



MYTHICS™

ORACLE® Platinum
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Oracle Software. Hardware. Training. Consulting. **Mythics Complete.**

The Next Gen Monitoring



MYTHICS™

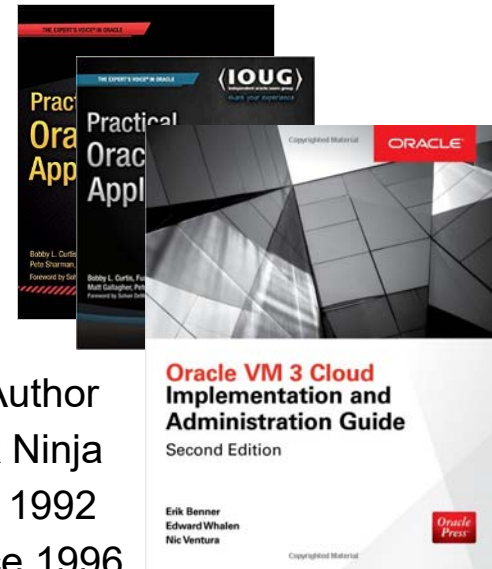
Architecture. Procurement. Training. Consulting. **Mythics Complete.**

Introduction to Erik Benner

Erik Benner  **ORACLE**
ACE Director
VP Enterprise Transformation
ebenner@mythics.com

@erik_benner 

TalesFromTheDatacenter.com
Mythics.com/blog



- ✓ Published Author
- ✓ RAC Attack Ninja
- ✓ Linux since 1992
- ✓ Solaris since 1996
- ✓ DB 12c BETA user
- ✓ Prelaunch ODA “comet”
- ✓ First Version of Oracle...7 in 1994
- ✓ ZFS since “Thumper”
- ✓ OEM 12c since Product Launch
- ✓ OAUG EM for Apps SIG co-chair
- ✓ OEM12c CAB Member
- ✓ IOUG Solaris SIG Leader





The role of the “DBA”



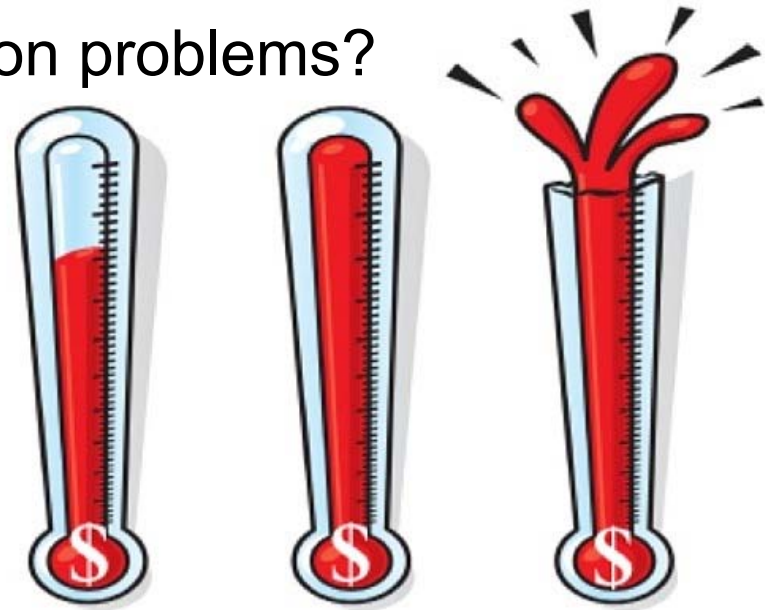
The role of the “Developer”



Systems! Management

Threshold monitoring is broken!

- High or low, does not always point to a problem
- Too many false alarms
- Sometimes it's still useful
- What if you could get alerts on problems?

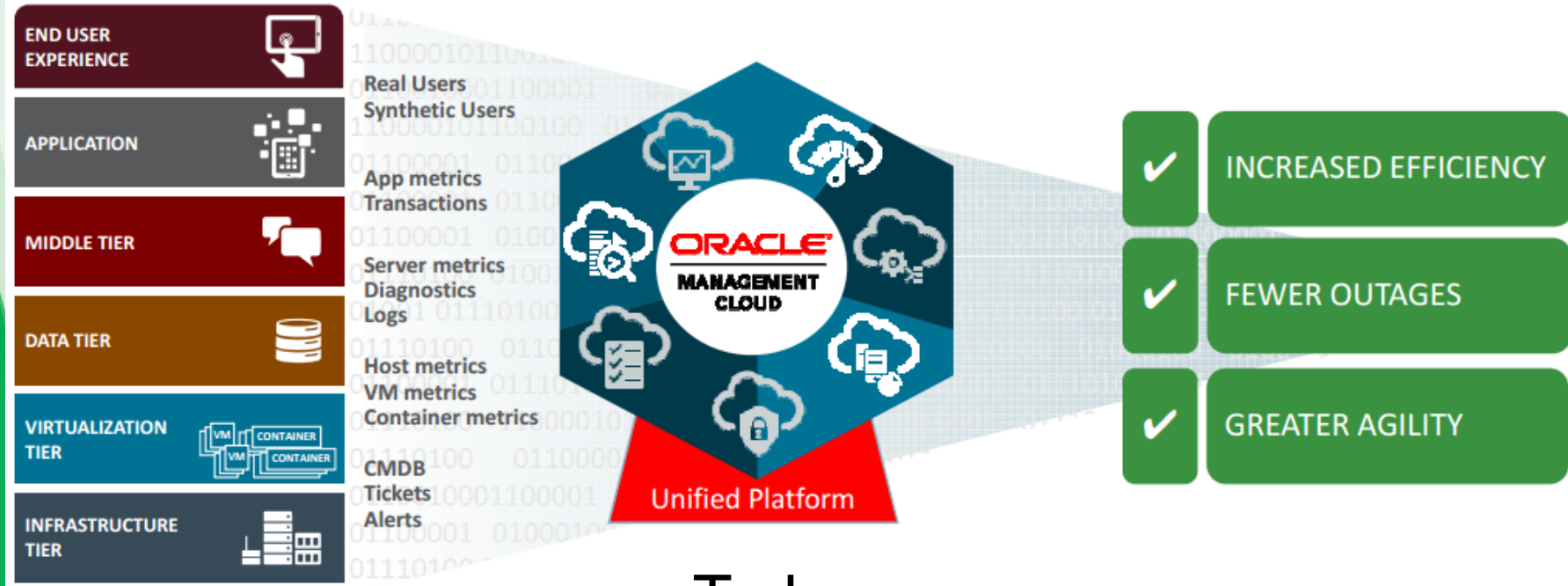


Correlation of events globally

- Temporal correlation
 - It was working fine just yesterday
- Spatial correlation
 - It was working fine in my development environment
- Trend correlation
 - Number of log events that rise or fall with some relationship



Oracle Management Cloud



Today:
OMC for the DBA

On-Premise or in the Cloud



- Identify issues for application in the **Cloud or on-Premise**
- Visibility into performance and logs on systems that are remote or siloed

- Light weight
- Rapid deployment
- Scale with the application to any level
- Zero ongoing configuration



Oracle Application Performance
Monitoring Cloud Service



What do Users care about?

