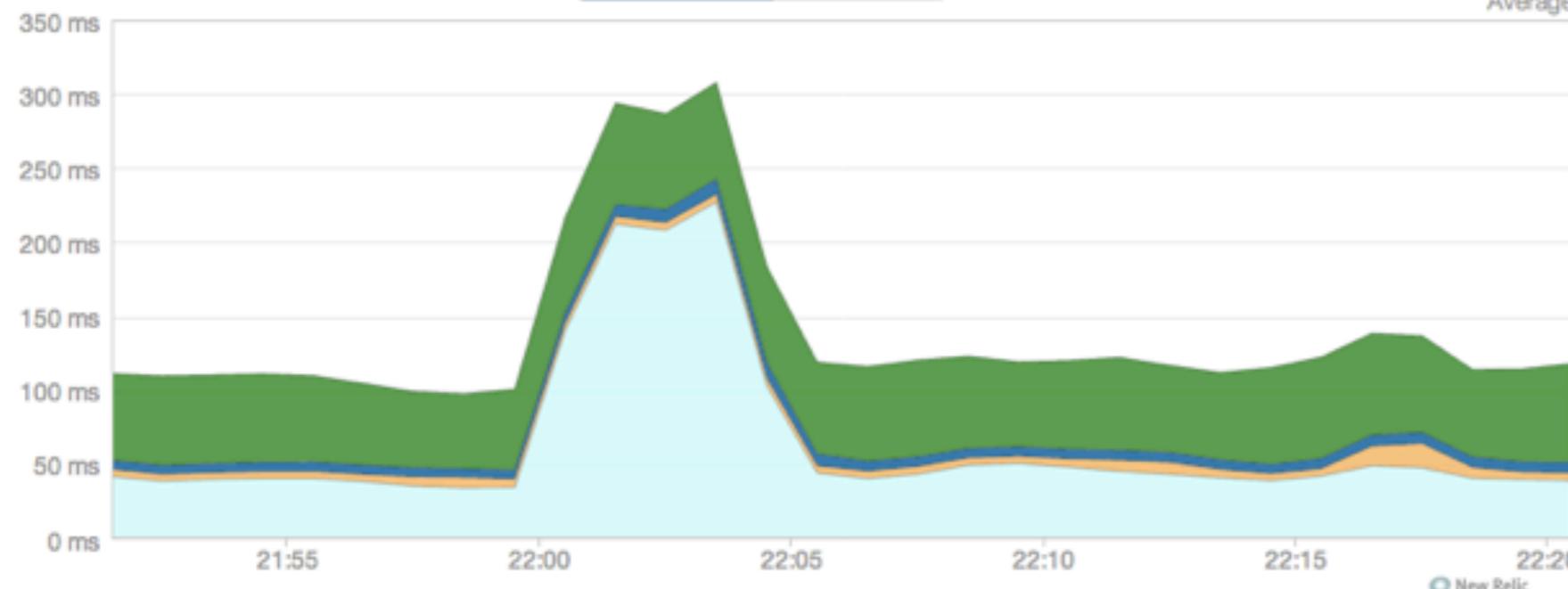
Browsers

App server response time (ms)

App server Browser

138 ms
Average

Apdex score

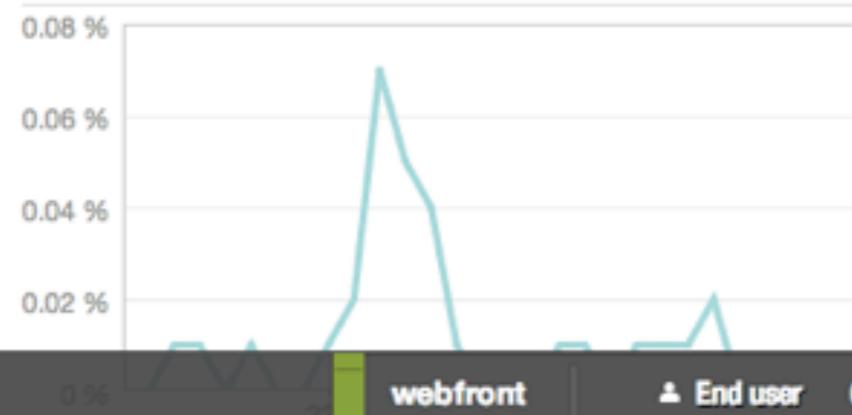
0.97 [0.5]
App server

Throughput (rpm)

13,800
Average Compare with yesterday

Error rate

0.0094 %



Recent events



All



TODAY

8:32 ▲ End user Apdex score < 0.85
DetailsEnd user Apdex score < 0.85
Details

Other Products

MEMCACHE INSTALL

```
LICENSE_KEY=""  
sudo pip install newrelic-plugin-agent  
sudo cp /opt/newrelic_plugin_agent/newrelic_plugin_agent.cfg \\\n    /etc/newrelic/newrelic_plugin_agent.cfg  
  
sudo useradd -m -s /bin/bash newrelic  
sudo mkdir -p /var/log/newrelic /var/run/newrelic  
sudo chown newrelic:newrelic /var/*/newrelic  
sudo vi /etc/newrelic/newrelic_plugin_agent.cfg  
sudo newrelic_plugin_agent -c \\n    /etc/newrelic/newrelic_plugin_agent.cfg -f
```

<https://rpm.newrelic.com/accounts/389698/plugins/directory/53>

Applications

Transactions

Mobile

Servers

Dashboards

EC2

Memcached NEW

MySQL

RDS

Plugins NEW

Tools

Memcached

2 instances

Name	Connections	Items	Evictions	Memory	Gets	
memcache1	10.4k	38.9k	0	172M bytes	179k	
memcache2	10.5k	50.5k	0	179M bytes	220k	

PUBLISH



Rece

All

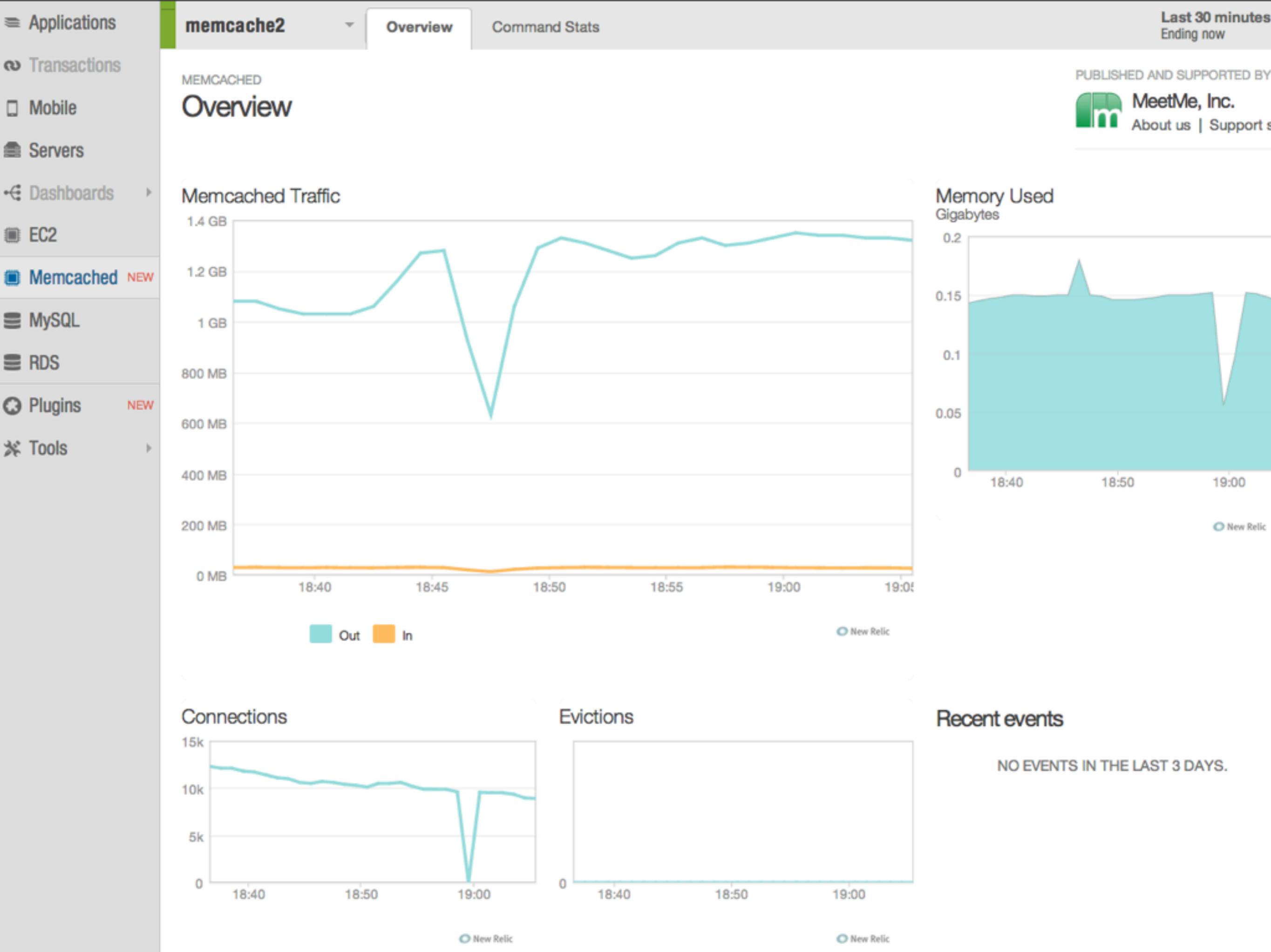
IN-PROG

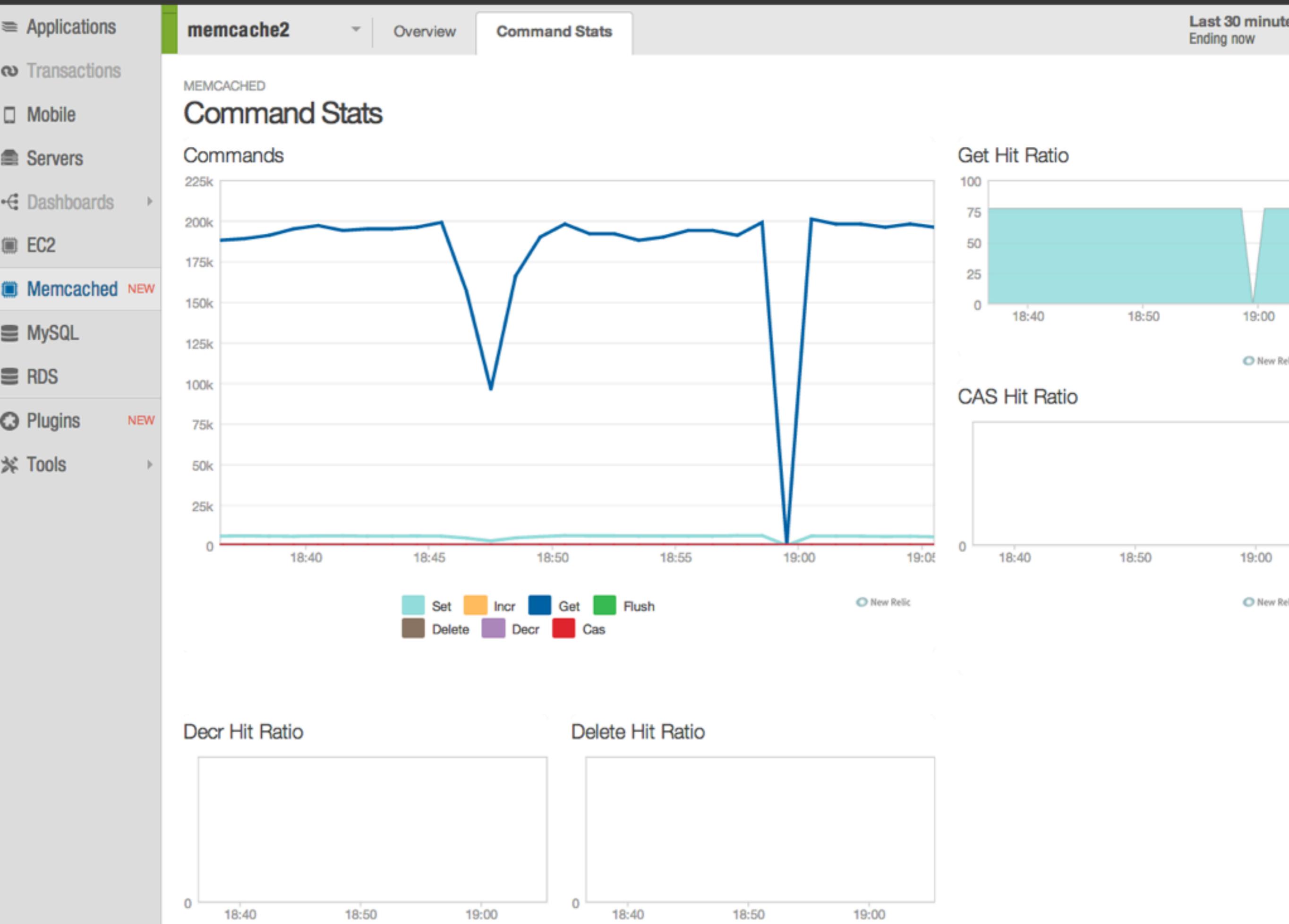
18:27

18:27

17:30

17:02





MEMCACHED PLUGIN

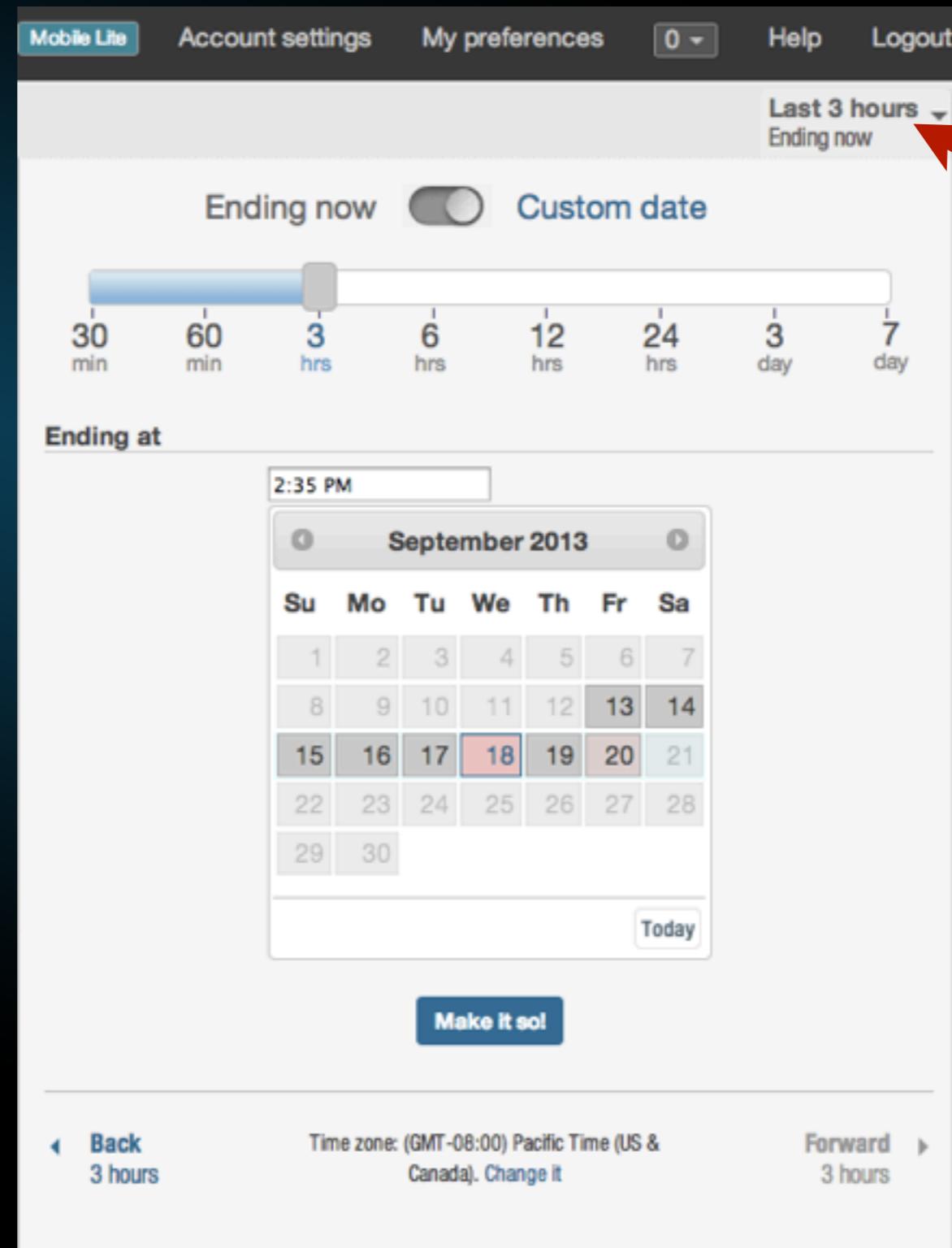
- PHP Cache
- HTTP Server
- CouchDB
- Edgecast CDN API
- Memcached
- MongoDB
- Nginx
- pgBouncer
- PHP FPM
- PostgreSQL
- RabbitMQ
- Redis
- Riak
- uWSGI

OTHER PLUGINS

- Logwatcher
- Varnish
- Sendgrid
- Cassandra
- Haproxy
- Hadoop
- F5
- AWS EC2/RDS/ELB
- Rabbit MQ
- Sphinx
- <write your own>

