



MAXGAUGE REALTIME MONITOR

Instance Name Business Name

OVERALL

ORA102

JAPAN

CHINA

MAXGAUGE for MySQL

PRODUCT DOCUMENTATION



- **MAXGAUGE**

- OVERVIEW
- ARCHITECTURE
- FEATURE

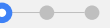
- **FEATURE**

- REAL-TIME MONITOR
- ADMIN
- PERFORMANCE ANALYZER

- **PERFORMANCE ANALYZER**

- ALERT & MONITORING
- EXEM DASHBOARD





MAXGAUGE For MySQL

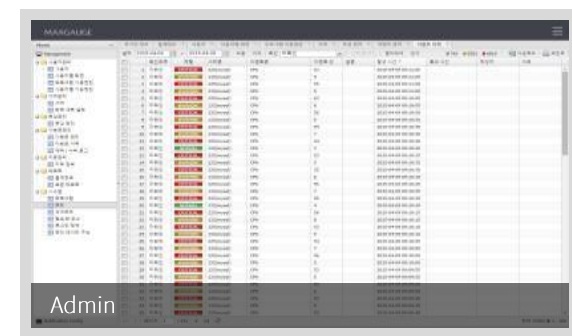
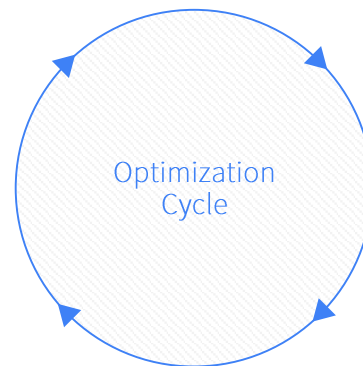
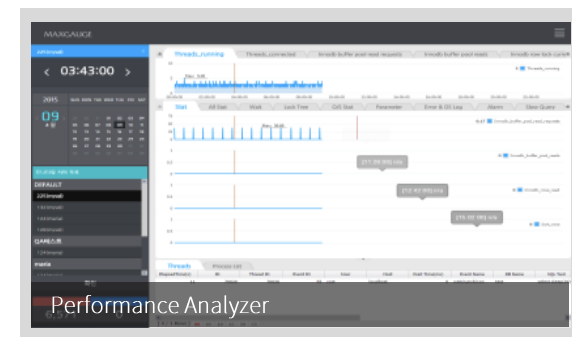
- OVERVIEW
- ARCHITECTURE
- FEATURE

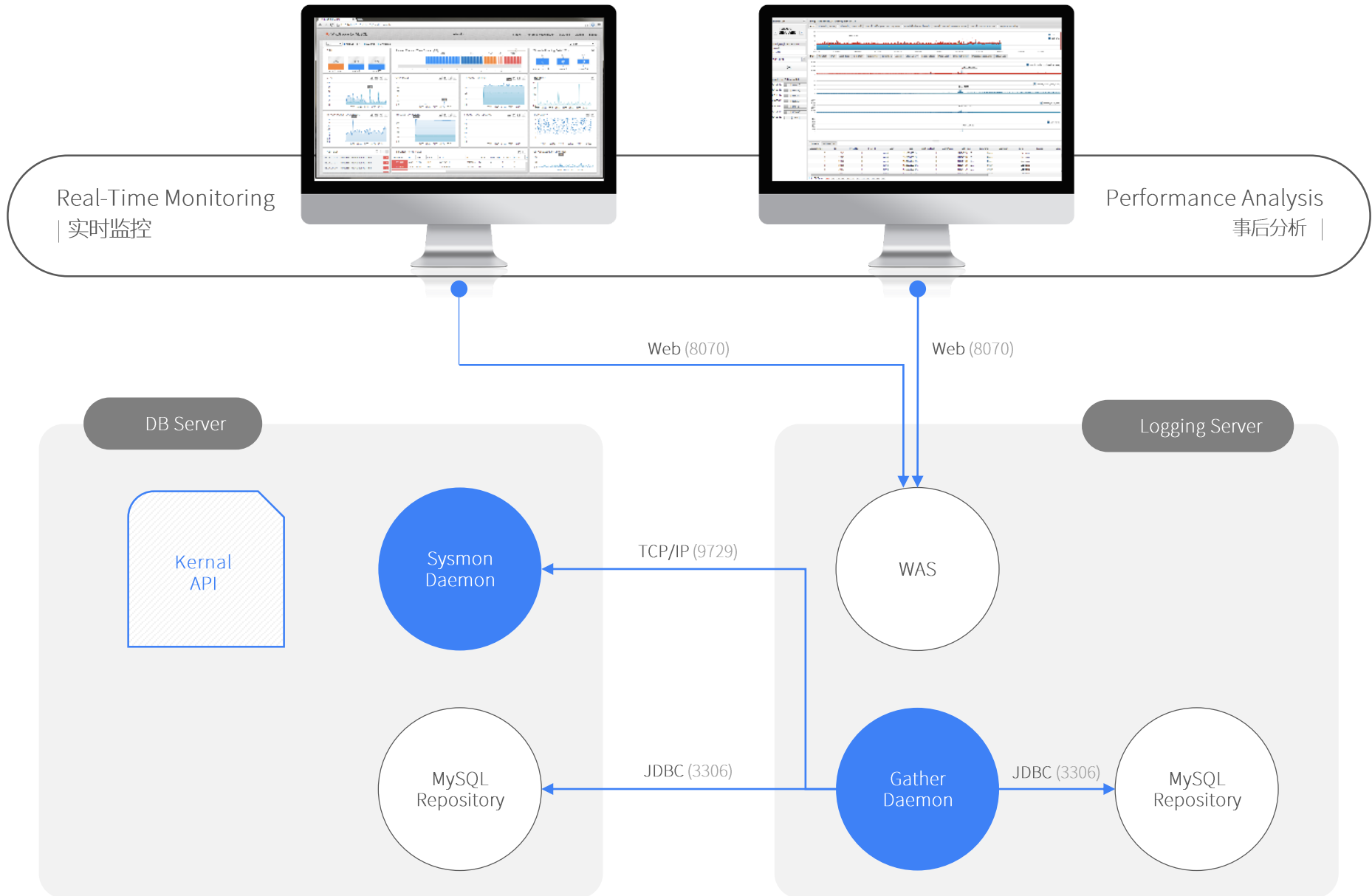


数据库性能优化最专业软件: MaxGauge

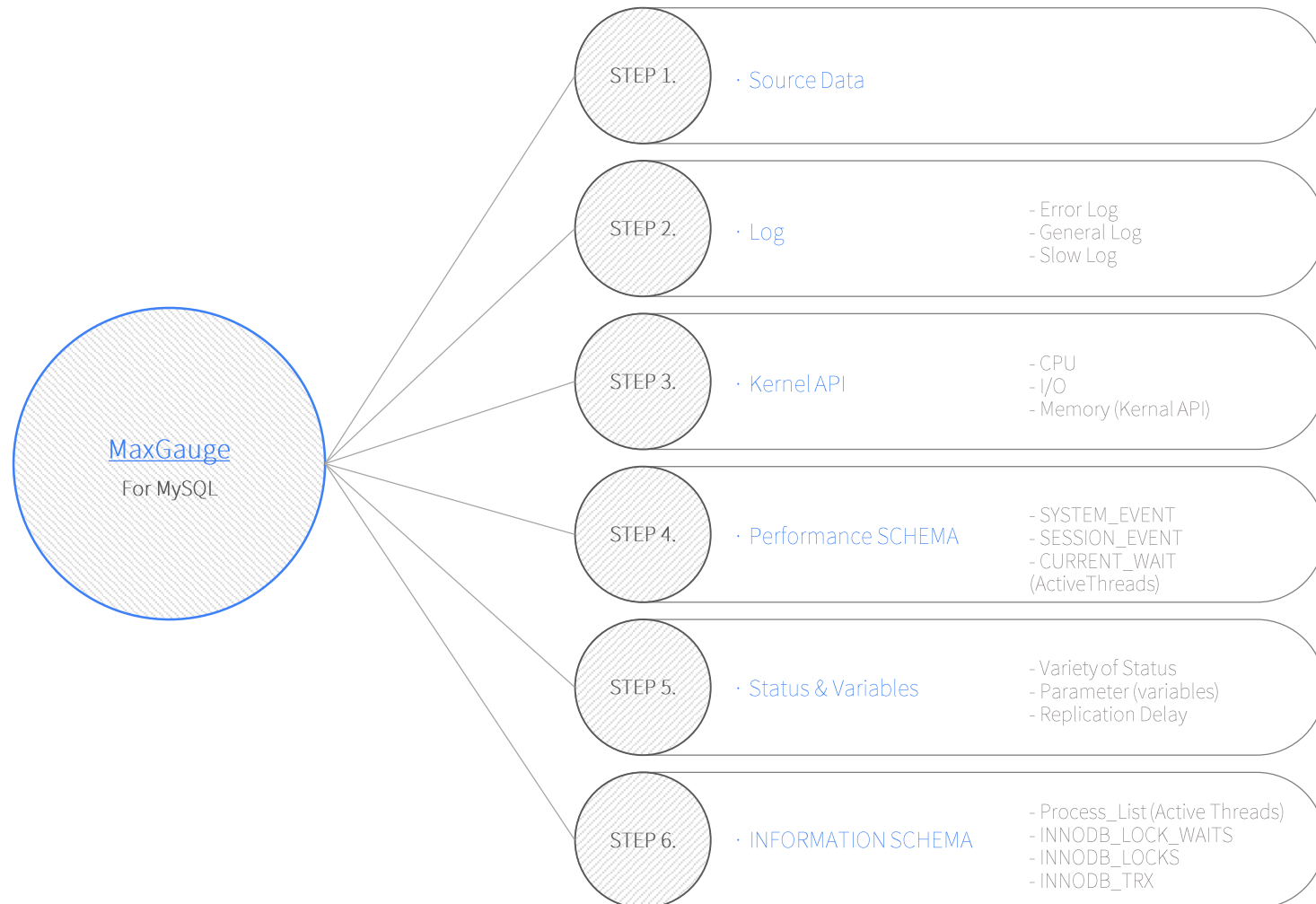
MaxGauge是一款专业的数据库性能优化专业软件，通过实时监控，精密的性能问题诊断分析，SQL优化等多种功能，高效的管理数据库性能，提升DB系统可用性。

