Tracking SLAs in Cloud

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Agenda

SLAs

- Systems Perspective
- Business Perspective

APM Today

APM for cloud apps

Case Study

- e-Zest's SLA Tracker for Amazon AWS

Q/A

Typical SLAs from Cloud Providers

We guarantee 100% Server Uptime

30 Minute Support Response Time Guaranteed (QoS)

Issue of Service credit, in case of breach in SLA

We guaranty that our data center network will be available 99.999% of the time*

We guaranty that data center HVAC and power will be functioning 100%*

We guaranty that the load balancing service will be available 99.99% of the time

SLA: *An explicit statement of expectations and obligations that exist in a business relationship between two organizations: the service provider and customer*

*"Traditional SLAs focus on narrow aspects of **infrastructure** rather than the comprehensive **application** experience. Because businesses run on applications, new SLAs must be defined at the application level to properly support the business," - Peter Sevcik, President of NetForecast*

Application Performance Monitoring (APM)

System Level SLAs alone are no more relevant for businesses

Businesses are driving IT operations management becoming increasingly application-centric

Applications are becoming more and more complex to manage

Application Performance Monitoring (APM) is becoming important to track SLAs

Application Level SLAs

A
P
M

System Level SLAs

Typical Application Level SLAs

End-user Experience Monitoring

Application Runtime Architecture Discovery and Modeling

User-defined Transaction Profiling (Also called Business Transaction Management)

Application Component Deep-Dive Monitoring

Application Data Analytics

Courtesy: Gartner (ID Number: G0017311)

APM Today

- Mainly available for Java and Microsoft technologies

- Measure response time from the perspective of the web server

- Use connectors between various components

- Agent less or Agent/Plug-in based

- May or may not be suitable in a virtualized environment

Challenges in APM

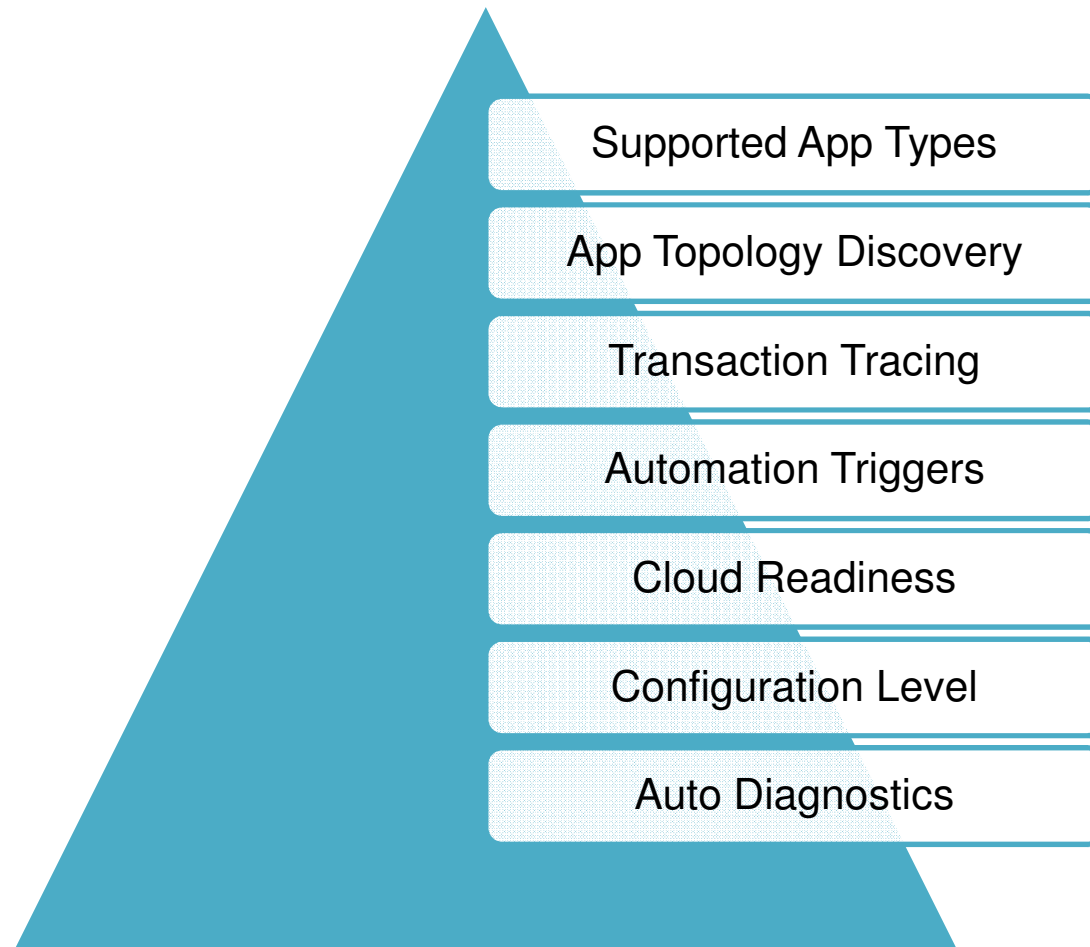Application architectures have become increasingly modular