User Interface

HISTORY



Overview

Map

Web transactions

Database

External services

Background tasks

Geography ▾

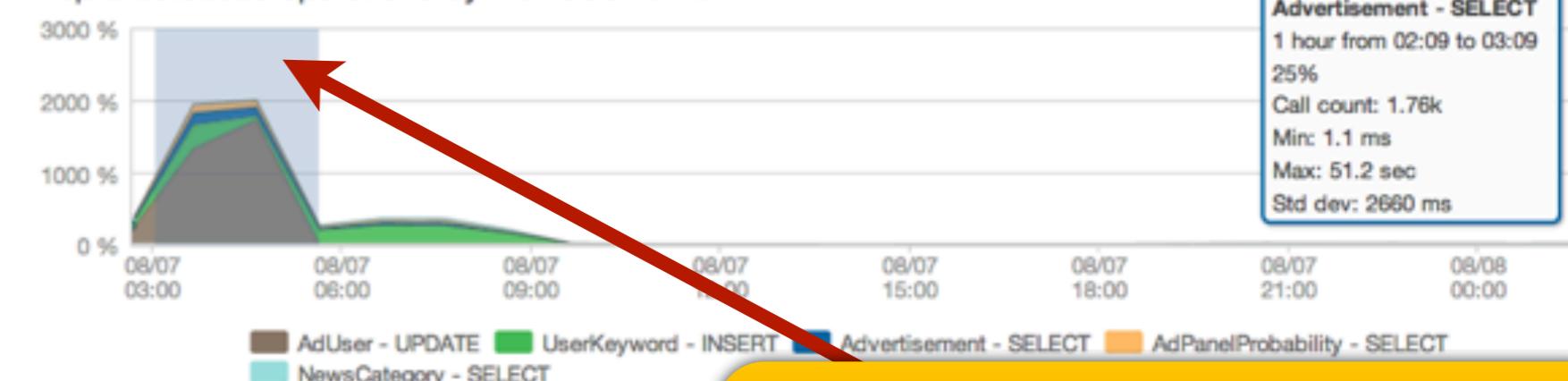
Browsers

Sort by

Most time consuming

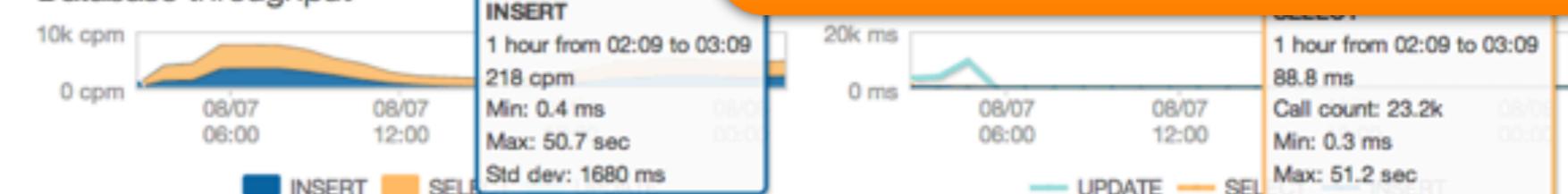
AdUser - UPDATE	49.8%
UserKeyword - INSERT	22.8%
Advertisement - SELECT	6.81%
AdPanelProbability - SELECT	5.08%
NewsCategory - SELECT	2.8%
AdUser - SELECT	2.2%
Keyword - INSERT	1.97%
Domain - SELECT	1.41%
AdSeenCache - SELECT	1.23%
ToolbarBlacklist - SELECT	1.16%
Keyword - SELECT	0.93%
URLCache - INSERT	0.89%
DomainHierarchy - SELECT	0.84%
ToolbarUserHistory - INSERT	0.79%
AdUser - INSERT	0.36%
Hierarchy - SELECT	0.28%
ViewCount - UPDATE	0.23%
AdConfig - SELECT	0.12%
URL - SELECT	0.11%
ToolbarInstall - SELECT	0.07%

Top 5 database operations by wall clock time



Advertisement - SELECT
1 hour from 02:09 to 03:09
25%
Call count: 1.76k
Min: 1.1 ms
Max: 51.2 sec
Std dev: 2660 ms

Database throughput



Click and drag for subset of time

Slow SQL traces

update 'AdUser'
replace into 'AdL
insert into 'URLC
last_updated=now
update AdExpire
impressions_...
insert ignore into
insert into 'UserK
select a.* , am.url
ch.campaign_id

Response time	Sample count
52,200 ms	10,216
9,300 ms	10,093
3,560 ms	453
3,360 ms	16
3,290 ms	16
3,220 ms	3,490
2,310 ms	67

Overview

Map

Web transactions

Database

External services

Background tasks

Geography ▾

Browsers

Sort by Slowest queries by web transaction ▾

ToolbarInstall - SELECT (/to...

982 ms

Top 5 database operations by wall clock time

307 ms

6k %

236 ms

150 ms

102 ms

92.5 ms

77.0 ms

54.7 ms

51.5 ms

49.1 ms

48.5 ms

45.7 ms

45.5 ms

43.8 ms

37.6 ms

37.2 ms

37.0 ms

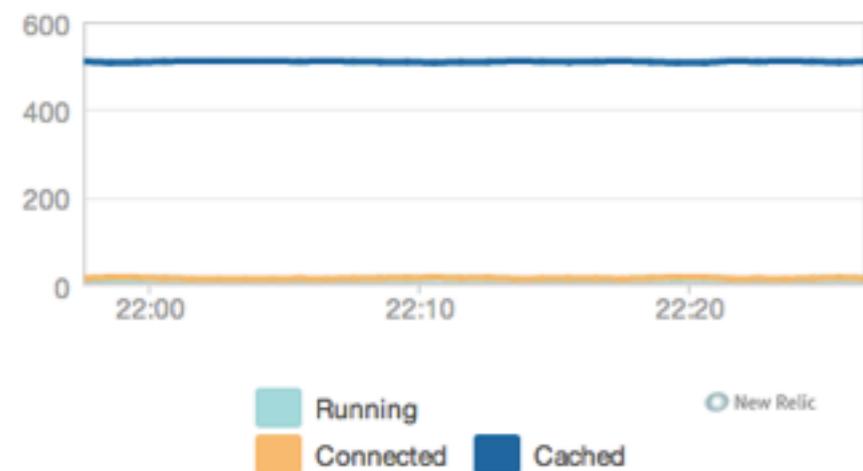
34.1 ms

32.7 ms

24.4 ms

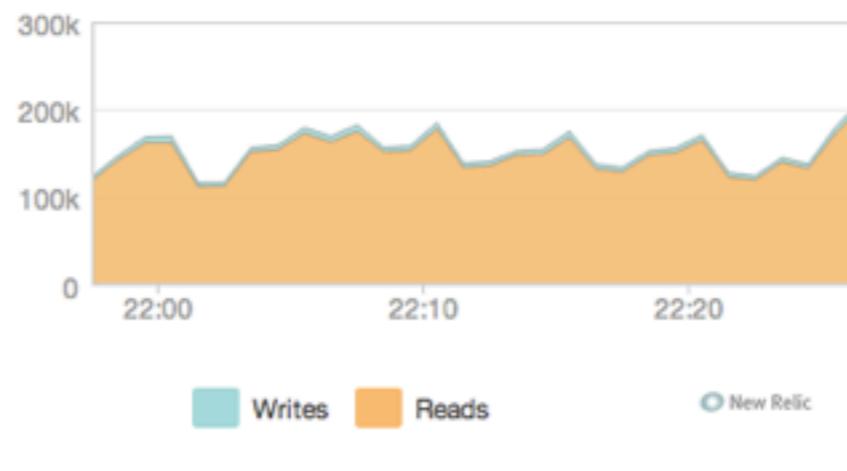
Database Connections

Current database connection information



Network Traffic

Bytes received & sent for this instance



Recent events

NO EVENTS IN THE LAST 3 DAYS.

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Site status:

New Relic:

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MySQL

NSI - db1

16.2 Queries/sec

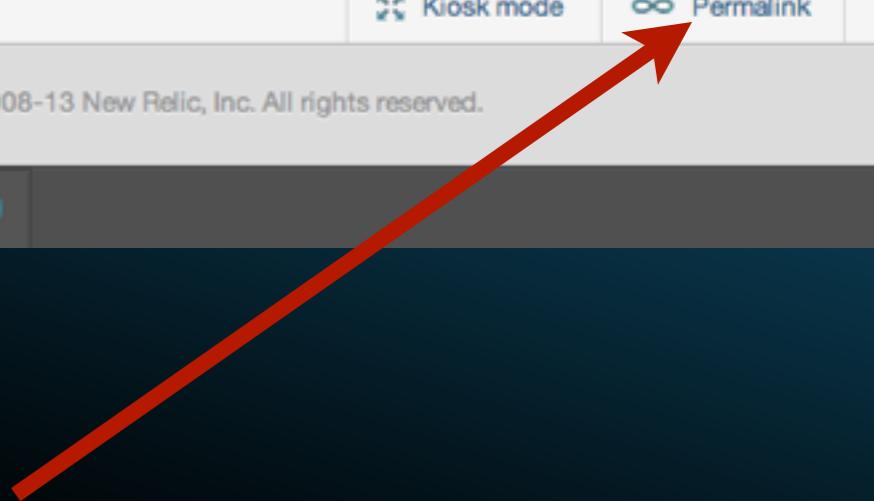
26.9 Queries/sec

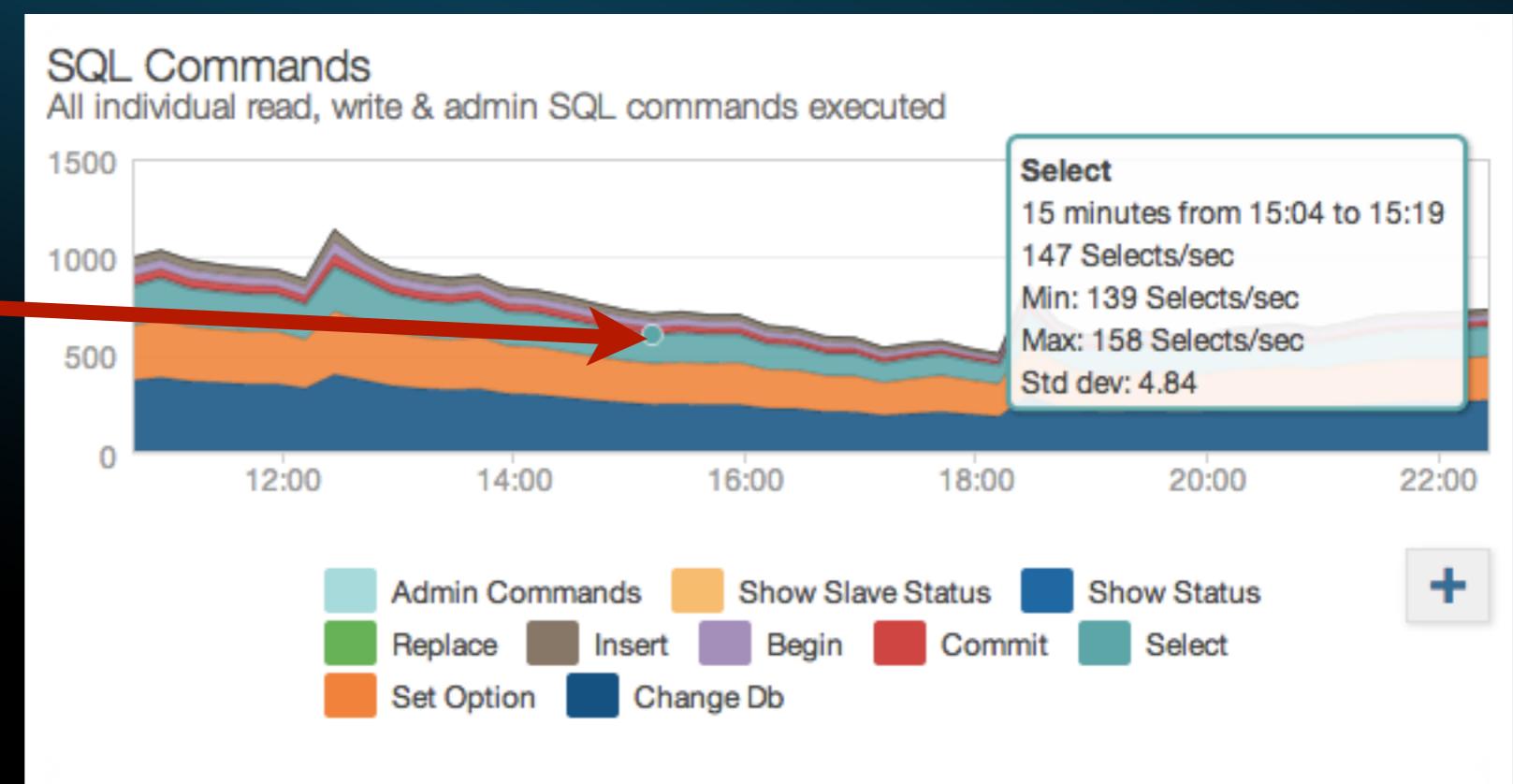
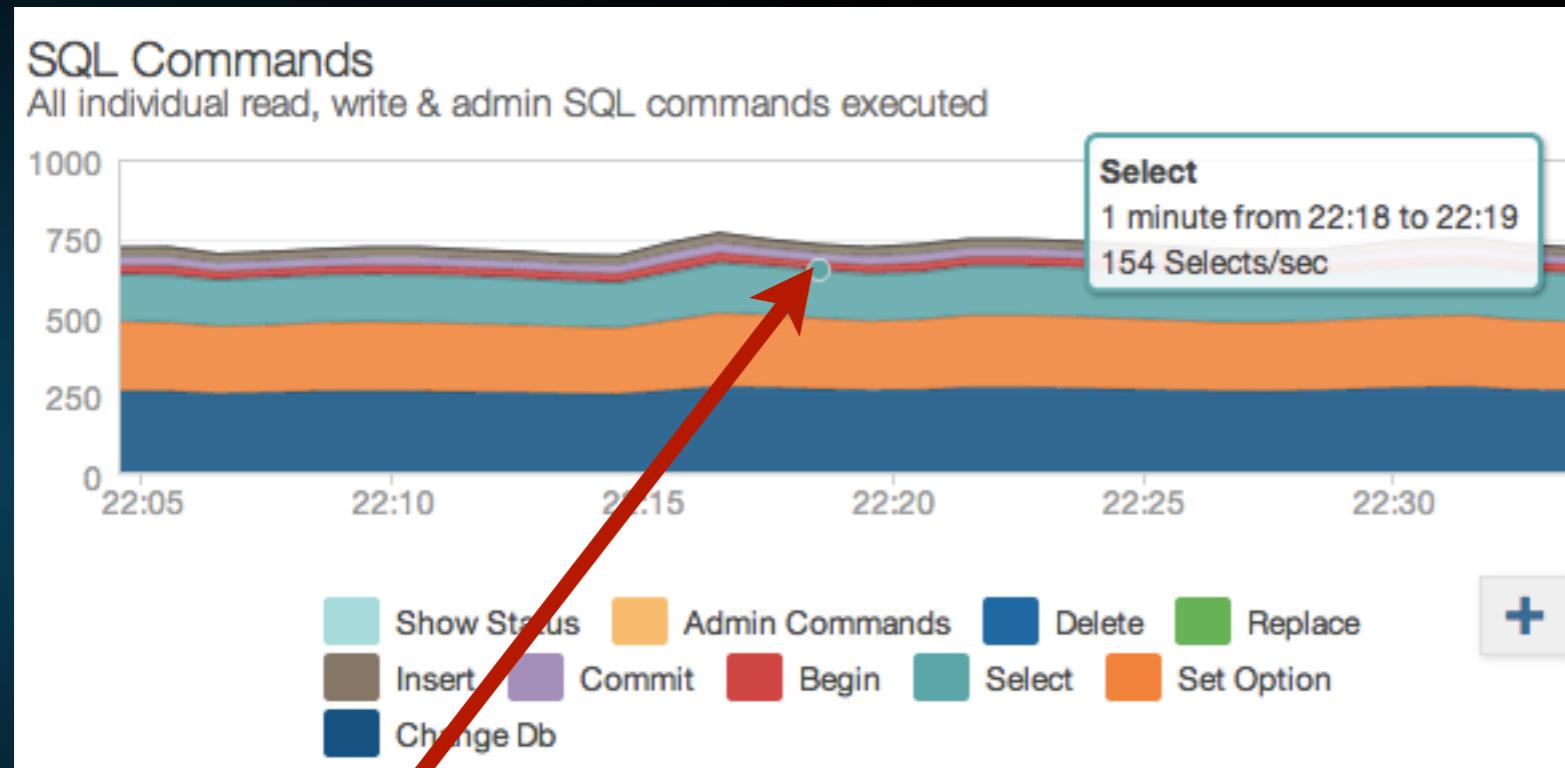
15.2 Connections 0 sec