Er

The screenshot shows a 'Contact Center' application window. At the top, there is a search bar and a 'View Details For' dropdown set to 'Customer: Business World'. Below this is the 'Caller Information' section with fields for First Name (Andre), Last Name (Beaulie), Type (Organization), and various contact details like phone, email, and address. A large, bold, diagonal watermark 'THE APPLICATION!' is overlaid across the center of the interface. Below the caller information is a navigation bar with tabs for Dashboard, Interactions, Notes, Tasks, Service Requests, Install Base, Orders, Accounts, Contact Points, Party Information, and Relationships. A table of 'Service Requests' is visible, with columns for Request, Date, Request Type, Status, Severity, Summary, Item, and Item. Two requests are listed: one from 13-AUG-2001 and another from 14-AUG-2001, both for 'Customer Call' with 'High' severity. Below the table is a detailed view for a specific request (10224), showing fields for Account, Group, Item, Problem, Request, Reported, Status, Severity, Instance, and Contract. A 'Note' section is also visible on the right side of the detailed view.

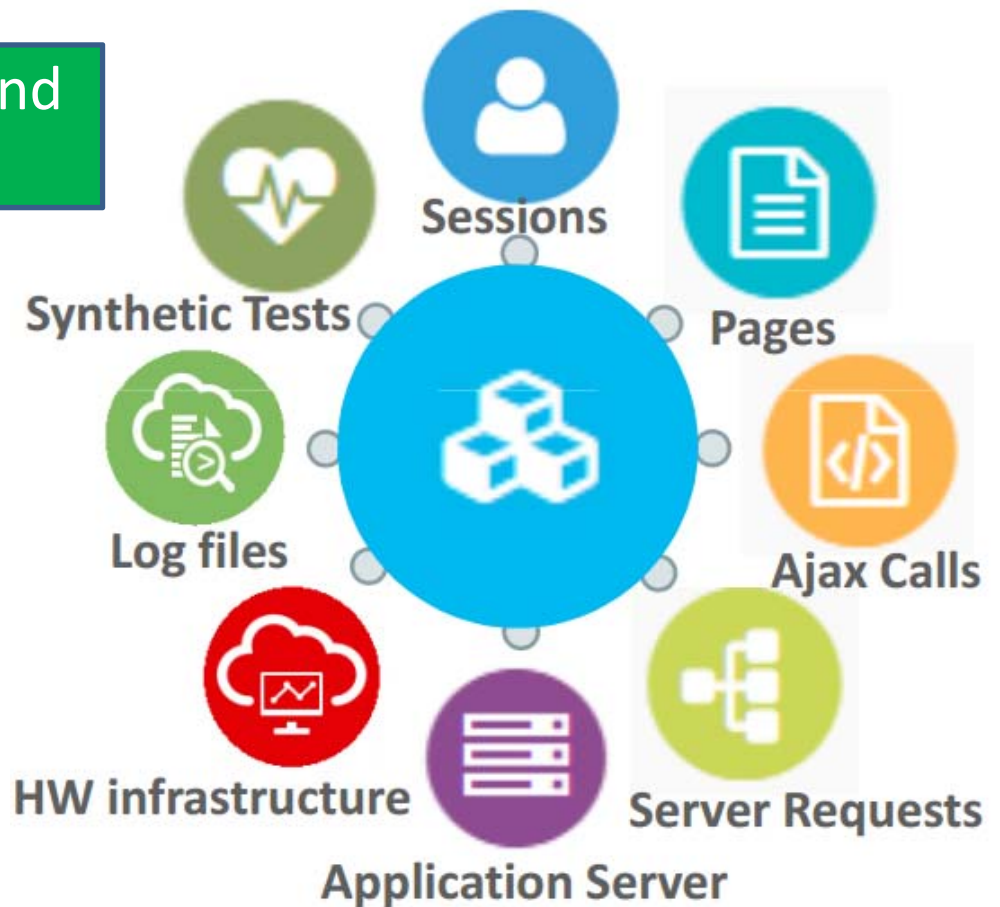
?

Application Performance Monitoring

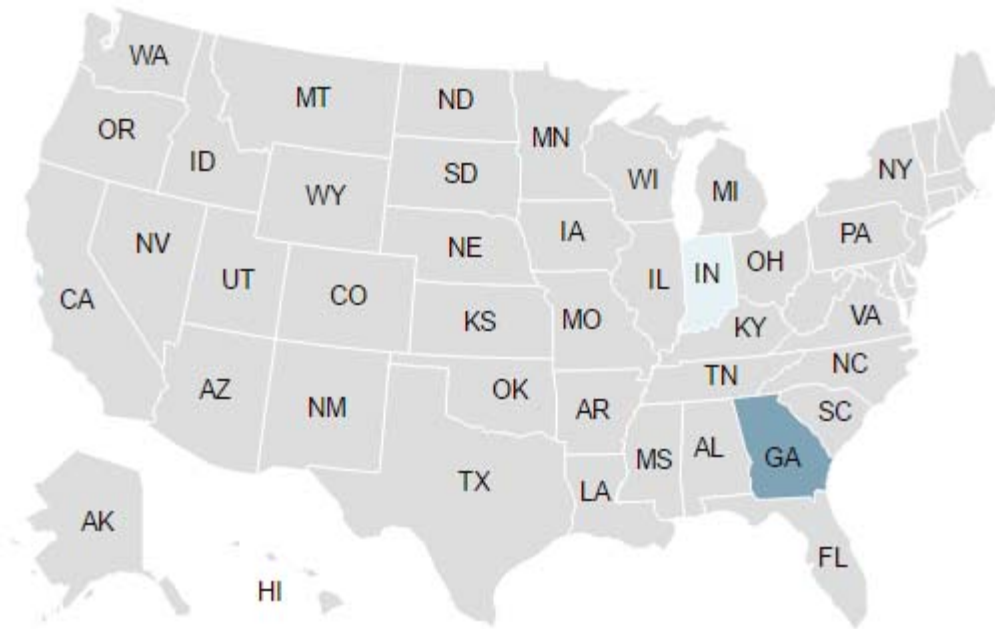
Integrated Log Analytics and Application Topology

Visibility across Silos

Automatic Infrastructure Discovery



Where are my users?



Average Response Time
472.00 ms 1.34 s

See all the session!