Applications have become increasingly distributed

The ability to maintain application identity has become increasingly challenging

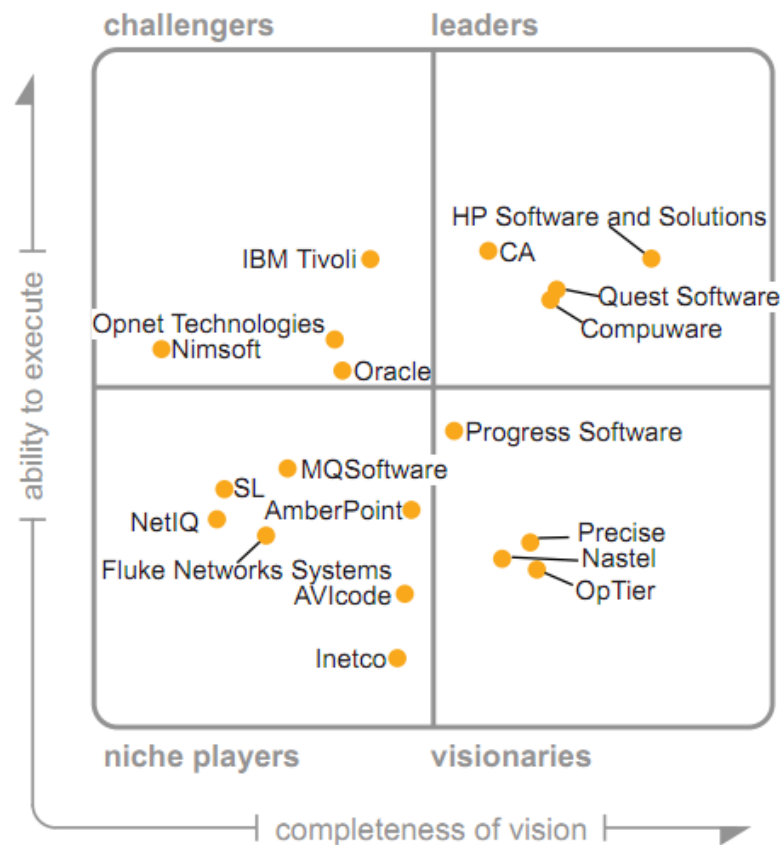The boundaries app-app, and app-infrastructure have become quite blurred

