Proactively Monitor User Experience in a User-Centric Digital World

June 15, 2016

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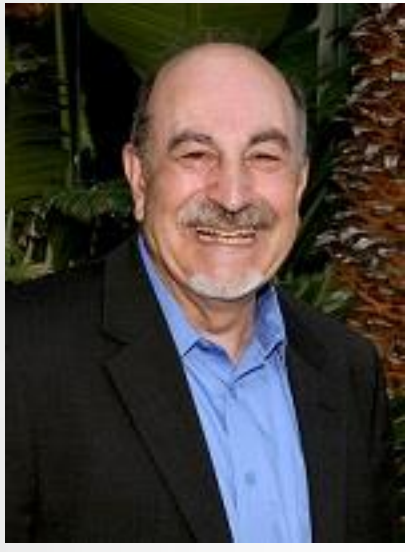

Rocky Pisto
Pittsburgh, Chicago, Indiana, Kentucky, Michigan,
and Ohio Leader
Big Data and BSM SIG Leader

Today's Speaker

Dan Iuster
APM Sr. Technical Marketing Manager
Hewlett Packard Enterprise

Housekeeping

- This “LIVE” session is being recorded
  Recordings are available to all Vivit members

- <u>Session Q&A:</u>
  Please type questions in the Questions Pane

Webinar Control Panel

Toggle View Window between Full screen/window mode.

Questions

Proactively Monitor User Experience in a User-Centric Digital World

using HPE APM

Dan Iuster, HPE Technical Marketing Manager

Monitoring the User Experience

Agenda

- HPE APM monitoring & management solutions
- RUM:
  - Monitoring with RUM
  - RUM and Docker
  - Application Health
- Predictive Analytics
- Service Level Management
- With an eye towards the future
- Q&A

NOTE: all product views are illustrations and might not represent actual product screen shots.

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Users expect the world of your apps – Better give it to them

Instant gratification. It's the new norm

80%

Will abandon apps after only three attempts or less

69%

Say poor application issues give lower opinion of company that created

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Waiting too long to respond to UX issues?

Few app teams are proactive

26%

of app teams will proactively examine user experience metrics in production

Lacking curiosity?

72%

of app/ops teams first learn about UX issues through user complaints

Simply Negligent?

40%

of app teams will release applications into production that fail to meet UX objectives

– Mobile App Usage & Abandonment Survey, and the IT Ops, APM & the User Experience Survey

Dimensional Research

Visualize, Isolate and Predict to be where you need to be…

With HPE APM - Treat your App like a VIP

- Reduced MTTR
- Ensure app revenue
- Prevent outages
- Lower IT support costs

Visualize

App performance for best end user experience

- Across *any* app type
- Real User Monitoring and Proactive Monitoring
- 360° view – across “end users” *and* infrastructure

You need to visualize your apps end to end, including answer to:

Which app and transactions are affected?	What is the business impact?	Which locations and users are affected?	Is the infrastructure implicated?

Isolate

App performance issues

- To a *specific* app version, device, carrier, etc..
- To a *specific* user flow all the way to the line of code in the backend
- To a *specific* 3rd party service

You quickly isolate issues within a business context:

What is the full topology of the application?	What application tier is the bottleneck?	What component is the bottleneck?

Predict

Predictive analytics for app performance

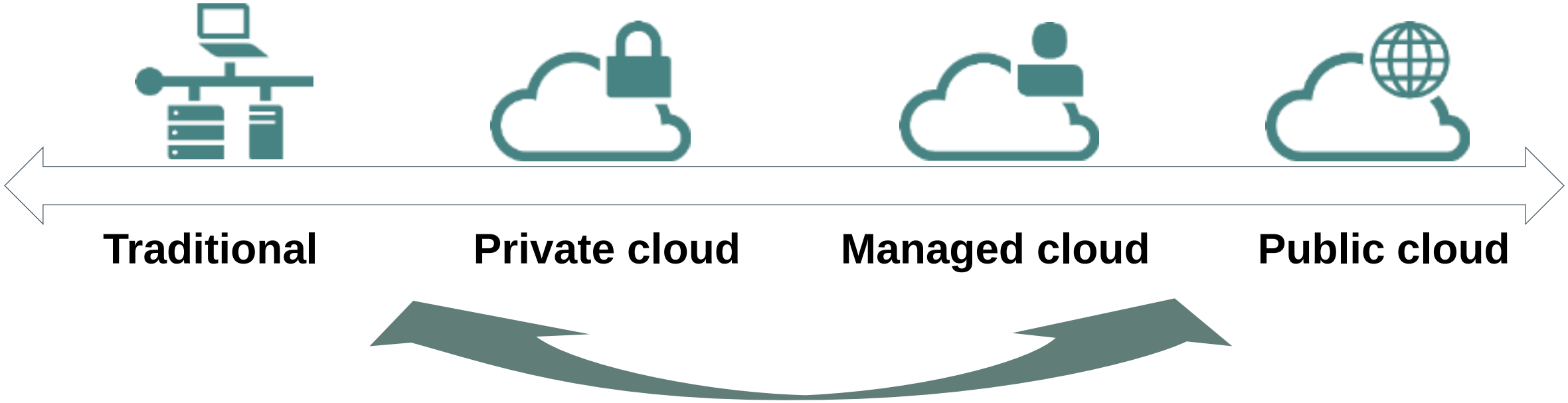
- *Early* warnings for service outages
- *Early* catch of issues (based on volume drop)
- *No* manual thresholds required

You don’t want to wait for outages – proactively you need to know:

What anomalies are occurring?	When did the issue begin?	What apps and transactions are at risk?

It is a hybrid world

Visibility - Be all knowing. Monitor **Websites, Enterprise app, Mobile** and **Cloud services** instantly from the perspective of your end-user



Agentless Proactive Monitoring and SLAs

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Poll Question

What is your primary concern with your applications?

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Poll Question

Which of the following HPE APM tools do you use today?

APM

Overview

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What is APM?

Gaining 360 degree visibility into the health of the end-to-end business applications for all types of applications and infrastructure

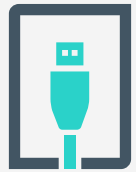
User Experience

Business Process Monitoring (BPM)

Real User Monitoring (RUM)

Backend Traceability

SiteScope



Diagnostics

Dashboard, Reporting, Alerting, Service Level Management & Predictive Analytics

Mobile, Web & Enterprise Apps

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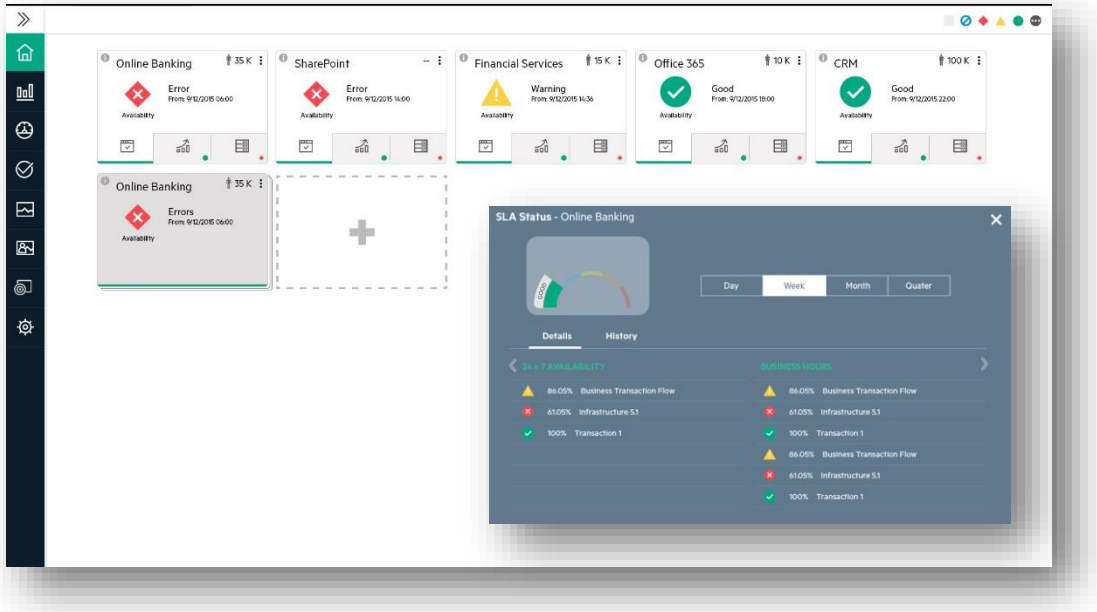
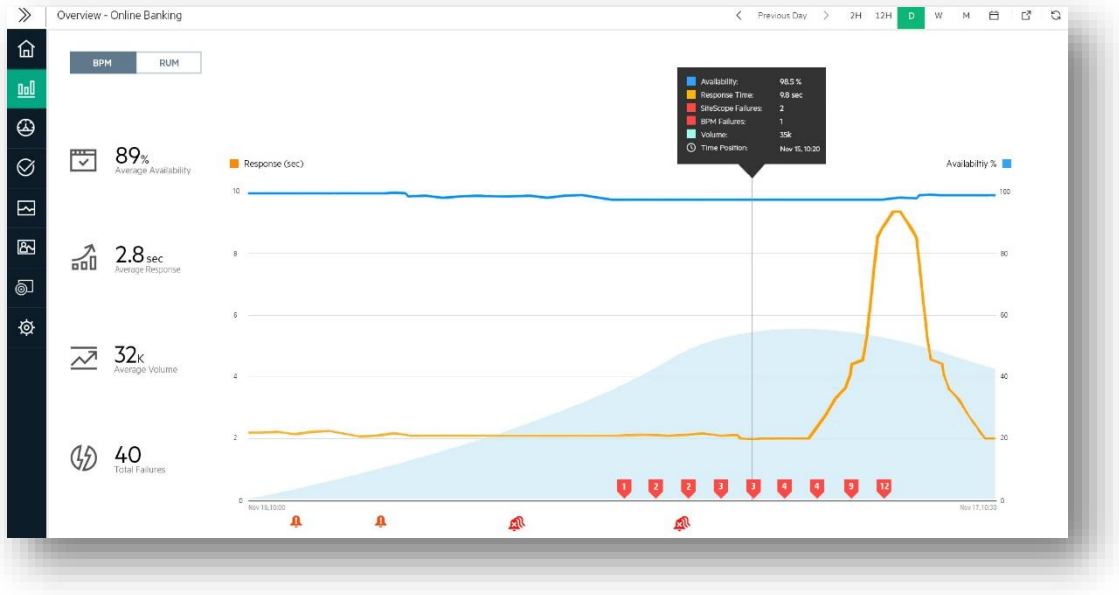
End-to-End **Application** health

- Top down business view - monitor, measure, and manage your application according to the impact to the business and your established SLA's.
- Visibility into business processes and services through role-based views
- Proactively identify problems before they affect end users.
- Suite of components that help you manage the application availability and performance from the end-user perspective all the way down to the application and infrastructure level





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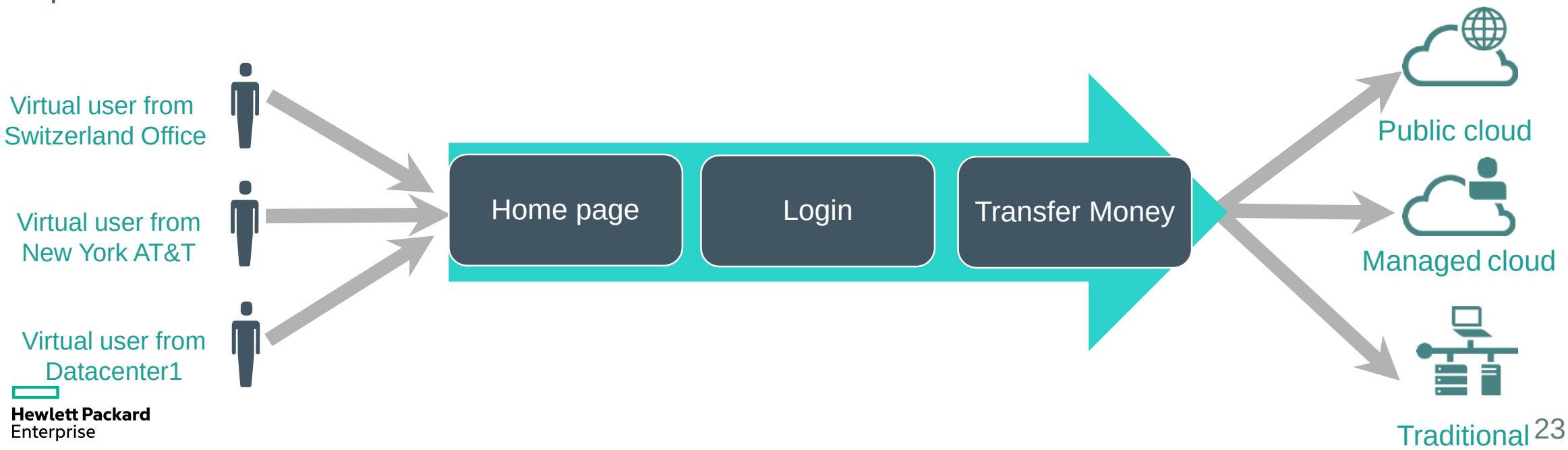
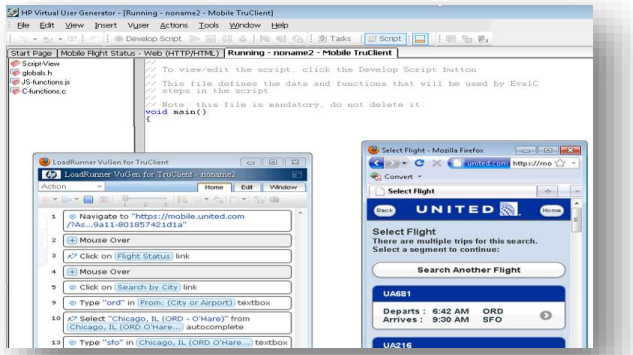
What is BPM?

- HPE Business Process Monitor (BPM) runs pre-recorded scripts against business services to proactively identify performance and availability problems
- Agentless monitoring for availability and performance of distributed IT infrastructures and applications
- Virtual Users are simulated by running scripts at regular intervals from multiple locations
- Broad range of protocol support more than 50 protocols that emulate and measure end user business processes.