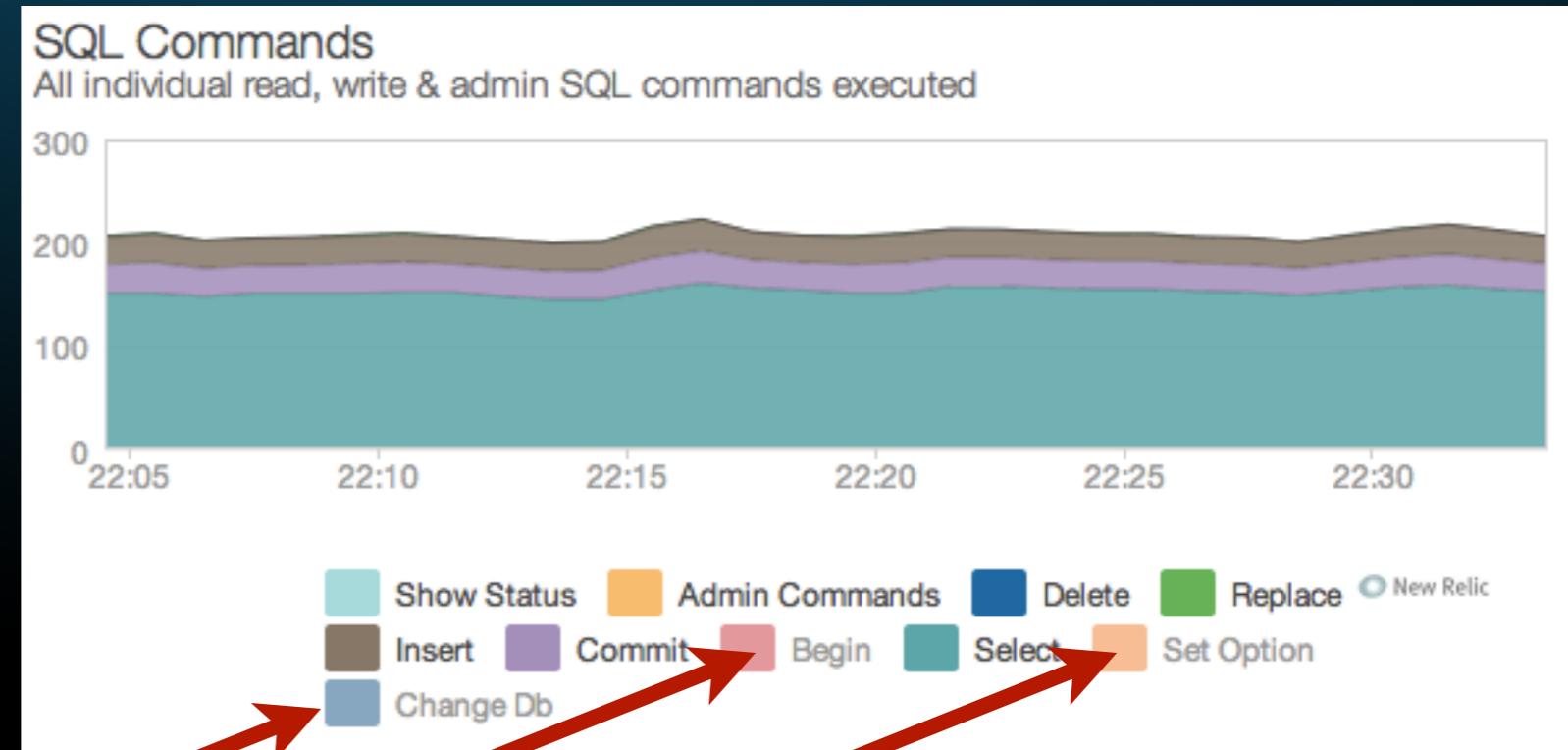
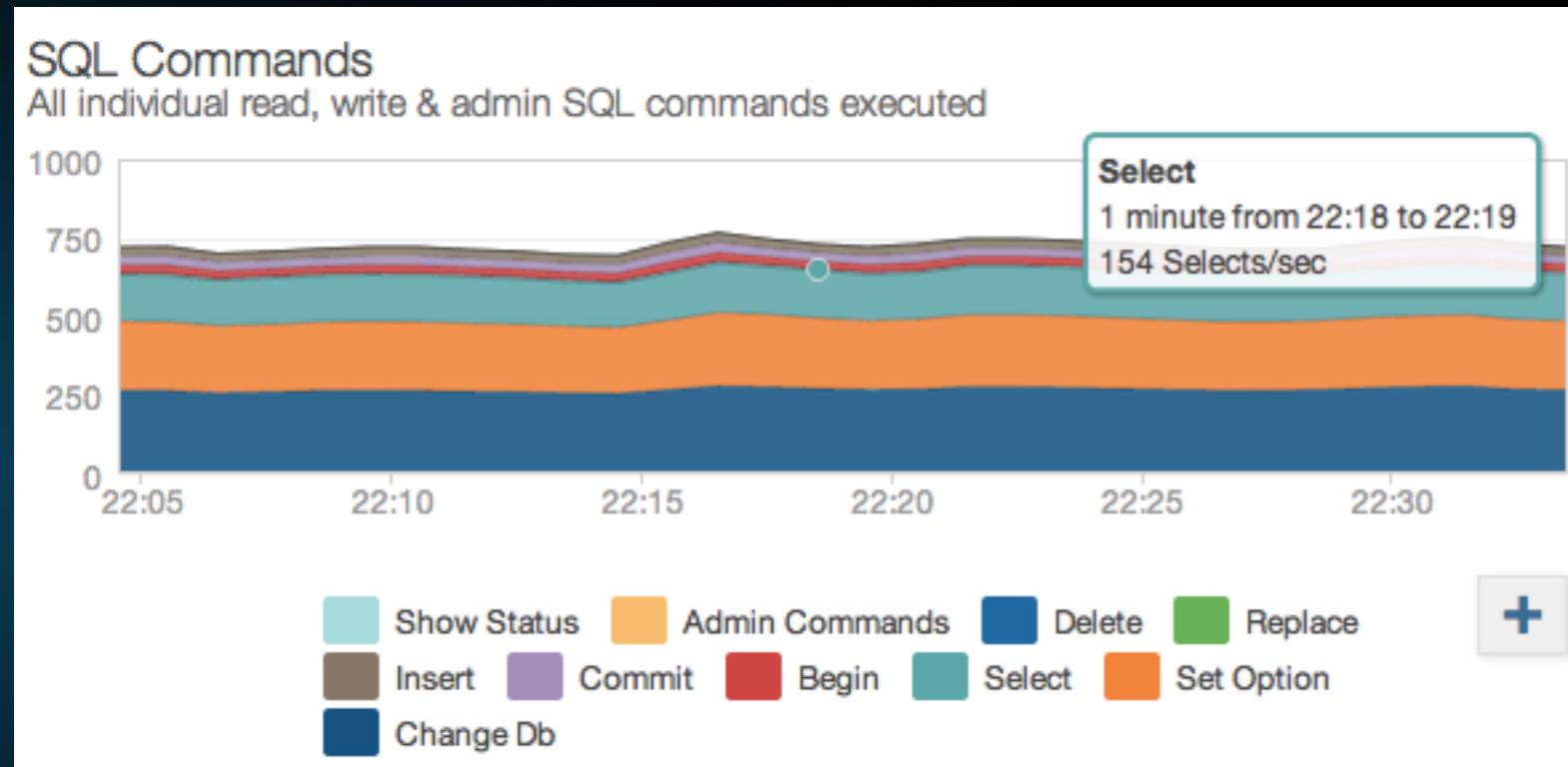


Kiosk mode

Permalink







Configuration

MYSQL PLUGIN

- Plugin has more features than UI can support at present
 - Configurable namespaces
 - Row/Set SQL statements
 - Configurable metrics

MYSQL CONFIG

```
$ cat /path/to/config/mysql.instance.json
[
  {
    "name" : "db1",
    "host" : "localhost",
    "metrics" : "status,newrelic,innodb_status,
                 innodb_mutex,master"
  },
  {
    "name" : "db2",
    "host" : "db2.hostname.com",
    "user" : "monitor",
    "password" : "password",
    "metrics" : "status,newrelic,slave"
  }
]
```

One agent can collect data from
many MySQL Instances

NAMESPACES

```
$ cat /path/to/config/metric.category.json
[
  {
    "category" : "status",
    "SQL" : "SHOW GLOBAL STATUS",
    "result" : "set", ←
    "value_metrics": "Max_used_connections,....",
    "counter_metrics" : "Bytes_received,Bytes_sent,...."
  },
  {
    "category" : "slave",
    "SQL" : "SHOW SLAVE STATUS",
    "result" : "row", ←
    "value_metrics" : "Read_Master_Log_Pos,
                      Slave_IO_Running,
                      Slave_SQL_Running,
```

NAMESPACES

```
$ cat /path/to/config/metric.category.json
[
  {
    "category" : "innodb_metrics",
    "SQL" : "SELECT name, count FROM
              information_schema.innodb_metrics",
    "result" : "set",
    "comment" : "MySQL 5.6 or later",
    "value_metrics" : "...",
    "counter_metrics" : "..."
  },
  ...
]
```

Current UI does not support with
default MySQL plugin, but

MODIFYING PLUGIN

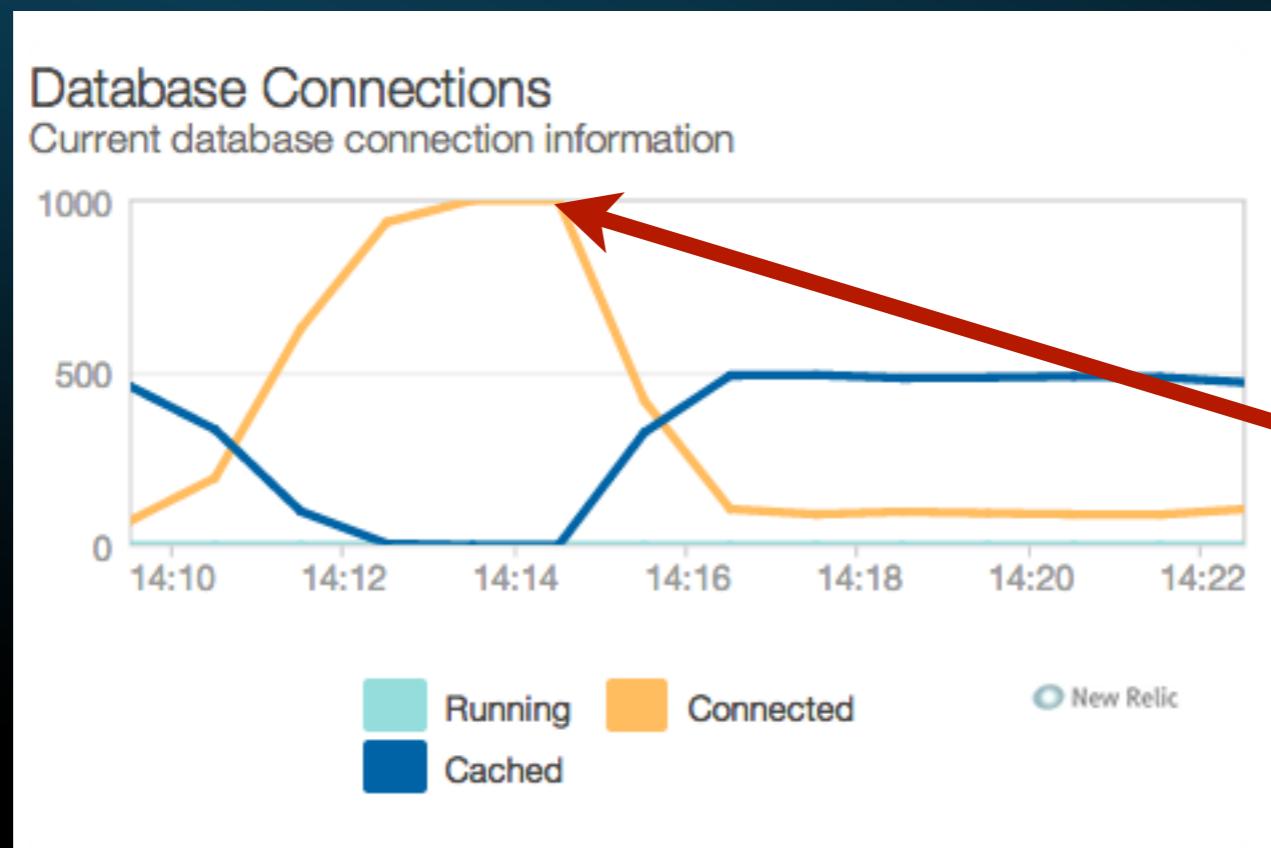
- [https://github.com/newrelic-platform/
newrelic_mysql_java_plugin](https://github.com/newrelic-platform/newrelic_mysql_java_plugin)
- com.newrelic.plugins.mysql.instance.G
UID="new value"

Request to overload via parameter (to
help with current UI limitations)

Limitations

(Also exist with most monitoring products)

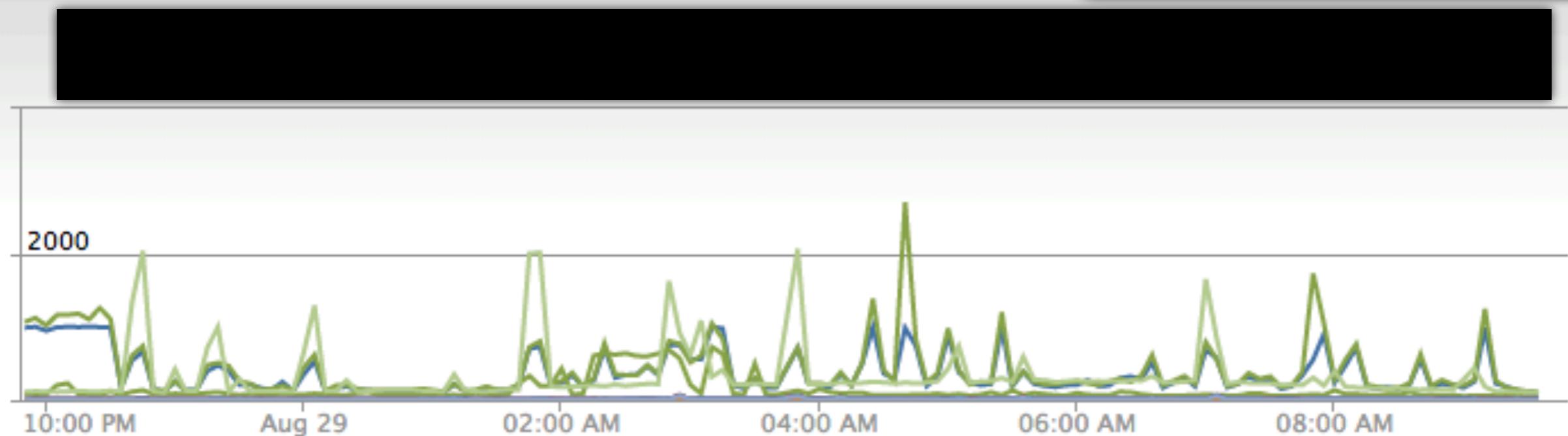
- 60 seconds (fixed)



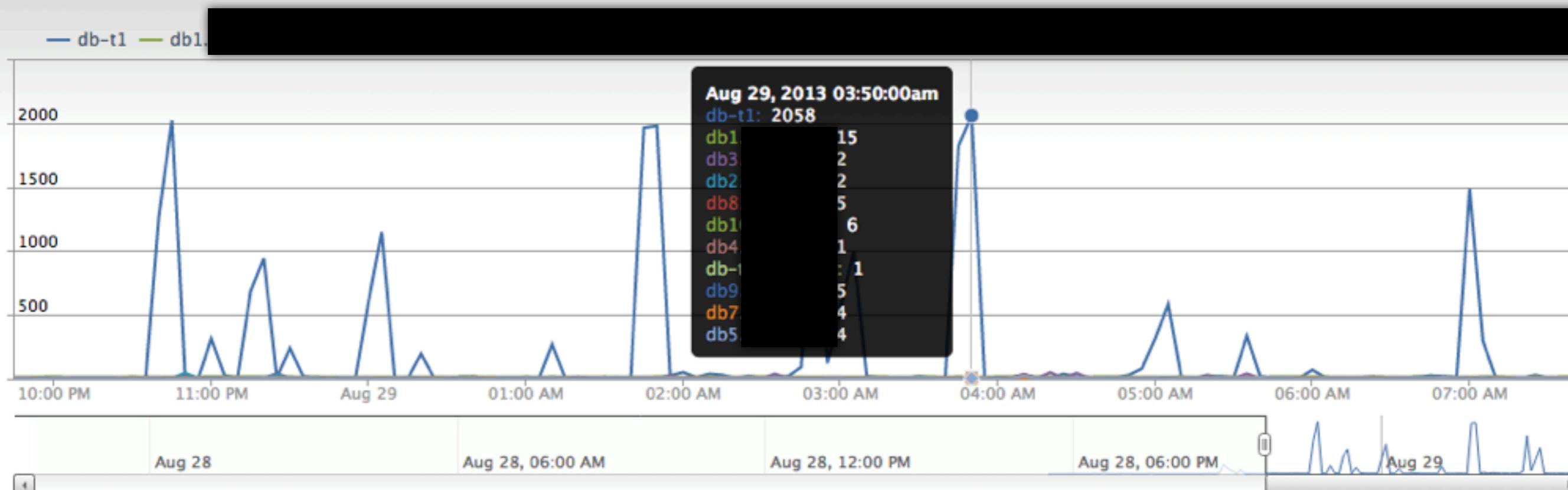
Connected

14 minutes ago

CopperEgg Example
(15 second samples)