Desired APM capabilities

Supported App Types

App Topology Discovery

Transaction Tracing

Automation Triggers

Cloud Readiness

Configuration Level

Auto Diagnostics

Players in APM
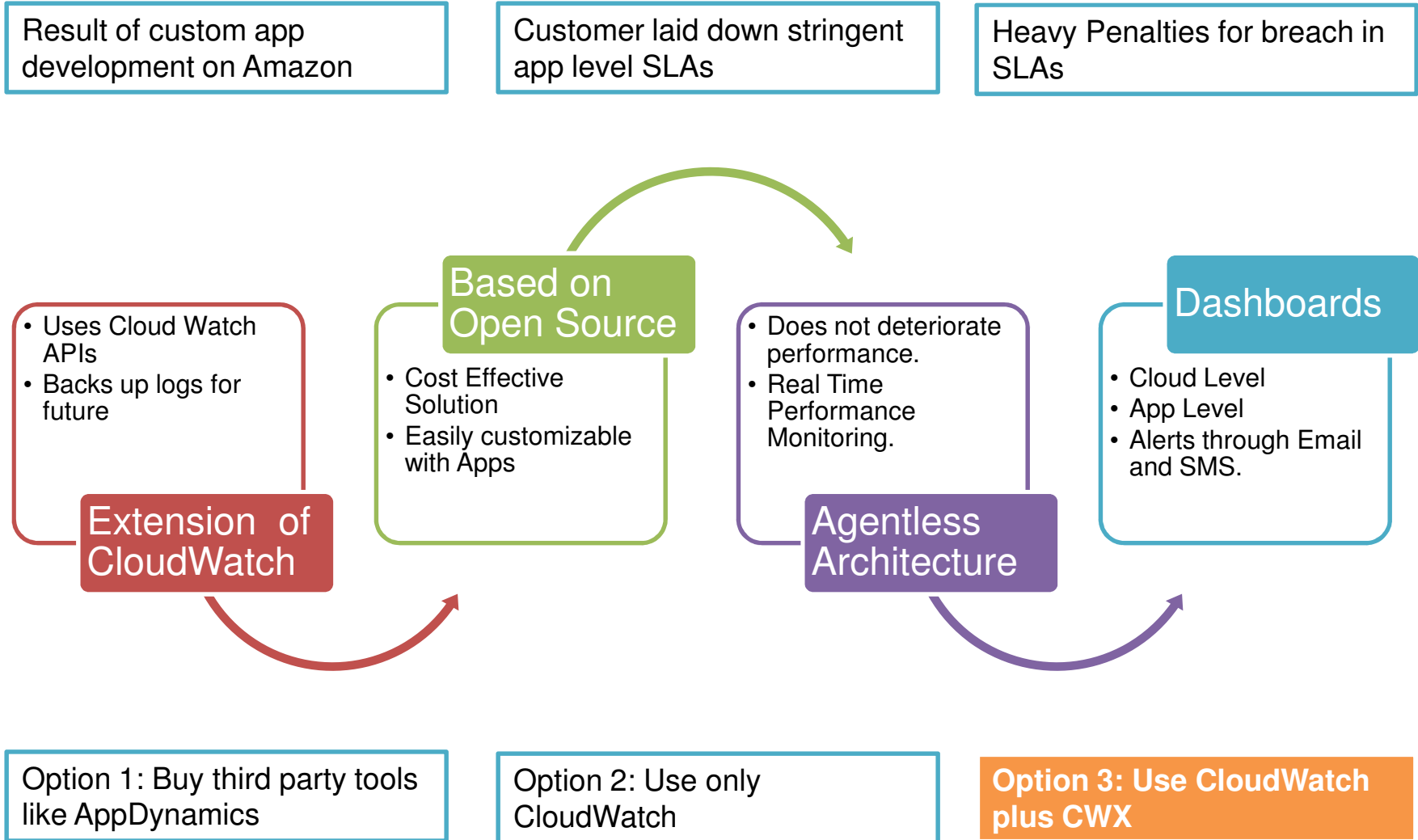
dynaTrace	ConfioSoftware (Ignite VM)	Quest Software (Foglight)	Solarwinds (Orion APM)
BlueStripe	ExtraHop	VMTurbo	HP-APM
AppDynamics	New Relic (RPM)	VMWare (vFabric APM)	CA-Wily