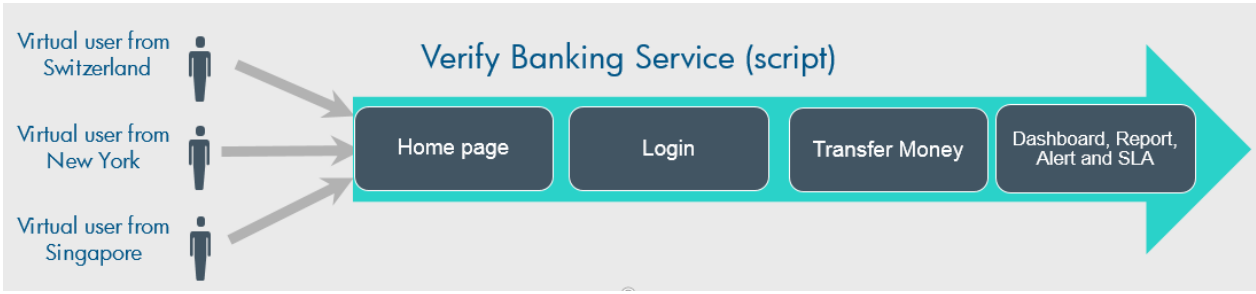


Proactive End-User Monitoring – How it Works

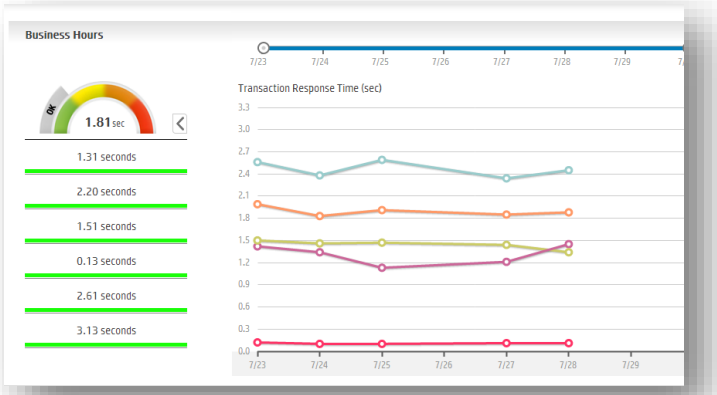
1 Record

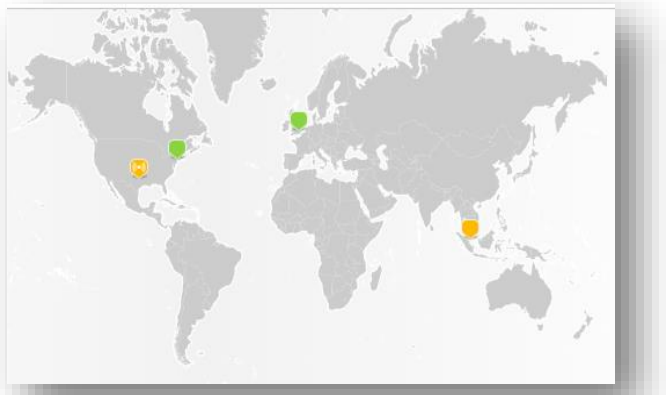


2 Replay



3 Review

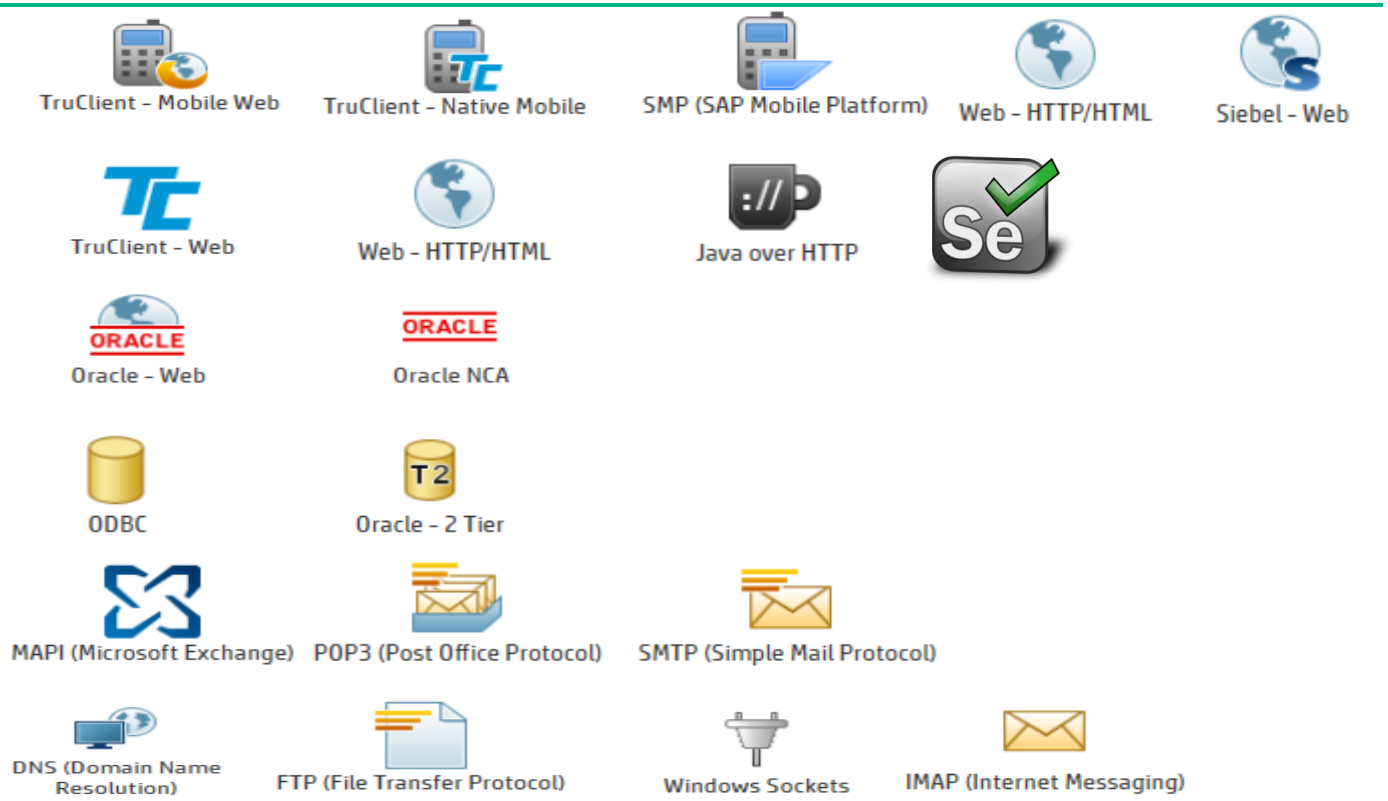




Dashboard, Reports, Alerts and SLA's

HPE BPM Protocol Support

- Mobile
- Web
- Oracle e-business
- Databases
- Mails
- Network
- GUI
- SAP
- Remote Desktop
- Others



Unified Functional Testing (UFT)

What is SiteScope?

SiteScope software is

- **agentless monitoring** for availability and performance of distributed IT infrastructures and applications
- **Tons of out of the box content** Monitoring for over 150 proactive monitors
- **Hierarchical**, can be managed across multiple servers
- **Virtualization and Cloud ready** e.g.AWS and Cloud Watch
- **Running in *9 mins (freemium)***
- **Easily extended** a rich catalog of solutions templates
- **Integrations** with HPE Operations Bridge, APM and many more tools.
- **Tablet friendly,** Multiview dashboard viewed anytime, anywhere on iPhone/iPad/ Android devices

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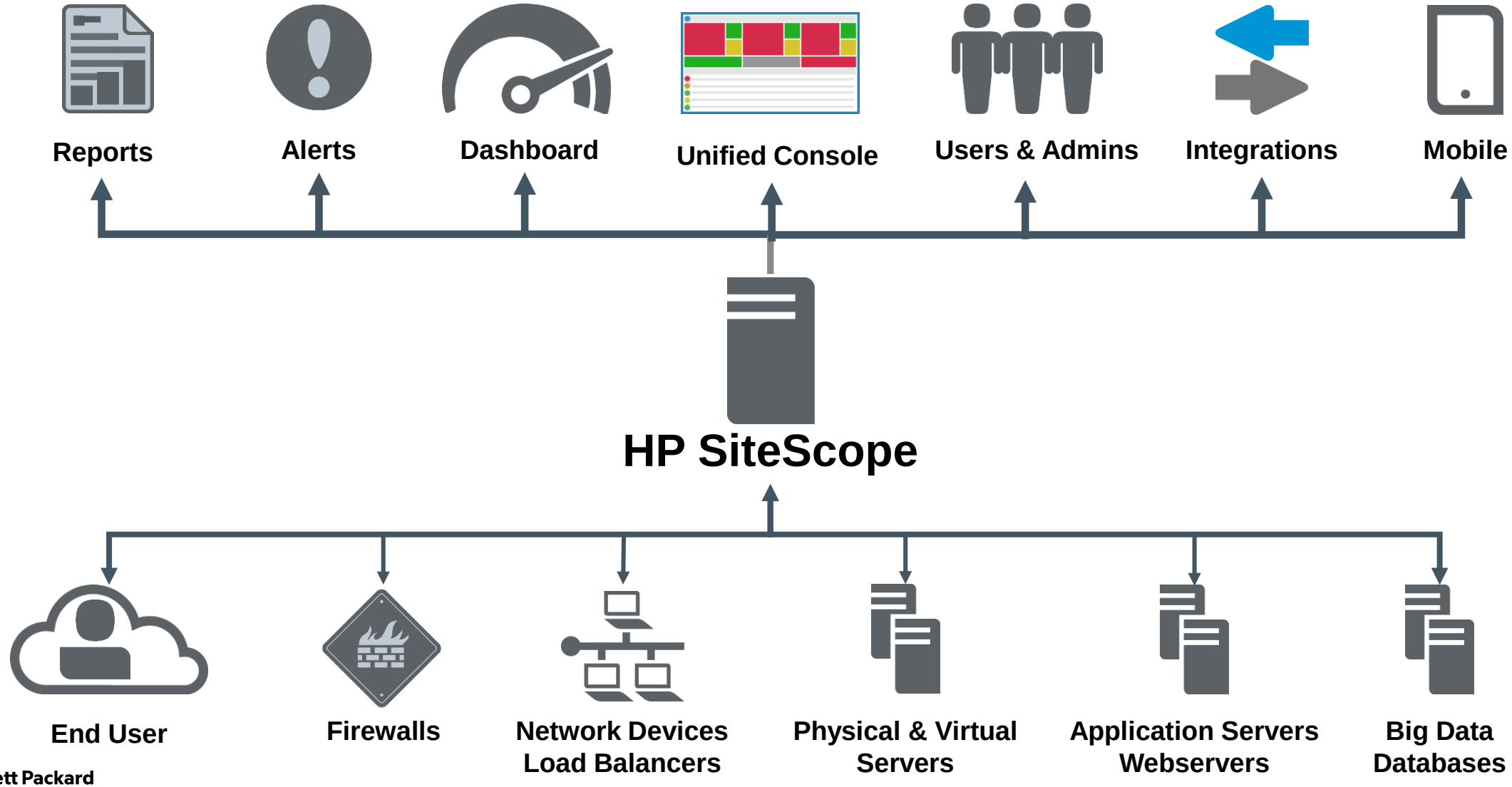
How Does HPE SiteScope work?



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Agentless Monitoring with HPE SiteScope

Server Monitors

CPU, Disk Space, Memory, Service, iLO, IPMI, Unix Resources, Syslog, Web Server, NonStop Resources/Event Log. MS Windows: Performance Counter, Event Log, Resources, Services State

Network Monitors

Formula Composite, SNMP, SNMP by MIB, SNMP Trap, DNS, FTP, Port, Ping, Mail, MAPI, Network Bandwidth, MS Windows Dialup,

Database Monitors

Database Counter, Database Query, IBM DB2, Oracle Database, Microsoft SQL Server, Sybase Database

Web Monitors

e-Business Transaction, WebScript, Link Check, URL, URL Content, URL List, URL Sequence

Streaming Monitors

MS Windows Media Player, MS Windows Media Server, Real Media Player, Real Media Server, MS Lync (Edge, Registrar, Archiving, Director, Mediation, A/V conferencing)

Virtualization Monitors

VMware Performance, VMware Host (CPU, Memory, State, Network, Storage), VMware Datastore, Solaris Zones, Microsoft Hyper-V , Amazon CloudWatch, KVM, Generic Hypervisor, Citrix

Generic Monitors

XML Metrics, Composite

Directory, File, JMX, Log File, Script, Web Service

Custom WMI, Custom Log File, Custom DB, Custom (Java)

Integration Monitors (EMS)

Technology Database, Log File, SNMP Trap, Web Service Integration, HP OM Event, HP Service Manager, NetScout Event

Application Systems Monitors

Apache Server

Broadvision Application Server

Check Point, Cisco Works,

ColdFusion Server, COM+ Server

MS Exchange, MS IIS Server, MS ASP Server

F5 Big-IP, News, Radius

WebSphere MQ Server

Oracle Application Server

SAP, SAP CCMS, Java web application server, work process

Siebel Application server, Siebel log, Siebel web server

SunOne Web Server, Tuxedo, UDDI Server

WebLogic Application server

WebSphere Application Server

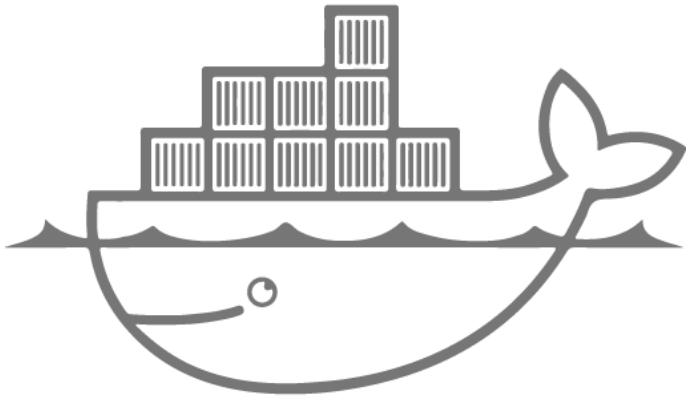
WebSphere Performance Servlet

UDDI

HAProxy, Memcached

Docker

What is Docker?



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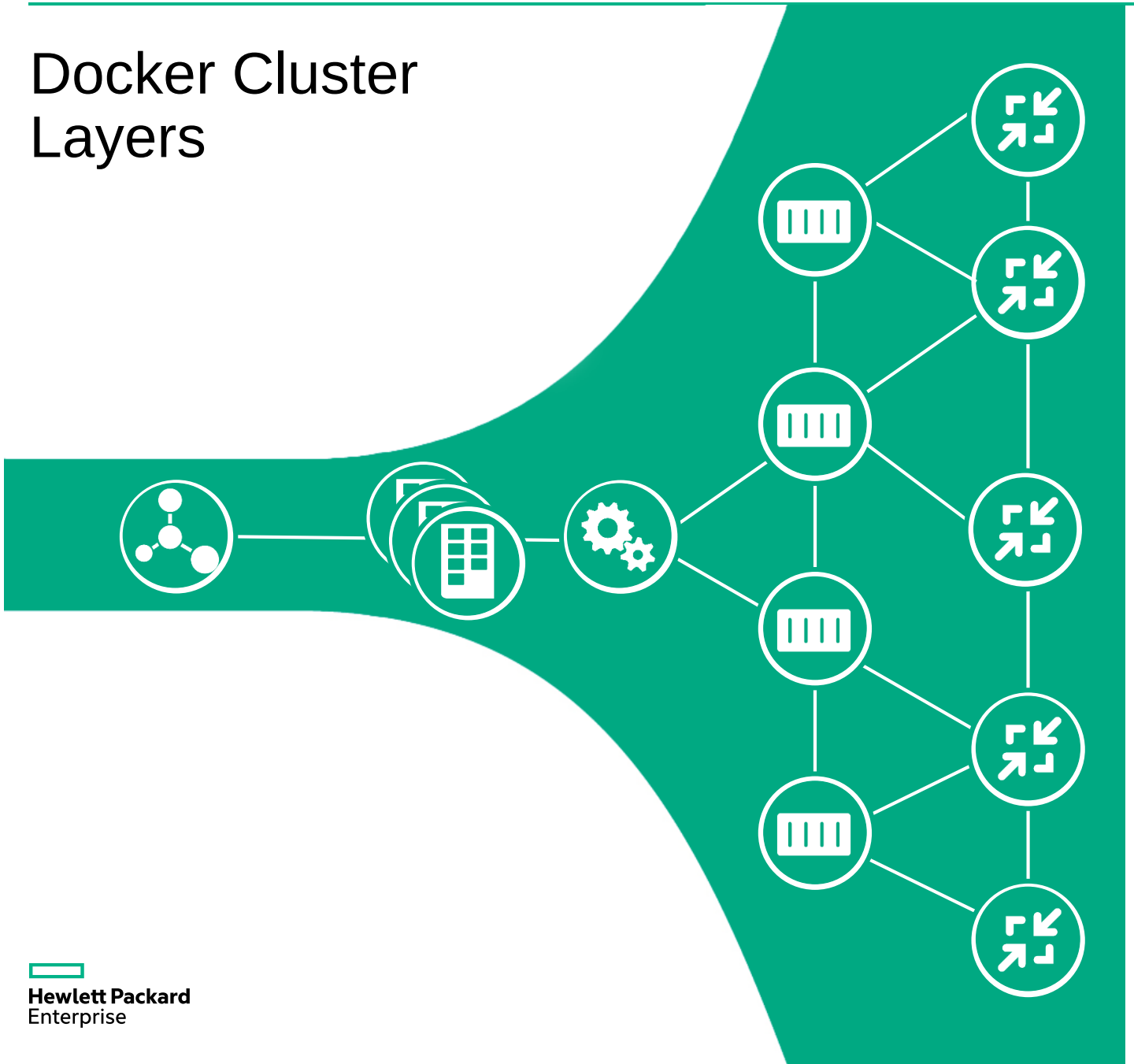
Docker Cluster Layers