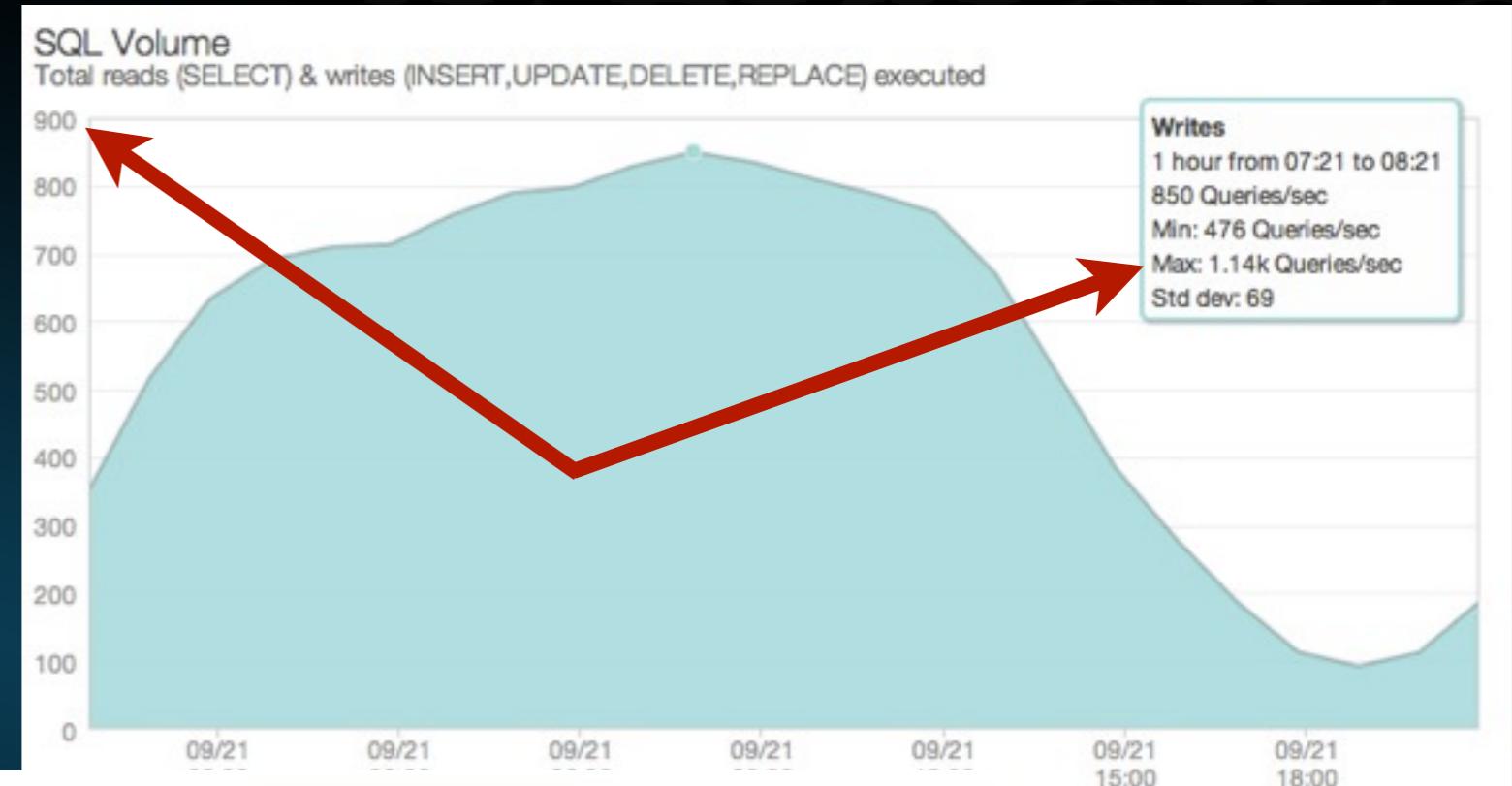


threads_running



AVERAGING

- Deceiving



Name	Reads	Writes	Connections	Repl Lag
NSI - db12	140 Queries/sec	27.9 Queries/sec	13.7 Connections	0 sec
NSI - db10	106 Queries/sec	28 Queries/sec	3.28 Connections	0.25 sec

- No maximum support



ALERTING LIMITS

- Positive range only
- Summary metrics only
- No low limits

The screenshot shows a MySQL monitoring interface with a table of recent MySQL events. The table has two columns: 'Connections' and 'Repl Lag'. The 'Connections' column lists values such as 15.3, 2.51, 1, 8.52, 1.5, 29.4, 31.3, 1, 2.5, and 2.99. The 'Repl Lag' column lists all '0 sec'. To the right of the table is a panel titled 'Alert conditions for NSI - db1'. This panel includes sections for 'Reads' and 'Writes' (both with 'Queries/se' and 'Connections' sub-sections), and 'Repl Lag' (with '5.0 sec' and '10.0 sec' input fields). A 'Save settings' button is at the bottom. A red arrow points from the bottom left towards the gear icon in the top right of the alert conditions panel.

Connections	Repl Lag
15.3 Connections	0 sec
2.51 Connections	0 sec
1 Connections	0 sec
8.52 Connections	0 sec
1.5 Connections	0 sec
29.4 Connections	0 sec
31.3 Connections	0 sec
1 Connections	0 sec
2.5 Connections	0 sec
2.99 Connections	0 sec

Alert conditions for NSI - db1

Caution Critical

Reads

Writes

Connections

Repl Lag

5.0 sec 10.0 sec

Save settings

CUSTOM DASHBOARDS

- Enables you to group graphs together
- Does not work with plugins YET!

PRESENTATION

- Likes lots of moving/changing data
- Uninteresting values not well supported
 - replication lag
 - replication running YES/NO
 - Important summary alert[able] metric

- Likes to work on per server basis
- Default reporting namespace
 - com.newrelic.plugins.mysql.instance
 - [agent] /mysql/status/com_select
 - [agent] /mysql/status/com*
 - com.newrelic.plugins.mysql.topology
 - /mysql/status/com_select/<instance>

Current

One Goal

- ≡ Applications
- ⌚ Transactions
- 📱 Mobile
- 💻 Servers
- ⚡ Dashboards >
- ☰ EBS NEW
- 📦 EC2 NEW
- 🌐 MySQL NEW
- ☰ RDS NEW
- ⚙️ Plugins NEW
- 🛠️ Tools >

NSI - db3

Overview

Query Analysis

InnoDB Metrics

Replication

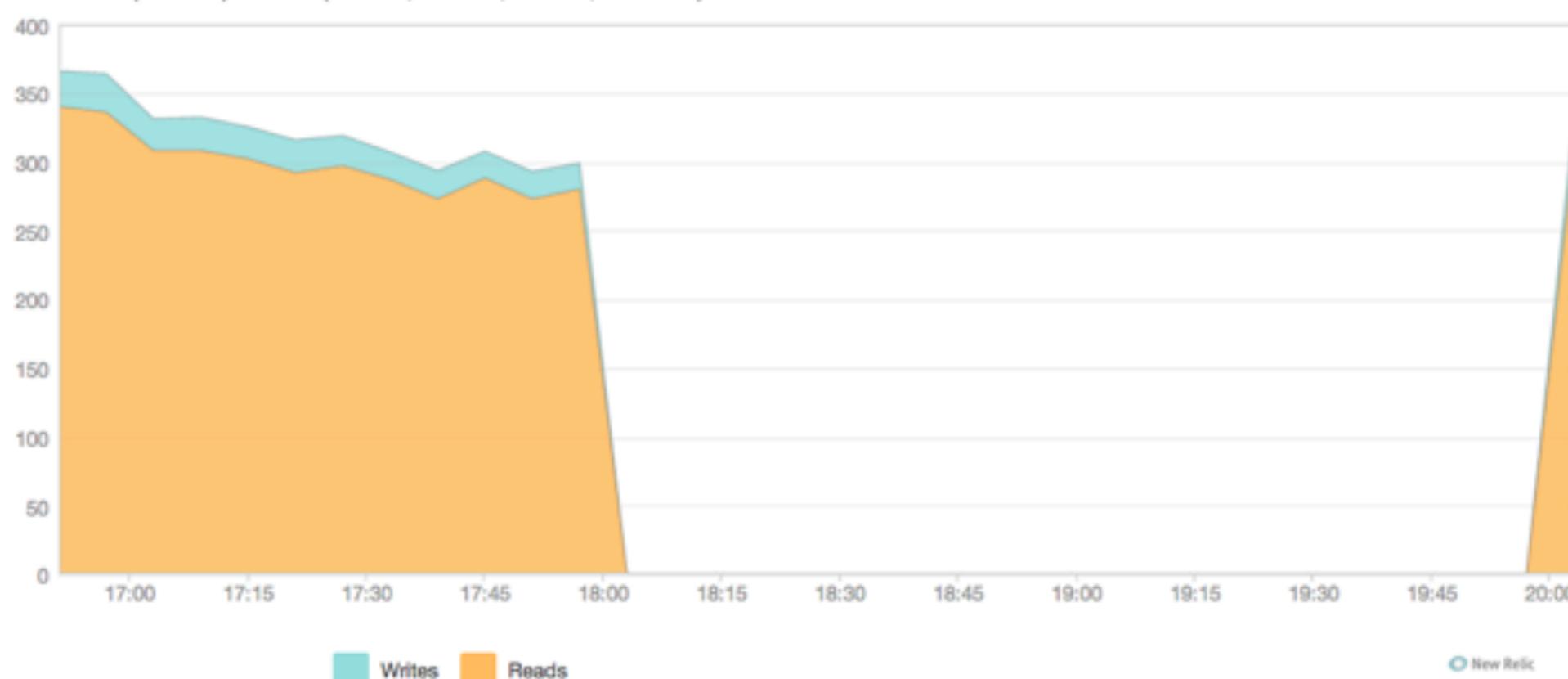
What is monitoring the monitoring?

MYSQL

Overview

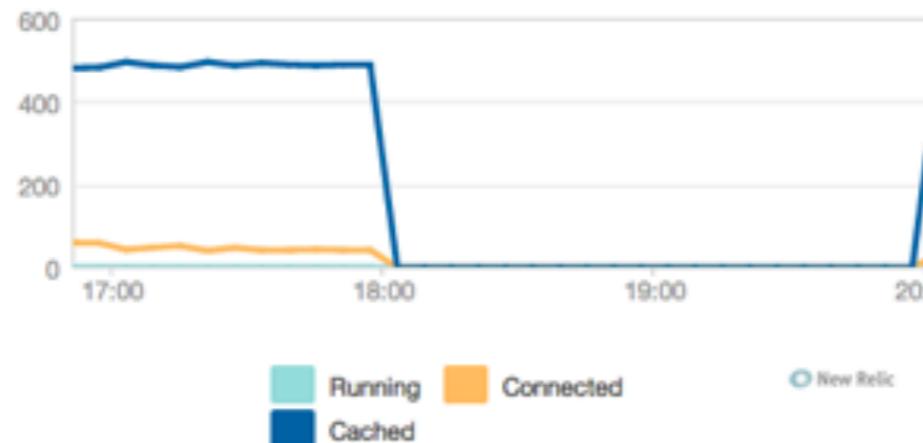
SQL Volume

Total reads (SELECT) & writes (INSERT,UPDATE,DELETE,REPLACE) executed



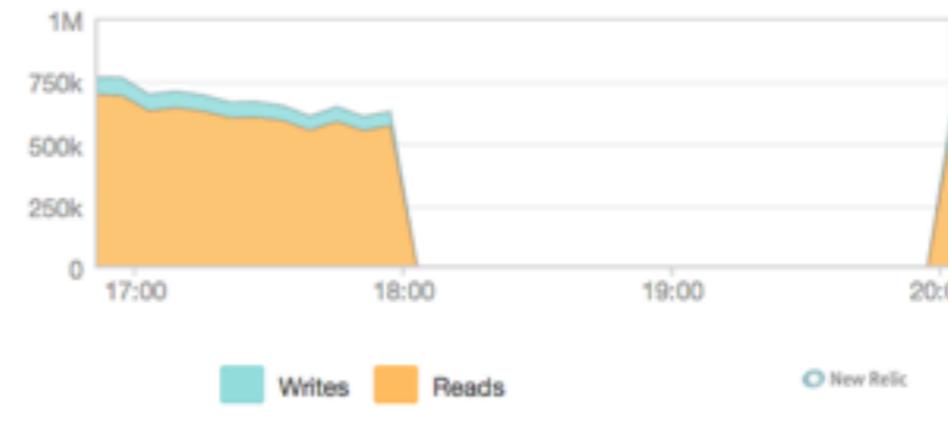
Database Connections

Current database connection information



Network Traffic

Bytes received & sent for this instance



Key Utilizations

- Innodb Buffer Pool Hit Ratio
- Query Cache Memory In Use
- Query Cache Hit Utilization
- Tmp Tables Written To Disk
- Connection Utilization

Recent events

All	✉️	●	▲
<hr/>			
LAST WEEK			
21:46 Thu	✉️	Alert on NSI - db3	Details
21:21 Thu	●	Repl Lag > 10	newrelic/replication_lag
20:53 Thu	✉️	Alert on NSI - db3	Details

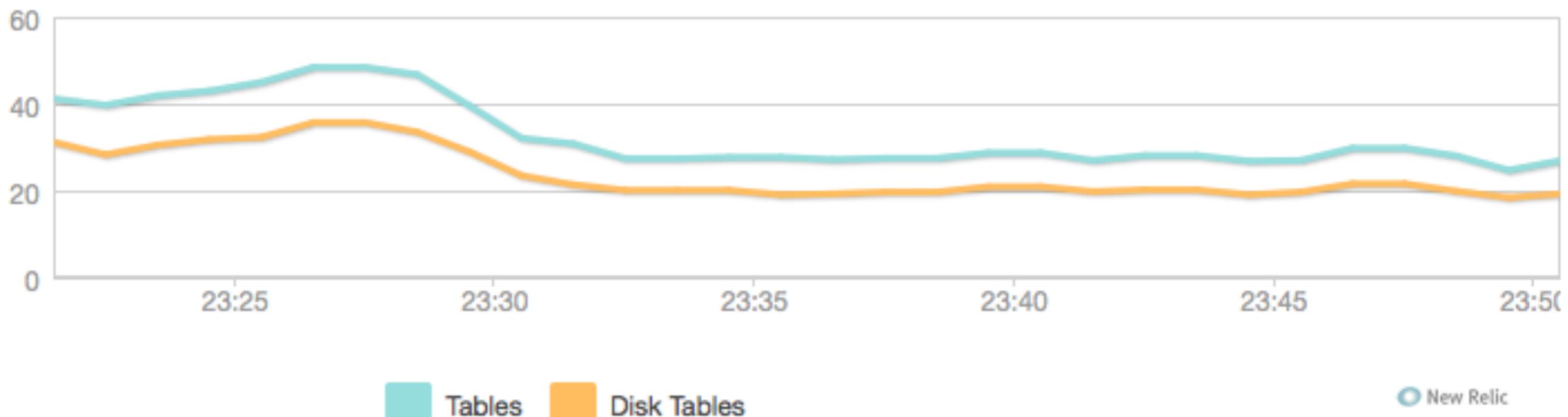
Usage Patterns

TMP DISK TABLES

High disk I/O - Investigate SQL

Internal Temporary Tables

In-memory & on-disk temp tables created by SQL queries



Tables Disk Tables

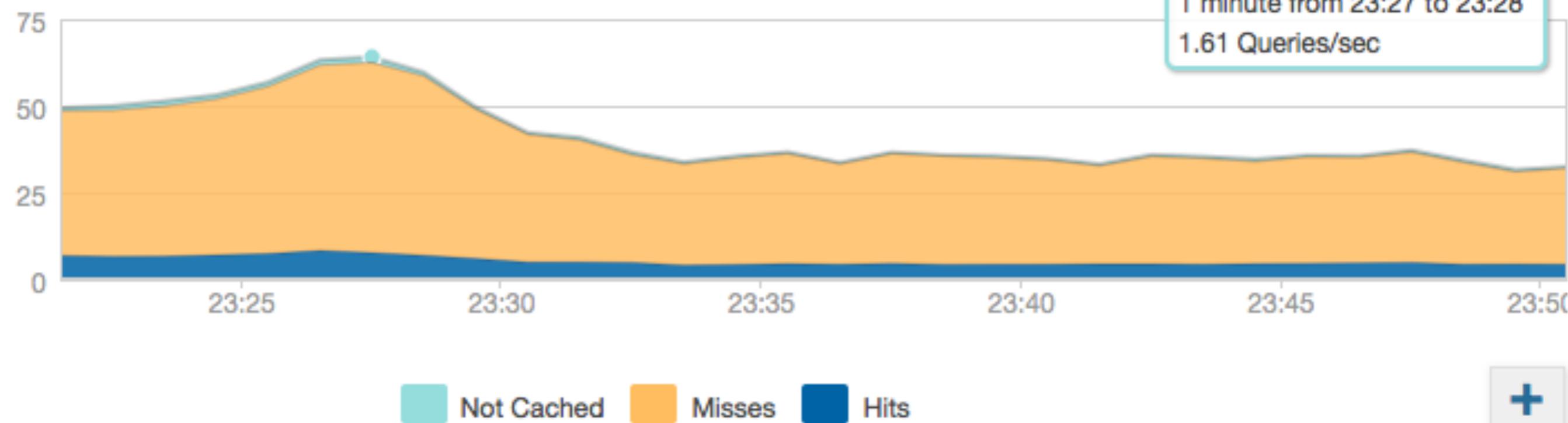
New Relic

QUERY CACHE

Query Cache NOT working

Query Cache Usage

Outcome of queries using the MySQL Query Cache



QUERY CACHE

Enabling Query Cache benefit

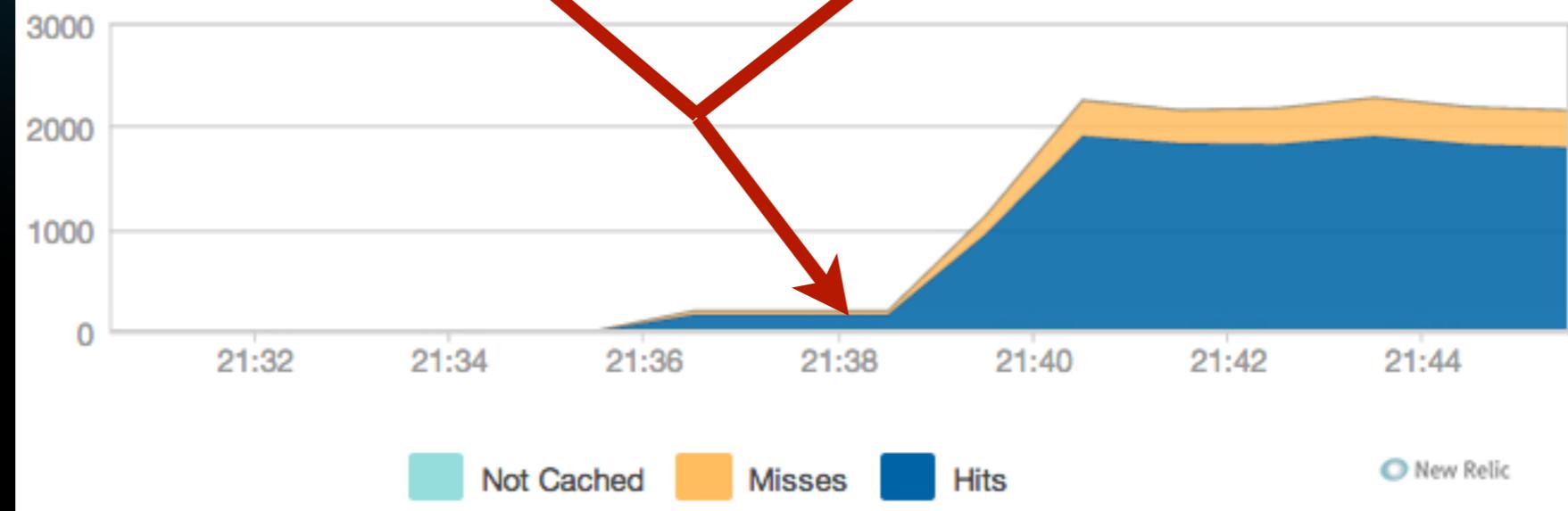
SQL Commands
All individual read, write & admin SQL commands executed