challengers · leaders

ability to execute

HP Software and Solutions
IBM Tivoli
CA
Quest Software
Compuware
Opnet Technologies
Nimsoft
Oracle
Progress Software
MQSoftware
SL
AmberPoint
NetIQ
Precise
Nastel
Fluke Networks Systems
AVIcode
OpTier
Inetco

niche players · visionaries

completeness of vision

e-Zest's SLA Tracker (CWX) for Amazon AWS CloudWatch

| Result of custom app development on Amazon | Customer laid down stringent app level SLAs | Heavy Penalties for breach in SLAs |

Extension of CloudWatch
- Uses Cloud Watch APIs
- Backs up logs for future

Based on Open Source
- Cost Effective Solution
- Easily customizable with Apps

Agentless Architecture
- Does not deteriorate performance.
- Real Time Performance Monitoring.

Dashboards
- Cloud Level
- App Level
- Alerts through Email and SMS.

| Option 1: Buy third party tools like AppDynamics | Option 2: Use only CloudWatch | **Option 3: Use CloudWatch plus CWX** |

Features of e-Zest CWX

Uses AWS CloudWatch APIs

Stores Metrics for future references.

Uses App Logs

XML based SLA definition config through UI.

Alert creation through UI

Messaging abilities (to send email and mobile alerts)

Monitors Application, Platform and Infrastructure Performance in real-time

Based on open source technologies and hence cost effective for Small Businesses

CWX – e-Zest's SLA Tracker

End – Users Experience	→	Web Analytics and User Experience Metrics, Alerts and Dashboards
SaaS	→	Application Performance Monitoring App Level Metrics, Alerts and Dashboards
PaaS	→	Platform Level Monitoring PaaS Components Metrics, Alerts and Dashboards
IaaS	→	Infrastructure Level Monitoring IaaS Components Metrics, Alerts and Dashboards
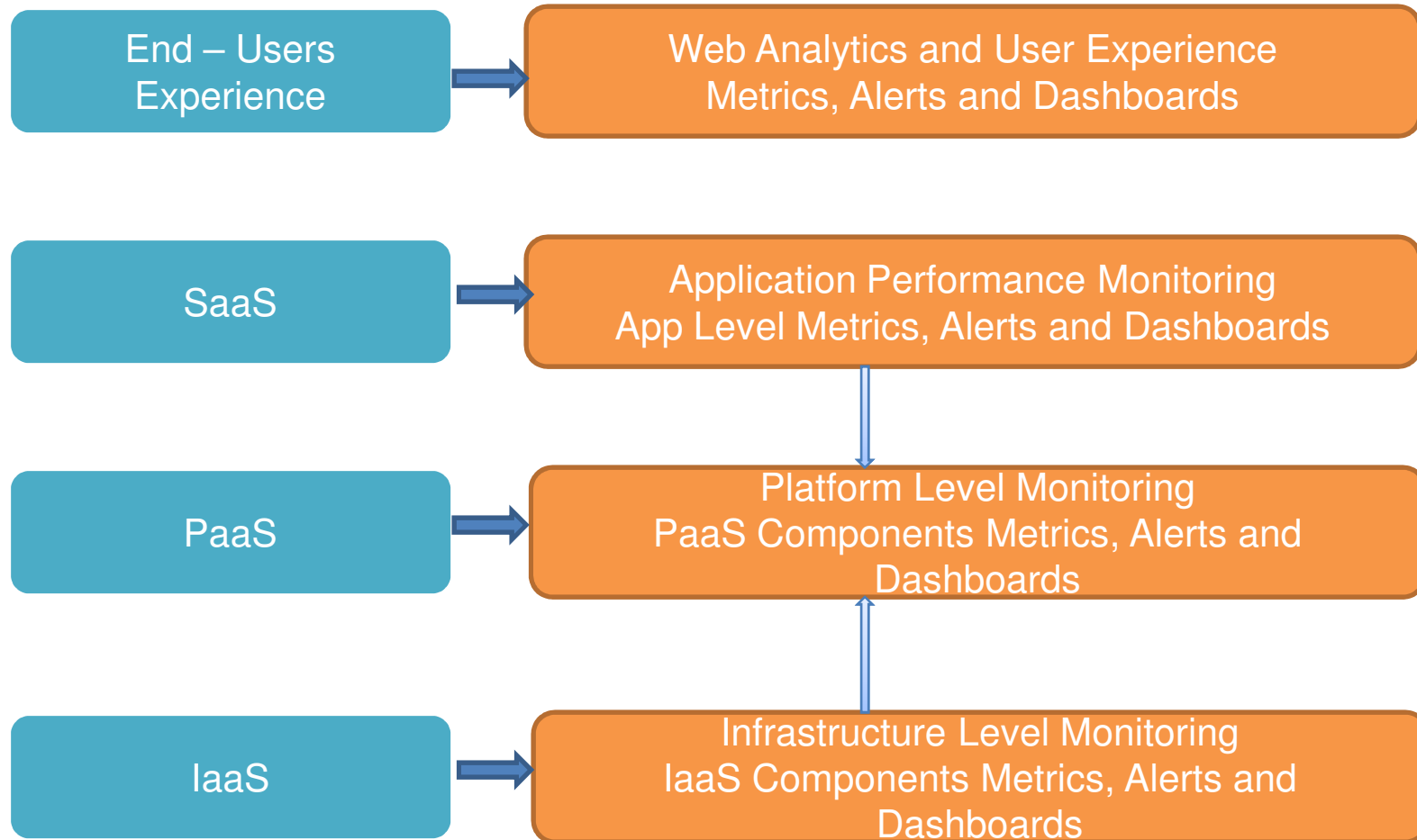
Features and Sample Screenshots