Cluster Manager

Node

Docker Service

Container

Workload

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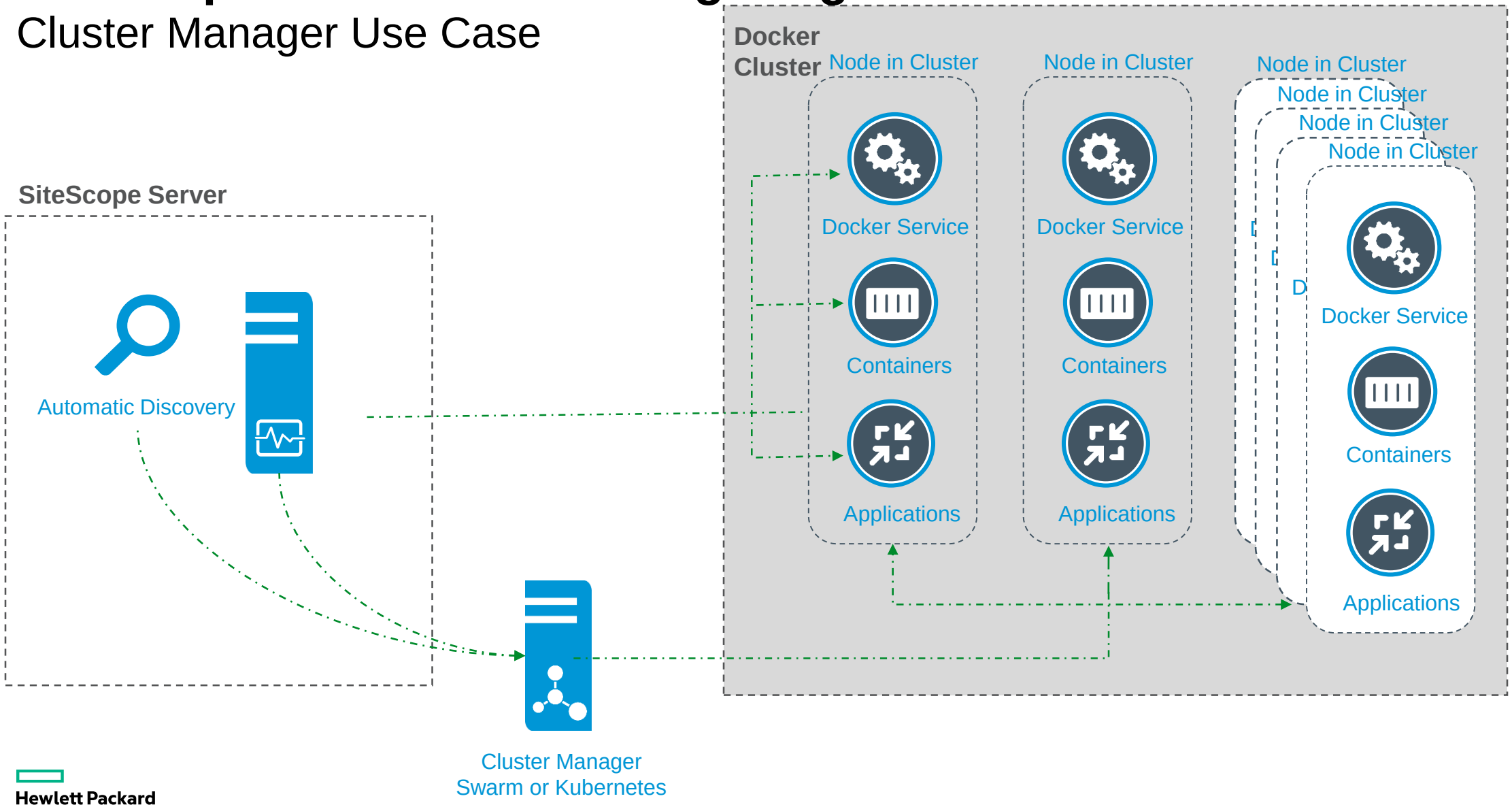
SiteScope Docker Monitoring Diagram

Cluster Manager Use Case



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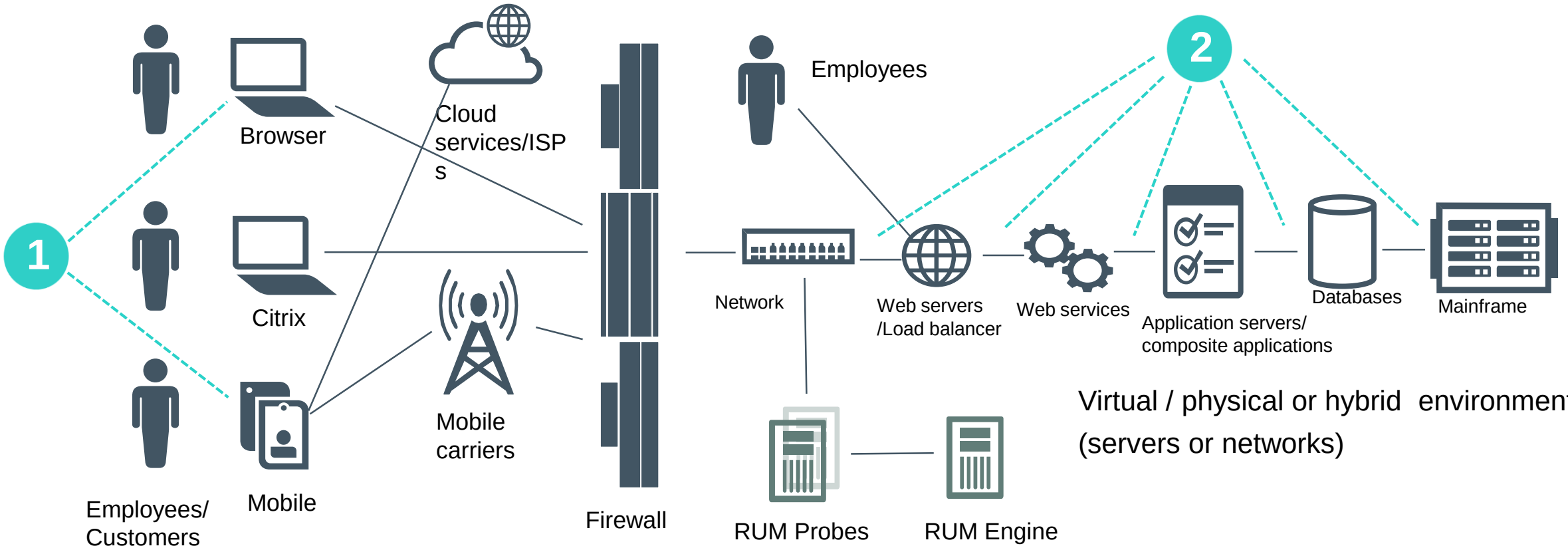
What is RUM

All Users, All Devices, All Locations

1 Collect end user experience data from browsers or mobile devices

2 Collect application performance data from the network at the web tier, app tier or database



Virtual / physical or hybrid environments (servers or networks)

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Broad protocol support for network monitoring

HTTP Protocols

- HTTP/S
- Flash/ActionScript AMF

SOA Protocols

- SOAP – HTTP Based
- WCF – TCP Based

Mail Protocols

- IMAP
- POP3
- SMTP

Application Servers

- Citrix XenApp
- IBM WebSphere MQ
- Oracle Forms NCA
- SAPGUI

Database Protocols

- IBM DB2
- Microsoft SQL Server
- MySQL Database Server
- Oracle DB (Thin JDBC Client)

Generically Supported Protocols

- DNS – Generic UDP
- RDP – Generic Streaming TCP
- RMI Registry – Generic TCP
- SSH – Generic Streaming TCP

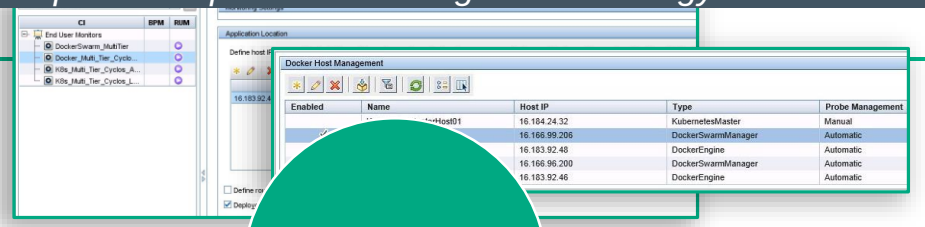
Others

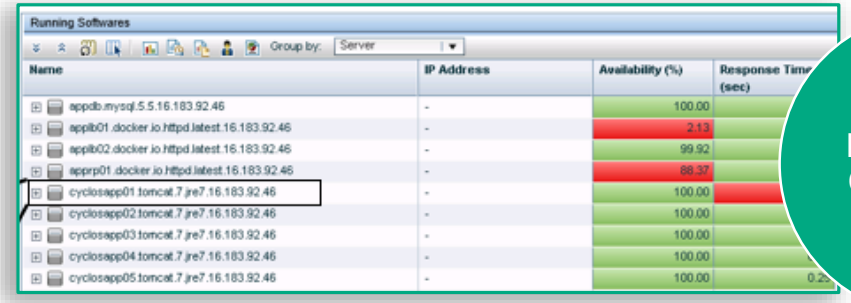
- FTP
- ISO 8583
- LDAP

Financial

- NDC

HPE RUM for Docker



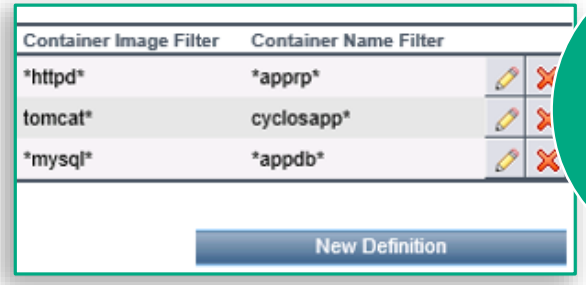


Easy to Configure

Reports for Containers

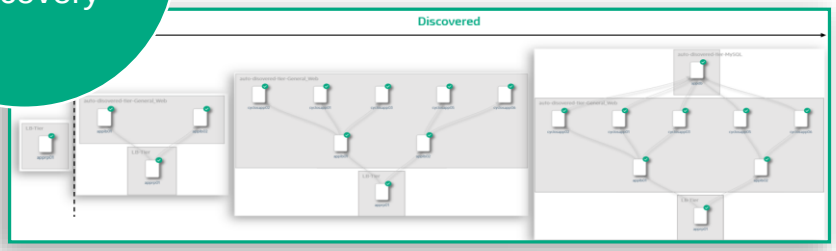
Cluster Ready

HPE RUM for Docker



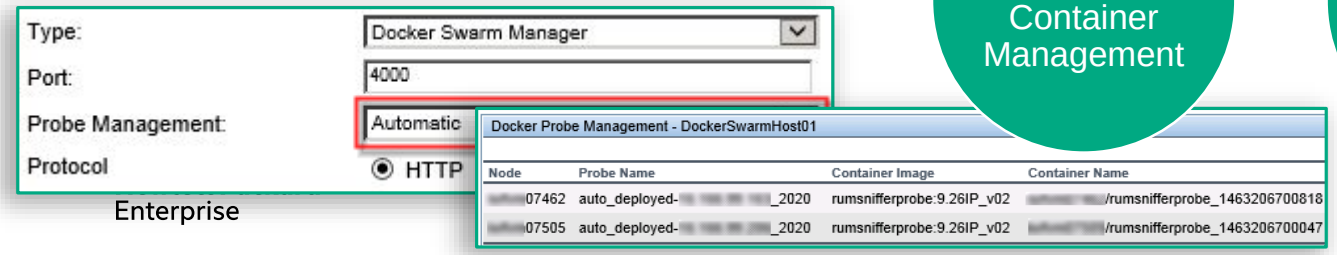
Advanced Filtering

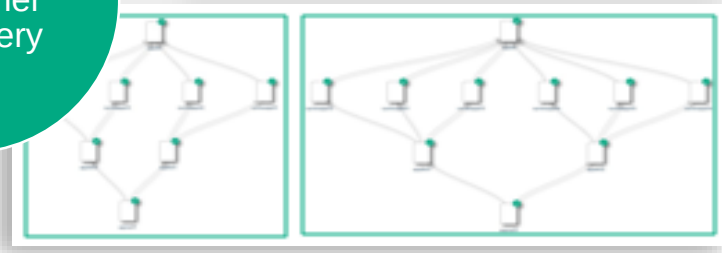
Automatic Tier Discovery



Automatic Sniffer Container Management

Automatic Container Discovery



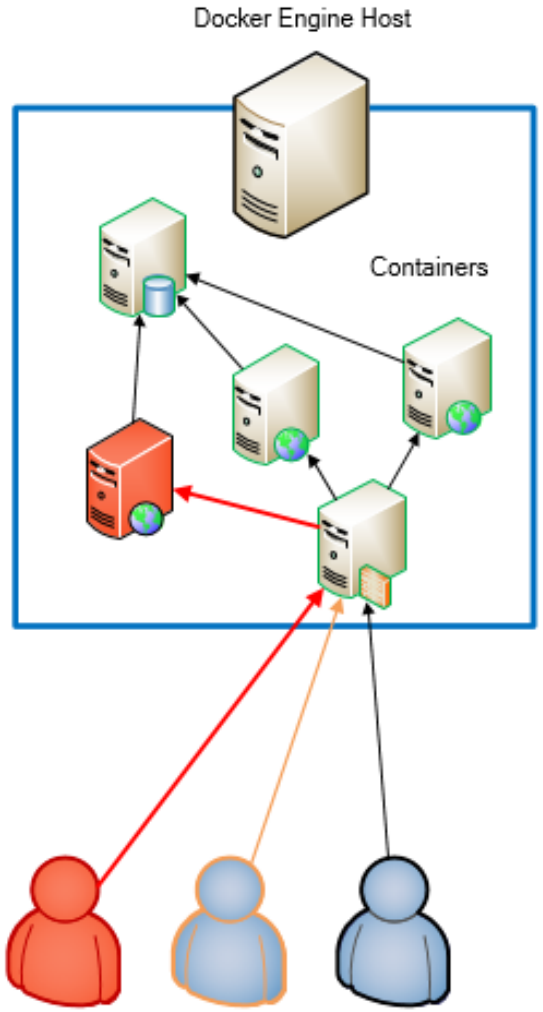


RUM and Docker Engine

Monitoring your containers hosted on a Docker Engine

Initial Configuration

- Connection details to Docker Engine Host (one time)
- Port that users access (exposed port)