Sessions									
Sort Session Health									
Sep 15, 2017 4:31:32 AM	n/a	United States Location Client IP	IE 7.0 Browser Detail n/a Screen Size	Windows	8s Duration	1 Page Views	0 Ajax Errors	2 JavaScript Errors	0.63
Sep 15, 2017 11:04:52 AM	n/a	United States Location Client IP	Chrome 60.0.3112 Browser Detail 1280x720 Screen Size	Windows	5m 4s Duration	6 Page Views	1 Ajax Errors	0 JavaScript Errors	0.67
Sep 12, 2017 3:39:37 PM	n/a	United States Location Client IP	Chrome 60.0.3112 Browser Detail 1600x900 Screen Size	Windows	1m 0s Duration	9 Page Views	49 Ajax Errors	3 JavaScript Errors	0.70
Sep 15, 2017 10:59:08 AM	n/a	United States Location Client IP	Chrome 60.0.3112 Browser Detail 1920x1080 Screen Size	Windows	34m 13s Duration	5 Page Views	1 Ajax Errors	0 JavaScript Errors	0.73
Sep 15, 2017 12:48:19 PM	n/a	United States Location Client IP	Chrome 60.0.3112 Browser Detail 1600x900 Screen Size	Windows	2m 34s Duration	15 Page Views	91 Ajax Errors	1 JavaScript Errors	0.73
Sep 15, 2017 12:33:14 PM	n/a	United States Location Client IP	Chrome 60.0.3112 Browser Detail 1600x900 Screen Size	Windows	7m 39s Duration	16 Page Views	98 Ajax Errors	2 JavaScript Errors	0.74
Sep 11, 2017 9:19:14 AM	n/a	United States Location Client IP	Chrome 60.0.3112 Browser Detail 1920x1080 Screen Size	Windows	1m 18s Duration	11 Page Views	29 Ajax Errors	0 JavaScript Errors	0.74
Sep 11, 2017 5:50:46 AM	n/a	United States Location Client IP	Mozilla Browser Detail 1164x655 Screen Size	Windows	2h 17m 20s Duration	3 Page Views	0 Ajax Errors	6 JavaScript Errors	0.75

Drill down to a single session

Session
 Sep 15, 2017 12:48:19 PM
 Duration 2m 34s

Summary

Personal computer, Windows 7
 Device n/a
 Chrome 60.0.3112
 Browser Detail
 English
 Language
 1600x900 / 1600x810
 Screen / Window Size

15 Page Views
 92 / 91 Ajax Calls / Errors

7 / 7 Ajax Calls / Errors
 0 JavaScript Errors
 3 Page Clicks
 4s Viewing Time

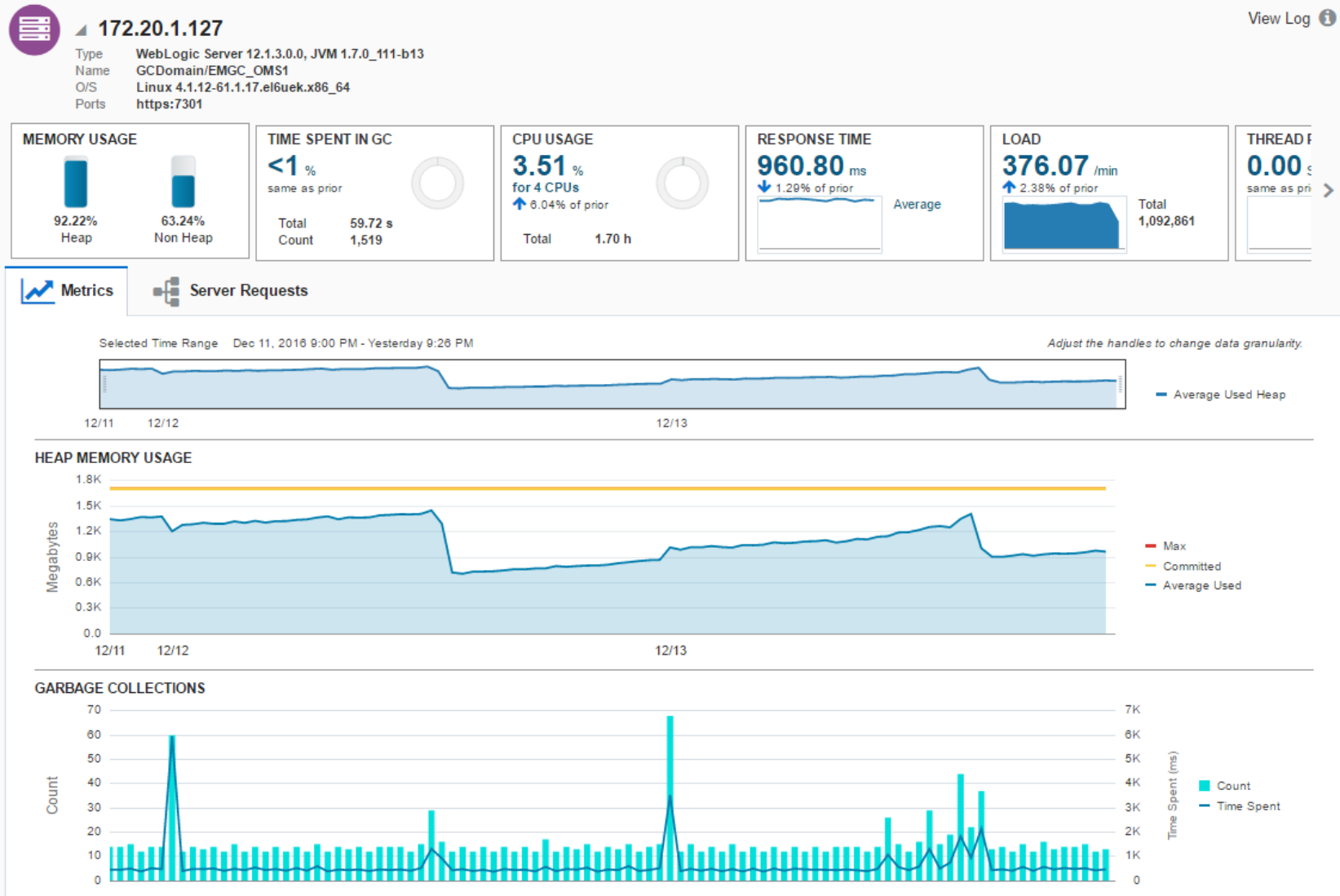
0.13 s First Byte
 0.98 s Interactive
 0.99 s Page Ready