Internal Temporary Tables
In-memory & on-disk temp tables created by SQL queries



Query Cache Usage
Outcome of queries using the MySQL Query Cache

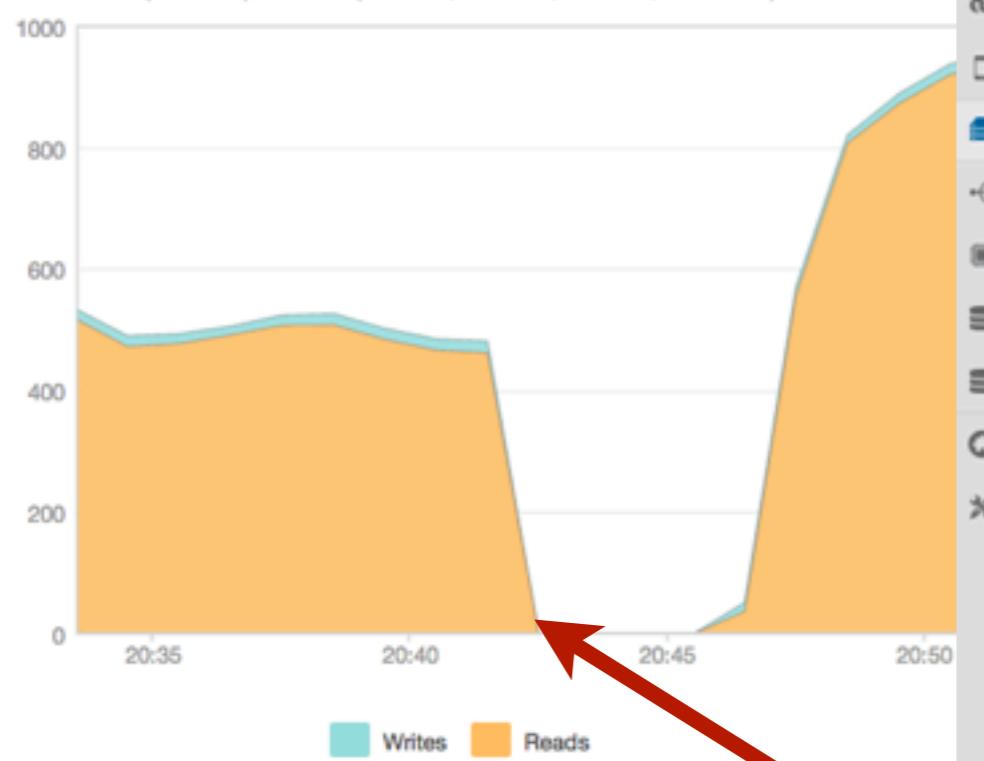


MYSQL

Overview

SQL Volume

Total reads (SELECT) & writes (INSERT,UPDATE,DELETE,REPLACE) executed



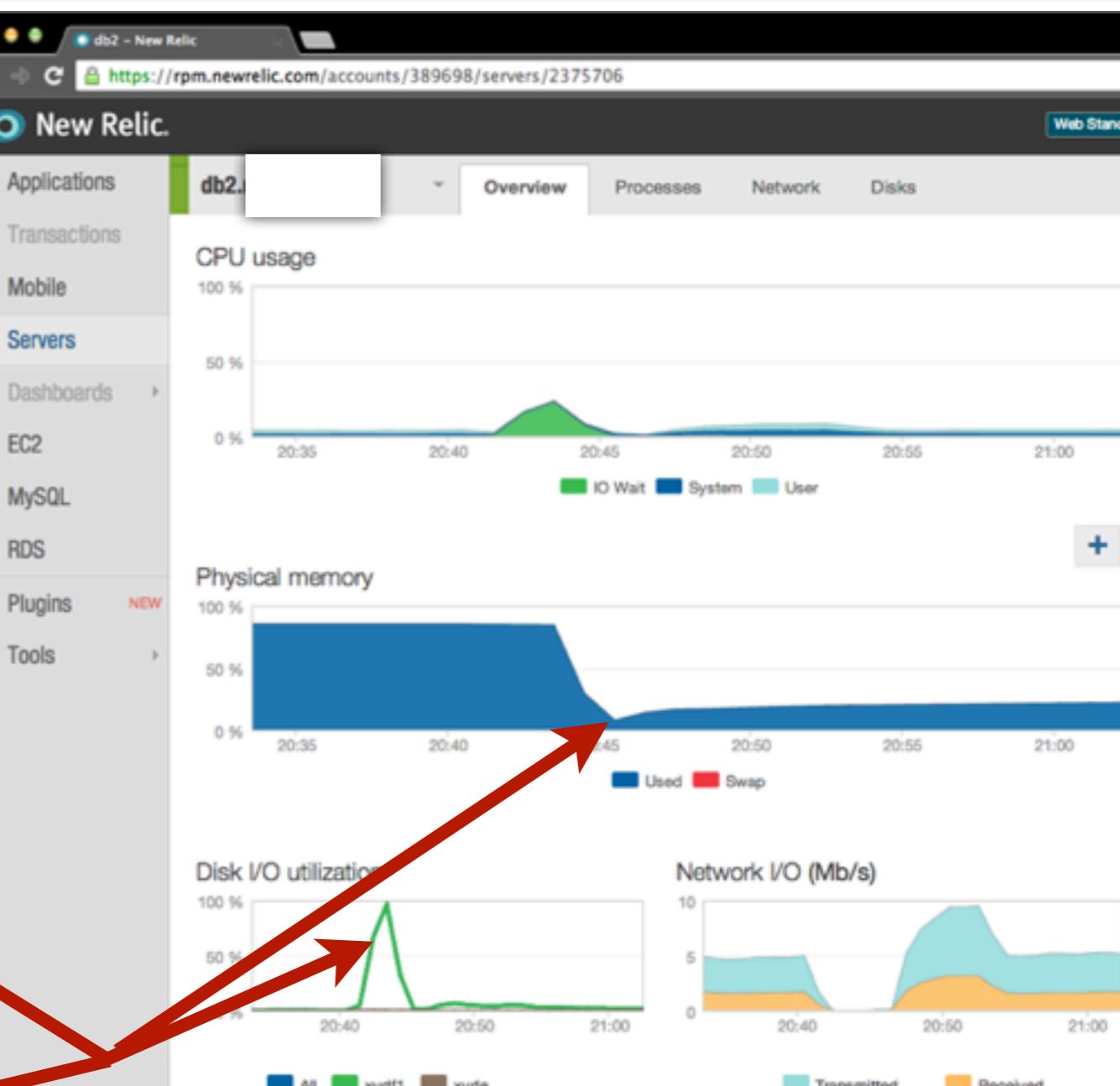
Database Connections

Current database connection information



Network

Bytes received



- Applications
- Transactions
- Mobile
- Servers
- Dashboards
- EC2
- MySQL
- RDS
- Plugins NEW
- Tools

NSI - db2

Overview Query Analysis

InnoDB Metrics

Replication

Last 30 minutes ▾
Ending now

MYSQL

InnoDB Metrics

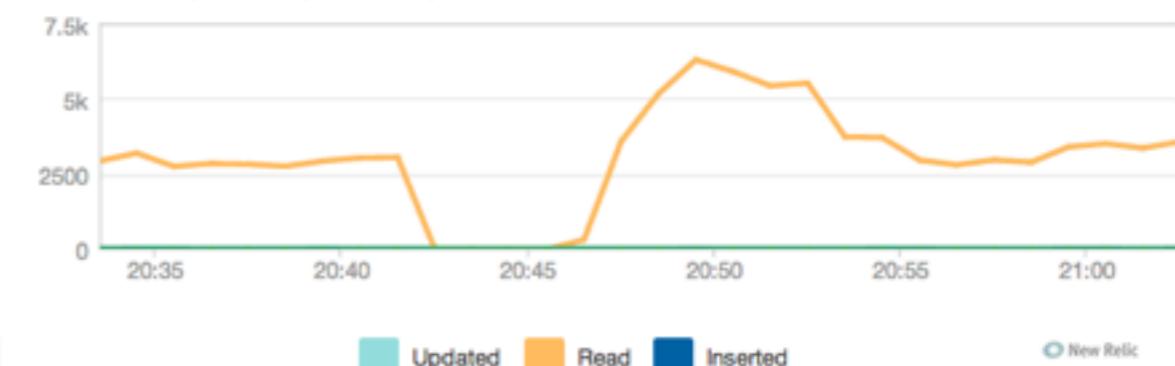
Buffer Pool Page Operations

Operations/second for InnoDB pages in buffer pool



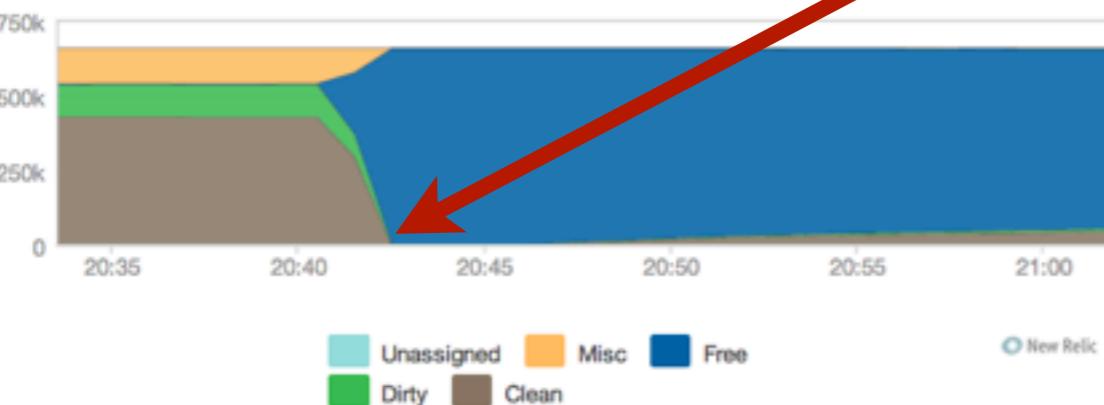
InnoDB Row Operations

InnoDB row operations performed per second



Buffer Pool Pages Breakdown

Allocation of pages in the buffer pool



InnoDB Log Writes

Bytes written to the InnoDB Redo Logs



File Syncs

Expensive Disk I/O fsyncs



InnoDB Checkpoint Age

Outstanding bytes to be checkpointed



History List Length

InnoDB Internal Thread Queries

- Applications
- Transactions
- Mobile
- Servers
- Dashboards
- EBS NEW
- EC2 NEW
- MySQL
- RDS NEW
- Plugins NEW
- Tools

Servers

Filter servers

Add more

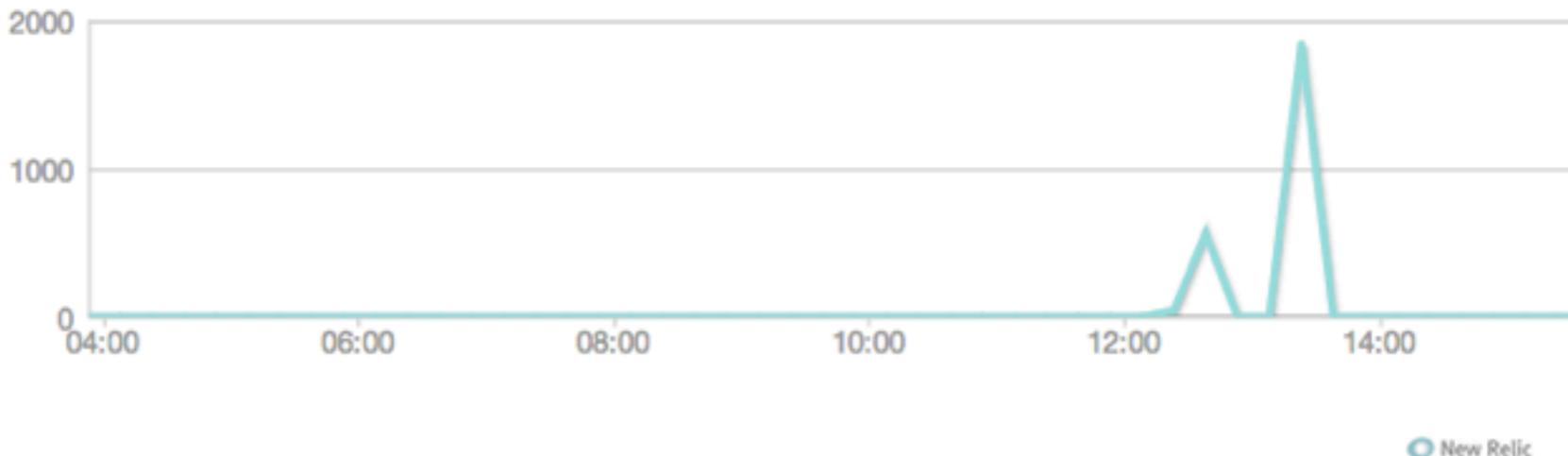
Name	CPU	Disk IO	Memory	Fullest disk
db4	99.8 %	98.5 %	43.8 %	77 % 6.4 GB / 15 GB 1810 MB free
db5	98.1 %	86.9 %	33.9 %	65.7 % 5.0 GB / 15 GB 2.6 GB free
db6	98.3 %	90.1 %	41.8 %	69.1 % 6.1 GB / 15 GB 2.4 GB free
db7	88 %	99.8 %	39.3 %	40.5 % 5.7 GB / 15 GB 4.6 GB free
db9	87.3 %	99.8 %	40.1 %	35.6 % 5.8 GB / 15 GB 5.0 GB free
api1	72.5 % 27.81% stolen	1.5 %	43.8 %	48.5 % 3.1 GB / 7.2 GB 2.8 GB free
api2	74.1 % 28.31% stolen	0.2 %	40.1 %	41.6 % 2.9 GB / 7.2 GB 3.2 GB free
api3				
api4				
api6				
db1				
db2				
db3	2.5 %	0.8 %	66 %	32.7 % 10 GB / 15 GB 5.2 GB free
db8	93 %	100 %	40 %	48.9 % 5.8 GB / 15 GB 3.9 GB free
db10	3.4 %	16.3 %	40.2 %	31.4 % 5.8 GB / 15 GB 5.3 GB free
db-t0	12.4 %	50.6 %	15.5 %	26.3 % TODAY

Yes, this time the database (servers) are on fire!