End – Users Exp

User experience Tracking

- Web analytics

SaaS

Application SLAs

- Application Availability
- Reports response time
- User pages response time
- Admin Pages response time

PaaS

PaaS SLAs

- Database monitoring
- Load balancer monitoring
- Apache Tomcat Status
  - Memory status
  - Connector Details
  - Connector Thread Details
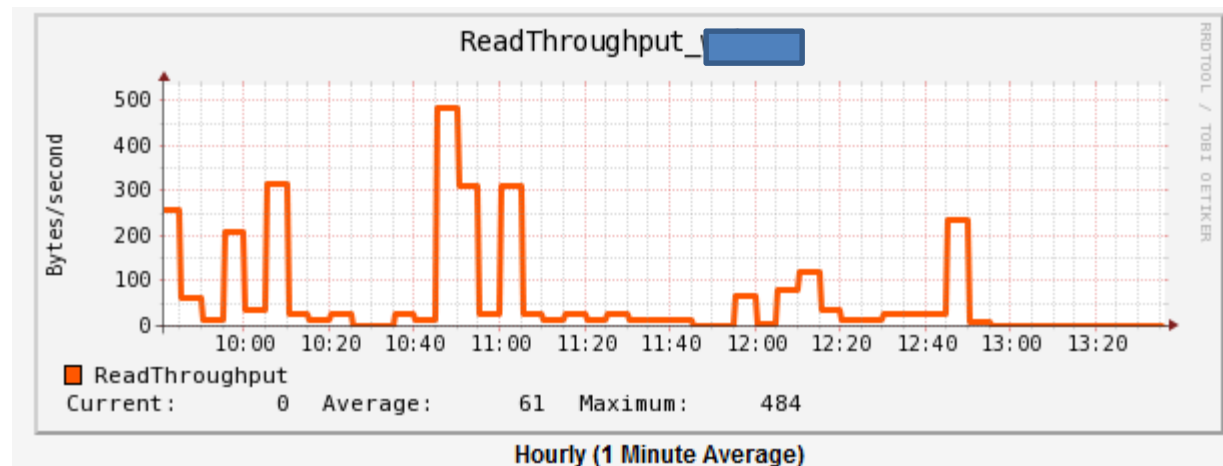 - Connector Time Details