MaxGauge特有的前瞻性监控（Pro-Active）方法让用户可以迅速预知性能问题，快速的分析应用的瓶颈现象。资料库可存储大量性能数据，并提供高质量的数据分析材料。





收集性能数据种类





FEATURE

REAL-TIME MONITOR
ADMIN
PERFORMANCE ANALYZER



直观, 简洁的用户界面

业务分组View

OS, Thread指标可视化

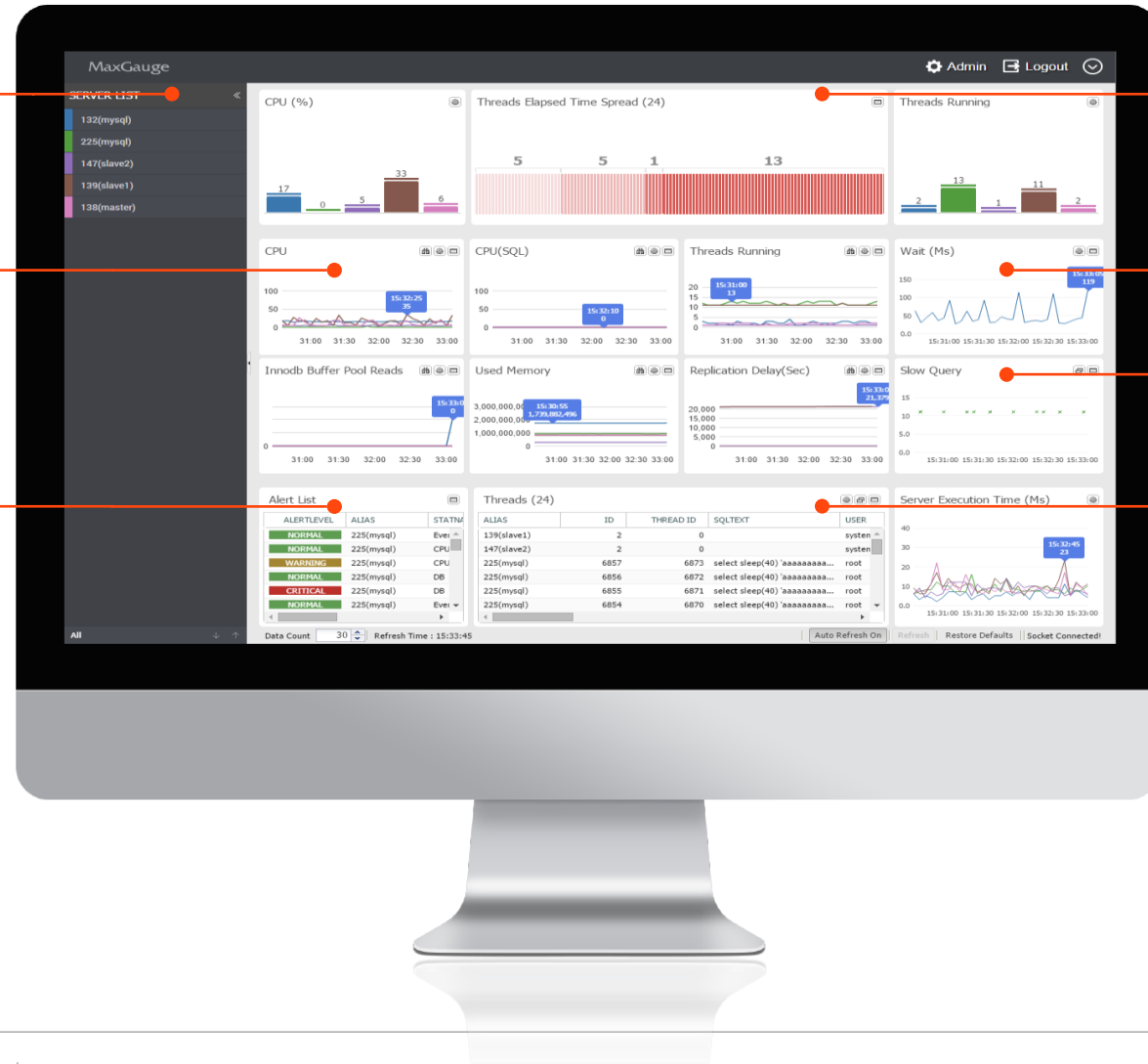
Multi Node性能指标综合监控界面

Wait 监控界面

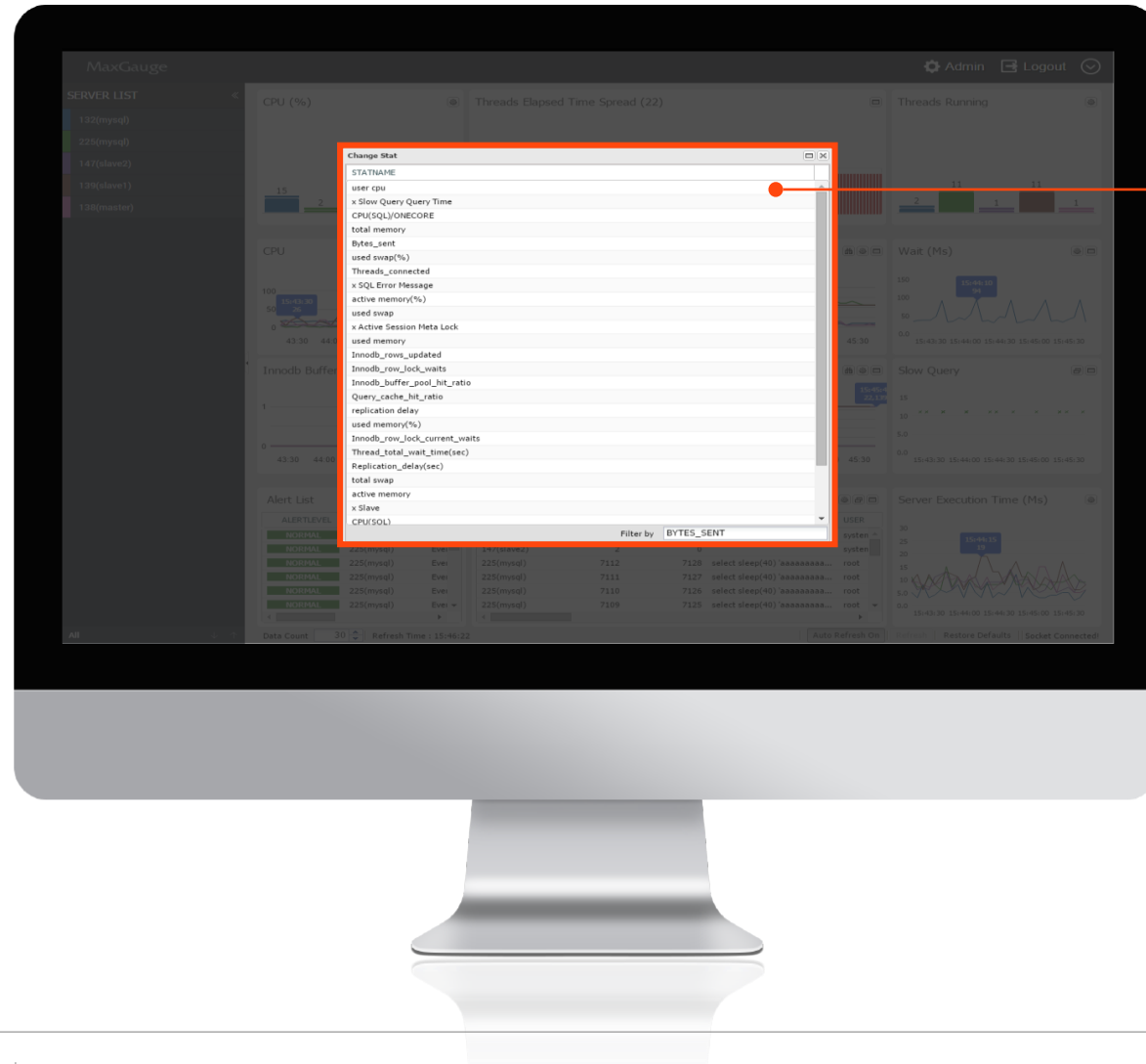
Slow Query 监控界面

实时Event历史记录

Active Thread及Query执行信息

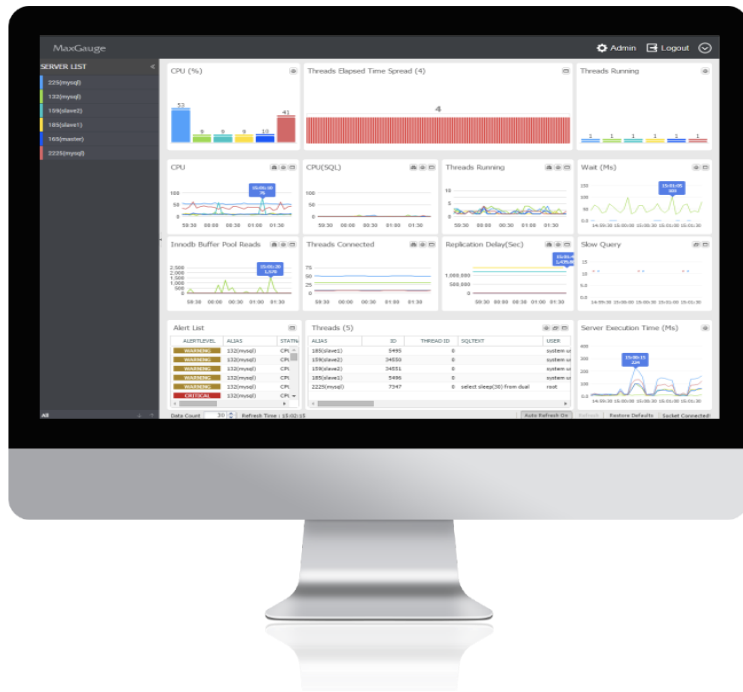


根据系统运行状况排列的性能指标数据



根据监控需求可自定义性能指标

通过简单的 TOP-DOWN 方式对数据库进行高效的监控



Threads (22)