All	IN-PROGRESS	23:23
		23:13
		23:06
		23:03
		23:02
		22:58
		22:53
		22:49
		22:48
		22:48
		22:48
		22:48
		TODAY

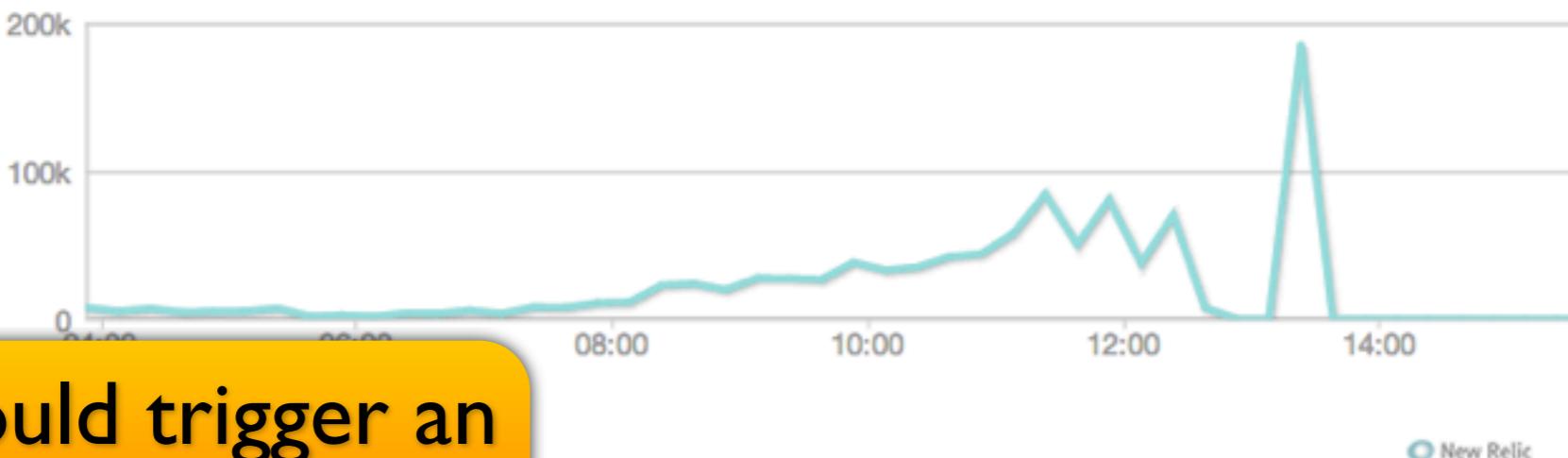
Replication Lag

This graph shows any replication lag for MySQL slave instances



Slave Relay Log Volume

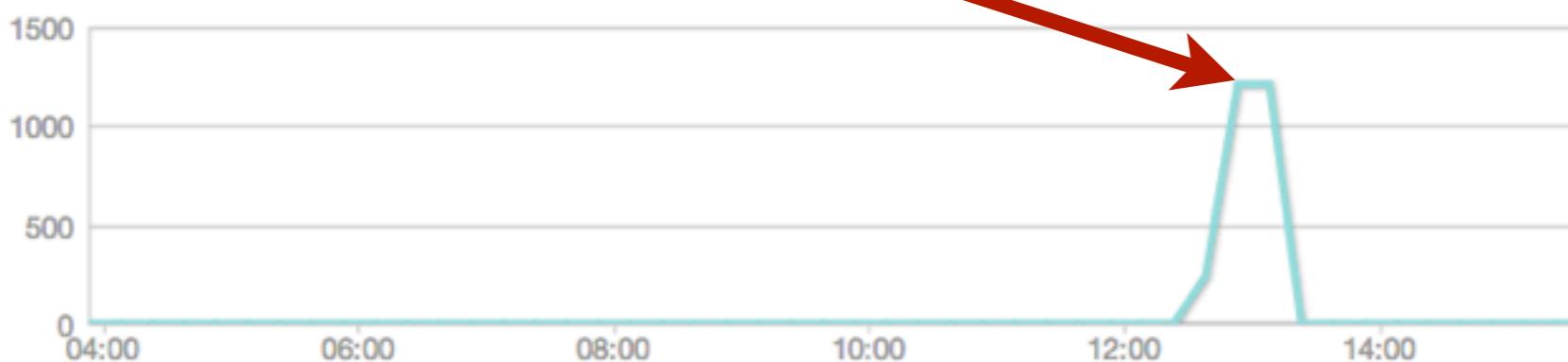
This graphs shows the Relay Logs bytes processed by replication



If only I could trigger an alert on this?

Slave Errors

This graph shows any reported slave errors.



A Developers View

- Drill down to running queries
- Look at ALL thread SQL statements
- Aggregations

- [Applications](#)
- [Transactions](#)
- [Mobile](#)
- [Servers](#)
- [Dashboards](#)
- [EBS](#)
- [EC2](#)
- [MySQL](#)
- [RDS](#)
- [Plugins](#)
- [Tools](#)

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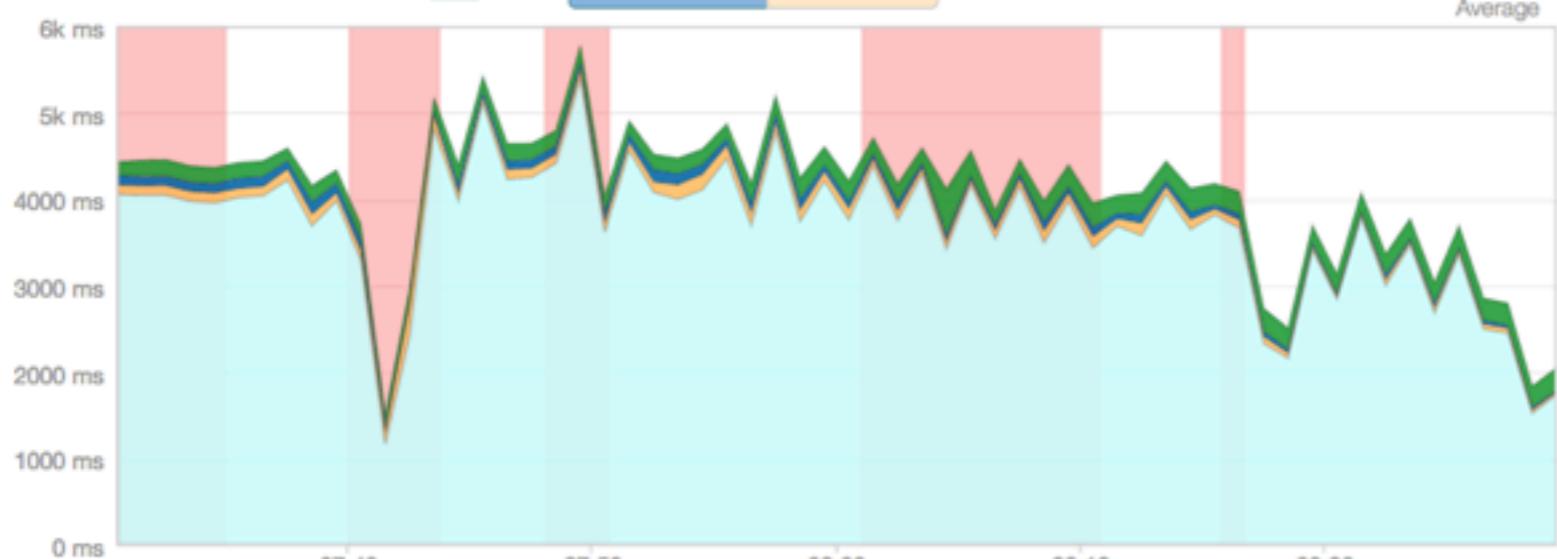
External services

Background tasks

Geography

App server response time (ms)

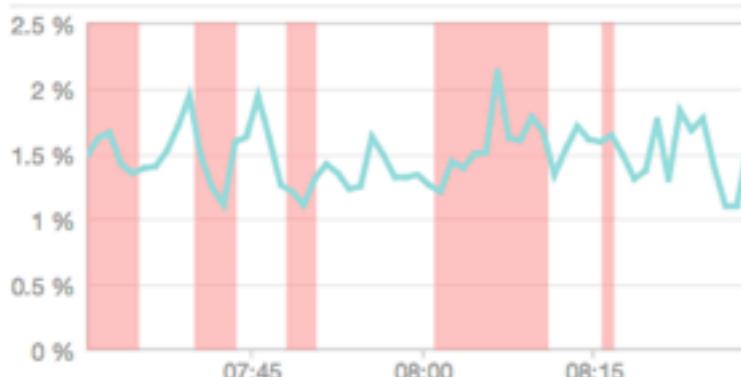
App server Browser

4,050 ms
Average

Web external Memcache
Database PHP

Error rate

1.5 %



11 servers



ip-10-114-38-19

1 instance

ip-10-12-182-50

1 instance

ip-10-145-149-194

1 instance

Apdex score



NS

0.5

0 ms

Throughput



0 rpm

CPU usage



0 %

0 Bytes

Memory

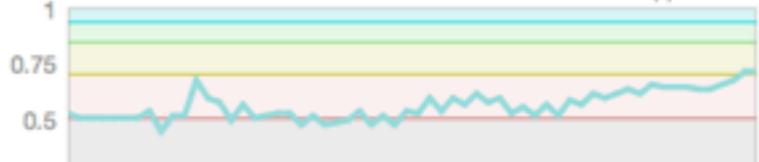


0 %

0 Bytes

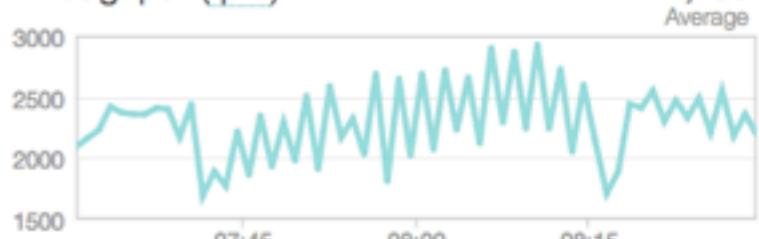
Standard Feature

Apdex score

0.56 [0.5]
App server

Throughput (rpm)

2,260 Average



Recent events



All

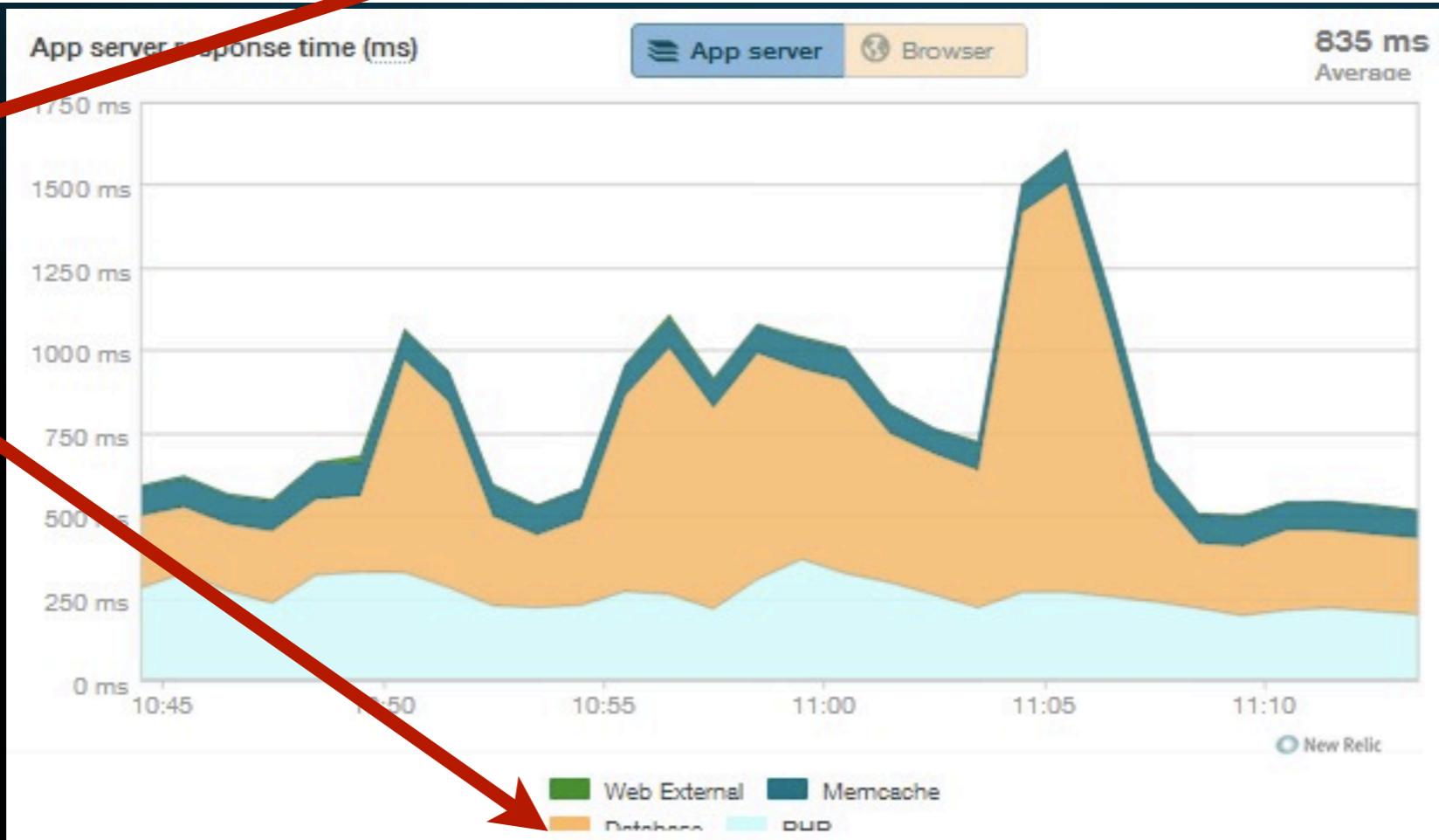
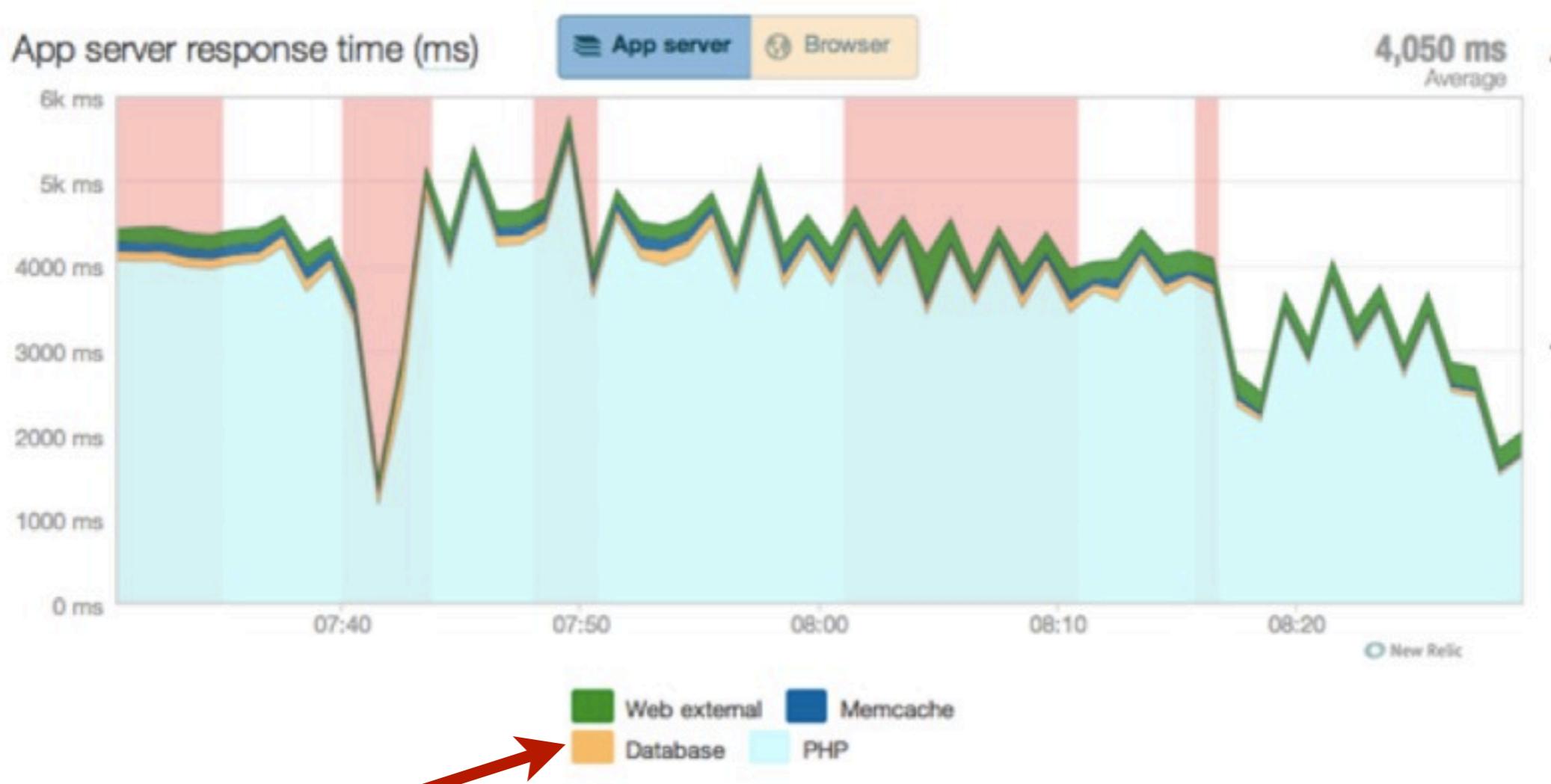


IN-PROGRESS

19:34 ▲ End user Apdex score < 0.85
Details19:24 ▲ Error rate > 1.0%
Details

TODAY

19:53 ⚡ Alert on PHP Application
Details19:36 🔥 7 503 status ping failures over 2 minutes
Details19:31 ⚡ Alert on PHP Application
Details