IaaS

Infrastructure SLAs

- Running instances
  - CPU utilization
  - Network traffic
  - Disk read/ writes
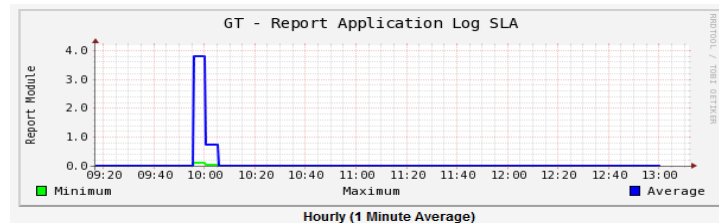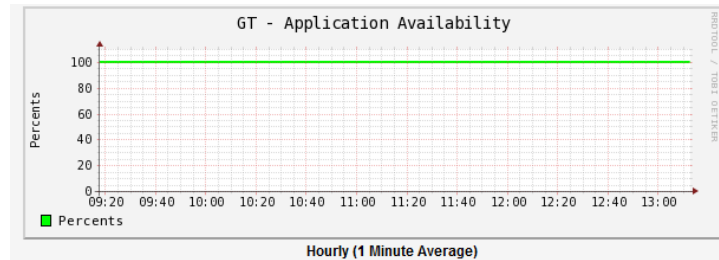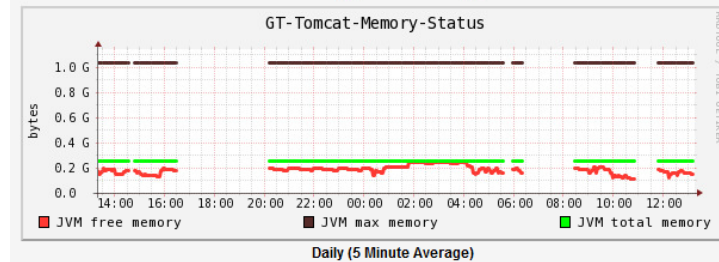