1.00 Apdex

Timeline

Time	Event	Status	URL	Response Time
Sep 15, 2017 12:50:44 PM	Page		https://Portal»n/a	
Sep 15, 2017 12:50:45 PM	Ajax Call	404 HTTP Status	https://portaldev/f	0.05 s Call Response, 0.05 s Call Processing
Sep 15, 2017 12:50:45 PM	Ajax Call	404 HTTP Status	https://PortalPlasmaWEB»Portal»n/a Attributes	0.05 s Call Response, 0.05 s Call Processing
Sep 15, 2017 12:50:45 PM	Ajax Call	404 HTTP Status	https://PortalPlasmaWEB»Portal»n/a Attributes	0.05 s Call Response, 0.05 s Call Processing
Sep 15, 2017 12:50:45 PM	Ajax Call	404 HTTP Status	https://PortalPlasmaWEB»Portal»n/a Attributes	0.04 s Call Response, 0.04 s Call Processing
Sep 15, 2017 12:50:45 PM	Ajax Call	404 HTTP Status	https://PortalPlasmaWEB»Portal»n/a Attributes	0.04 s Call Response, 0.04 s Call Processing
Sep 15, 2017 12:50:45 PM	Ajax Call	404 HTTP Status	https://PortalPlasmaWEB»Portal»n/a Attributes	0.04 s Call Response, 0.04 s Call Processing
Sep 15, 2017 12:50:45 PM	Ajax Call	404 HTTP Status	https://PortalPlasmaWEB»Portal»n/a Attributes	0.04 s Call Response, 0.04 s Call Processing
Sep 15, 2017 12:50:48 PM	Page Click		//["@id="pokemonLarge03]2"]	
Sep 15, 2017 12:50:48 PM	Page Click		//["@id="aqLarge_03]2"]	
Sep 15, 2017 12:50:49 PM	Page Click		/html/body/div/div/article/div/div[2]/div/div[3]/div[6]/div[2]/button/i	

App Server Performance



Synthetic Transactions



Discover Topology

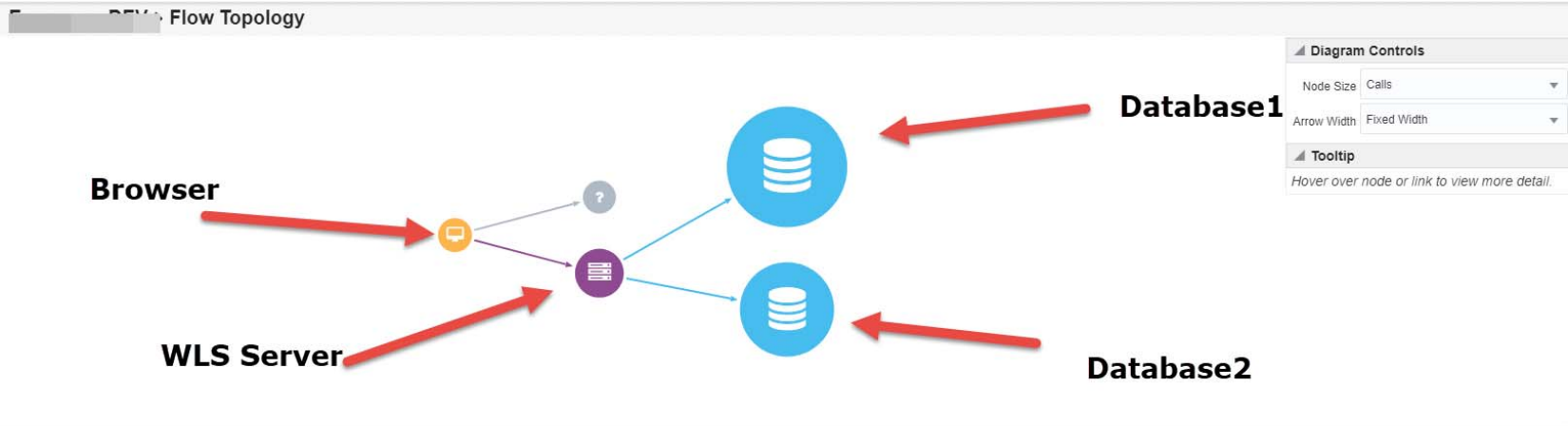


Diagram Controls

Node Size: Calls

Arrow Width: Fixed Width

Tooltip

Hover over node or link to view more detail.

Execution Flows	AppServer	Average Response Time (ms)	Total Calls	Errors
Flow starts with /		61	79	0.00 %
Flow starts with /e		44	530	0.00 %

Explore Topology

Topology

Tomcat

Database

Compute

Automatic Storage Management Instance

rs_tas2
Tomcat
Up since Aug 06, 2016 11:17 PM

3500

3499

578

506

123

5306

5299

109

95

1341

5299

100

3

Showing 1-25 of 29296

Time (UTC-7:00) ▲ Original Log Content

Aug 16, 2016, 10:00:03 PM	Aug 17 05:00:03 rs_host02.oracleleads.com nslcd[1739]: [784c56] connected to LDAP server ldap://pd-ldap-adc-01.us.oracle.com ⚙ Target = rs_host02 Target Type = Host (Linux) Log Source = Linux Syslog Logs Host Name (Server) = rs_host02.oracleleads.com
Aug 16, 2016	Aug 17 05:00:05 rs_host01.oracleleads.com abrt[27109]: Can't cd to

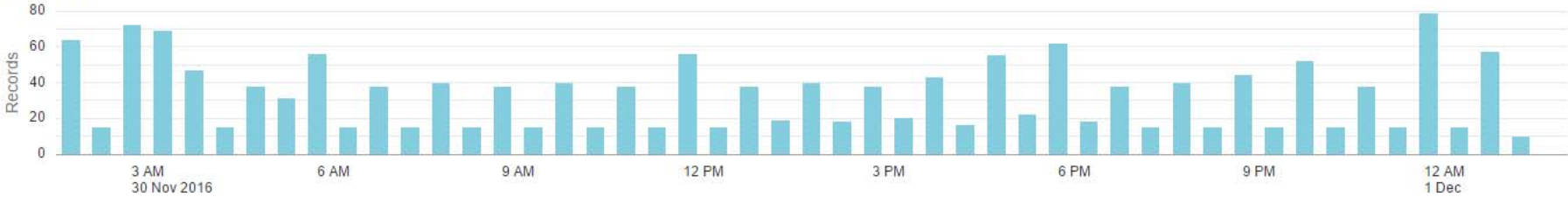
Rapidly Identify Issues



Log Analytics

Field Summary

Histogram



Showing 1-25 of 15

Time (UTC-5:00)	Entity	Entity Type	Log Source	Host Name (Server)	Severity
Dec 1, 2016, 1:30:01 AM	172.20.1.125	Host (Linux)	Linux Cron Logs	ovmmgr4	
Dec 1, 2016, 1:30:01 AM	oda4.labs.mythics.com	Host (Linux)	Linux Cron Logs	oda4	
Dec 1, 2016, 1:30:01 AM	172.20.1.127	Host (Linux)	Linux Cron Logs	x6oem	

Extracting Information from Logs is Challenging...