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Browser

Most time consuming

/search-r

/toolbar-s

/toolbar-s

/index.ph

/ad.php

/direct.p

/demo/ja

/toolbar-s

/toolbar-s

/rssfeed/

/toolbar-s

/weather

/bottom-

/load-up

/toolbar-s

/toolbar-s

/toolbar-s

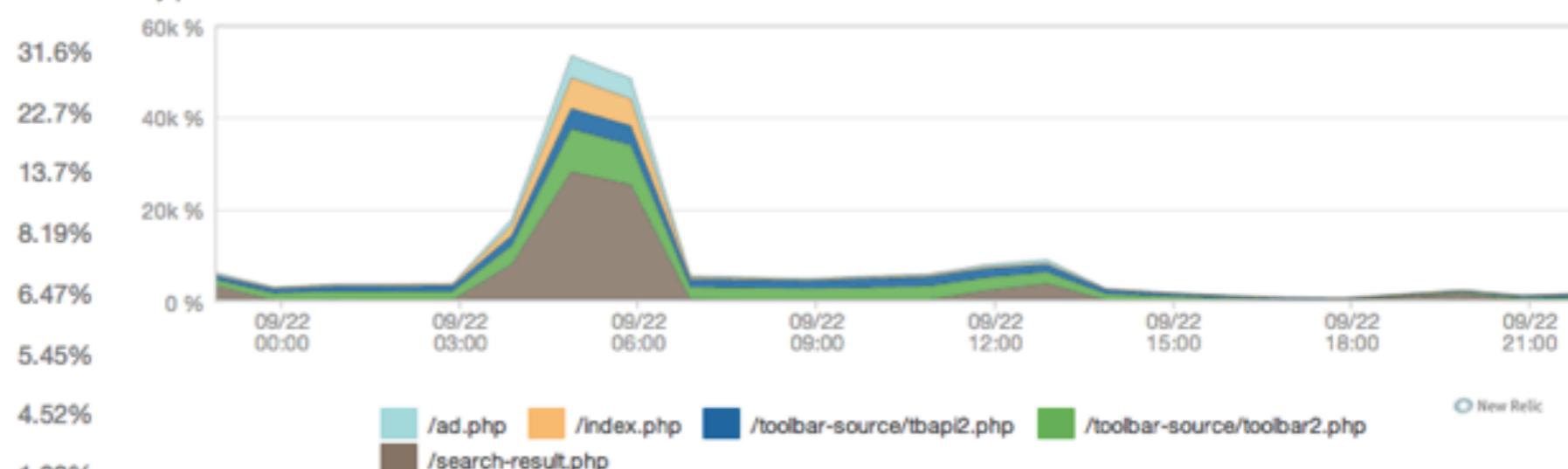
/scroll-i

webfront

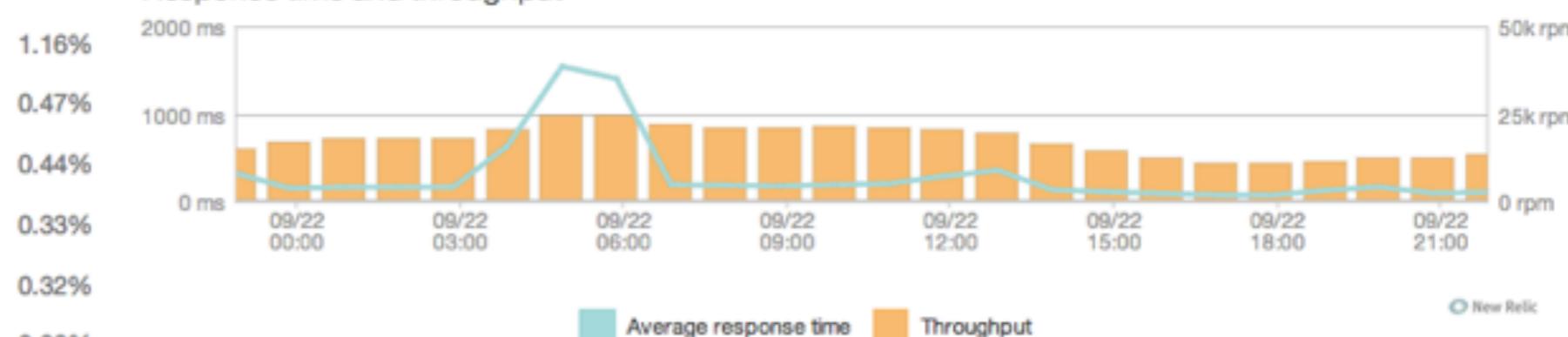
-

End user 5.43 s 2.15k ppm

App server 127 ms ▾ 14.9k rpm 0.0045 err%

Standard FeatureTop 5 web transactions
by percent of wall clock time

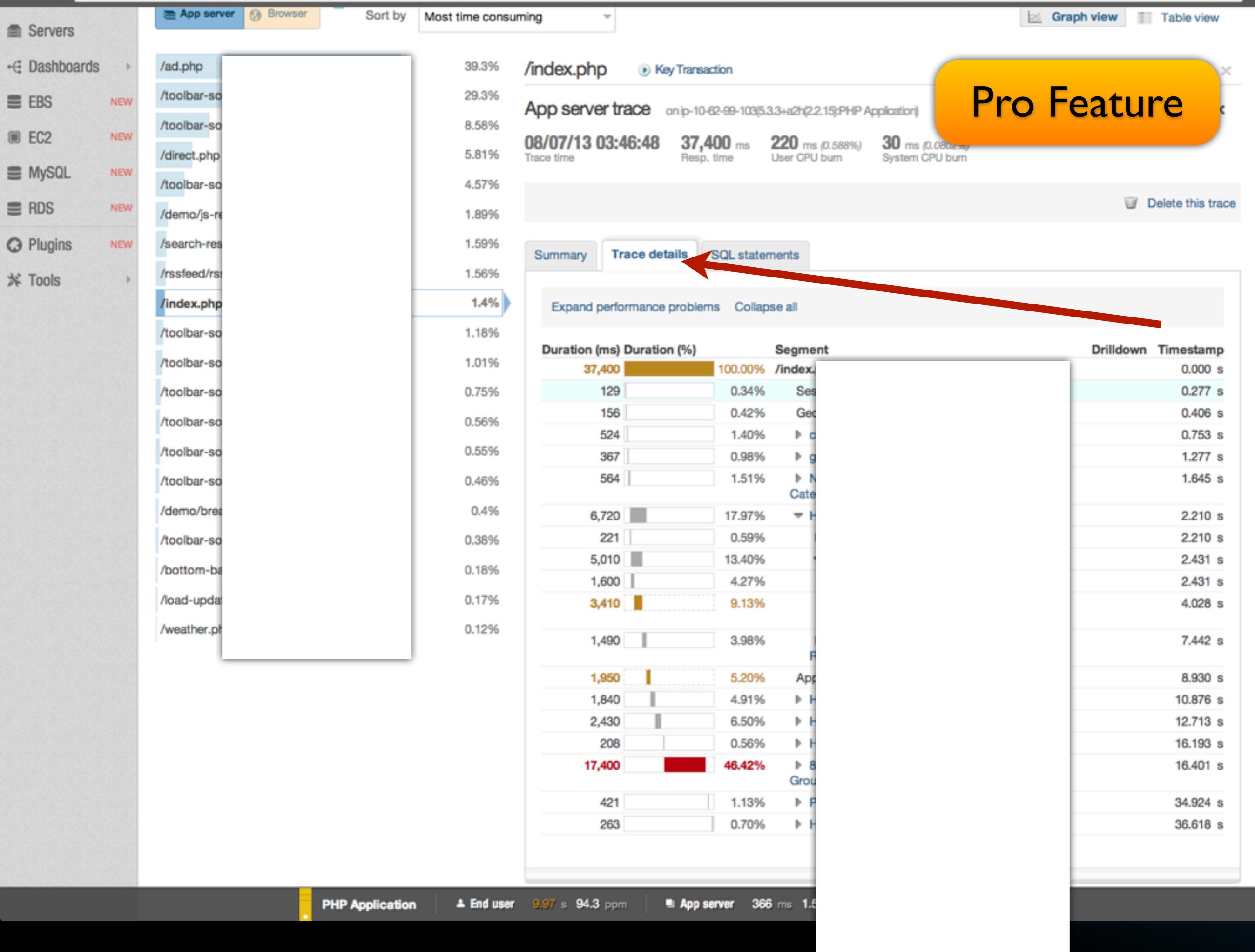
Response time and throughput



Recent Slow Transactions

Available only in New Relic Pro, transaction traces provide an at-a-glance, sortable list of slow transactions that lets you quickly zero in on trouble spots. More about transaction traces » Upgrade to New Relic Pro now »

Resp. Time



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Sort by

Most time consuming

Domain - S
UserKeyw
DomainHeir
NewsCate
Advertiser
Advertiser
GeneralCa
ArticleNew
AdUser - S
AdPanelPr
Keyword -
Heirarchy -
AdSeenCa
ToolbarBl
Keyword -
ViewCount
AdUser - I
URLCache
ToolbarInst
ToolbarUs

23.9%

Top 5 database operations by wall clock time

15.3%

1000 %

750 %

500 %

250 %

0 %

09/22

00:00

09/22

03:00

09/22

06:00

09/22

09:00

09/22

12:00

09/22

15:00

09/22

18:00

09/22

21:00

■ Domain - SELECT ■ UserKeyword - INSERT ■ DomainHierarchy - SELECT ■ NewsCategory - SELECT
■ Advertisement - SELECT

3.91%

3.62%

3.59%

2.59%

2.52%

2.37%

2.27%

2.2%

2.19%

2.05%

1.48%

1.38%

0.44%

Database throughput

100k cpm

0 cpm

09/22

00:00

09/22

06:00

09/22

12:00

09/22

18:00

■ INSERT ■ SELECT ■ UPDATE

Standard Feature

Database response time

20 ms

0 ms

09/22

00:00

09/22

06:00

09/22

12:00

09/22

18:00

■ UPDATE ■ SELECT ■ INSERT

AdConfig -

webfront

End user 5.61 s ▾ 1.94k

App server 128 ms ▾ 14k rpm 0.0024 err% ?

New Relic.

Web Pro Trial Mobile Lite My preferences 0 Help Logout

Applications PHP Application Monitoring Events Reports Settings about 3 hours ago 5:38

Transactions Database External services Background tasks Geography Browsers

Sort by Slowest queries by web transaction

ToolbarInstall - SELECT (/toolbar-source/succ 982 ms)

Advertisement - SE 307 ms
AdPanelProbability 236 ms
AdPanelProbability 150 ms
Advertisement - SE 102 ms
AdUser - SELECT / 92.5 ms
AdUser - SELECT / 77.0 ms
AdConfig - SELECT 54.7 ms
AdSeenCache - SEL 51.5 ms
Heirarchy - SELECT 49.1 ms
URL - SELECT (/ad. 48.5 ms
AdConfig - SELECT 45.7 ms
Heirarchy - SELECT 45.5 ms
Heirarchy - SELECT 43.8 ms
AdSeenCache - SEL 37.6 ms
Heirarchy - SELECT 37.2 ms
Heirarchy - SELECT 37.0 ms
AdUser - SELECT / 34.1 ms
Keyword - SELECT 32.7 ms
DomainHierarchy - S 24.4 ms

ToolbarInstall - SELECT (/toolbar-source/successinstall.php)

982 ms 0 cpm
Resp. time Throughput

Response time and throughput

Average call time Throughput

Slow SQL traces

	Response time	Sample count
08/07 03:47 – about 22 hours ago	1,960 ms	2
08/07 05:22 – about 21 hours ago	1,920 ms	1
08/07 03:17 – about 23 hours ago	1,830 ms	1
08/07 03:22 – about 23 hours ago	1,830 ms	3
08/07 03:28 – about 23 hours ago	1,630 ms	2

Kiosk mode Permalink

Pro Feature

New Relic.

Web Pro Trial Mobile Lite My preferences 0 Help Logout

Applications PHP Application Monitoring Events Reports Settings about 3 hours ending Yesterday, 5:38

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EC2 NEW

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RDS NEW

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ToolbarInstall - SELECT (/toolbar-source/successinstall.php) 982 ms

Advertisement - SE 307 ms

AdPanelProbability 236 ms

AdPanelProbability 150 ms

Advertisement - SE 102 ms

AdUser - SELECT (92.5 ms

AdUser - SELECT (77.0 ms

AdConfig - SELECT 54.7 ms

AdSeenCache - SEL 51.5 ms

Heirarchy - SELECT 49.1 ms

URL - SELECT (/ad 48.5 ms

AdConfig - SELECT 45.7 ms

Heirarchy - SELECT 45.5 ms

Heirarchy - SELECT 43.8 ms

AdSeenCache - SEL 37.6 ms

Heirarchy - SELECT 37.2 ms

Heirarchy - SELECT 37.0 ms

AdUser - SELECT (34.1 ms

Keyword - SELECT 32.7 ms

DomainHierarchy - S 24.4 ms

External services **Background tasks** **Geography** **Browsers**

Sort by Slowest queries by web transaction

Slow SQL trace 1,960 ms /toolbar-source/successinstall.php Max time Action

SQL

SELECT count(*) FROM `ToolbarInstall` WHERE mtuid=?

Stack trace

in mysql_query called at /usr/share/pear/MDB2/Driver/mysql.php (808)
 in MDB2_Driver_mysql::__doQuery called at /usr/share/pear/MDB2.php (2629)
 _B2_Driver_Common::query called at [REDACTED]base.php (24)
 in Base::__query called at [REDACTED]ase.php (39)
 __singlequery called at [REDACTED]oolbarInstall.php (46)
 _tall::__exists called at [REDACTED]ccessinstall.php (129)

Kiosk mode Permalink

Pro Feature

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Site status:

New Relic:

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PHP Application

End user 9.43 s 80.3 ppm

App server 359 ms 1.38k rpm 0.65 err%

- Applications
- Transactions
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- Plugins NEW
- Tools

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Last 3 hours ▾

SLA

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Scalability analysis

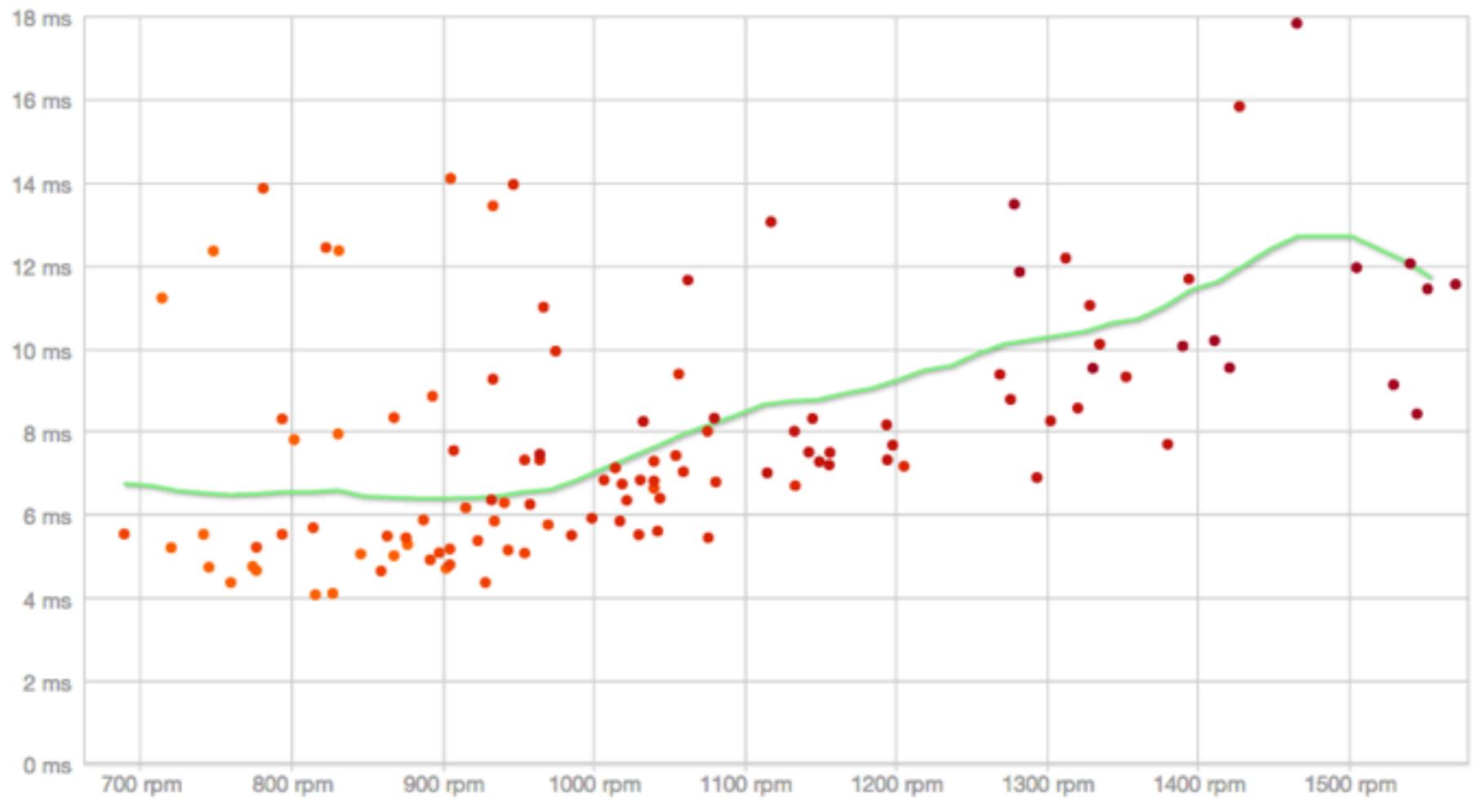
Response time

Database

CPU

 Last 24 hours Last 7 days Use time window selection Filter outliers

Database Time per Request vs. Throughput



Color	Local time
Light Green	00:00 – 01:00
Medium Green	01:00 – 02:00
Dark Green	02:00 – 03:00
Dark Teal	03:00 – 04:00
Teal	04:00 – 05:00
Dark Blue	05:00 – 06:00
Blue	06:00 – 07:00
Dark Teal	07:00 – 08:00
Dark Blue	08:00 – 09:00
Dark Purple	09:00 – 10:00
Purple	10:00 – 11:00
Dark Purple	11:00 – 12:00
Red	12:00 – 13:00
Orange	13:00 – 14:00
Dark Orange	14:00 – 15:00
Orange	15:00 – 16:00
Dark Orange	16:00 – 17:00
Yellow	17:00 – 18:00
Orange	18:00 – 19:00
Yellow	19:00 – 20:00
Light Yellow	20:00 – 21:00
Yellow	21:00 – 22:00
Light Green	22:00 – 23:00
Light Green	23:00 – 24:00