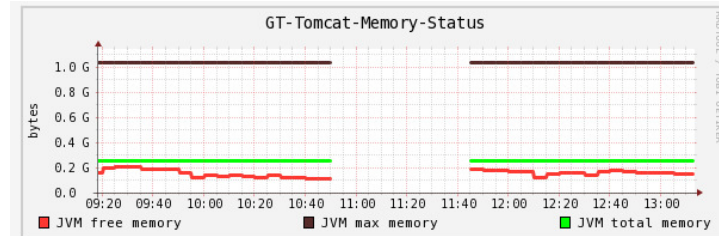
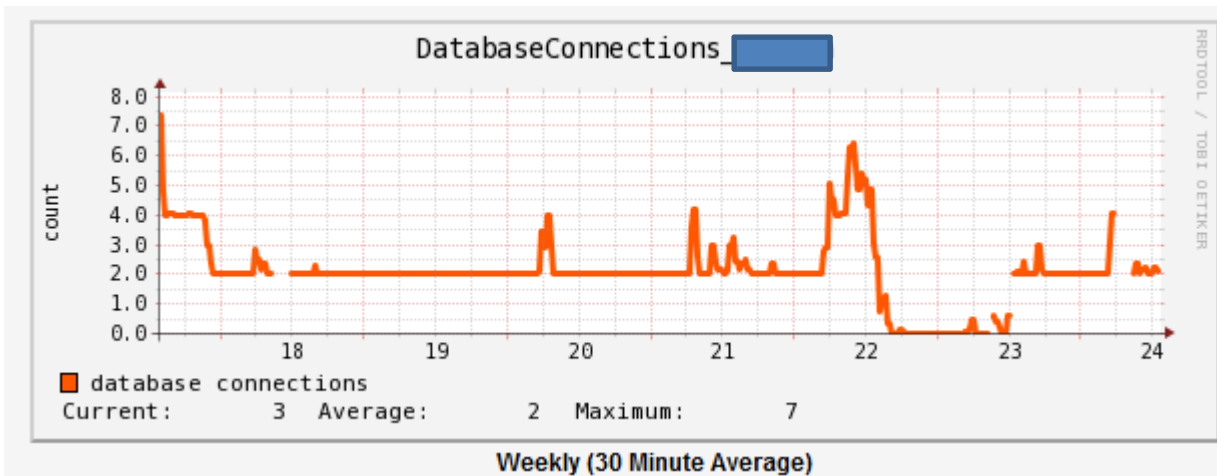# RDS Read Latency & Read Throughput
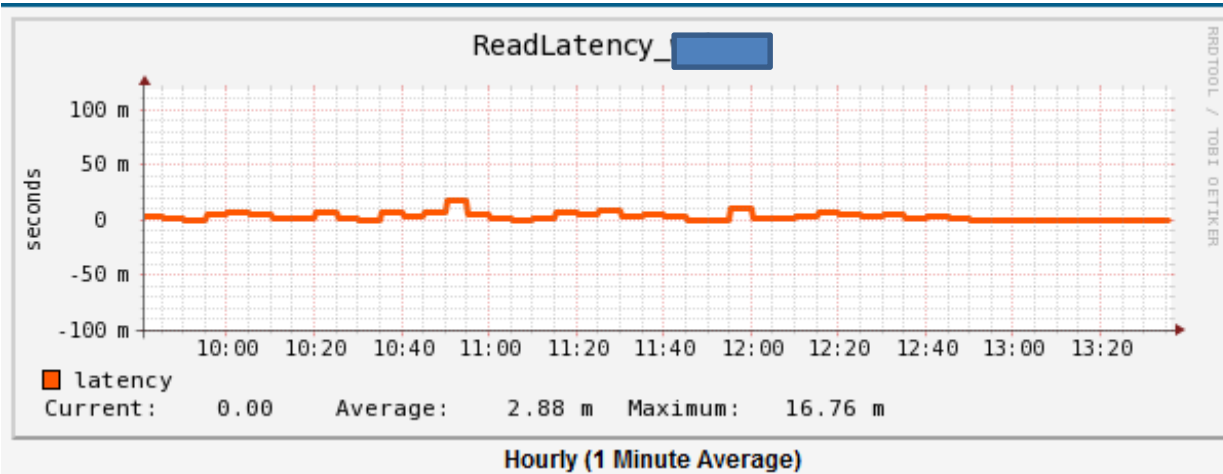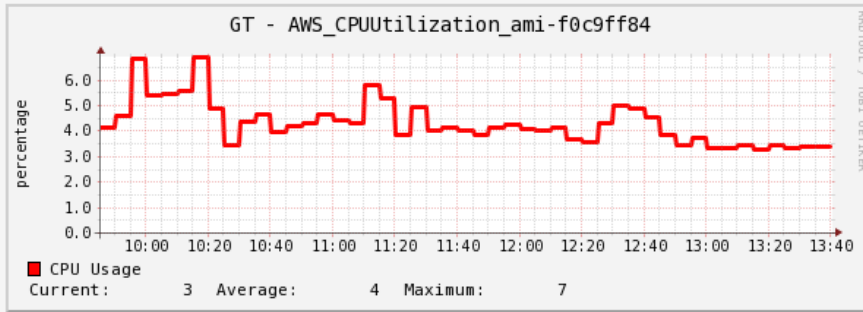