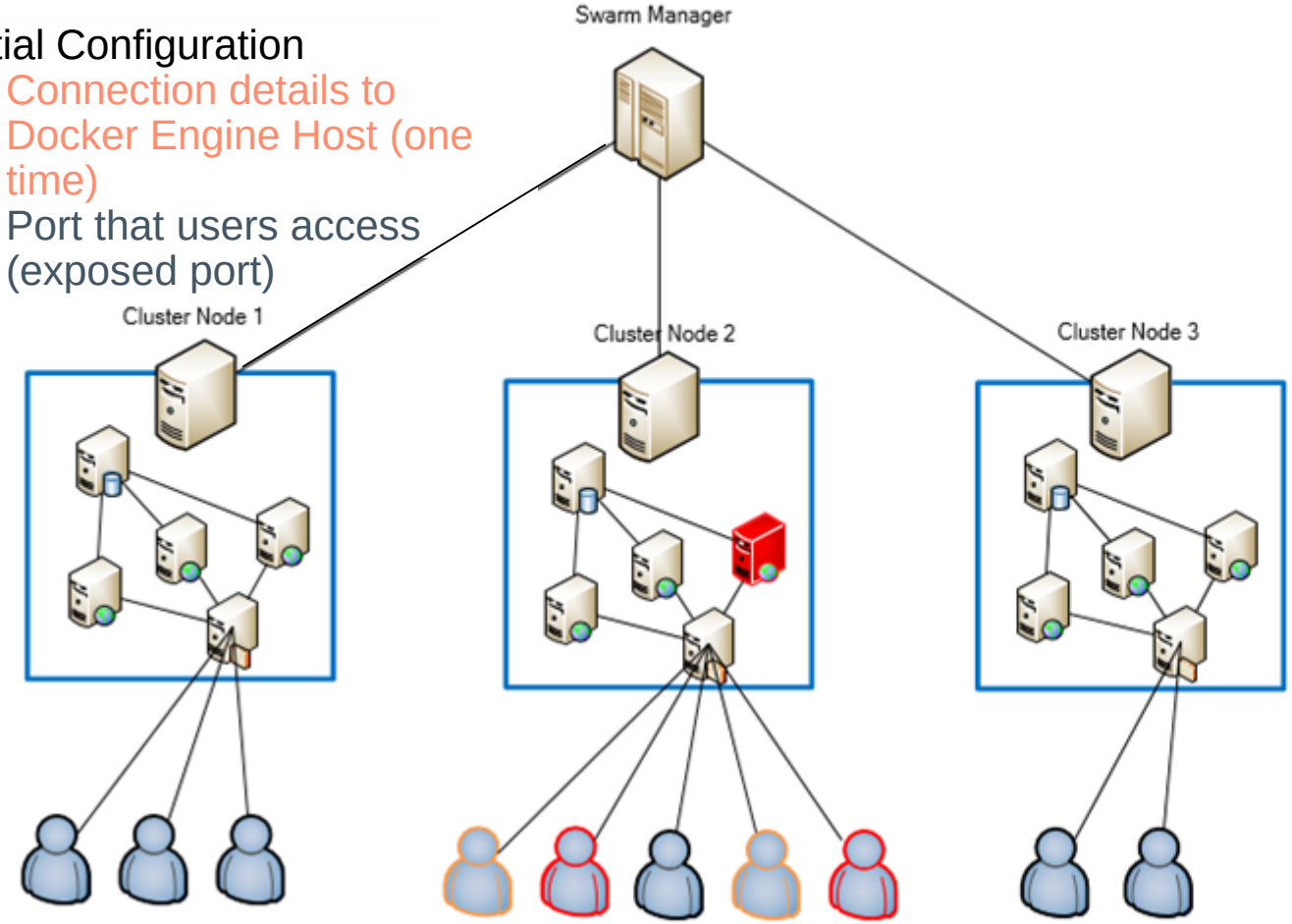


RUM and Docker Swarm

Monitoring your containers hosted on a Docker Swarm

Initial Configuration

- Connection details to Docker Engine Host (one time)
- Port that users access (exposed port)



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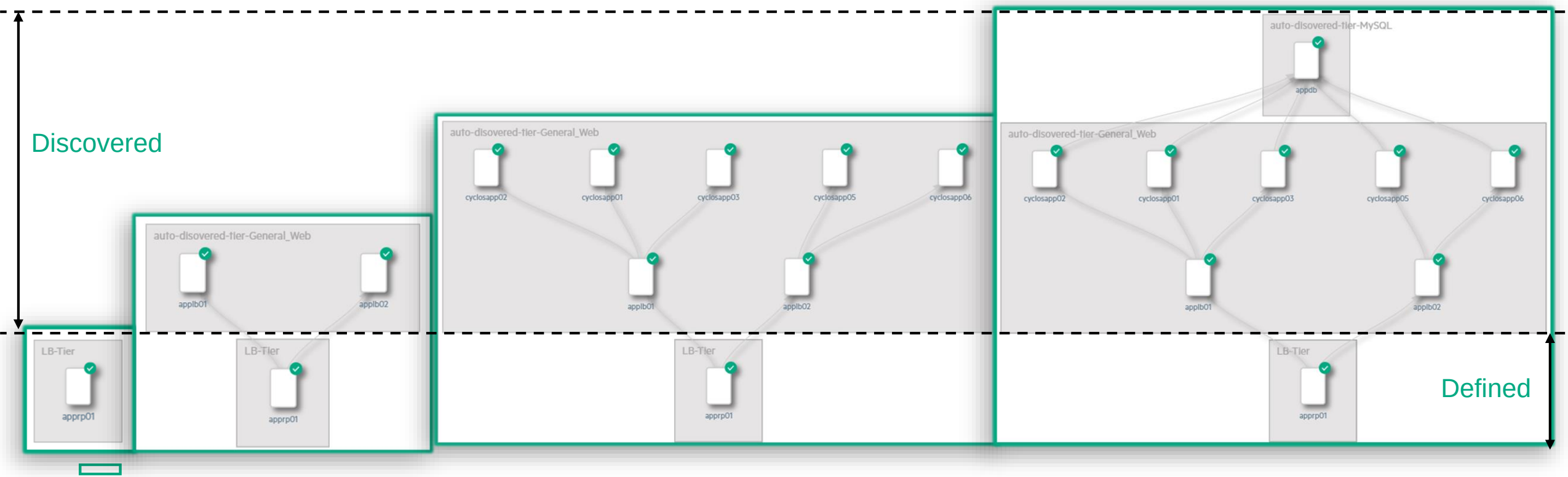
Automatic App Tier Discovery

Backend tiers are automatically discovered and monitored

- Define the frontend tier (LB-Tier displayed below)
- Backend tiers are automatically discovered and monitored (web and MySQL tiers displayed below)



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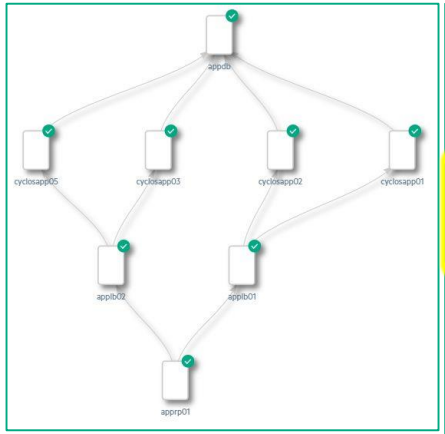
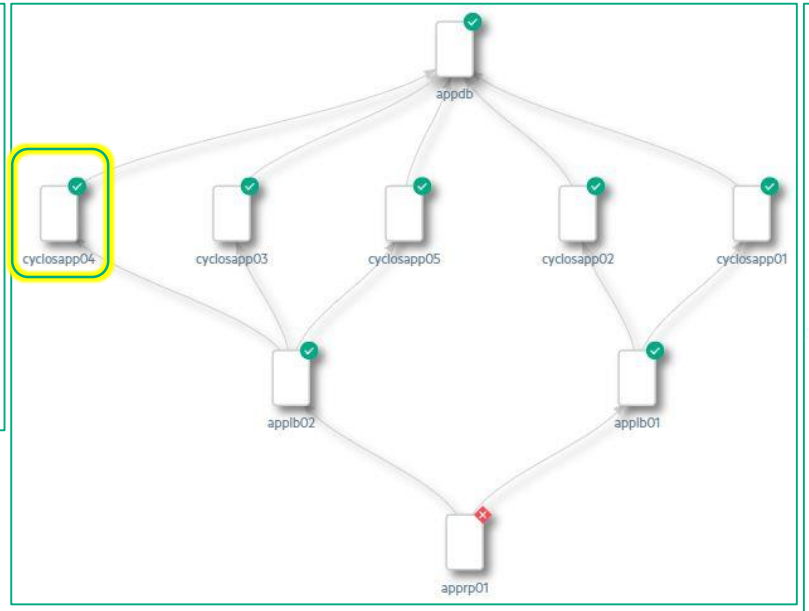
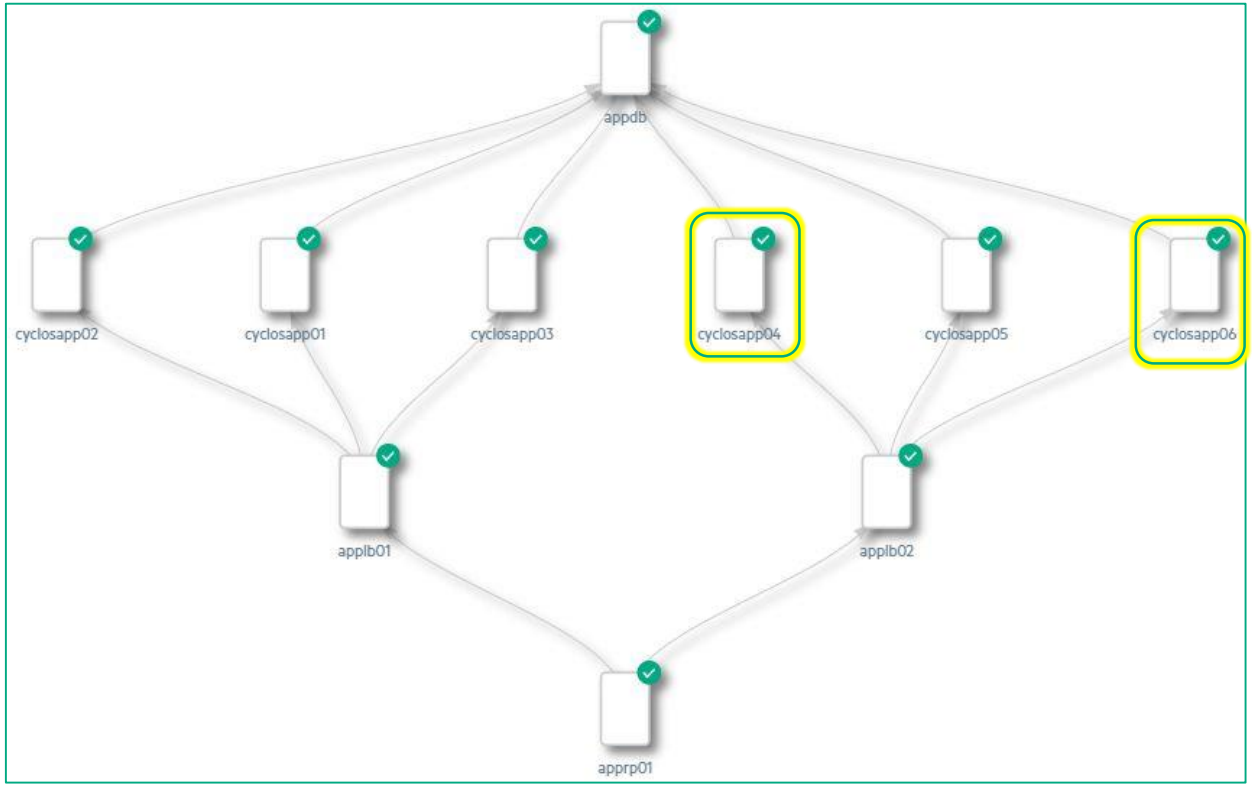
Automatic Container Discovery

New containers are automatically discovered and monitored



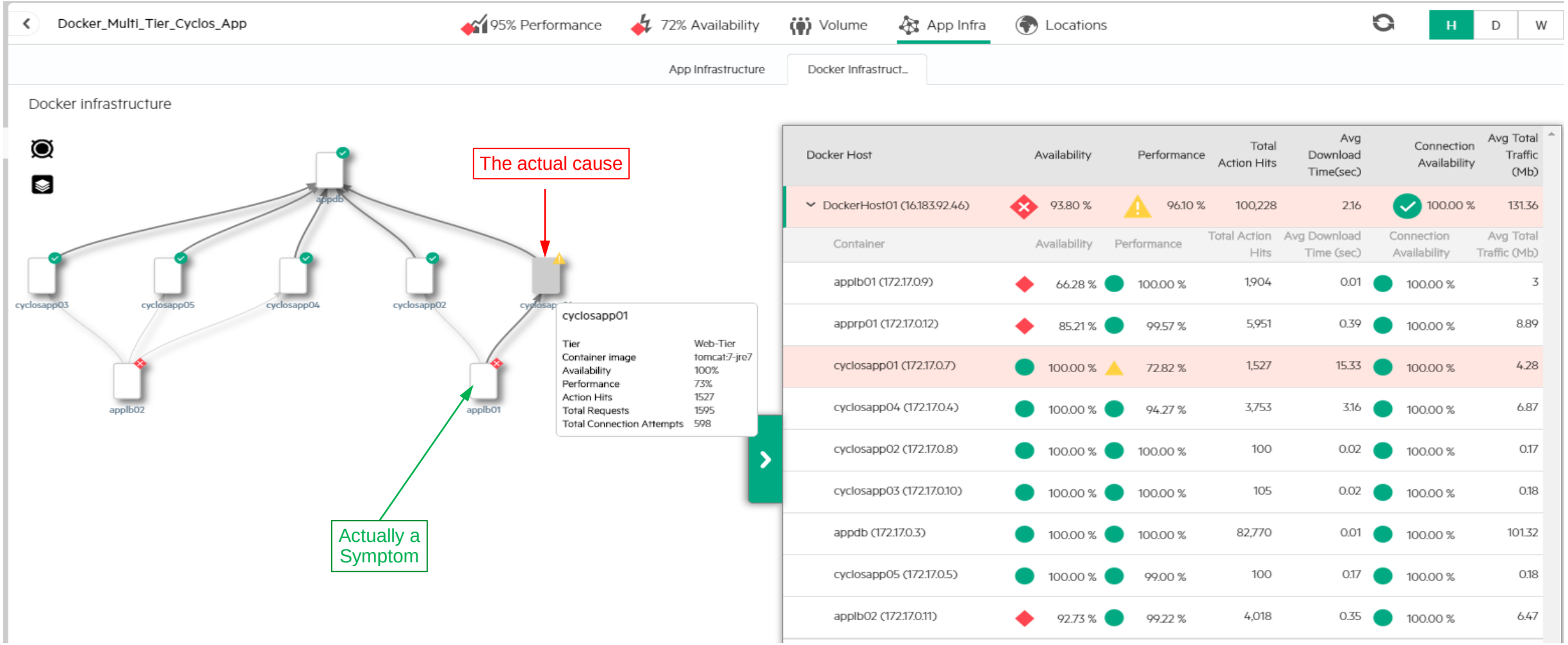




- Docker hosts and cluster managers are polled every few minutes for change
- New containers are automatically discovered and monitored

Enhanced Reports for Containers

New Docker Infra report dedicated to displaying unified app tier and Docker topologies



Enhanced Reports for Containers

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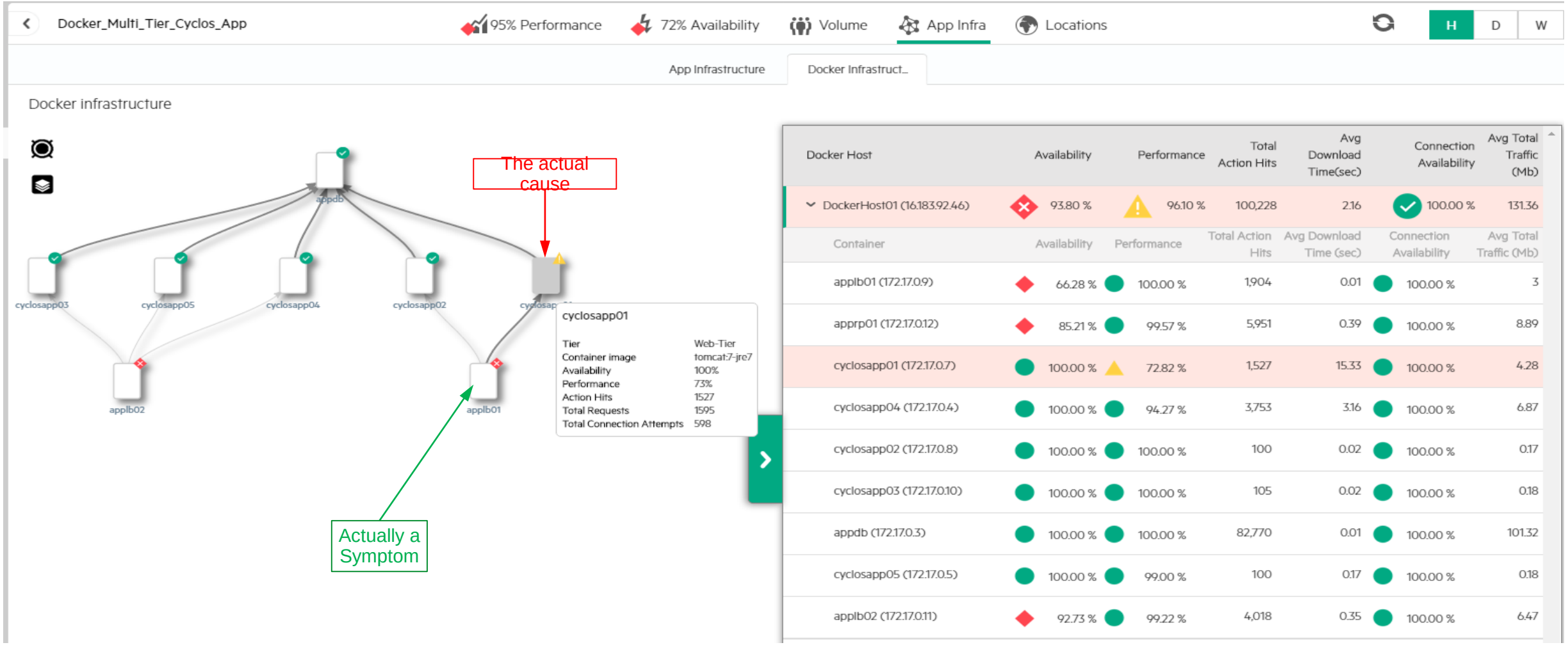