ALIAS	ID	THREAD ID	SQLTEXT	USER	HOST	DB	ELAPSE
132(mysql)	226331	226350	delete from lock_test	root	localhost	test	
132(mysql)	226330	226349	select sleep(30) from dual	root	localhost	test	
132(mysql)	226331	226350	delete from lock_test	root	localhost	test	
132(mysql)	226330	226349	select sleep(30) from dual	root	localhost	test	
124(maria)	2940	0	SELECT 2015-03-10 14:48:...	root	192.168.123.12...	exem	

Thread Detail (132(mysql)Session ID: 226409 Thread ID: 226428) - 132(mysql) - Chrome

192.168.123.132:8070/realtime/thread_detail/index.html?&server_no=1&session_id=226409&thread_id=226428&alias=132(mysql)

[ID = 226409] - 132(mysql) (update time: 15:05:02)

OS Stat

cpu : 5
user cpu : 1.53
used memory(%) : 97.17
used swap(%) : 0.73

Name	Value
USER	root
HOST	localhost
DB	test
ELAPSED TIME(S)	30
COMMAND	Query
STATE	updating
SQLTEXT	delete from lock_test
EVENT NAME	
SOURCE	
WAIT TIME(S)	
SPINS	
OBJECT NAME	

SQL Used

```
delete from lock_test
```

Delta Info

Name	Value/Sec	Diff Value	Sigma Val
WAIT/IO/FILE/SQ/QUERY LOG	0	0	0
WAIT/SYNCH/COND/SQ/TC LOG MMAP::COND POOL	0	0	0
WAIT/SYNCH/MUTEX/SQ/LOCK OPEN	0	0	0
WAIT/SYNCH/MUTEX/MYISAMMRG/MYRG INFO::MUTEX	0	0	0
WAIT/SYNCH/MUTEX/SQ/PAGE::LOCK	0	0	0
WAIT/SYNCH/MUTEX/SQ/LOCK TABLE SHARE	0	0	0
WAIT/SYNCH/RWLOCK/SQ/MDL CONTEXT::LOCK WAITIN...	0	0	0
WAIT/IO/FILE/SQ/INIT	0	0	0
WAIT/SYNCH/MUTEX/SQ/CVERSION LOCK	0	0	0
WAIT/SYNCH/COND/SQ/DELAYED INSERT::COND CLIENT	0	0	0
WAIT/SYNCH/MUTEX/SQ/RELAY LOG INFO::LOG SPACE L...	0	0	0
WAIT/SYNCH/MUTEX/SQ/TC LOG MMAP::LOCK SYNC	0	0	0

5 | Auto Refresh On | Refresh | SQL format

根据响应时间确认Active Thread的个数

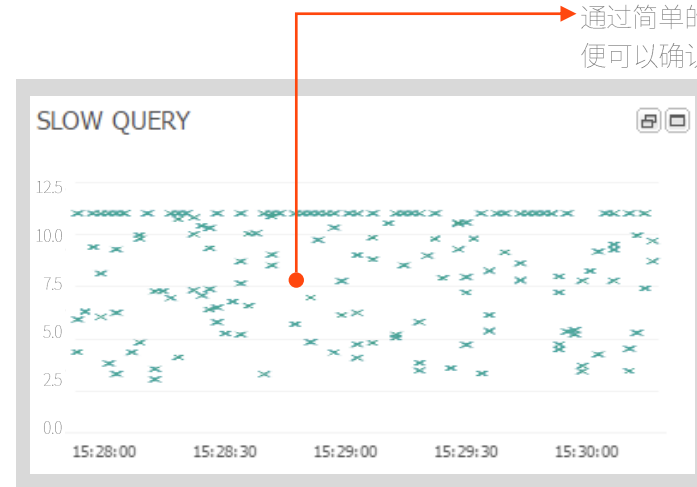
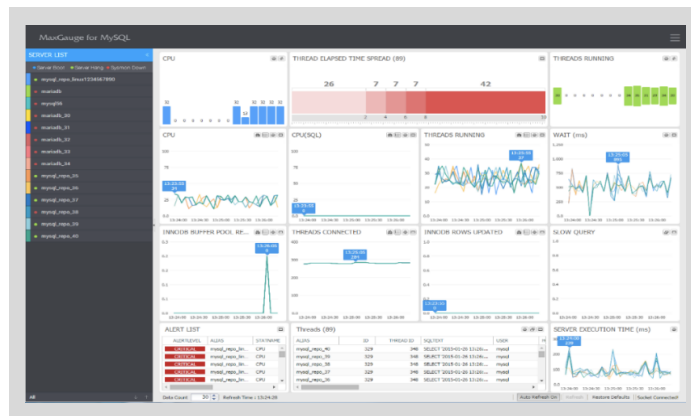
The screenshot shows the MaxGauge monitoring interface. At the top, there's a 'SERVER LIST' on the left and several charts: 'CPU (%)', 'Threads Elapsed Time Spread (24)', and 'Threads Running'. The 'Threads Elapsed Time Spread' chart shows a distribution of thread counts: 5, 5, 1, 13. Below these charts is a 'CPU' graph and an 'Alert List'.

An orange box highlights a 'Threads (17)' table. An arrow points from the table to the text '根据相应时间确认Active Thread个数'.

ALIAS	ID	THREAD ID	SQLTEXT	USER	HOST	DB	ELAPSED TIME	WAIT TIME	EVENT ID
139(slave1)	2	0		system user			22919	0	
147(slave2)	2	0		system user			22837	0	
139(slave1)	5413	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	40	0	
139(slave1)	5412	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	40	0	
139(slave1)	5411	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	40	0	
139(slave1)	5410	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	40	0	
139(slave1)	5409	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	40	0	
225(mysql)	7372	7388	select sleep(40) 'aaaaaaaaa...	root	localhost	test	24	0 32	
225(mysql)	7371	7387	select sleep(40) 'aaaaaaaaa...	root	localhost	test	24	0 32	
225(mysql)	7370	7386	select sleep(40) 'aaaaaaaaa...	root	localhost	test	24	0 32	
225(mysql)	7369	7385	select sleep(40) 'aaaaaaaaa...	root	localhost	test	24	0 32	
225(mysql)	7368	7384	select sleep(40) 'aaaaaaaaa...	root	localhost	test	24	0 32	
139(slave1)	5418	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	20	0	
139(slave1)	5417	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	20	0	
139(slave1)	5416	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	20	0	
139(slave1)	5415	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	20	0	
139(slave1)	5414	0	select sleep(40) 'aaaaaaaaa...	root	localhost	test	20	0	

根据相应时间确认Active Thread个数

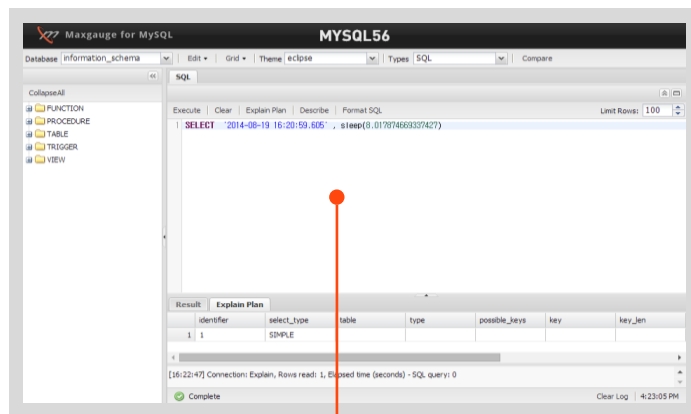
通过Real-Time Monitor Xview 进行SLOW QUERY分析