Log data is scattered

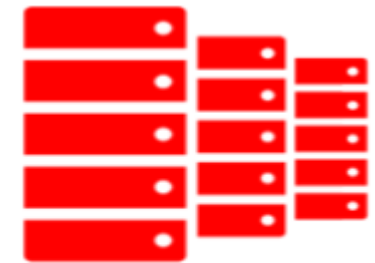
- Infrastructure, server, database, application
- Containers, VMs, Micro Services

Log data is diverse

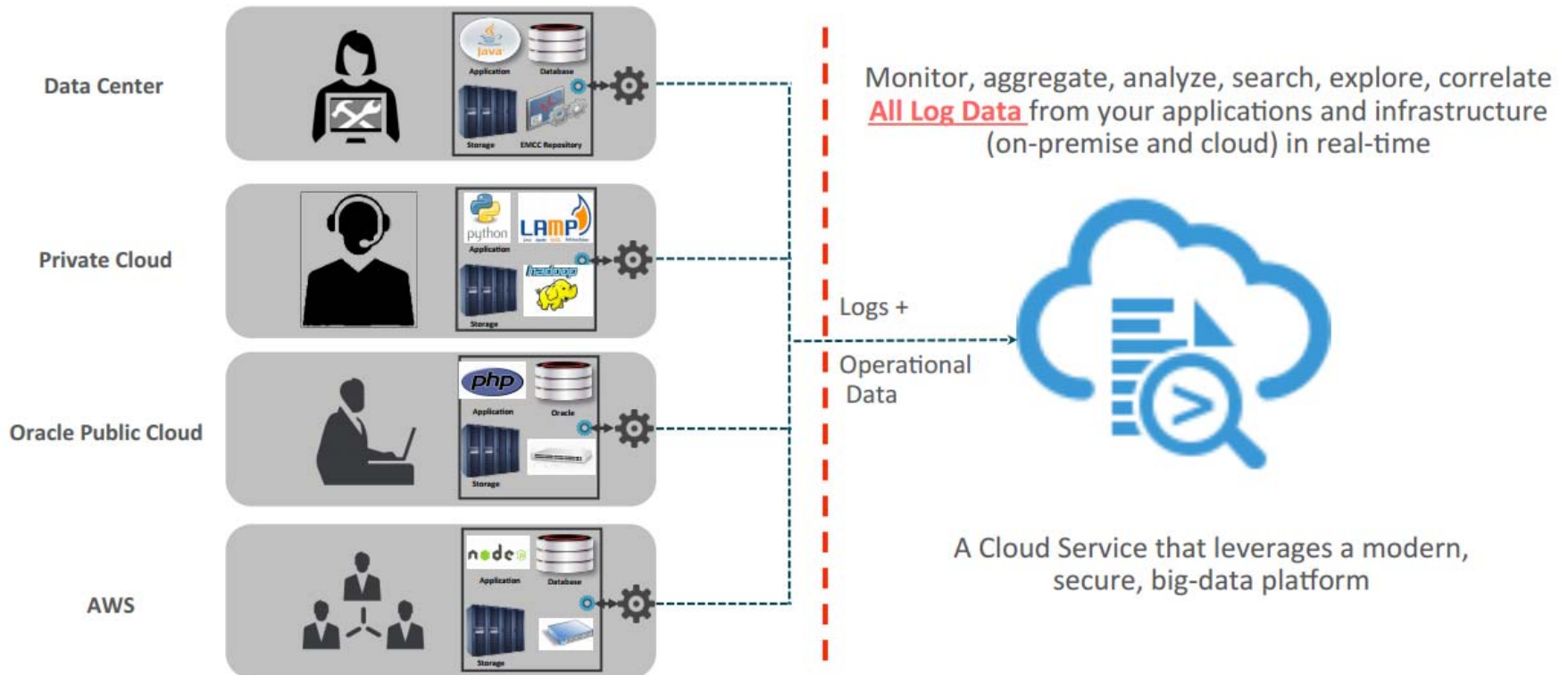
- Multiple formats
- Different locations
- Difficult to analyze

Log data is huge

- Proprietary and growing over 40% every year



Log Analytics



Extracting Insights



2015-05-10T12:59:52.212: INFO: OrderApp-3212: Order type: Failed, **Order Number** cust: 933373, order: 3997396, region: APAC



<May 10, 2015 12:59:5< **Error Message** <Server> <BEA-002608> <The Listen Thread closed because of an error>
java.sql.SQLException: **Closed Connection**
at oracle.jdbc.driver.SQLStateMapping.newSQLException(SQLStateMapping.java:70)
at processOrders.acme.com(SubmitOrder.java:112)

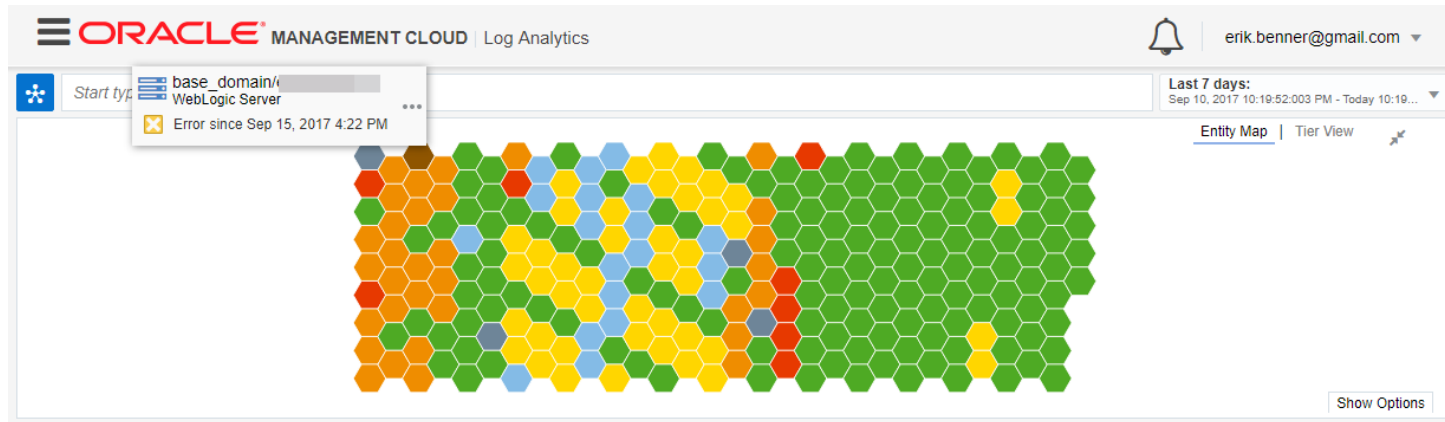


Time Stamp
Mon Aug 17 09:37:31 PDT 2016 Errors in file /ora_db_home/app/oracle/admin/ORCL/bdump/orcl1_dw04_1297.trc:
ORA-00600: internal error code, arguments: [kghstack_underflow_internal_3], [0x2AFA326CAFC0], [rpi role space],
[], [], [], [], [] ORA-19502: write error on file "/ora_common/orcl/exports/daily/orcl_full_20160718_05.exp", blockno
560899 (blocksize=4096) ORA-27072: File I/O error Linux-x86_64 Error: 28: No space left on device