RUM for Docker

Demo

APM Demo

Troubleshooting a Docker-based application

- Starting in the Application Health Dashboard
  - Notice application with Critical availability
  - Drill down into the Application Overview
  - Drill into the failures
  - Note the error log –
  - Note the Action associated with that response – expand the action
    - Drill to Session details
      - Note the action in the session on which the request fails
    - Drill into the Application Infrastructure
      - Drill into Docker Infrastructure
      - Note the topology of the request and the application
      - Identify the root cause of the problem to the container level and it's location

MyBSM

Service Health

360° View | Custom Image | Geographic Map | Neighborhood Map | Problematic Subtree – Cross Views Page | Topology Map | Top View | Watch List

Application Health

Application Health

Service Level Management

Status Snapshot

SLA Reports - SLA Status | SLAs Summary | CI Summary | HI CI Summary | CI Impact | CI Status | Time Range Comparison | CIs Over Time | CI Time Comparison

Alerts

Outage Reports - Outage Distribution | Outage Breakdown | Outage Summary

SLA Management

End User Management

Status Reports - Application Summary | Application Health | Status Snapshot | Location Summary | BPM Performance Status | RUM Global Statistics

Analysis Reports - Triage Report | Triage Raw Data Report | Metrics Over Time | Performance Analysis | BPM Performance Over Time | BPM Response Time by Percentile | BPM Error Summary | RUM Transaction Summary | RUM End User Group Summary | RUM Action Summary | RUM Session Summary | RUM Tier Summary | RUM Session Analyzer | RUM Event Summary | RUM Application Infrastructure Summary

Utilities - BPM WebTrace Report | BPM Hop Report | BPM Page Component Breakdown on Demand | BPM WebTrace on Demand | BPM Transaction Invocation | BPM Self Monitoring

Alerts - Alerts Log | Alerts Count Over Time | Alerts Count Summary

Production Analysis - RUM User Flow Analytics | RUM Business Process Distribution | RUM Typical Transaction Load | RUM Location Load Analysis

Business Process Recognition - RUM Business Process Recognition Tool | RUM Business Process Recognition Settings

Mobile Reports - RUM Mobile Health

Diagnostics

System Availability Management

SiteScope Over Time Reports - Monitor Performance | Cross-Performance | Group Performance | Status Summary | Warning Summary | Error Summary

Event Log

User Reports

Report Manager

Custom Query Builder

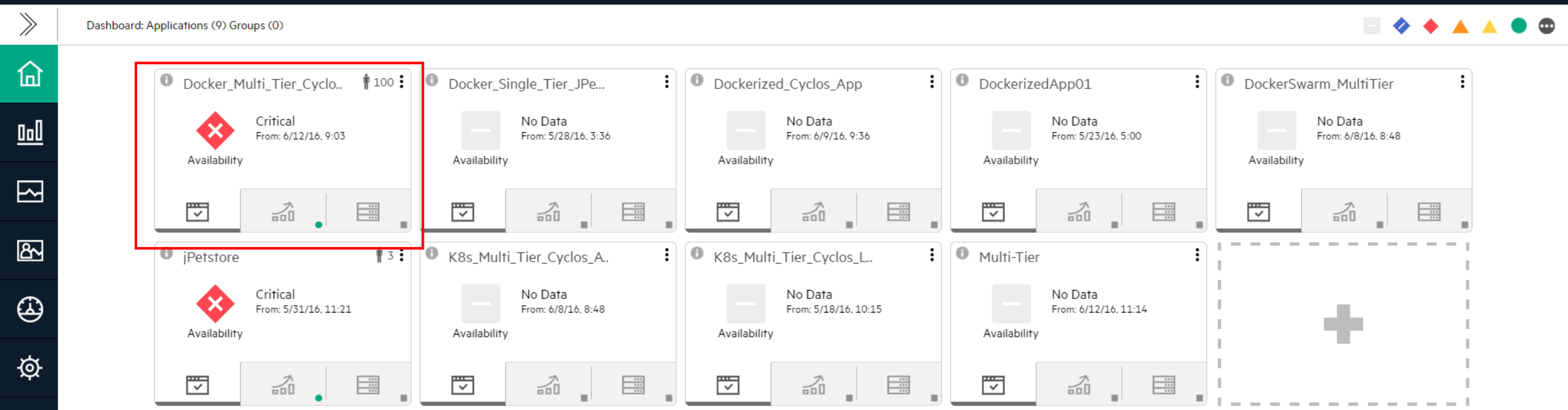
KPIs Summary

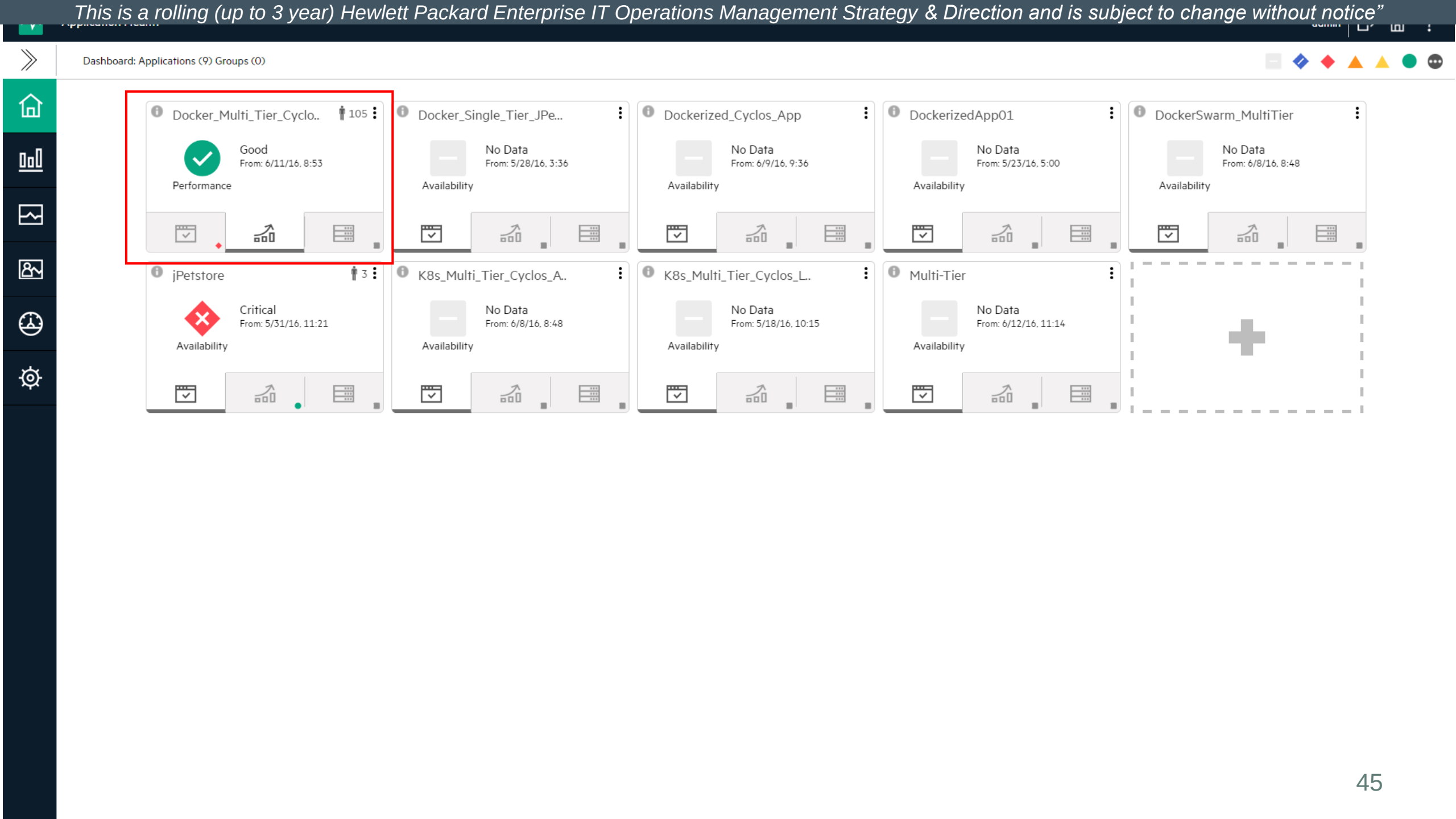
KPIs Trend

KPIs Distribution Over Time

KPIs Over Time

CI Status Alerts


Dashboard: Applications (9) Groups (0)
Docker_Multi_Tier_Cyclo..
100
Critical
From: 6/12/16, 9:03
Availability
Docker_Single_Tier_JPe...
No Data
From: 5/28/16, 3:36
Availability
Dockerized_Cyclos_App
No Data
From: 6/9/16, 9:36
Availability
DockerizedApp01
No Data
From: 5/23/16, 5:00
Availability
DockerSwarm_MultiTier
No Data
From: 6/8/16, 8:48
Availability
jPetstore
3
Critical
From: 5/31/16, 11:21
Availability
K8s_Multi_Tier_Cyclos_A..
No Data
From: 6/8/16, 8:48
Availability
K8s_Multi_Tier_Cyclos_L..
No Data
From: 5/18/16, 10:15
Availability
Multi-Tier
No Data
From: 6/12/16, 11:14
Availability



Docker_Multi_Tier_Cyclos_A..