通过简单的拖拽
便可以确认想要确认的区间的详细信息。

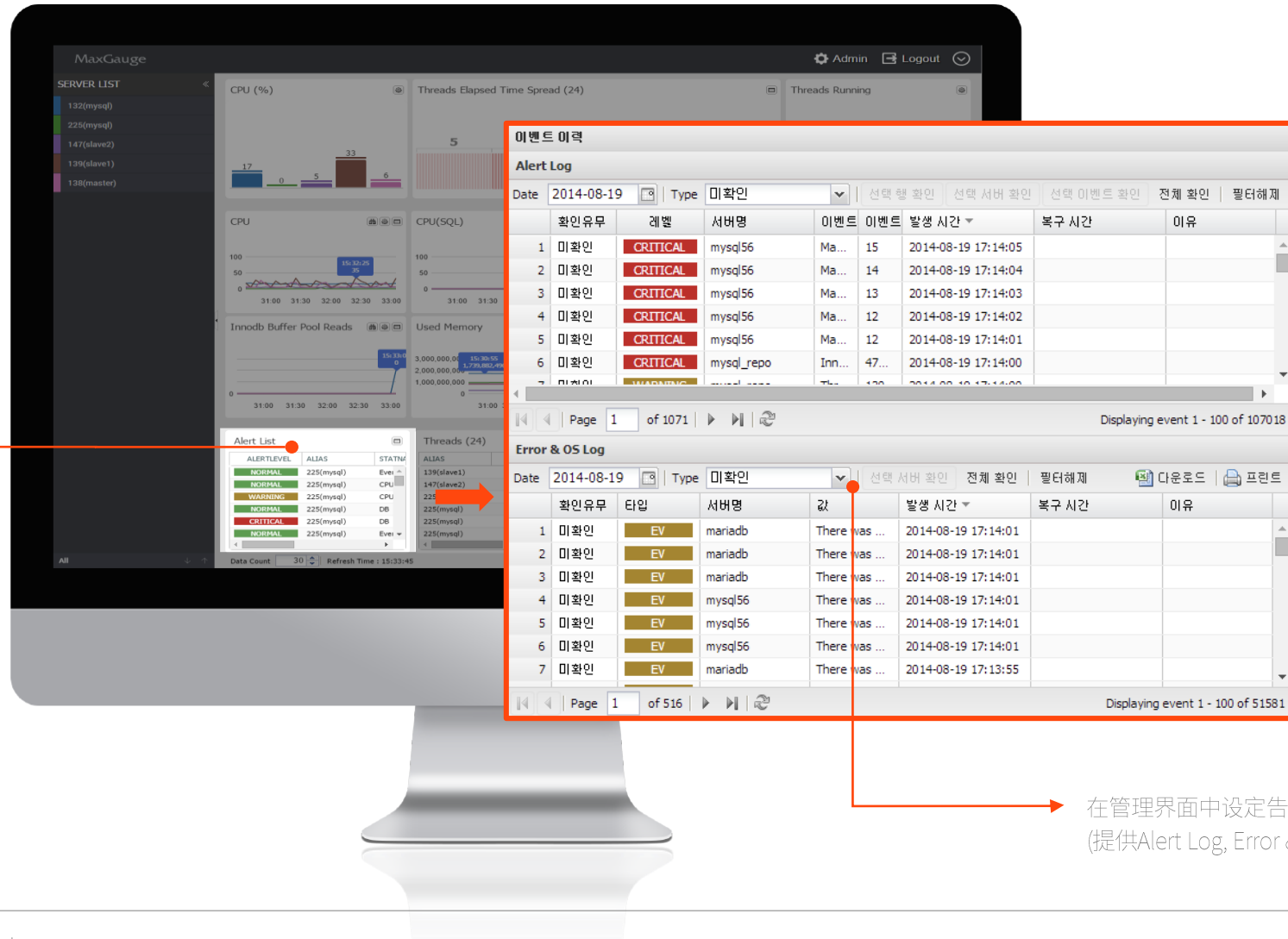


ALIAS	LOGTIME	USER	HOST	SQLTEXT	QUERY TIME SEC	START TIME	SQL TEXT ID	ROWS SENT	ROWS EXAMINED
124(maria)	2015-03-10 15:08:36.838	root	root	SELECT 2015-0...	12.1	2015-03-10 15:08:36.838	1347695759446	1	0
124(maria)	2015-03-10 15:08:37.000	root	root	SELECT 2015-0...	13.6	2015-03-10 15:08:37.000	6887037317022	1	0
124(maria)	2015-03-10 15:08:37.162	root	root	SELECT 2015-0...	11.81	2015-03-10 15:08:37.162	3137516698758	1	0
124(maria)	2015-03-10 15:08:37.324	root	root	SELECT 2015-0...	10.52	2015-03-10 15:08:37.324	8338113861485	1	0
124(maria)	2015-03-10 15:08:37.486	root	root	SELECT 2015-0...	11.31	2015-03-10 15:08:37.486	4364440159113	1	0
124(maria)	2015-03-10 15:08:37.648	root	root	SELECT 2015-0...	15.75	2015-03-10 15:08:37.648	1762463267512	1	0
124(maria)	2015-03-10 15:08:37.810	root	root	SELECT 2015-0...	12.24	2015-03-10 15:08:37.810	1175247656986	1	0
124(maria)	2015-03-10 15:08:37.972	root	root	SELECT 2015-0...	11.88	2015-03-10 15:08:37.972	2079782250482	1	0
124(maria)	2015-03-10 15:08:38.134	root	root	SELECT 2015-0...	12.46	2015-03-10 15:08:38.134	915781455207	1	0
124(maria)	2015-03-10 15:08:38.296	root	root	SELECT 2015-0...	15.91	2015-03-10 15:08:38.296	911549999510	1	0
124(maria)	2015-03-10 15:08:38.458	root	root	SELECT 2015-0...	14.63	2015-03-10 15:08:38.458	6671091797576	1	0
124(maria)	2015-03-10 15:08:38.620	root	root	SELECT 2015-0...	12.36	2015-03-10 15:08:38.620	925921216254	1	0
124(maria)	2015-03-10 15:08:38.782	root	root	SELECT 2015-0...	11.46	2015-03-10 15:08:38.782	1776167733551	1	0
124(maria)	2015-03-10 15:08:38.944	root	root	SELECT 2015-0...	15.74	2015-03-10 15:08:38.944	6159745813526	1	0
124(maria)	2015-03-10 15:08:39.106	root	root	SELECT 2015-0...	11.82	2015-03-10 15:08:39.106	1707738303487	1	0
124(maria)	2015-03-10 15:08:39.268	root	root	use text: select...	30	2015-03-10 15:08:39.268	1697381489442	1	0
124(maria)	2015-03-10 15:08:39.430	root	root	use enum: SELE...	10.75	2015-03-10 15:08:39.430	3624985709465	1	0
124(maria)	2015-03-10 15:08:39.592	root	root	SELECT 2015-0...	12.46	2015-03-10 15:08:39.592	4080722914594	1	0
124(maria)	2015-03-10 15:08:39.754	root	root	SELECT 2015-0...	14.08	2015-03-10 15:08:39.754	1789141462462	1	0
124(maria)	2015-03-10 15:08:39.916	root	root	SELECT 2015-0...	10.08	2015-03-10 15:08:39.916	486301670473	1	0
124(maria)	2015-03-10 15:08:39.078	root	root	SELECT 2015-0...	15.17	2015-03-10 15:08:39.078	1020126903441	1	0
124(maria)	2015-03-10 15:08:39.240	root	root	SELECT 2015-0...	15.42	2015-03-10 15:08:39.240	1281577998764	1	0
124(maria)	2015-03-10 15:08:39.402	root	root	SELECT 2015-0...	12.92	2015-03-10 15:08:39.402	1644020777124	1	0
220(mysql)	2015-03-10 15:08:39.564	root	root	select @@prog_id...	30	2015-03-10 15:08:39.564	8712252872523	1	0
124(maria)	2015-03-10 15:08:39.726	root	root	SELECT 2015-0...	14.43	2015-03-10 15:08:39.726	6196203871438	1	0



可以确认拖拽的时间范围内包含的Slow Query List
可确认SQL命令文和执行计划

可确认用户设定的临界值的Alarm 历史记录



通过 ‘Tools’ 确认特定实例的Lock / Session / Parameter信息

右键点击

发生Lock时
提供Holder/Waiter 信息

通过条件检索
可进行会话群组监控

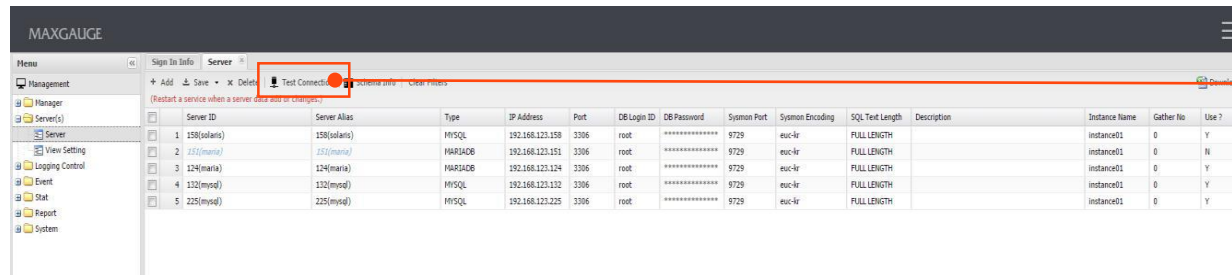
提供所查询实例的
Parameter List

HOLDER TRX_ID	ID	THRFAID	LOCK TRX_ID	LOCK MODE	LOCK TYPE	LOCK TABLE	LOCK PAGE	LOCK REC	LOCK USER	DB	ELAPSED TIME	SQL TEXT	
Holder	226505	226524	32541	X	RECORD	test..	3	2	root	test	7	select	
	32541235	226506	226525	32541	X	RECORD	test..	3	2	root	test	7	delete

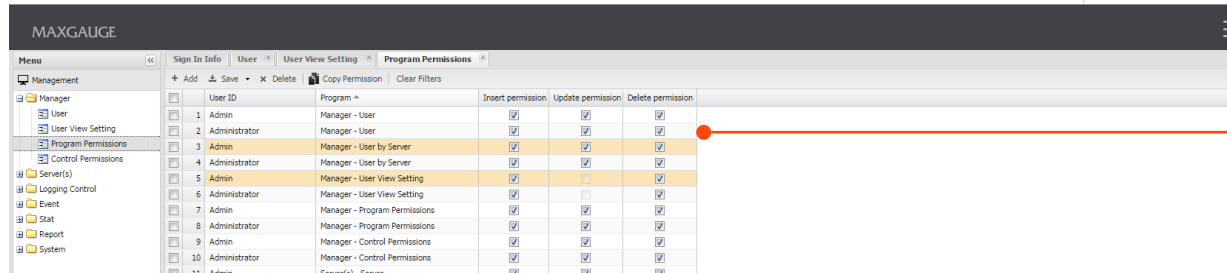
ID	THREAD ID	USER	HOST	DB	ELAPSED TIME	WAIT TIME	EVENT ID
1	226506	226525	root	localhost	test	6	
2	226505	226524	root	localhost	test	6	

NAME	VALUE
auto_increment_increment	1
auto_increment_offset	1
autocommit	ON
automatic_sp_privileges	ON
back_log	80
basedir	/usr
log_bin	OFF
bind_address	*
binlog_cache_size	32768
binlog_checksum	CRC32
binlog_direct_non_transactional_updates	OFF
binlog_flush	STATEMENT
binlog_max_flush_queue_time	0
binlog_order_commits	ON
binlog_row_image	FULL
binlog_row_peek_events	OFF
binlog_stmt_cache_size	32768
binlog_stmt_compression	OFF
binlog_stmt_compression_mode	IGNORE_ERROR
block_encryption_mode	aes-128-ecb
bulk_insert_buffer_size	8388608
character_set_client	utf8
character_set_connection	utf8
character_set_database	utf8
character_set_filesystem	binary
character_set_results	utf8