May 10, 2015 22:04:29 myhost.acme.com: router dnsprobe[276]: dns query failed
May 10, 2015 22:04:30 myhost.acme.com: router dnsprobe[276]: Primary DNS server Is Down... Switching To
Secondary DNS server **Host Name**
May 10, 2015 22:04:30 myhost.acme.com: router dnsprobe[276]: Switching Back To Primary DNS server

Efficient Troubleshooting



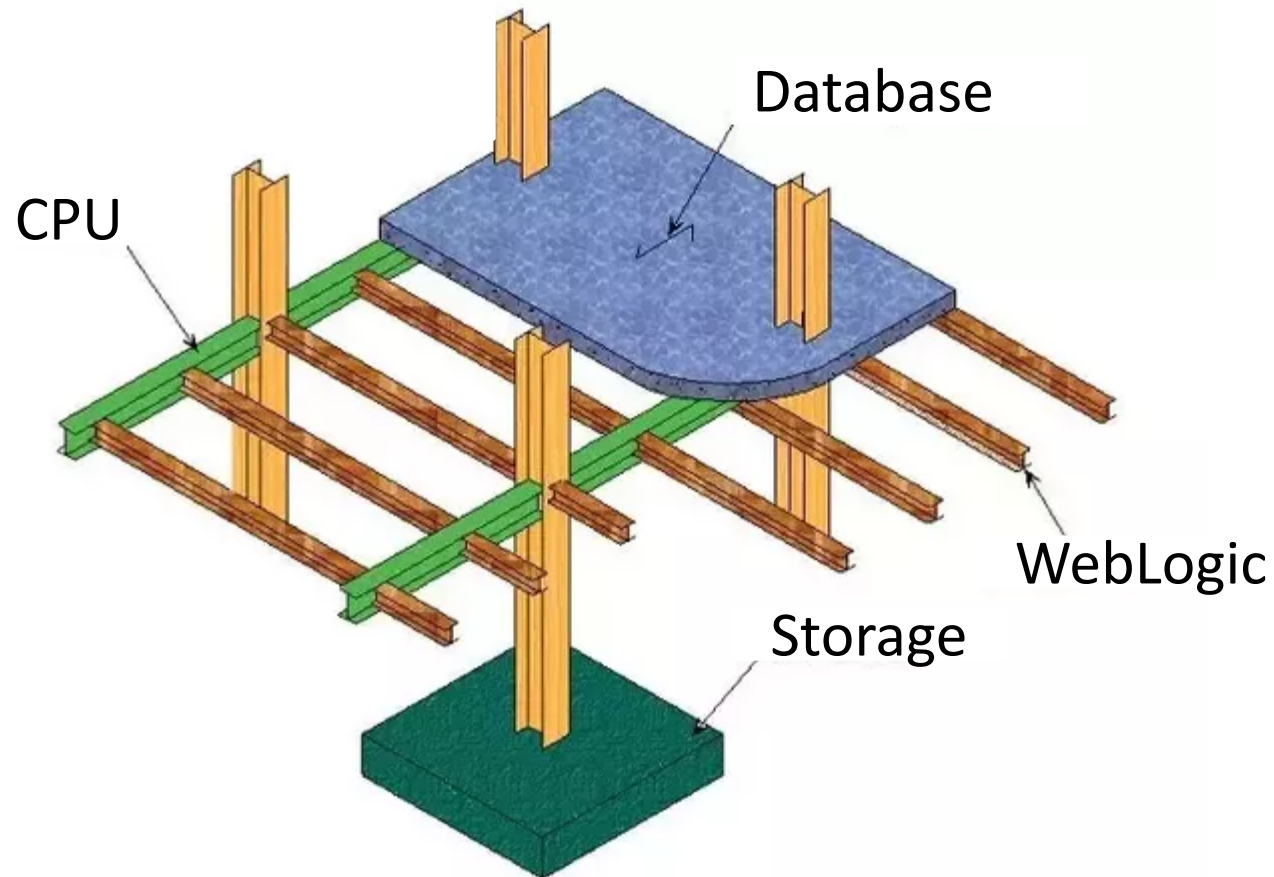
- Find egregious log events rapidly
 - Across the entire application deployment
- Reduce number of log events
 - Identify log events with similar structures
 - Change in trends of specific type of events
 - Temporal relationships
- Find anomalies and outliers
 - Variable faceting

Efficient Troubleshooting

The screenshot displays a monitoring dashboard with the following components:

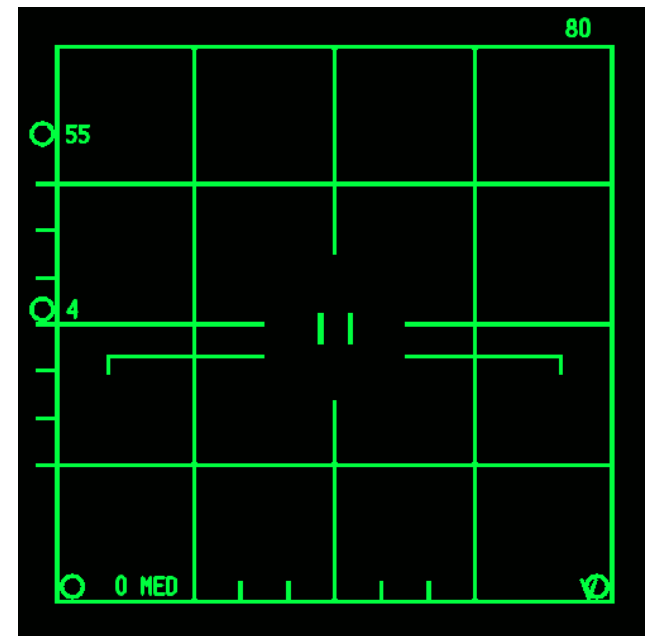
- Summary Bar:** 17 Clusters, 2 Potential Issues, 4 Outliers, 10 Trends.
- Top Histogram:** A bar chart showing counts over time from 10:10 PM on Sep 17, 2017. The y-axis ranges from 0 to 700.
- Field Summary:** A section containing a histogram with a single bar at approximately 6:24 PM on Sep 17, 2017, with a count of 1. The x-axis shows time from 3 PM to 10 PM.
- Navigation:** A blue button labeled "< Back to Cluster" and a status "Showing 1-1 of 1".
- Log Content:** A section titled "Original Log Content" showing the time "Sep 17, 2017, 6:24:33 PM" and the log message: "Sun Sep 17 18:24:33 2017 Errors in file /u01/app/oracle/diag/rdbms/eprd2/EPPRD21/trace/EPPRD21_m000_28641.trc: ORA-19815: WARNING: db_recovery_file_dest_size of 7128219648000 bytes is 85.01% used, and has 1068326977536 remaining bytes available." Below the message is a gear icon and text: "Entity = EPPRD2/EPPRD21 | Entity Type = Oracle Database Instance | Log Source = Database Alert Logs".
- Page Controls:** "Page 1 of 1 (1 of 1 items)" with navigation arrows and a box containing the number "1".
- Log Details:** A list of log entries with a search icon, a waveform icon, and a count of "4". One entry is expanded to show: "org_id='oracle' comp_id='rdbms' type='UNKNOWN' level='16' host_id='chtcsczdbclient010101' host_addr='172.26.14.13' module='oracle@chtcsczdbclient010101 (TNS V1-V3)' pid='18413'> chtcsczdbclient010101: Registered logfile".