RDS Read Latency
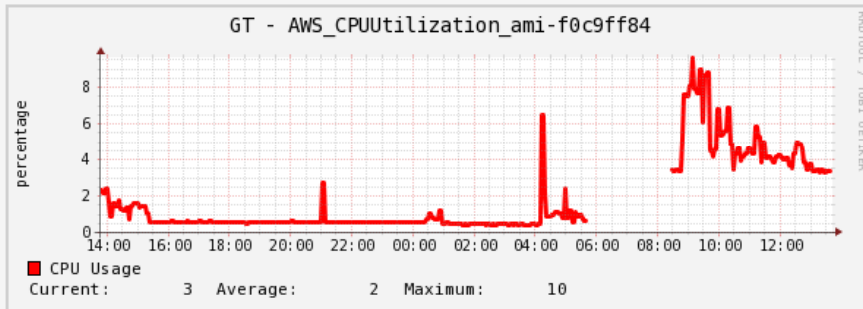

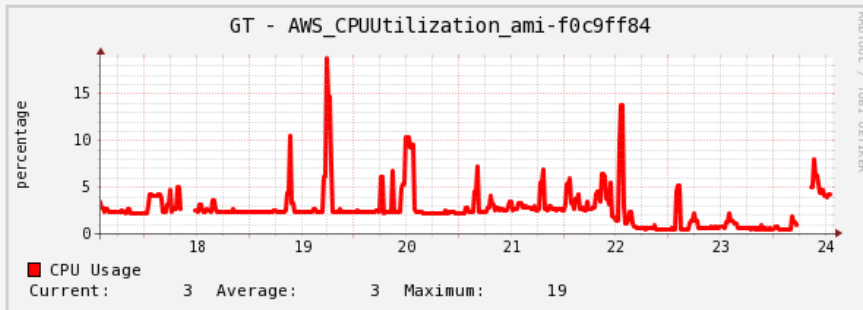RDS Read Throughput

DB connections
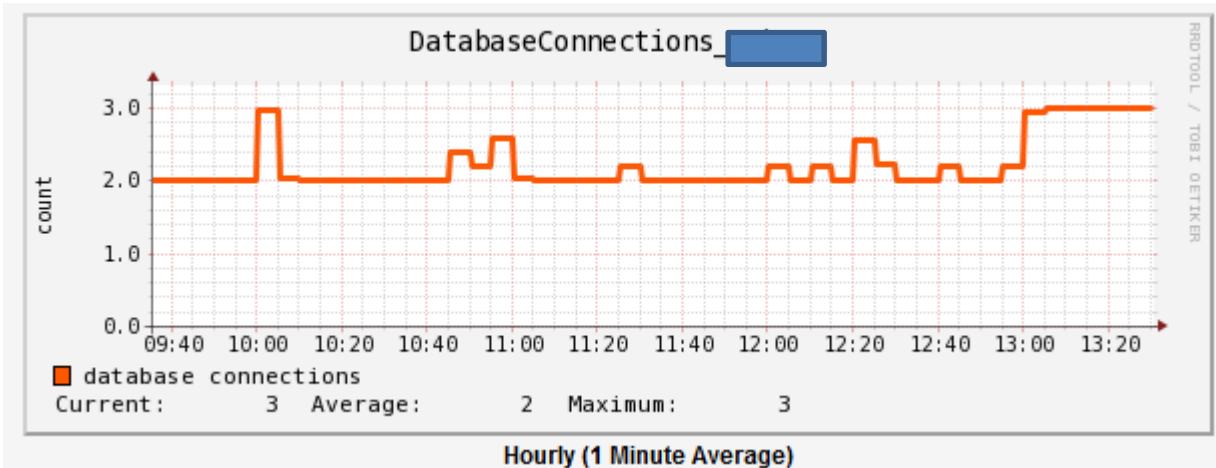
Hourly View

Weekly View

Hourly View

Daily View

Weekly View

Thank You!

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