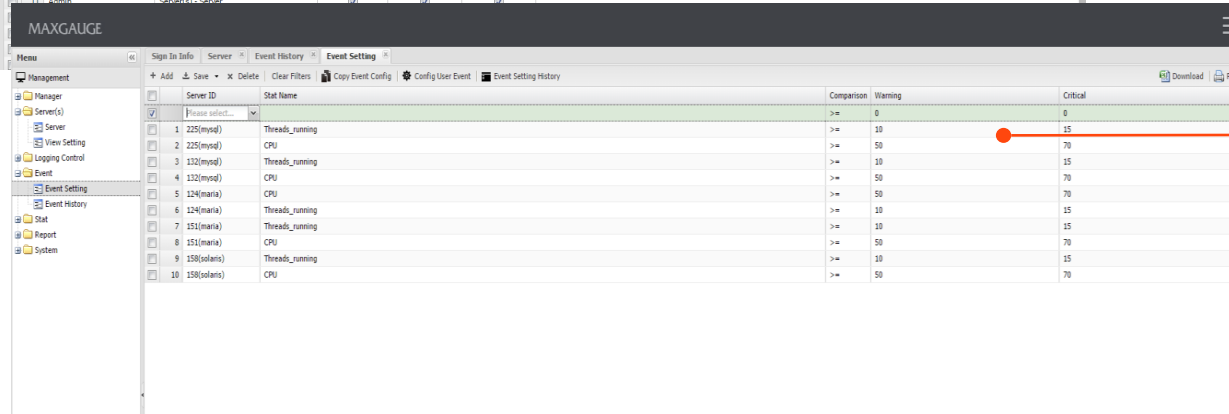
通过Admin功能简便的管理MaxGauge



简单快捷的登录服务器 & Test Connection

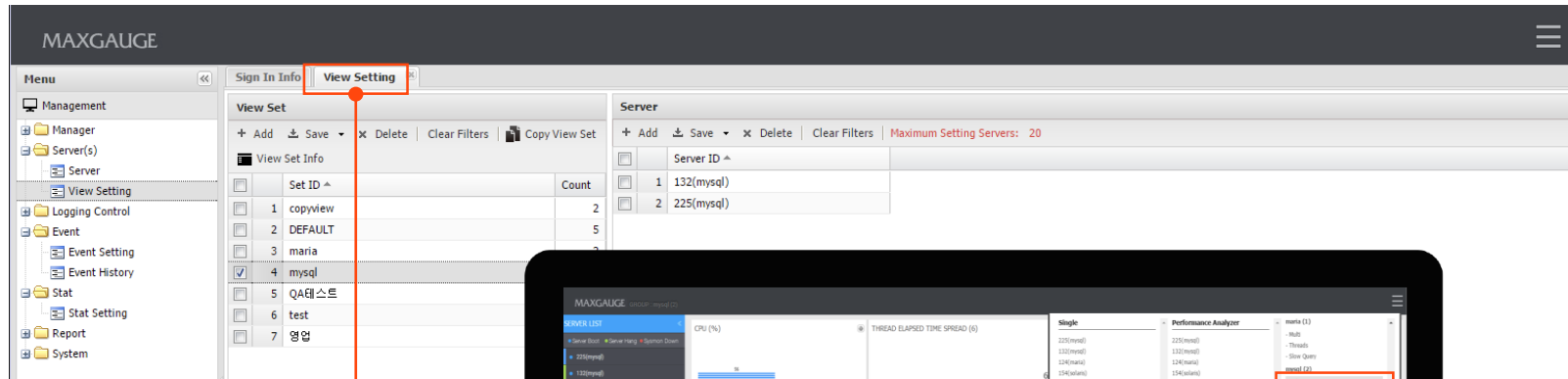


添加用户并赋予权限

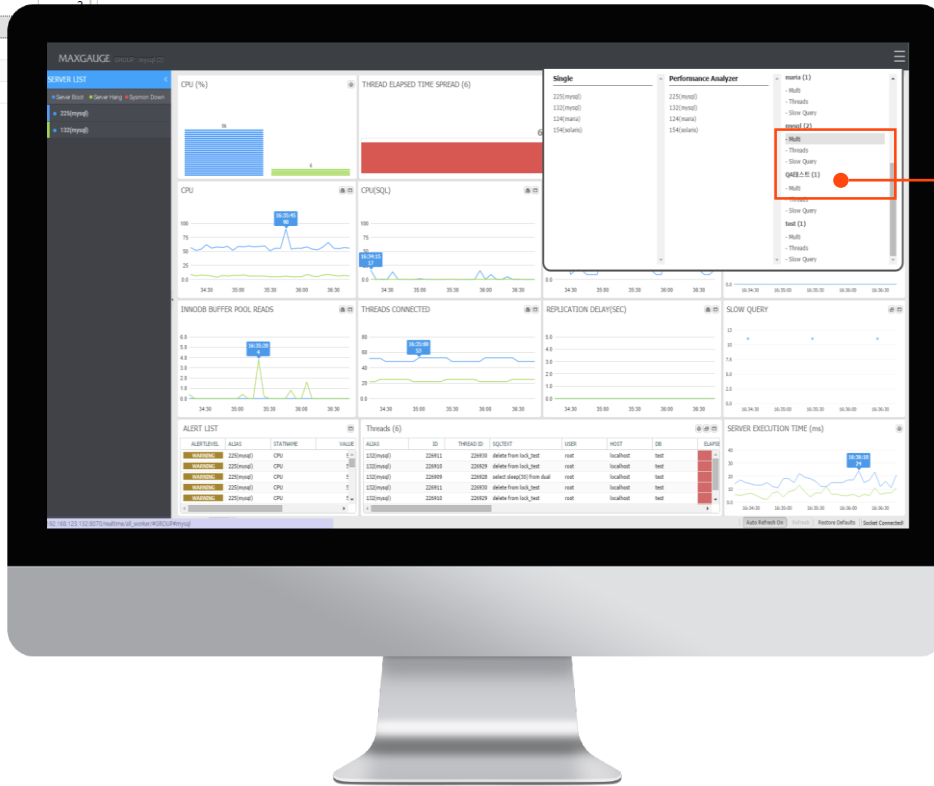


简单的临界值设定

按照业务实例进行 Admin Group 管理



在View Setting界面中
对业务实例进行分组管理



可以在特定的Group
Multi View中进行确认

分析资料库中存储数据的Performance Analyzer功能

MAXGAUGE

225mysqld

< 00:00:00 >

2015

09

MAR

Instance List

- DEFAULT
- 225mysqld
- 132mysqld
- 124maria
- 148iodarid
- QARE스르
- 124maria
- maria
- 134maria