Infrastructure

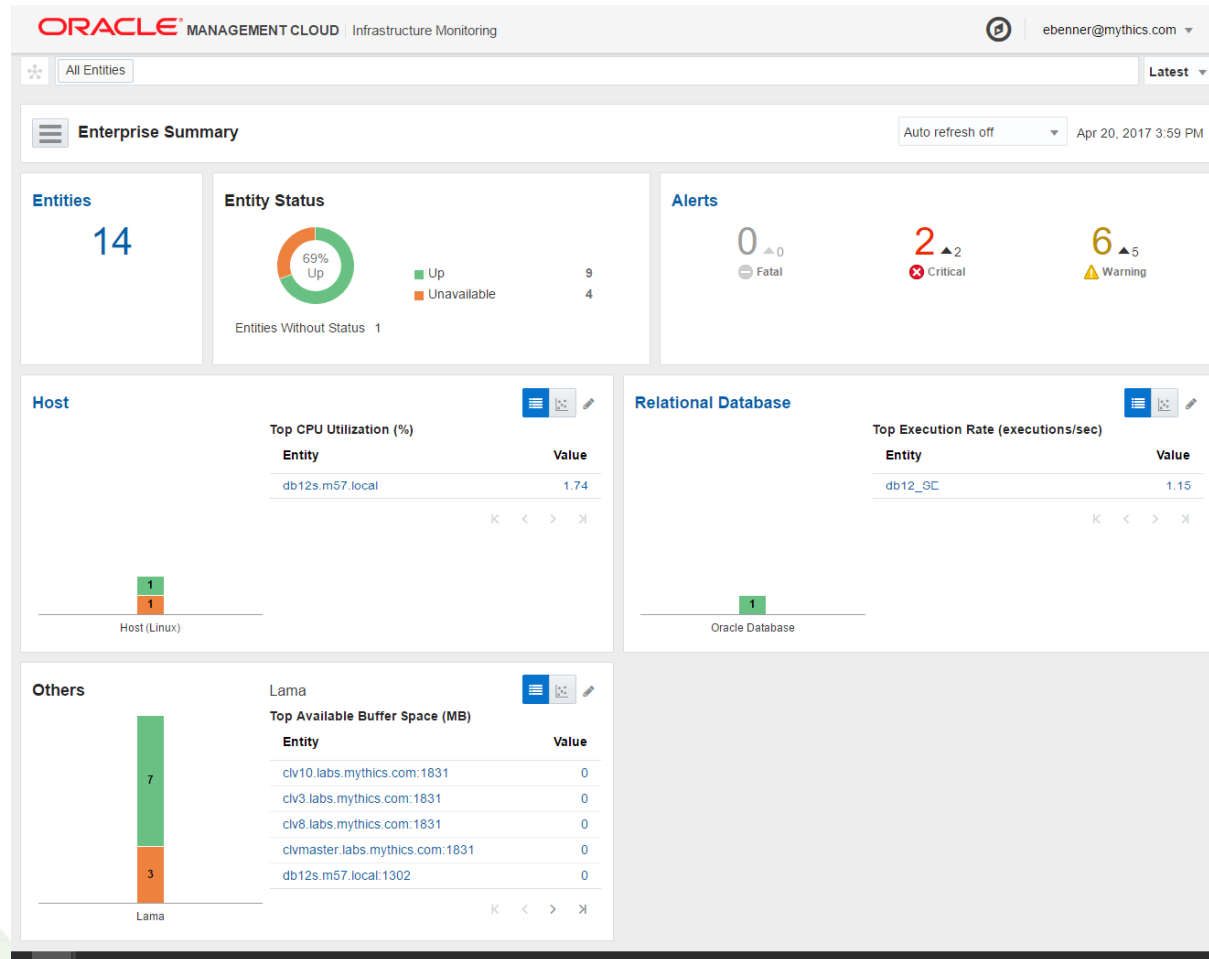


Multiple Targets

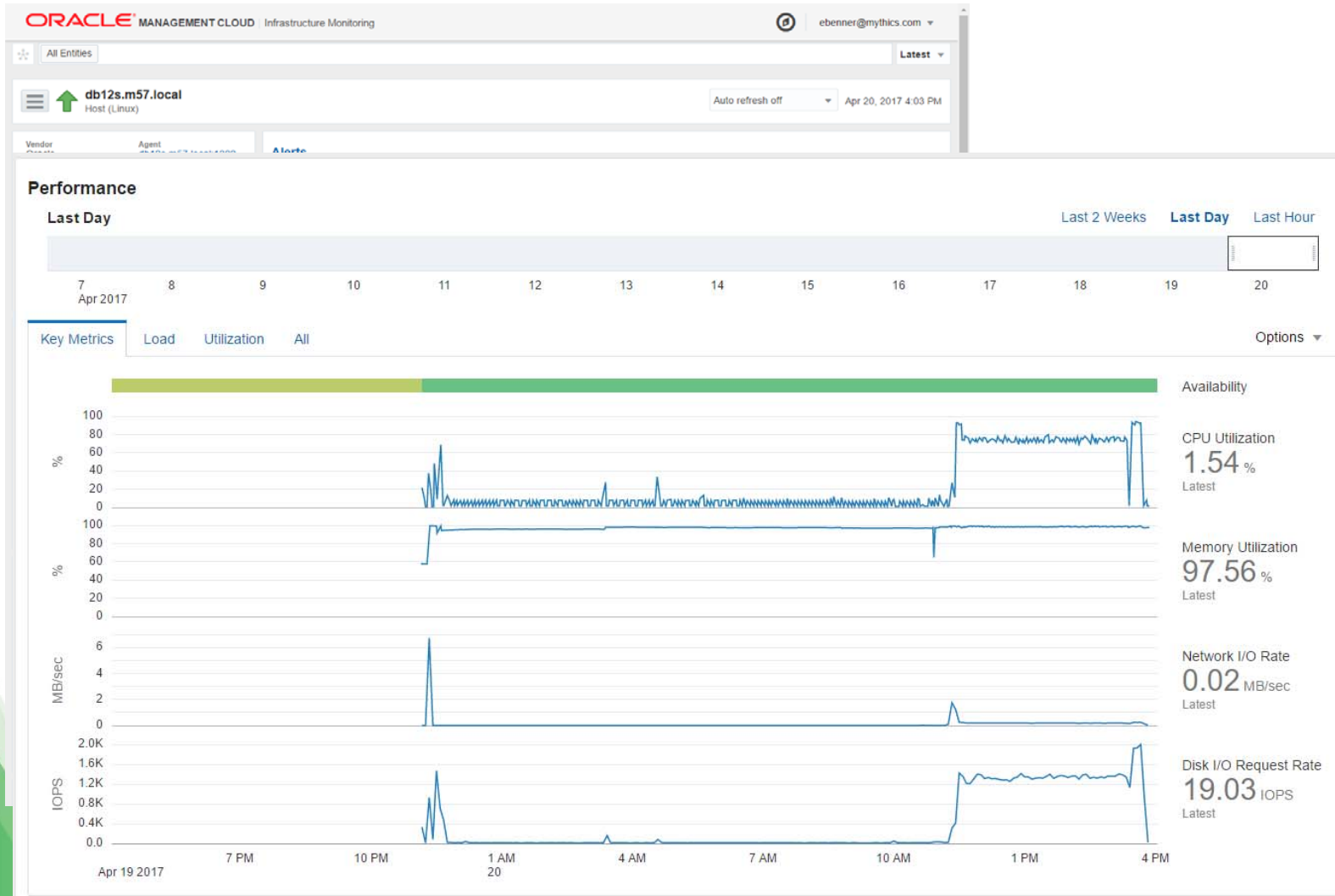
- Windows, Linux, Solaris
- WebLogic
- MySQL
- NoSQL
- DB EE and SE!!
- ASM
- OHS
- Microsoft SQL
- MongoDB
- Apache
- Docker
- Traffic Director
- F5 loadbalancers
- And more