Previous Two Hours

2H 12H D W M

App Overview

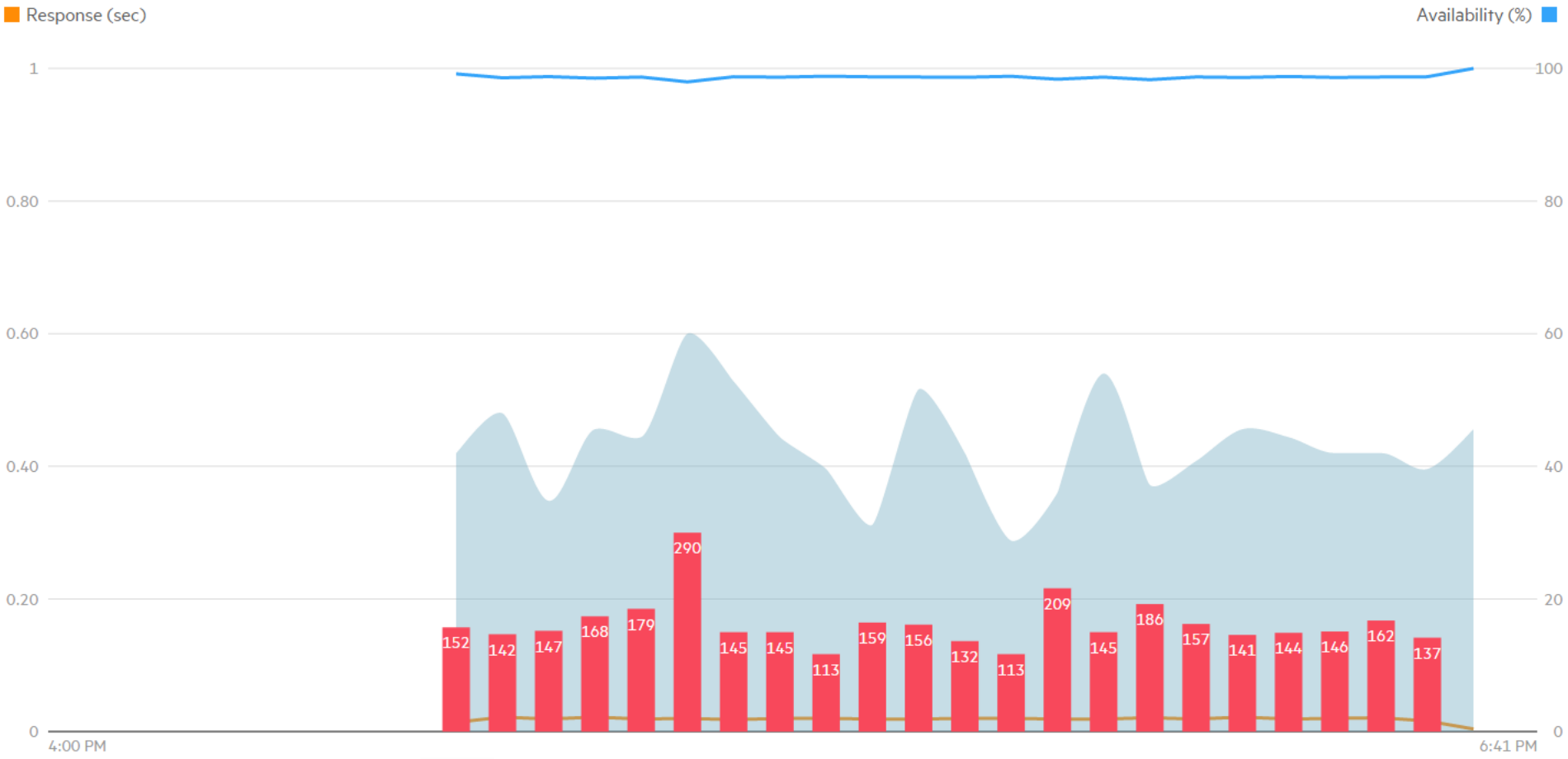
BPM RUM

98.67 %
Average Availability

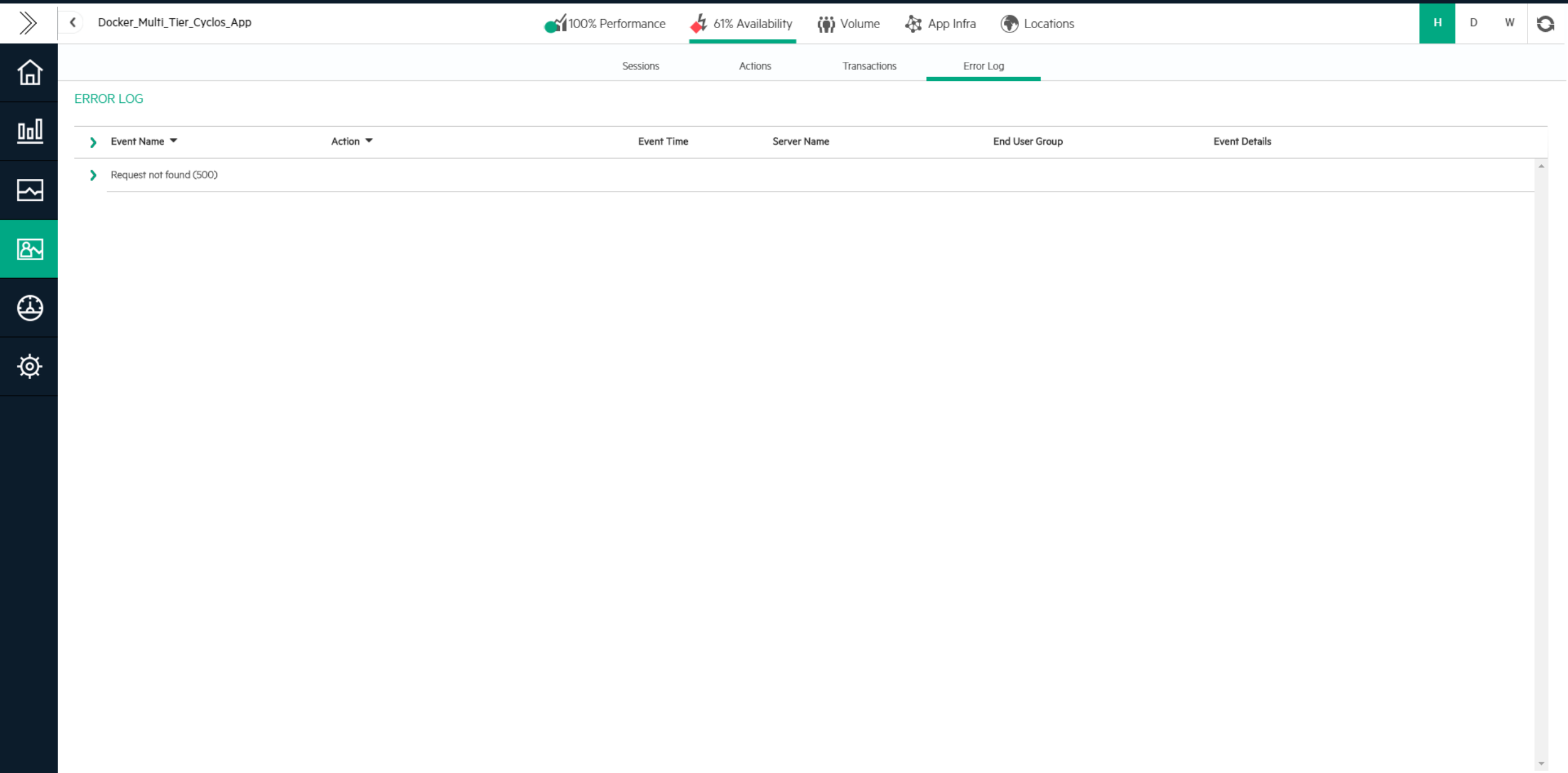
0.01 sec
Average Response Time

3.5k
Total Failures

827
Real User Volume



Investigation Recommendations (previous hour) 46


Docker_Multi_Tier_Cyclos_App
100% Performance
61% Availability
Volume
App Infra
Locations
H
D
W
Sessions
Actions
Transactions
Error Log
ERROR LOG
Event Name
Action
Event Time
Server Name
End User Group
Event Details
Request not found (500)

Docker_Multi_Tier_Cyclos_App

100% Performance | 61% Availability | Volume | App Infra | Locations

H D W

Sessions | Actions | Transactions | Error Log

ERROR LOG

Event Name	Action	Event Time	Server Name	End User Group	Event Details
Request not found (500)					
	http://16.183.92.46:8080/cyclos/do/member/accountd...				
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:40	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:40	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:40	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:40	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:40	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:40	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:39	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:39	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:39	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:39	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:39	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:39	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:38	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:38	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:38	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:38	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found
Request not found	http://16.183.92.46:8080/cyclos/do/member/accountd...	06/14/2016 18:38	apprp01.docker.io.httpd.latest...	Others	Status code 404 - Not Found

Refresh

Properties

Start time:	6/15/2016 4:38 AM		
Application:	Docker_Multi_Tier_Cyclos_App	**Client IP:**	147.65.0.1
End user subgroup:	Others [0.0.0.0-255.255.255.255]	**Client host name:**	N/A
Location:	Rio De Janeiro	**User name:**	j2ee07
Total Traffic (KB):	37.8	**Server IP:**	N/A
Duration (hh:mm:ss):	00:08:24	**Arrived from:**	N/A
Operating system:	N/A	**Client type:**	Safari Mobile
Latency (ms):	135.82	**HTTP version:**	HTTP/1.1
		Total action hits:	20

General Events

No data was found.

Actions

Action	Start Time	Application	Events	Total Time (sec)	Server Time (sec)	Network Time (sec)	Client Time (sec)	Think Time (sec)	Total Traffic (KB)	Snapshot
http://16.183.92.46:8080/cyclos/	6/15/2016 04:3	Docker_Multi_T	-	0.210	0.014	0.196	0.000	0.812	4.9	No
http://16.183.92.46:8080/cyc...ipal=j2ee07&password=***	6/15/2016 04:3	Docker_Multi_T	-	0.209	0.008	0.201	0.000	0.799	0.8	No
http://16.183.92.46:8080/cyclos/do/member/home?fromMenu	6/15/2016 04:3	Docker_Multi_T	-	0.215	0.015	0.200	0.000	0.825	0.7	No
http://16.183.92.46:8080/cyc...rue&fromQuickAccess=true	6/15/2016 04:3	Docker_Multi_T	-	0.212	0.015	0.197	0.000	0.803	0.7	No
http://16.183.92.46:8080/cyc...member/profile?fromMenu=tru	6/15/2016 04:3	Docker_Multi_T	-	0.215	0.014	0.201	0.000	0.803	0.7	No
http://16.183.92.46:8080/cyc...accountDetails?fromMenu=tru	6/15/2016 04:3	Docker_Multi_T	Request n...	0.011	0.007	0.004	0.000	0.000	8.2	Yes
http://16.183.92.46:8080/cyc...ccountOverview?fromMenu=	6/15/2016 04:3	Docker_Multi_T	-	0.218	0.013	0.205	0.000	0.797	0.7	No
http://16.183.92.46:8080/cyc...ypeId=5&fromQuickAccess=	6/15/2016 04:3	Docker_Multi_T	-	0.216	0.015	0.201	0.000	82.462	0.7	No
http://16.183.92.46:8080/cyclos/	6/15/2016 04:3	Docker_Multi_T	-	3.029	2.839	0.190	0.000	0.000	5.0	No
http://16.183.92.46:8080/cyc...ipal=j2ee07&password=***	6/15/2016 04:3	Docker_Multi_T	-	2.212	2.013	0.199	0.000	0.803	0.9	No
http://16.183.92.46:8080/cyclos/do/member/home?fromMenu	6/15/2016 04:3	Docker_Multi_T	-	0.228	0.022	0.206	0.000	0.797	0.7	No
http://16.183.92.46:8080/cyc...rue&fromQuickAccess=true	6/15/2016 04:3	Docker_Multi_T	-	0.216	0.016	0.200	0.000	0.801	0.7	No
http://16.183.92.46:8080/cyc...member/profile?fromMenu=tru	6/15/2016 04:3	Docker_Multi_T	-	0.217	0.014	0.203	0.000	0.800	0.7	No
http://16.183.92.46:8080/cyc...accountDetails?fromMenu=tru	6/15/2016 04:3	Docker_Multi_T	Request n...	0.014	0.013	0.001	0.000	0.000	8.2	Yes

Critical | OK | Downtime | Actions included in the selecte...

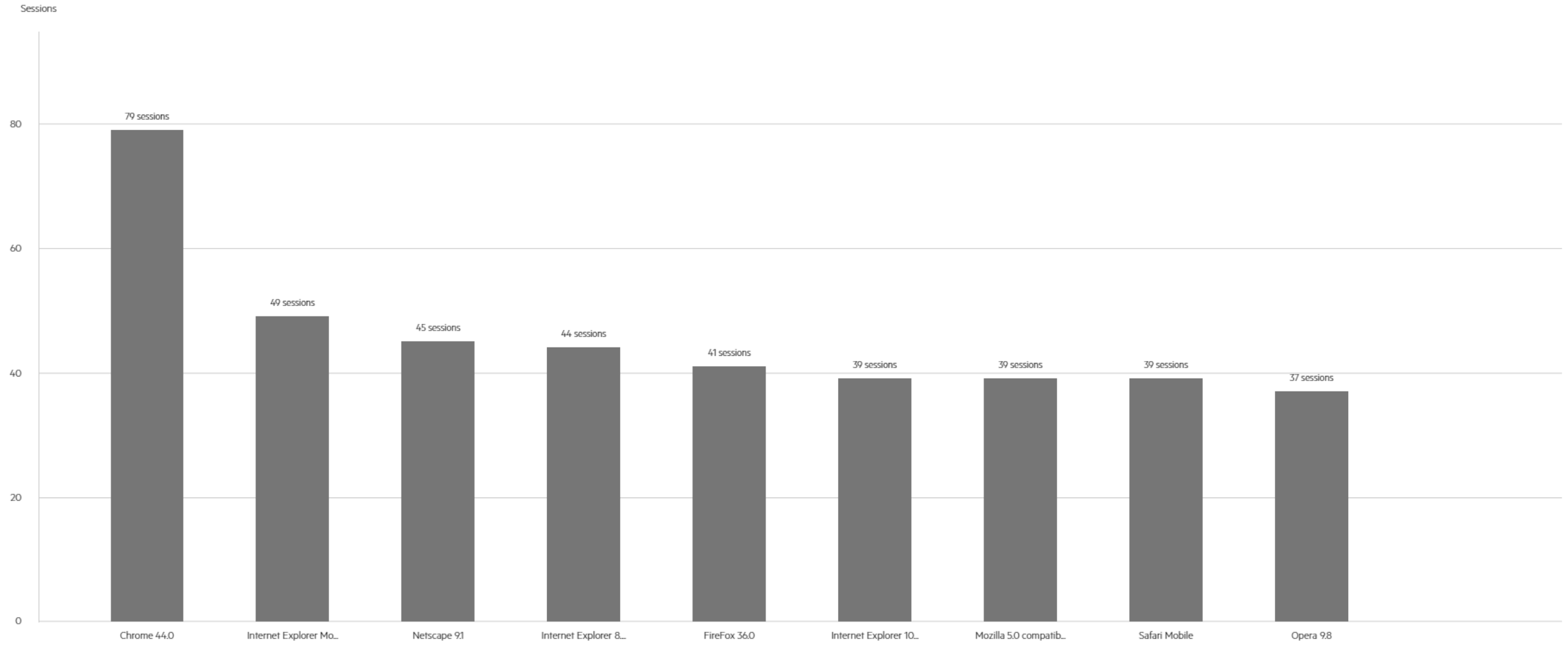
Docker_Multi_Tier_Cyclos_App

100% Performance | 61% Availability | Volume | App Infra | Locations

H D W

Sessions | Popular Actions

SESSIONS VOLUME BY | Browser



The top 10 results for each property are displayed

Docker_Multi_Tier_Cyclos_App

100% Performance | 61% Availability | Volume | App Infra | Locations

H D W

Sessions | Popular Actions

SESSIONS VOLUME BY | OS

- Username
- OS
- Browser

The top 10 results for each property are displayed

Docker_Multi_Tier_Cyclos_App

100% Performance | 61% Availability | Volume | App Infra | Locations

H D W

Sessions | Popular Actions

POPULAR ACTIONS

Action	Action Hits	Defined
http://16.183.92.46:8080/cyclos/	760	No
http://16.183.92.46:8080/cyclos/do/login?operatorlogin=*&password=*&principal=*&principaltype=*&validati...	742	No
http://16.183.92.46:8080/cyclos/do/member/home?frommenu=*	712	No
http://16.183.92.46:8080/cyclos/do/member/profile?frommenu=*&fromquickaccess=*	691	No
http://16.183.92.46:8080/cyclos/do/member/profile?frommenu=*	673	No
http://16.183.92.46:8080/cyclos/do/member/accountdetails?frommenu=*	636	No
http://16.183.92.46:8080/cyclos/do/member/accountoverview?frommenu=*	603	No
http://16.183.92.46:8080/cyclos/do/member/accounthistory?fromquickaccess=*&memberid=*&singleaccount=*&typeid...	561	No
http://16.183.92.46:8080/cyclos/do/member/notificationpreferences?frommenu=*	527	No
http://16.183.92.46:8080/cyclos/do/member/searchmembers?frommenu=*	500	No

PERFORMANCE & AVAILABILITY BY TIERS & SERVERS

Tier	Availability	Performance	Total Action Hits	Slow Action Hits	Avg Download Time(sec)	Connection Availability	Avg Total Traffic (Mb)	Total Requests	Total Connection Attempts
auto-disovered-tier-General_Web	91.36 %	100.00 %	12,921	0	0.03	100.00 %	27.91	14,187	1,522
auto-disovered-tier-MySQL	100.00 %	100.00 %	101,918	0	0.01	N/A	138.05	101,918	0
LB-Tier	91.42 %	100.00 %	6,448	0	0.25	100.00 %	13.51	7,124	1,003

App Infrastructure | Docker Infrastruct...

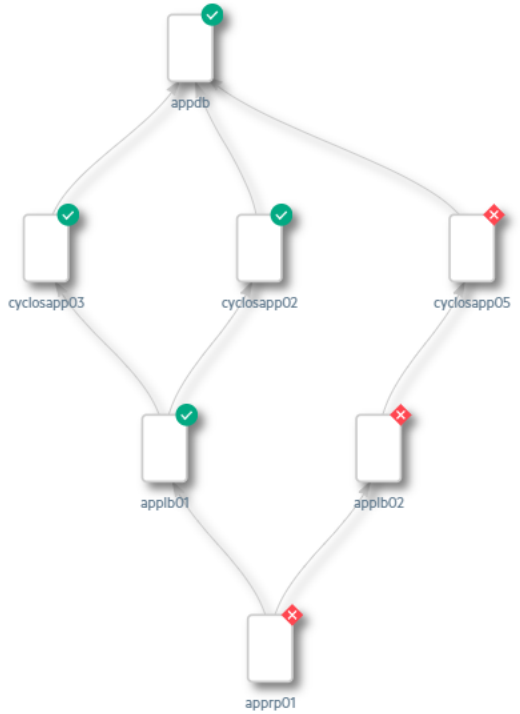
PERFORMANCE & AVAILABILITY BY TIERS & SERVERS

Tier	Availability	Performance	Total Action Hits	Slow Action Hits	Avg Download Time(sec)	Connection Availability	Avg Total Traffic (Mb)	Total Requests	Total Connection Attempts
auto-disovered-tier-General_Web	91.36 %	100.00 %	12,921	0	0.03	100.00 %	27.91	14,187	1,522
Server Name	**Availability**	**Performance**	**Total Action Hits**	**Slow Action Hits**	**Avg Download Time (sec)**	**Connection Availability**	**Avg Total Traffic (Mb)**	**Total Requests**	**Total Connection Attempts**
cyclosapp02.tomcat.7.jre7.16.183.92.46 ()	100.00 %	100.00 %	323	0	0.02	100.00 %	1.21	454	203
applb02.docker.io.httpd.latest.16.183.92.46 ()	90.37 %	100.00 %	5,783	0	0.01	100.00 %	11.93	6,125	419
cyclosapp03.tomcat.7.jre7.16.183.92.46 ()	100.00 %	100.00 %	317	0	0.01	100.00 %	1.19	450	192
cyclosapp05.tomcat.7.jre7.16.183.92.46 ()	90.38 %	100.00 %	5,823	0	0.01	100.00 %	11.10	6,175	178
applb01.docker.io.httpd.latest.16.183.92.46 ()	100.00 %	100.00 %	675	0	0.35	100.00 %	2.48	983	530
auto-disovered-tier-MySQL	100.00 %	100.00 %	101,918	0	0.01	N/A	138.05	101,918	0
LB-Tier	91.42 %	100.00 %	6,448	0	0.25	100.00 %	13.51	7,124	1,003

Docker_Multi_Tier_Cyclos_App | 100% Performance | 61% Availability | Volume | App Infra | Locations | H | D | W

App Infrastructure | Docker Infrastruct...