OK

Critical: 308

Warning: 16,767

Log告警数量

选择Log日期

选择Log实例

Active Thread信息

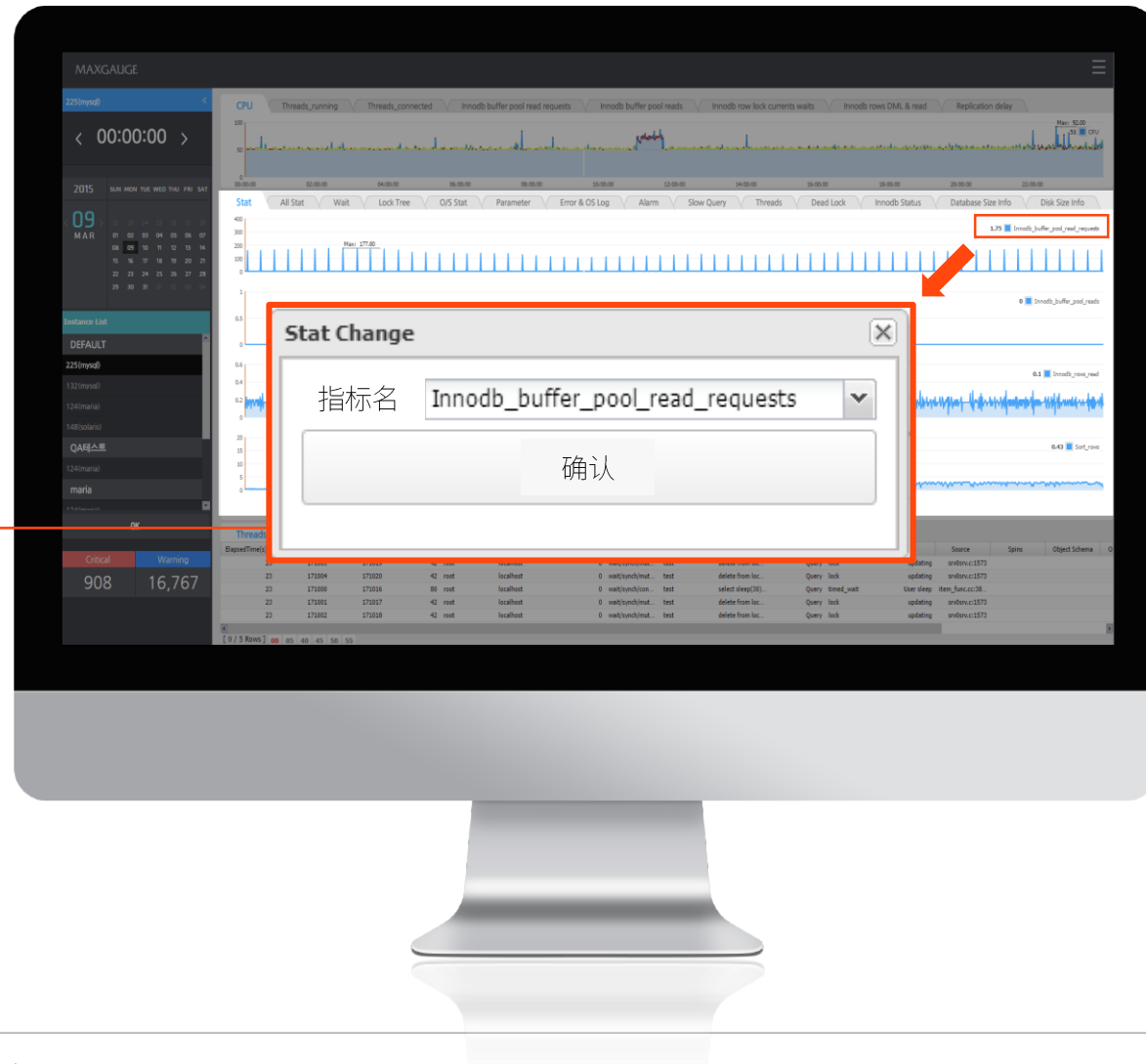
主要指标Log图表

Log详细指标图表

Process List

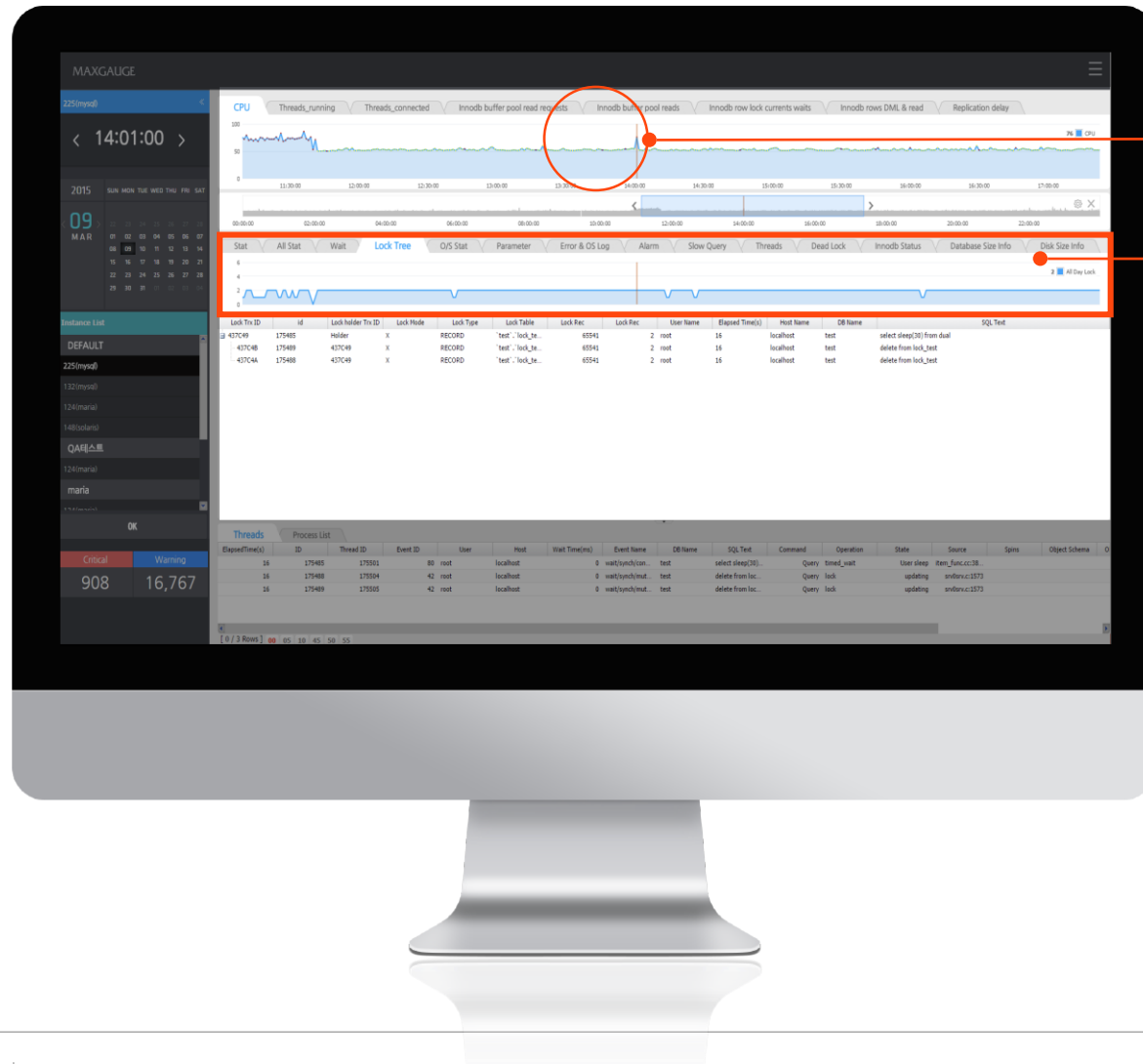
ElapsedTime(s)	ID	Thread ID	Event ID	User	Host	Wait Time(s)	Event Name	DB Name	SQL Text	Command	Operation	State	Source	Spins	Object Schema
23	171803	171819	42	root	localhost	0	wait/synch/mut.	test	delete from loc.	Query lock	updating	and/or:c:1573			
23	171804	171820	42	root	localhost	0	wait/synch/mut.	test	delete from loc.	Query lock	updating	and/or:c:1573			
23	171805	171816	88	root	localhost	0	wait/synch/con.	test	select sleep(30).	Query	sleep	Item_junc:158			
23	171802	171817	42	root	localhost	0	wait/synch/mut.	test	delete from loc.	Query lock	updating	and/or:c:1573			
23	171802	171818	42	root	localhost	0	wait/synch/mut.	test	delete from loc.	Query lock	updating	and/or:c:1573			