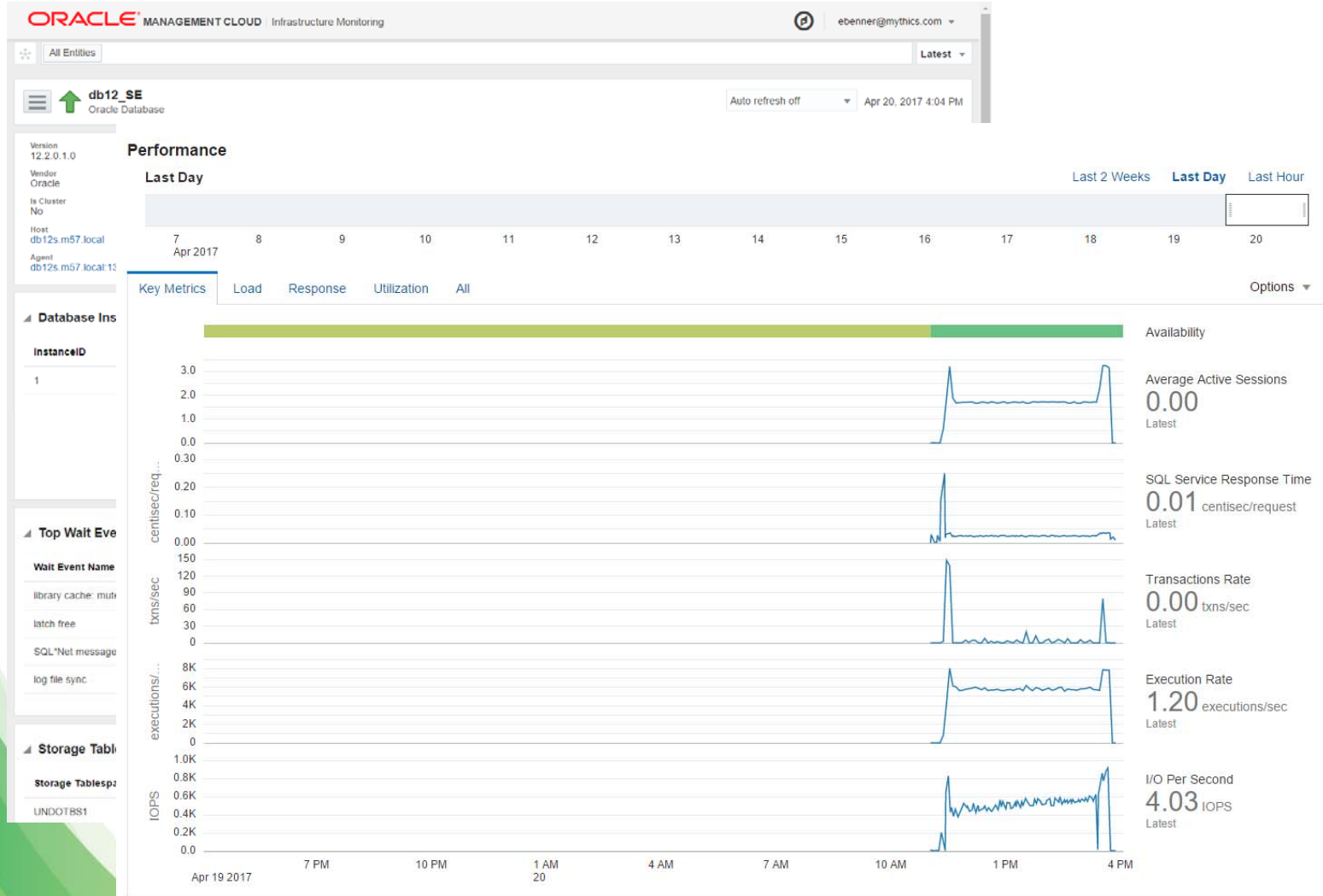
Enterprise View



Host



Database



Database Alerts

The screenshot shows the Oracle Management Cloud interface for creating an alert rule. The main page is titled "Create Alert Rule" and includes a sidebar with navigation options like Home, Alerts, Dashboards, Data Explorer, APM, Monitoring, Log Analytics, IT Analytics, Orchestration, Security Analytics, Compliance, and Administration. The "Monitoring" section is active. The main content area shows a "Sample" dropdown set to "Select a sample rule", a "Rule Name" field containing "DB Outliers", and an "Add description" link. Below this, the "Entities" section is set to "Entity types" with "Oracle Database" selected. The "Alert Conditions" section has an "Add Condition" button. An "Add Condition" dialog box is open, showing the following configuration: Entity Type: Oracle Database, Condition Type: Anomaly, Metric: Execution Rate (executions/sec), and a threshold of "for 5 minutes". The dialog also has a "Customize Message Format" checkbox and "Save" and "Cancel" buttons.

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