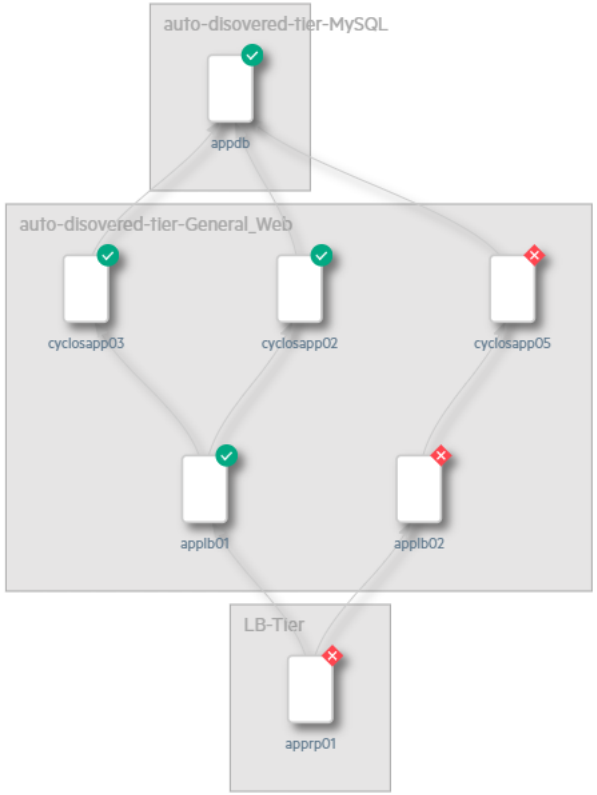
DOCKER INFRASTRUCTURE



Docker_Multi_Tier_Cyclos_App | 100% Performance | 61% Availability | Volume | App Infra | Locations | H | D | W

App Infrastructure | Docker Infrastruct...

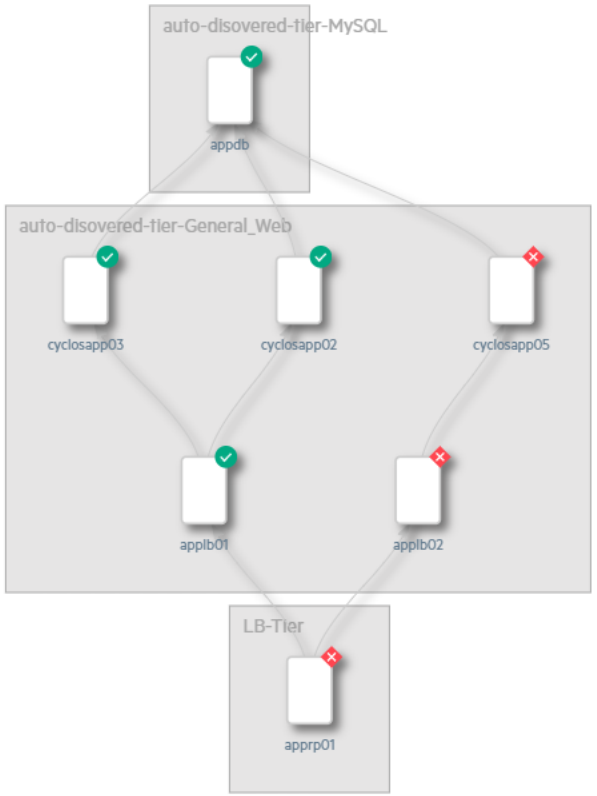
DOCKER INFRASTRUCTURE



Docker_Multi_Tier_Cyclos_App | 100% Performance | 61% Availability | Volume | App Infra | Locations | H | D | W

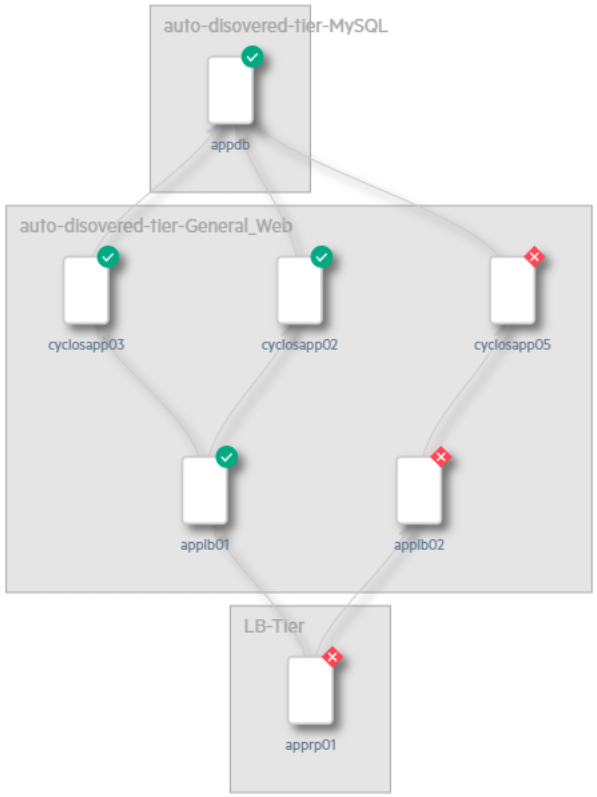
App Infrastructure | Docker Infrastruct...

DOCKER INFRASTRUCTURE



Docker Host	Availability	Performance	Total Action Hits	Avg Download Time(sec)	Connection Availability	Avg Total Traffic (Mb)
DockerEngine02 (16.183.92.46)	96.02 %	100.00 %	121,287	0.10	85.71 %	179.47

DOCKER INFRASTRUCTURE



Docker Host	Availability	Performance	Total Action Hits	Avg Download Time(sec)	Connection Availability	Avg Total Traffic (Mb)
DockerEngine02 (16.183.92.46)	96.02 %	100.00 %	121,287	0.10	85.71 %	179.47

Container	Availability	Performance	Total Action Hits	Avg Download Time (sec)	Connection Availability	Avg Total Traffic (Mb)
applb01 (172.17.0.11)	100.00 %	100.00 %	675	0.35	100.00 %	2.48
apprp01 (172.17.0.12)	91.42 %	100.00 %	6,448	0.25	100.00 %	13.51
cyclosapp03 (172.17.0.8)	100.00 %	100.00 %	317	0.01	100.00 %	1.19
cyclosapp05 (172.17.0.7)	90.38 %	100.00 %	5,823	0.01	100.00 %	11.10
cyclosapp02 (172.17.0.9)	100.00 %	100.00 %	323	0.02	100.00 %	1.21
appdb (172.17.0.3)	100.00 %	100.00 %	101,918	0.01	N/A	138.05
applb02 (172.17.0.10)	90.37 %	100.00 %	5,783	0.01	100.00 %	11.93

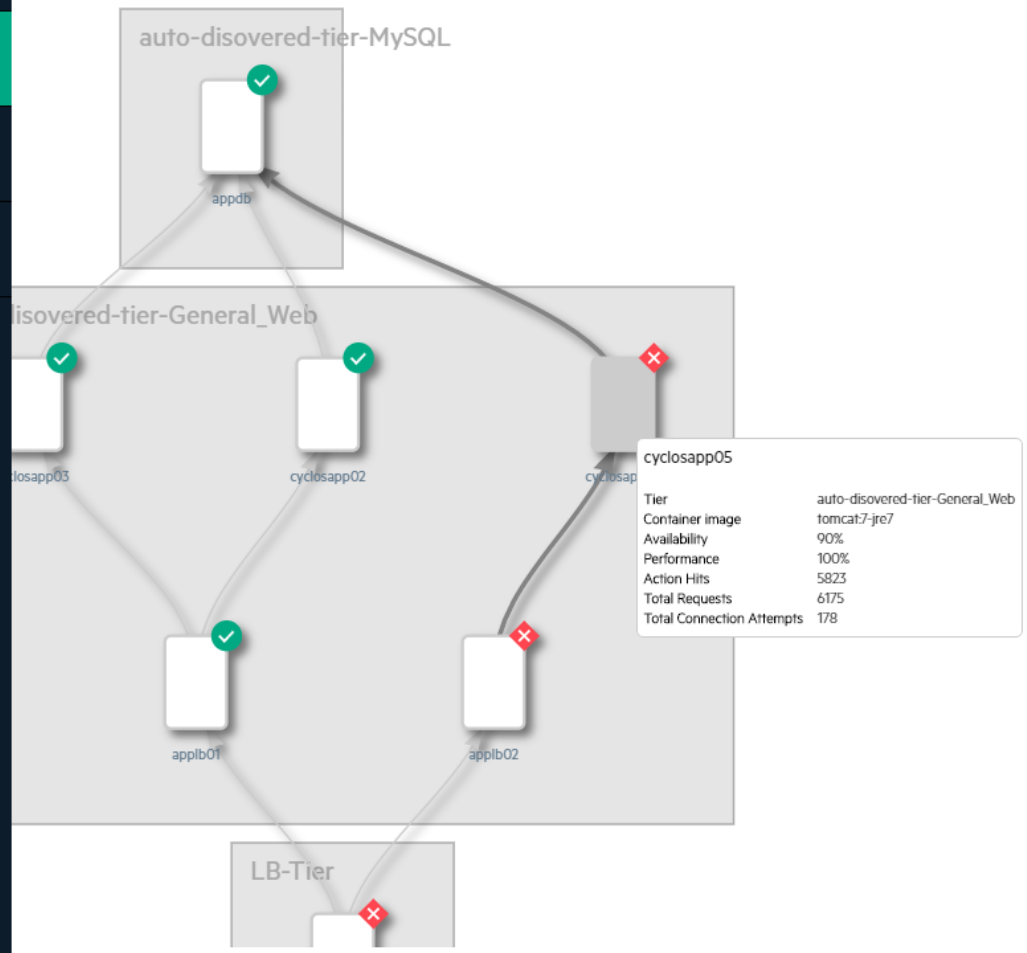
Docker_Multi_Tier_Cyclos_App

100% Performance | 61% Availability | Volume | App Infra | Locations

H | D | W

App Infrastructure | Docker Infrastruct...

DOCKER INFRASTRUCTURE



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Container	**Availability**	**Performance**	**Total Action Hits**	**Avg Download Time (sec)**	**Connection Availability**	**Avg Total Traffic (Mb)**
applb01 (172.17.0.11)	100.00 %	100.00 %	675	0.35	100.00 %	2.48
apprp01 (172.17.0.12)	91.42 %	100.00 %	6,448	0.25	100.00 %	13.51
cyclosapp03 (172.17.0.8)	100.00 %	100.00 %	317	0.01	100.00 %	1.19
cyclosapp05 (172.17.0.7)	90.38 %	100.00 %	5,823	0.01	100.00 %	11.10
cyclosapp02 (172.17.0.9)	100.00 %	100.00 %	323	0.02	100.00 %	1.21
appdb (172.17.0.3)	100.00 %	100.00 %	101,918	0.01	N/A	138.05
applb02 (172.17.0.10)	90.37 %	100.00 %	5,783	0.01	100.00 %	11.93

Predictive Analytics

Service Health Analyzer - SHA

Anomaly Detected | Started at 11/28/11 6:30 AM| No end date.

Investigate >

Business Impact

APPLICATIONS/SERVICES

Advantage Banking (Service)

Users affected: 89 (83%)

EUM Report

SLA

Advantage Infrastructures SLA

Exceeded

SLM Report

LOCATIONS

New York	20 Locations
Singapore	10 Locations
London	8 Locations
Paris	8 Locations

Root Cause

Type	[Pattern] Known Issue
Description	There is a DB issue, Incorrect db server memory configuration causes high swap rate
Submitted on	23/4/2011 13:46
Submitted by	Kate J.