提供MySQL中所有的性能指标



用户可以自主变更需要查看的指标

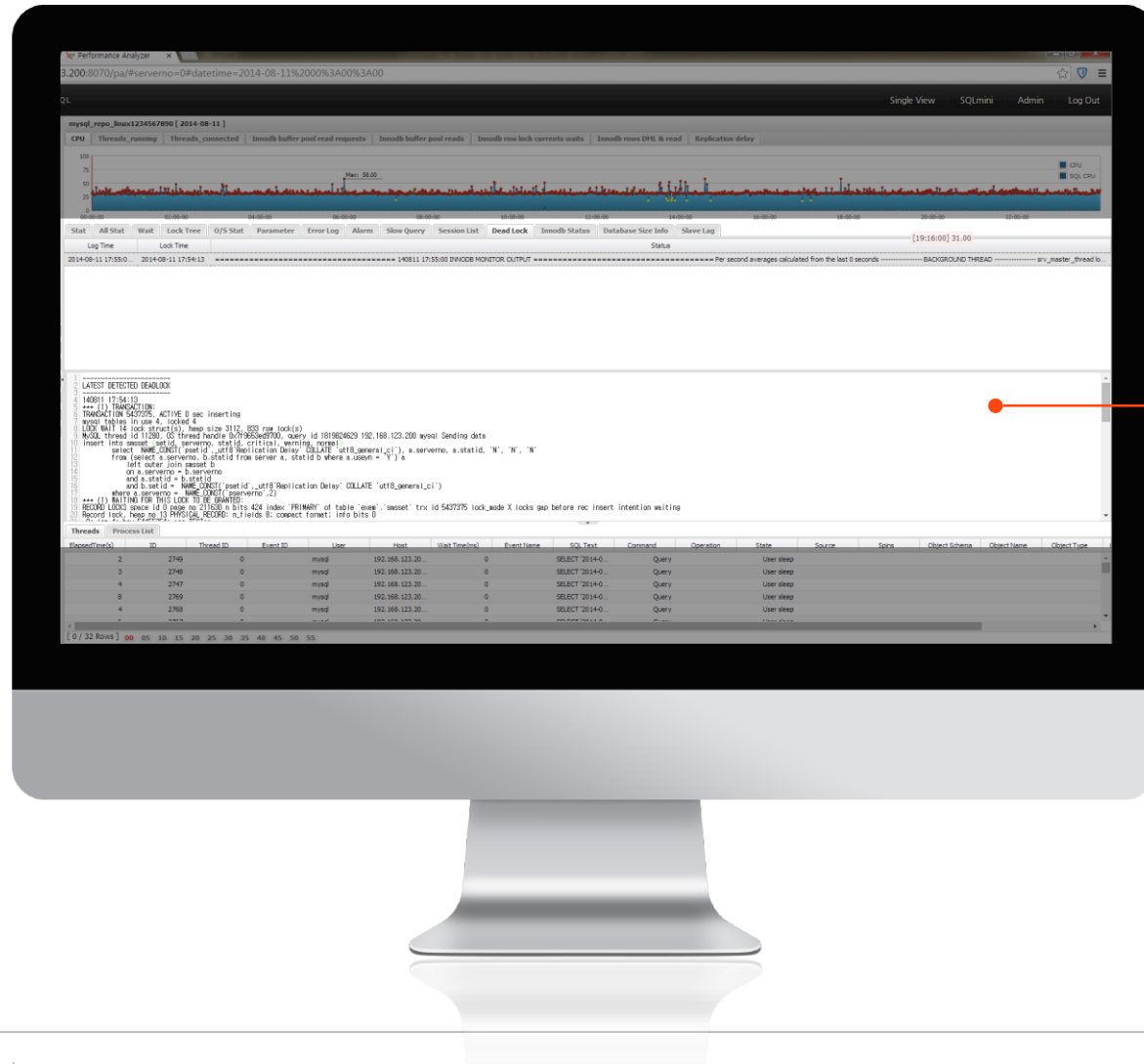
提功所查看时间点的 LOCK历史，以tree结构展示



通过拖拽
可以对某时间点进行详细分析

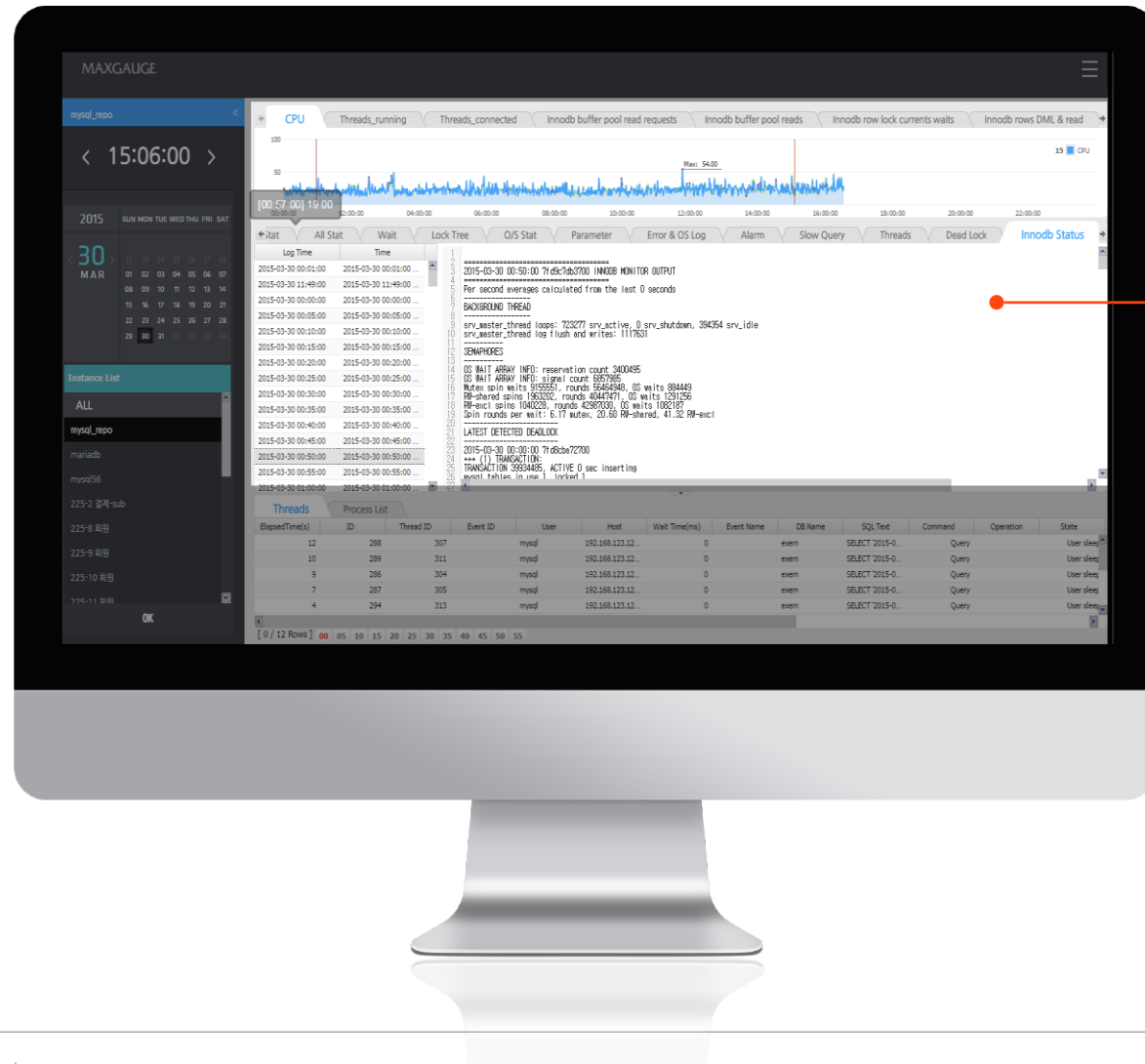
可以确认某时间点
Lock Tree 情况

通过实时LOCK等待关系分析，检出 Dead Lock



可以确认
Dead Lock发生历史

提供实时InnoDB Status 信息



InnoDB Status
信息以5分钟为周期储存

以TOP-DOWN方式分析特定时间点的SLOW QUERY

① 用鼠标拖拽特定时间区间，即可确认该时段 Slow Query 的详细信息

LogTime	Start Time	User Host	Query Time	Lock Time	Rows Sent	Rows Examined	Server ID	SQL Text
2015-03-09 15:03:45	2015-03-09 15:01:14	root[root] @ [192.168.123.128]	00:00:13	00:00:00	1	0	0	SELECT 2015-03-09 15:03:36.695', sleep(13.486022661797664);
2015-03-09 15:03:49	2015-03-09 15:01:16	root[root] @ [192.168.123.128]	00:00:15	00:00:00	1	0	0	SELECT 2015-03-09 15:03:38.085', sleep(15.908852082501153);
2015-03-09 15:03:51	2015-03-09 15:01:20	root[root] @ [192.168.123.128]	00:00:12	00:00:00	1	0	0	SELECT 2015-03-09 15:03:42.826', sleep(12.867570291411136);
2015-03-09 15:03:55	2015-03-09 15:01:23	root[root] @ [192.168.123.128]	00:00:14	00:00:00	1	0	0	SELECT 2015-03-09 15:03:45.504', sleep(14.845645566104276);

② 双击需要进一步确认的 Slow Query 可以确认该 SQL 的详细信息

Plan View - Chrome

192.168.123.132:8070/sqlm/planView.html

Plan Refresh | Format SQL

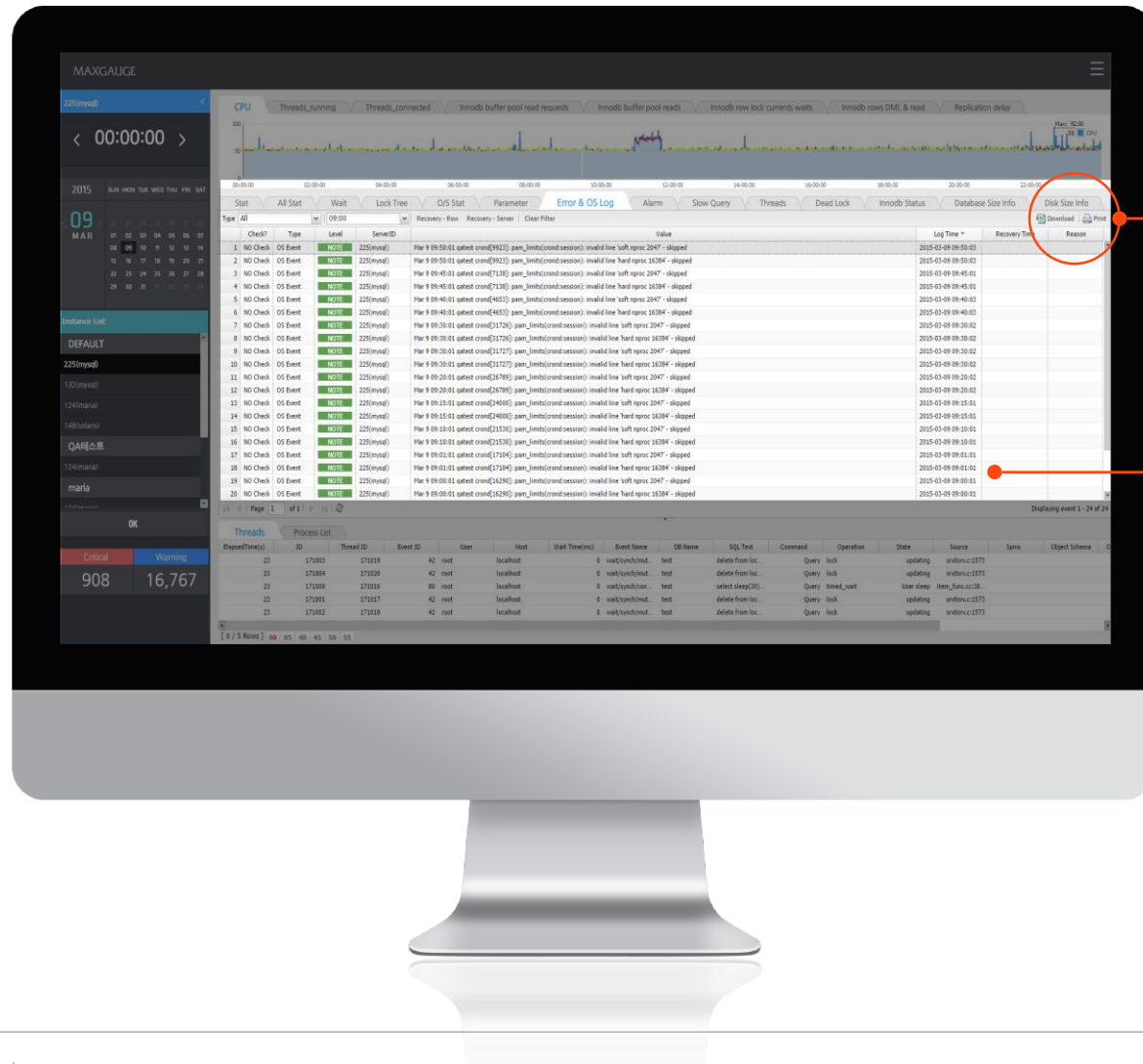
```

SELECT
  2015-03-09 15:03:36.695',
  sleep(13.486022661797664);
    
```

identifier	select_type	table	type	possible_keys	key	key_len	ref	rows	filtered
1	SIMPLE								