Local Median

New Relic

A better waterfall

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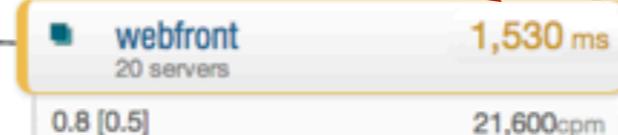
External services

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Standard Feature

Still not a DB problem, but,
I need to identify and fix



Database	2.96 ms
4.0 : 1 arr	87,100 cpm
Memcache	4.89 ms
1.7 : 1 arr	36,600 cpm
w en.wikipedia.org	101 ms
1 : 3.8 arr	5,770 cpm
user-agent-string.info	4950 ms
1 : 4.3 arr	5,060 cpm
api-821113970.us-east-1.elb.amazonaws.com	143 ms
1 : 4.6 arr	4,710 cpm
D lookup.dbpedia.org	723 ms
1 : 10.5 arr	2,070 cpm
access.alchemyapi.com	1530 ms
1 : 12.0 arr	1,800 cpm
localhost	15.2 ms
1 : 19.3 arr	1,120 cpm
8 maps.googleapis.com	118 ms
1 : 211.0 arr	103 cpm

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Servers
All servers (20)60 minutes
ending Tuesday,

Transactions

Mobile

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MySQL

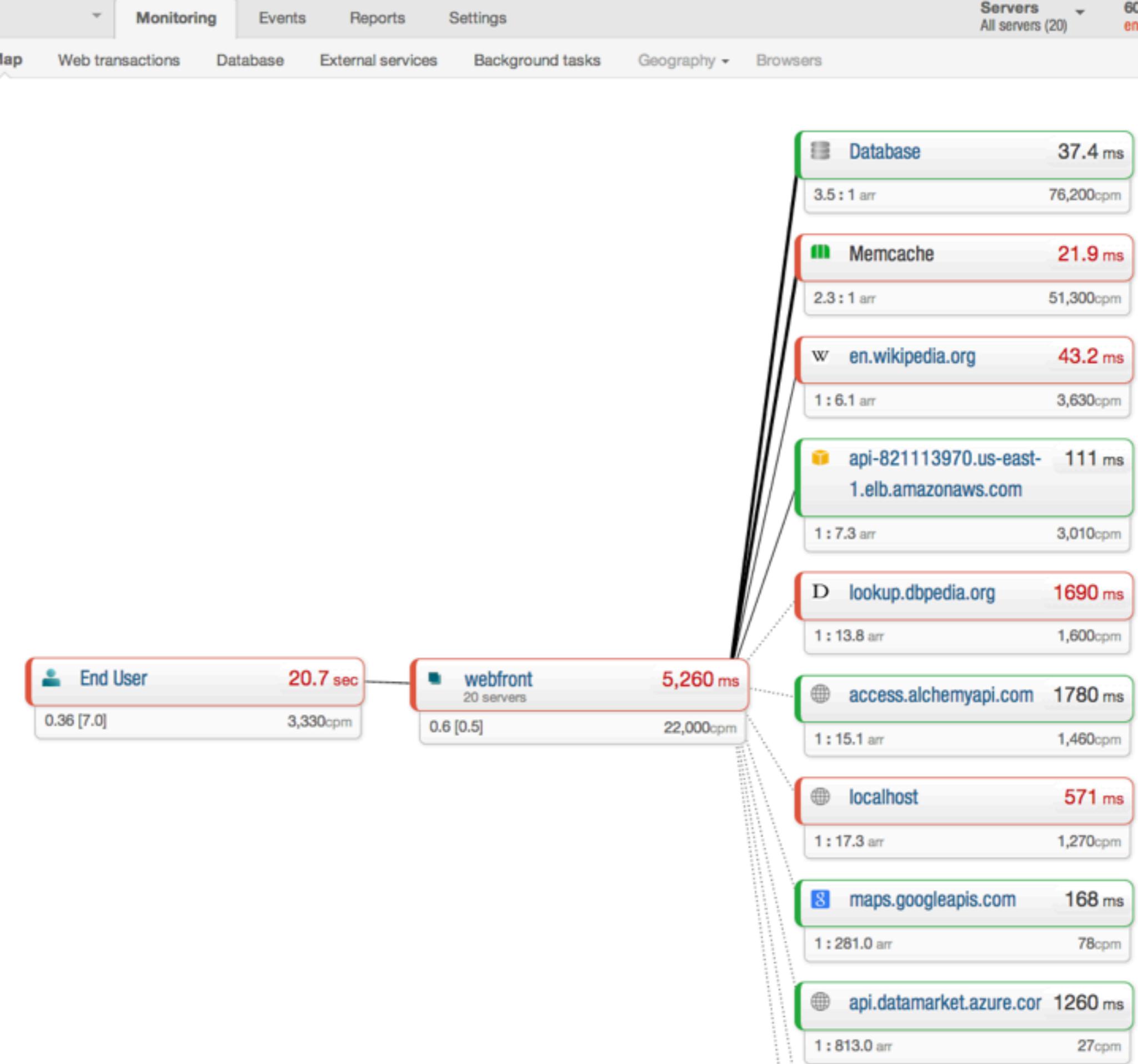
RDS

Plugins

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Tools

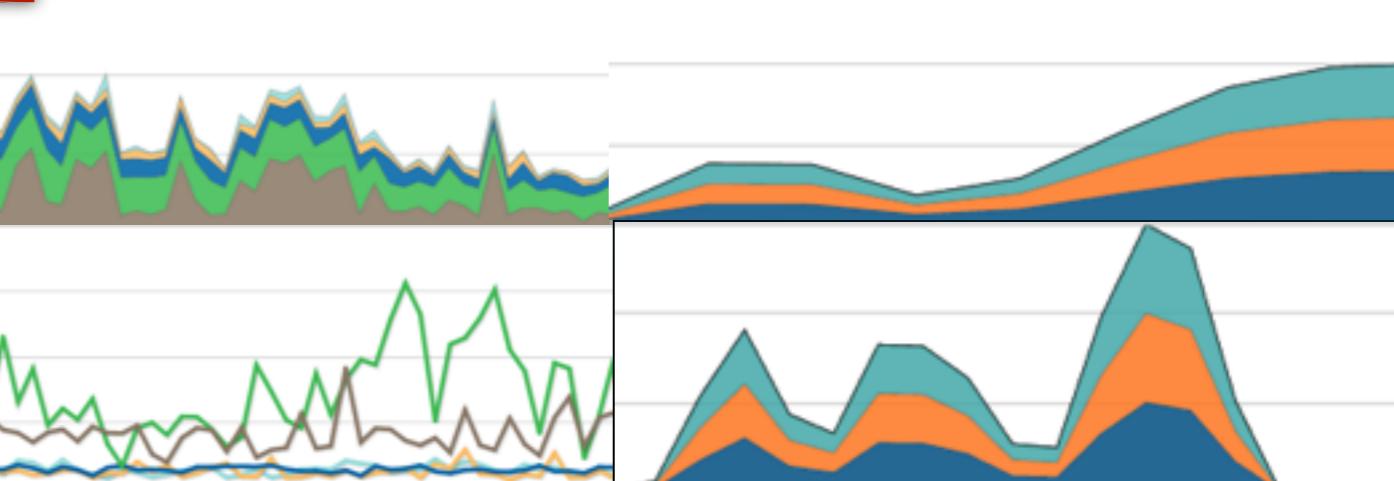
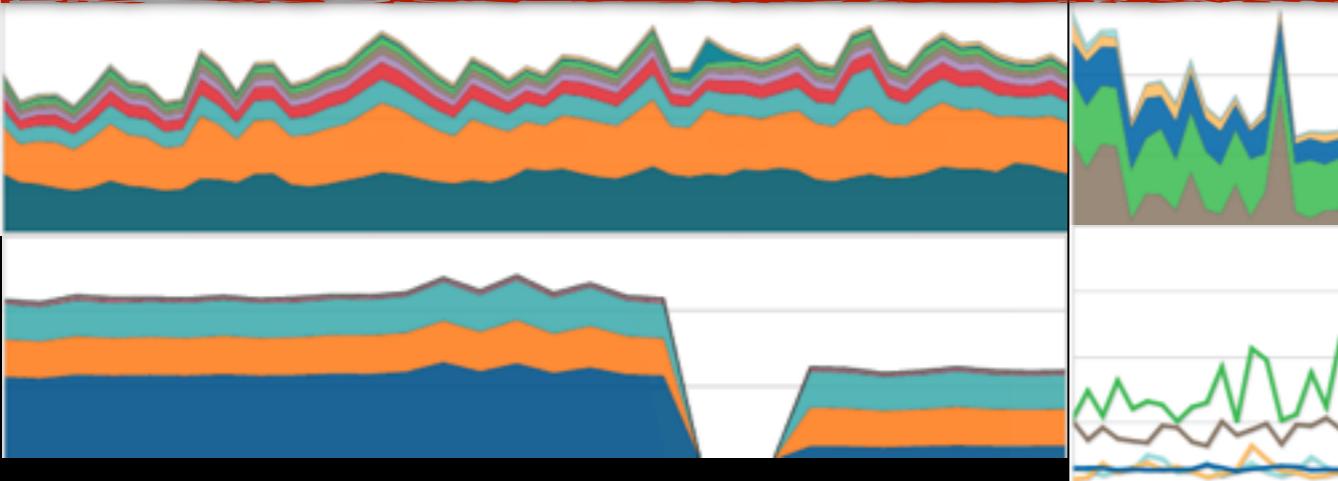
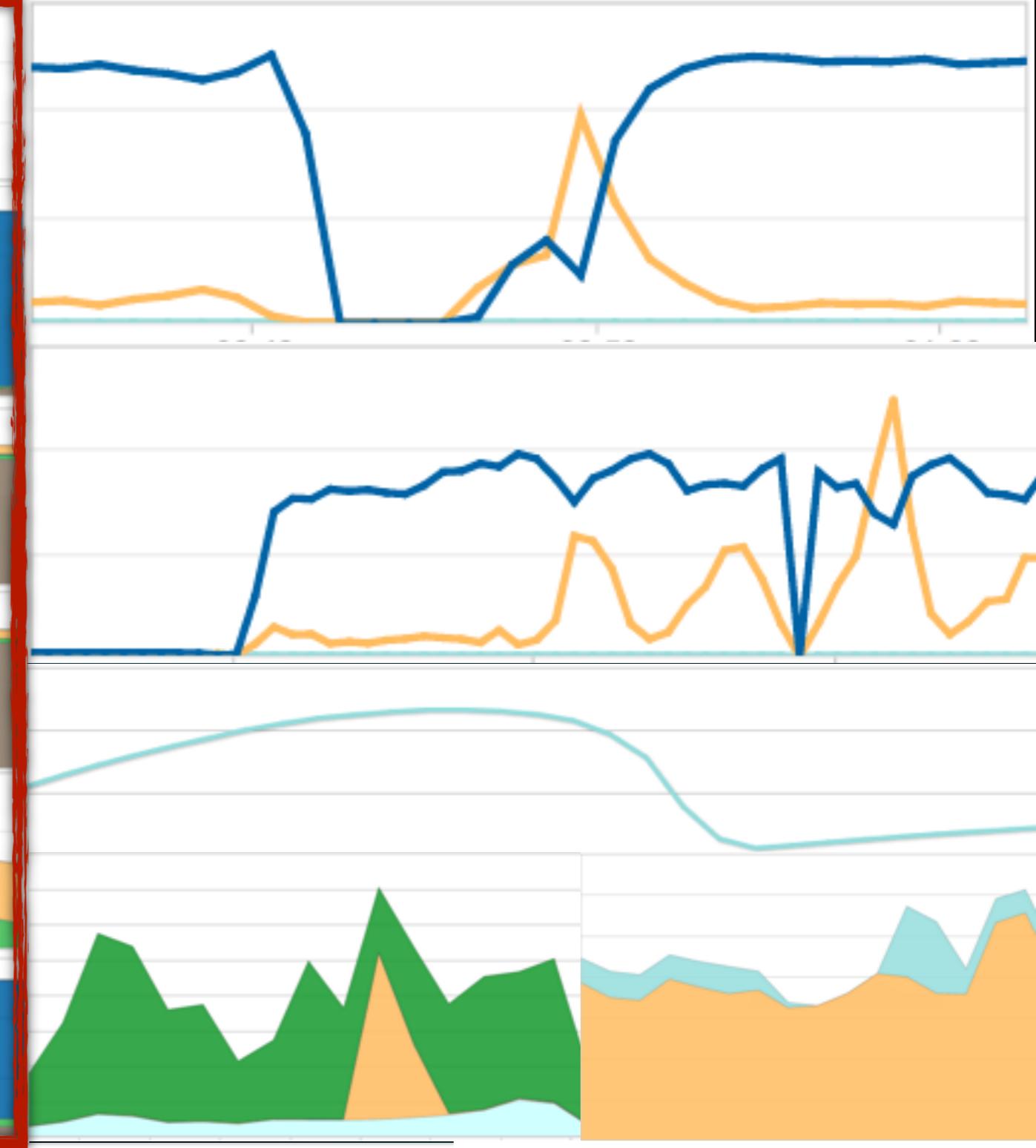
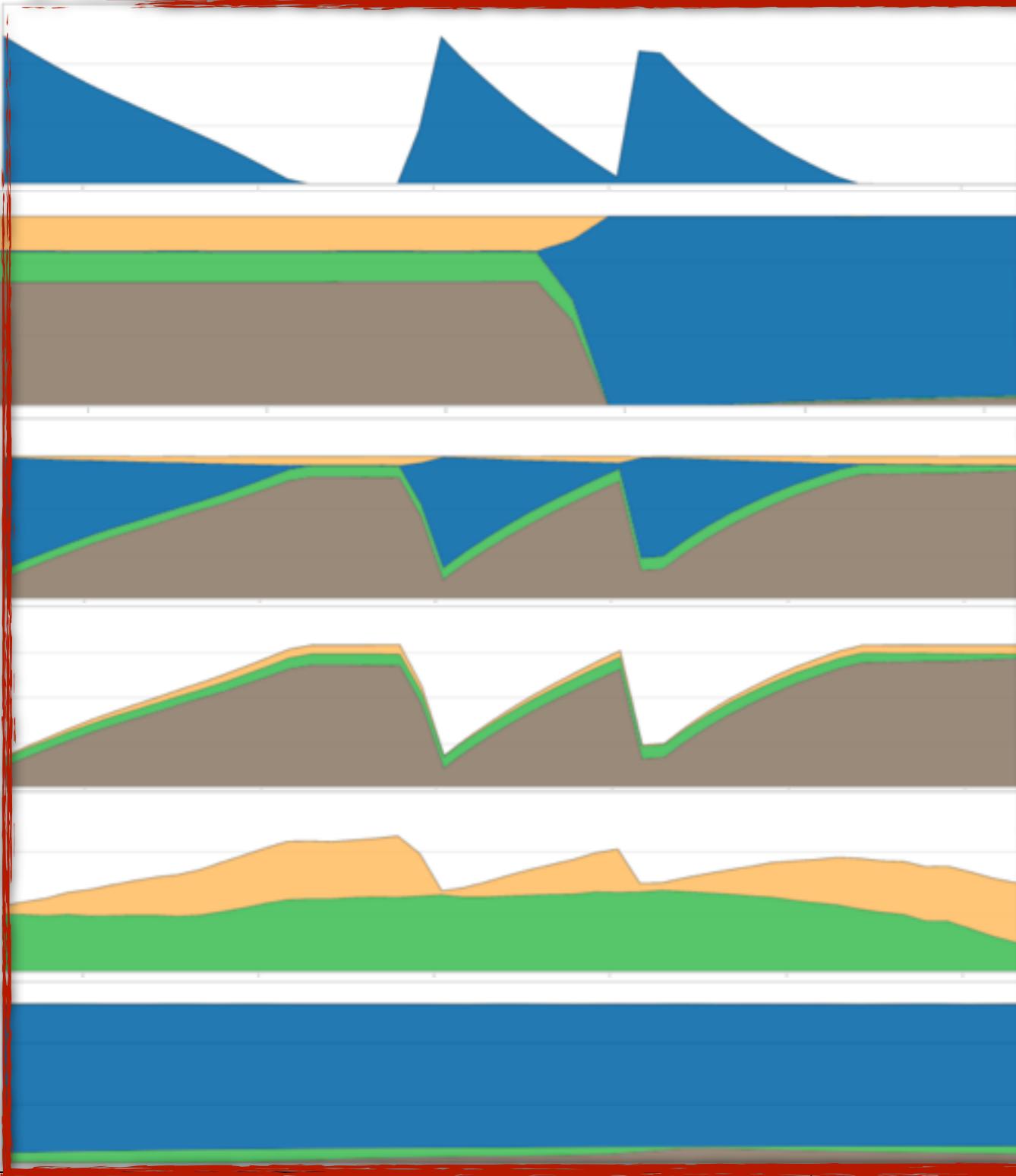
▶



Conclusion

CONCLUSION

- There is no excuse to have NO monitoring
- Visualization can generally help show issues
- Historical reporting can help review issues
- NEITHER WILL SOLVE THE PROBLEM
- Hire Ronald Bradford



Ronald Bradford
ronald@effectivemysql.com

EffectiveMySQL.com

Performance, Scalability & Business Continuity



Effective MySQL:
Optimizing SQL
Statements

Practical Knowledge for Performance Improvement

Effective MySQL:
Backup and Recovery

Effective MySQL:
Advanced Replication
Techniques