提供Excel EXPORT, 方便 ERROR/EVENT日志的收集以及查询



相关内容可以直接下载/
打印成Excel表格



可以收集/查询
Event和Event日志

Enterprise Management System

ALERT & MONITORING
EXEM DASHBOARD



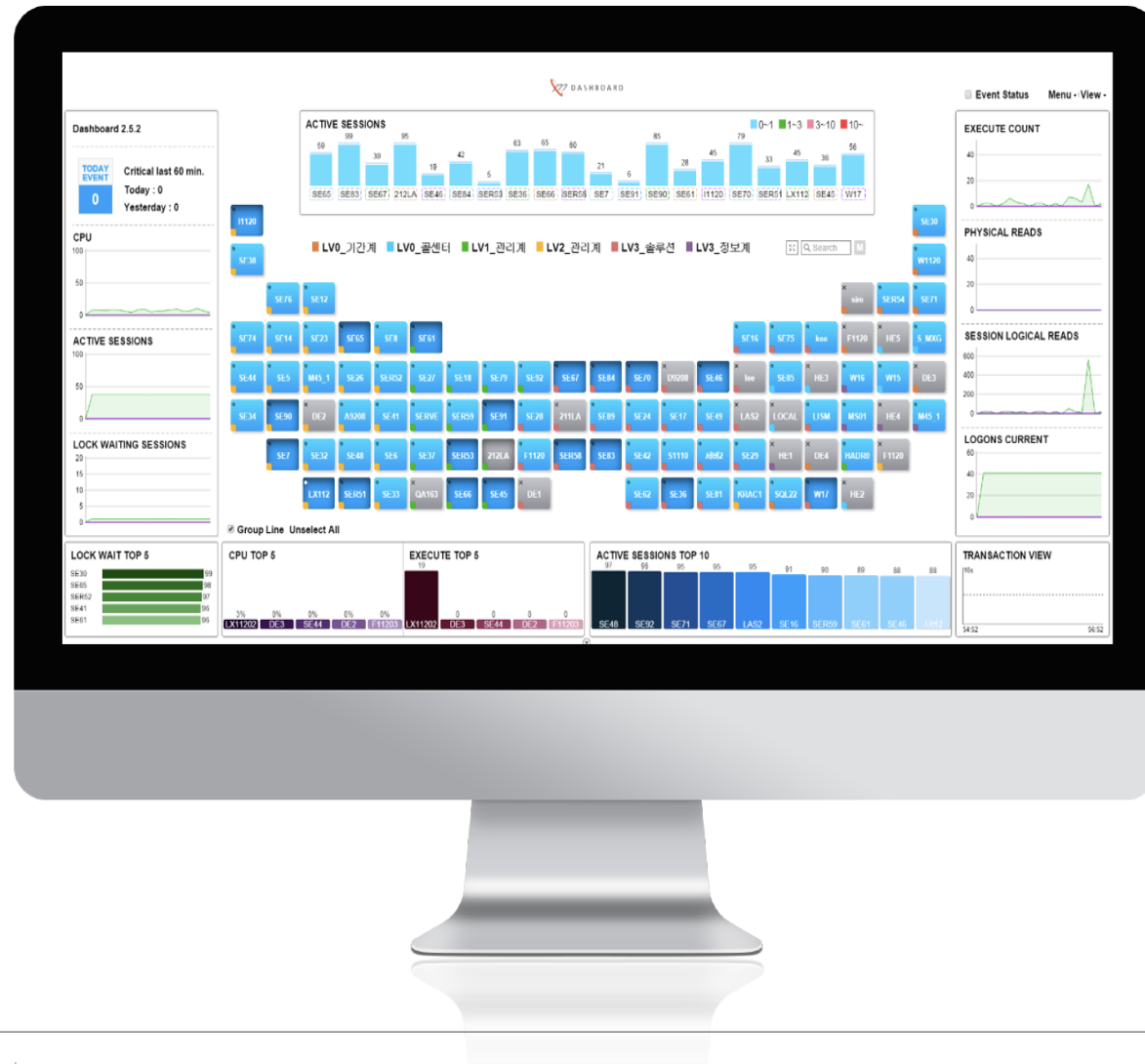
通过设置的告警信息迅速的应对问题

可以对MySQL中提供的所有STAT以及EVENT进行告警设定，通过告警可以迅速的判断问题



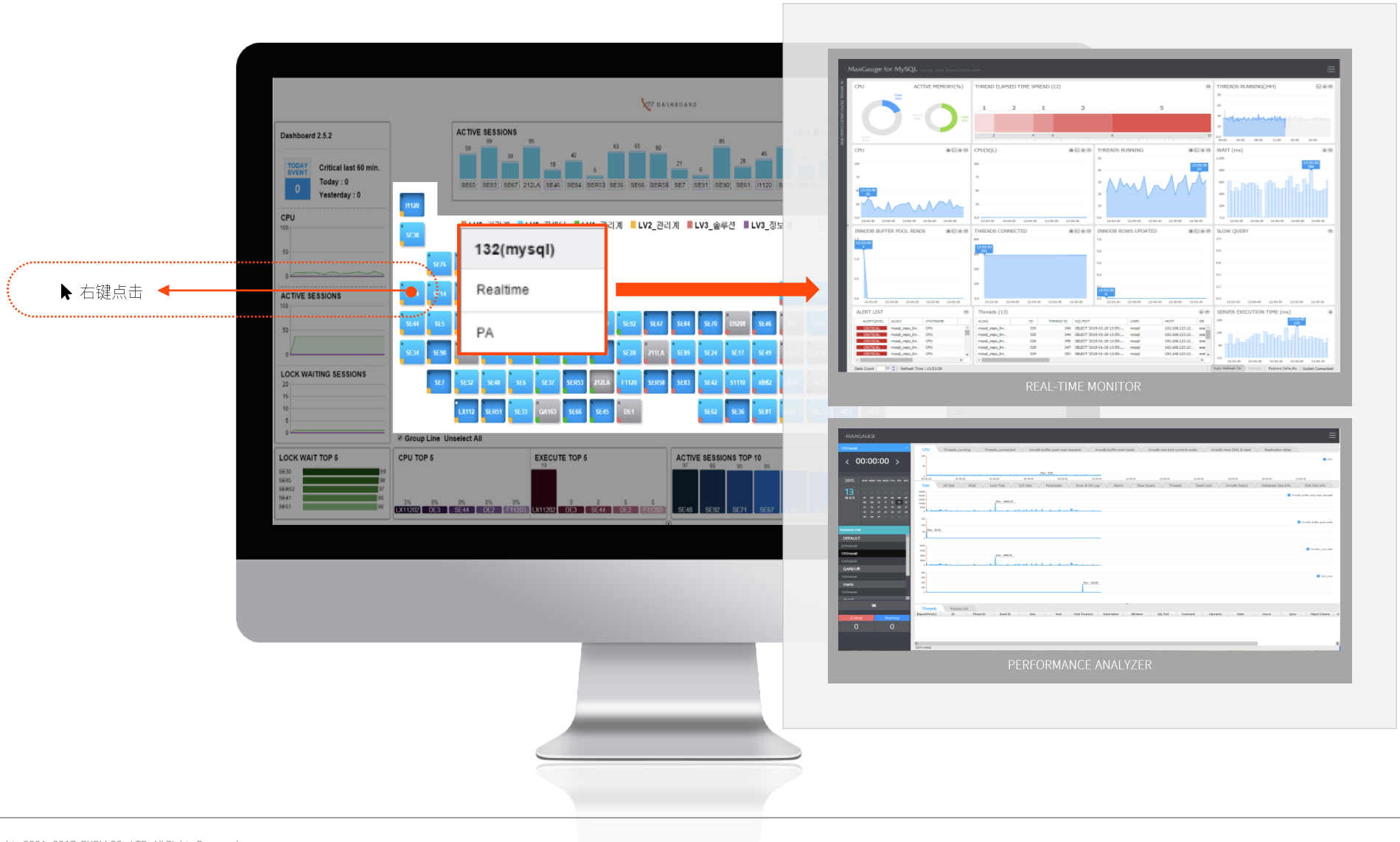
通过EXEM Dashboard整体确认多个实例的‘健康状况’

EXEM Dashboard 3.0最多可以在一个界面上实时管理140个的实例，用户可以通过该监控画面整体确认系统多个实例的性能状况。



Real-Time Monitor / PA强大的关联分析功能

在Dashboard中右键特定的某个实例，就可以移动到该实例相关的Real-Time Monitor或者Performance Analyzer界面进行系统的查看。



提供Dashboard中登录的所有实例的Event历史记录/统计信息记录

可以确认所有登录实例的‘Event历史记录’和‘Event统计信息’

The screenshot displays the EXEM Dashboard interface with a table of event records. Red arrows point to specific features:

- 管理菜单 (Management Menu):** Points to the left sidebar navigation menu.
- 服务器目录 (Server Directory):** Points to the top right area of the dashboard.
- 登录实例的历史Event目录 (Event Directory of Logged Instance):** Points to the main table of event records.
- Event历史记录确认窗口 (Event History Confirmation Window):** Points to a pop-up window at the bottom of the screen showing details for a specific event.
- 当前发生的Event目录 (Event Directory of Currently Occurring Event):** Points to the event record at the bottom of the table.

序号	实例ID	实例名	IP地址	登录时间	退出时间	登录失败	退出失败	登录失败原因	退出失败原因
1	132(mysq)	Thread_running	192.168.123.132	2015-03-11 08:26:23					
2	132(mysq)	Thread_running	192.168.123.132	2015-03-11 08:23:05					
3	132(mysq)	Thread_running	192.168.123.132	2015-03-11 08:23:05					
4	132(mysq)	Thread_running	192.168.123.132	2015-03-11 05:46:49					
5	132(mysq)	Thread_running	192.168.123.132	2015-03-11 04:07:50					
6	132(mysq)	Thread_running	192.168.123.132	2015-03-11 03:07:40					
7	132(mysq)	Thread_running	192.168.123.132	2015-03-11 02:37:50					
8	132(mysq)	Thread_running	192.168.123.132	2015-03-11 01:07:45					
9	132(mysq)	Thread_running	192.168.123.132	2015-03-10 21:56:45					
10	132(mysq)	Thread_running	192.168.123.132	2015-03-10 18:25:30					
11	132(mysq)	Thread_running	192.168.123.132	2015-03-10 15:04:50					
12	132(mysq)	Thread_running	192.168.123.132	2015-03-10 15:04:30					
13	132(mysq)	Thread_running	192.168.123.132	2015-03-10 14:31:30					
14	132(mysq)	Thread_running	192.168.123.132	2015-03-10 13:40:30					
15	132(mysq)	Thread_running	192.168.123.132	2015-03-10 12:20:40					
16	132(mysq)	Thread_running	192.168.123.132	2015-03-10 09:27:40					
17	132(mysq)	Thread_running	192.168.123.132	2015-03-10 07:58:25					
18	132(mysq)	Thread_running	192.168.123.132	2015-03-10 07:09:30					
19	132(mysq)	Thread_running	192.168.123.132	2015-03-10 07:08:50					
20	132(mysq)	Thread_running	192.168.123.132	2015-03-10 07:08:40					
21	132(mysq)	Thread_running	192.168.123.132	2015-03-10 05:24:40					
22	132(mysq)	Thread_running	192.168.123.132	2015-03-10 05:23:45					
23	132(mysq)	Thread_running	192.168.123.132	2015-03-10 02:44:35					
24	132(mysq)	Thread_running	192.168.123.132	2015-03-09 21:27:40					
25	132(mysq)	Thread_running	192.168.123.132	2015-03-09 19:40:35					
26	132(mysq)	Thread_running	192.168.123.132	2015-03-09 19:01:45					
27	132(mysq)	Thread_running	192.168.123.132	2015-03-09 18:06:15					
28	225(mysq)	Thread_running	192.168.123.225	2015-03-09 17:40:05					



Thank you