Pattern Details

Type	[Layer Analysis] SERVER

Related Items

CI	Stock Trader Host (host)
Abnormal metric	Paging File Usage

Remediations

CI	Stock Trade DB (mssql_db)
Abnormal metric	Transactions Per Second

Remediations

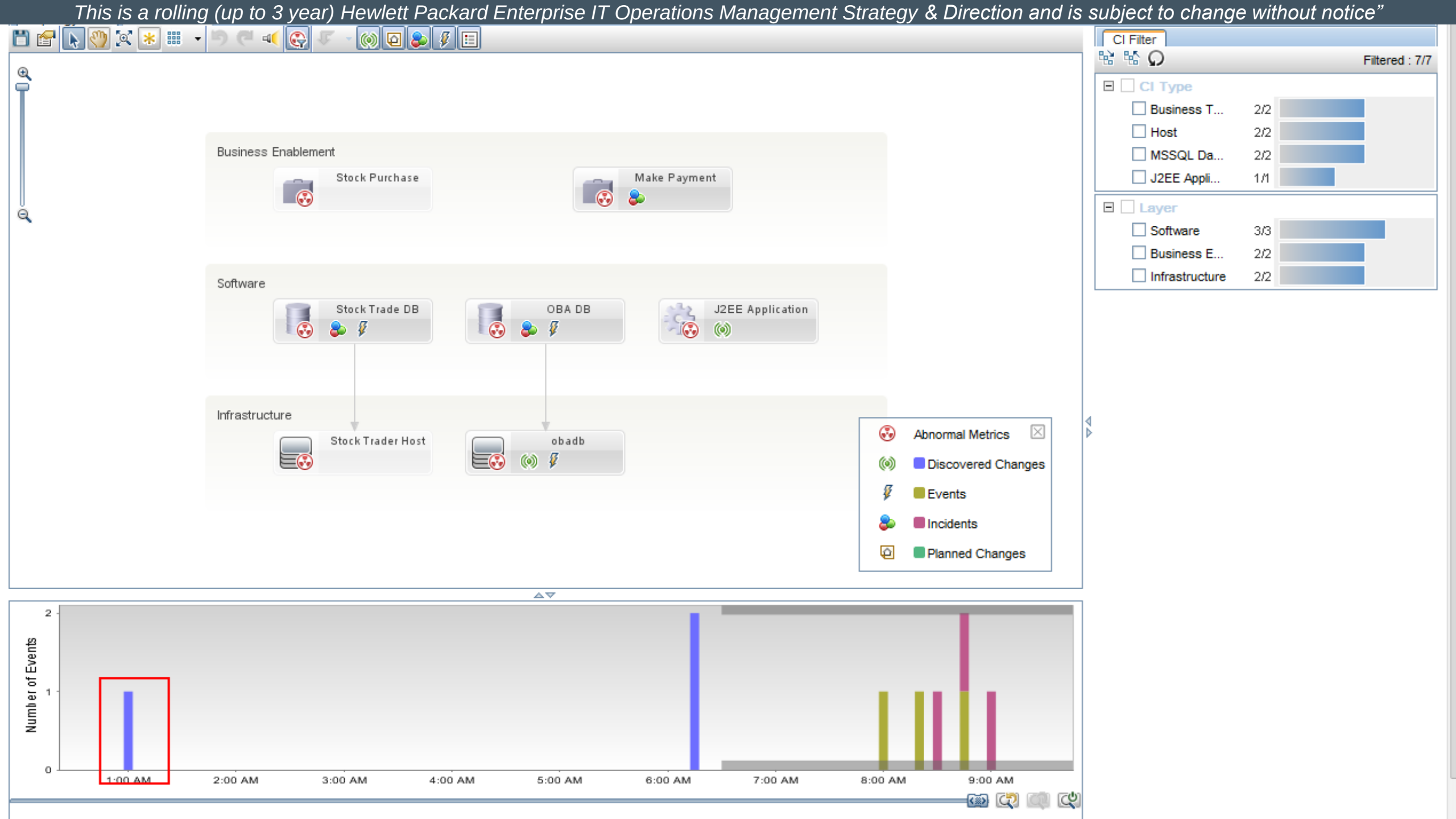
Similar Anomalies

Occurrence	11/8/11 12:20 PM
Similarity	91%

Anomaly Details

Occurrence	11/8/11 7:50 PM
Similarity	78%

Anomaly Details



APM

Service Level Management

Hewlett Packard Enterprise

Service Level Management

Advantage Banking Premium SLA
CRITICAL
D W M Q

Advantage Premium Banking Inf...
MINOR
D W M Q

Email Service SLA
GOOD
D W M Q

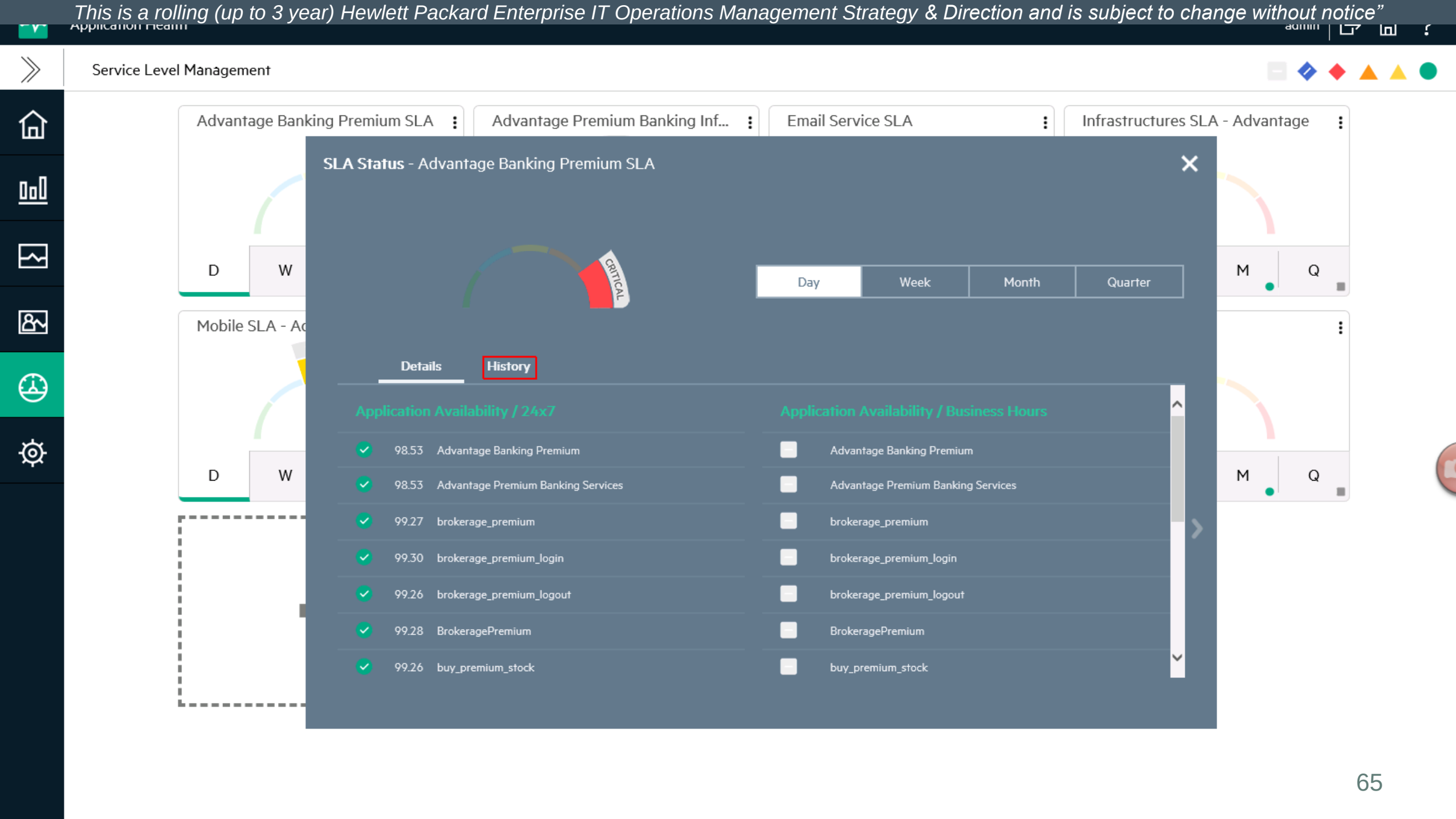
Infrastructures SLA - Advantage
GOOD
D W M Q

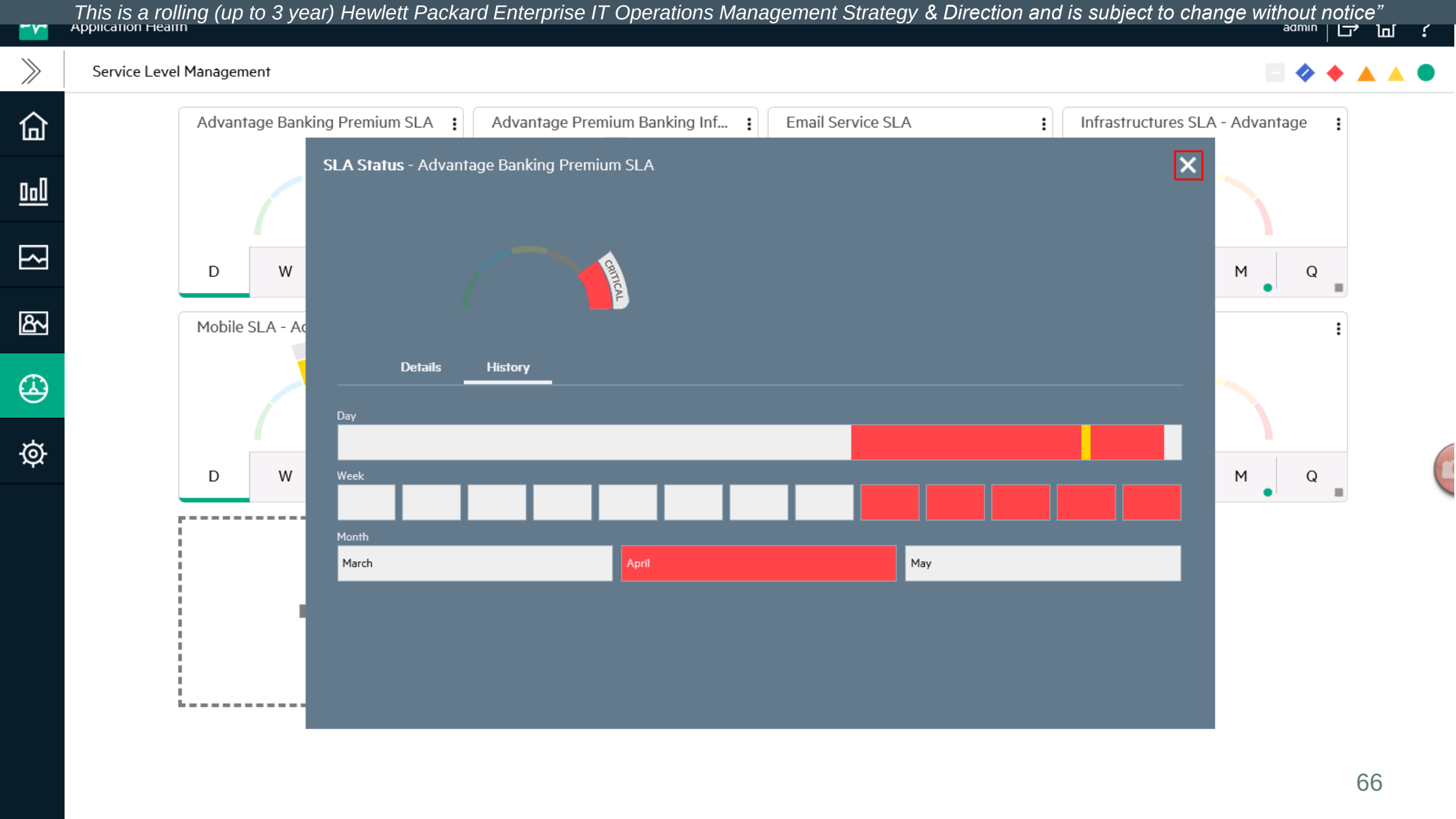
Mobile SLA - Advantage
MINOR
D W M Q

Revenue SLA - Advantage
CRITICAL
D W M Q

salesforce.com
GOOD
D W M Q

T-Mobile SLA(1)
GOOD
D W M Q


Application Health
admin
Service Level Management
Advantage Banking Premium SLA
Advantage Premium Banking Inf...
Email Service SLA
Infrastructures SLA - Advantage
D
W
M
Q
Mobile SLA - Ac
SLA Status - Advantage Banking Premium SLA
CRITICAL
Day
Week
Month
Quarter
Details
History
Application Availability / 24x7
Application Availability / Business Hours
98.53 Advantage Banking Premium
98.53 Advantage Premium Banking Services
99.27 brokerage_premium
99.30 brokerage_premium_login
99.26 brokerage_premium_logout
99.28 BrokeragePremium
99.26 buy_premium_stock
Advantage Banking Premium
Advantage Premium Banking Services
brokerage_premium
brokerage_premium_login
brokerage_premium_logout
BrokeragePremium
buy_premium_stock


Application Health
admin
Service Level Management
Advantage Banking Premium SLA
Advantage Premium Banking Inf...
Email Service SLA
Infrastructures SLA - Advantage
D
W
M
Q
Mobile SLA - Ac
SLA Status - Advantage Banking Premium SLA
CRITICAL
Details
History
Day
Week
Month
March
April
May

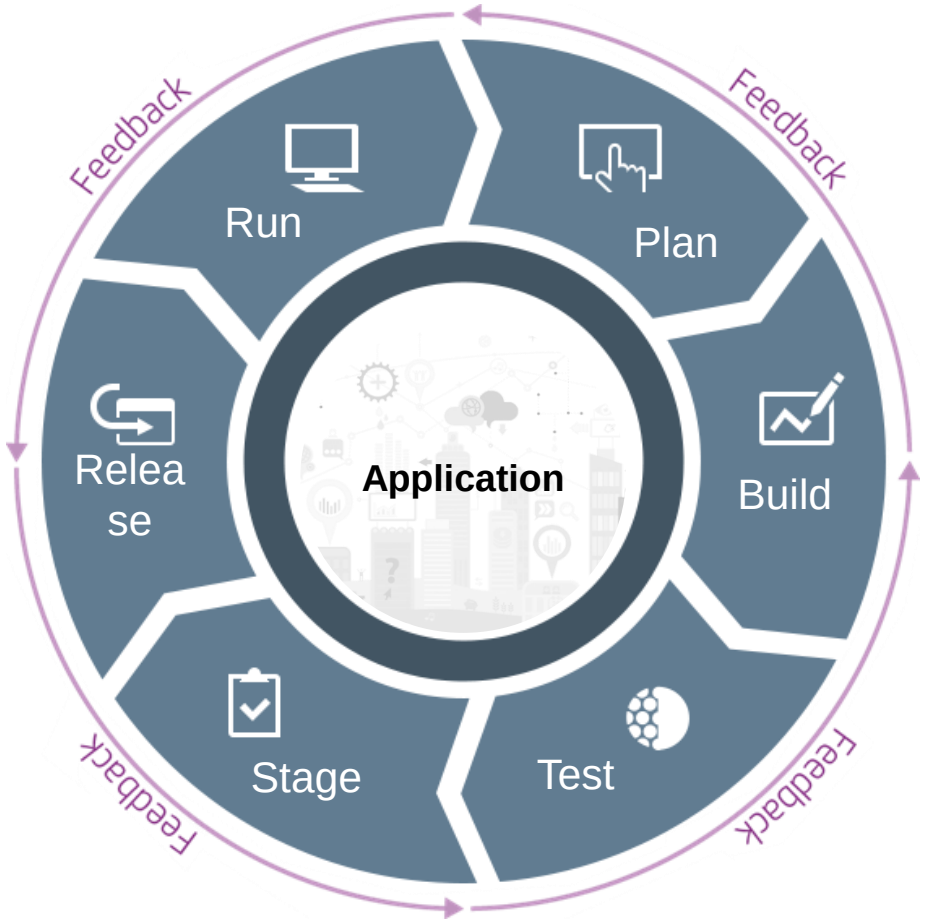
With an Eye Towards the Future

The Unified APM & AppPulse Story

Hewlett Packard Enterprise

APM enables DevOps

- Help IT survive rapid delivery and constant change by allowing controlled self service application management
  Give IT visibility into the UX
- Give development teams insight to production for optimizing app performance, experience and usability
- Lead the Enterprise DevOps

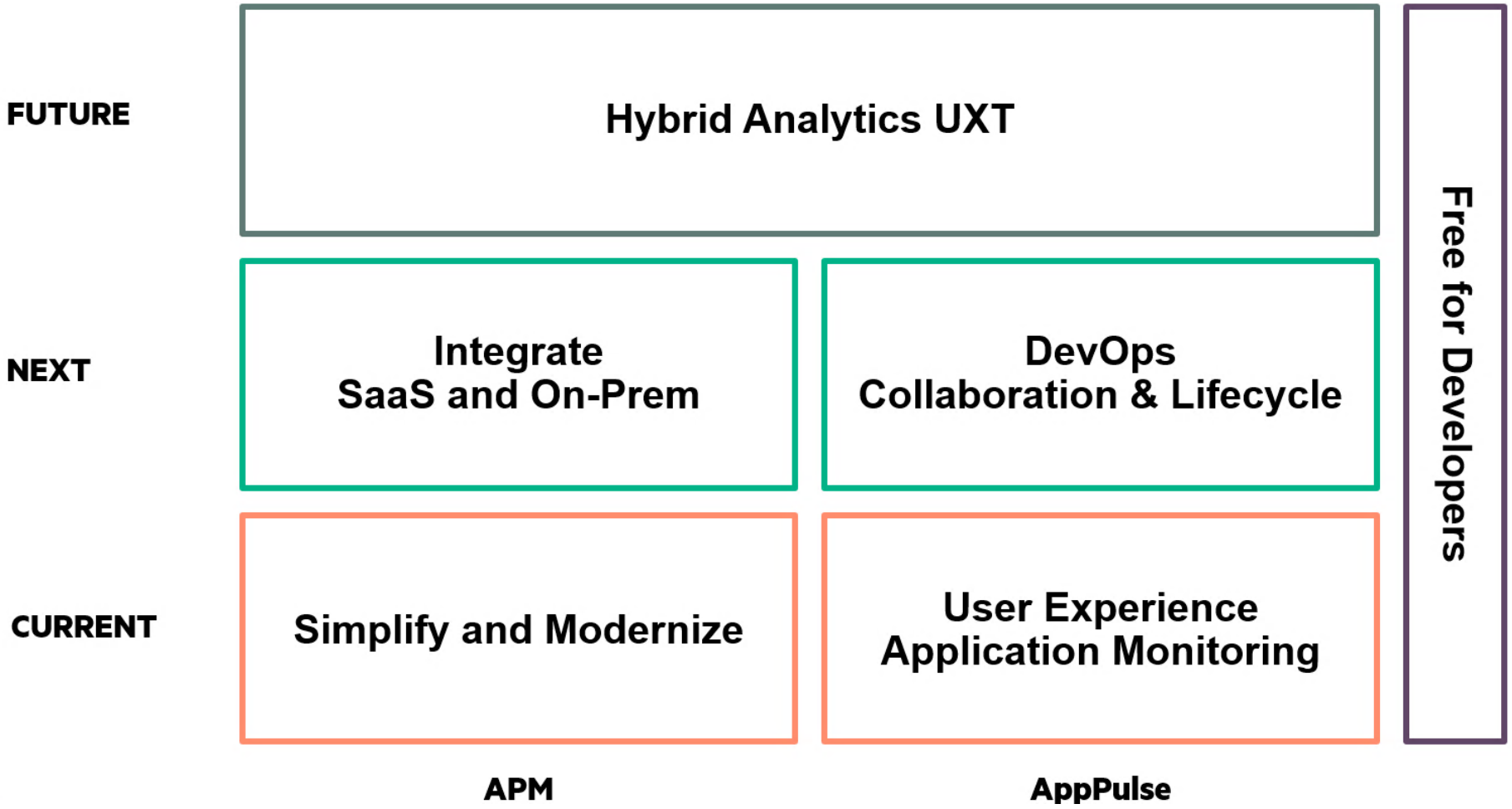


Hewlett Packard Enterprise

Strategic Priorities

Innovate and Expand	• Cont. product innovation and rapid releases • Free version for developers • Increase global SaaS presence • Embed Analytics
Introduce UXT Suite	• Simplify product structure and packaging • Unify On-Premise and SaaS offerings
Hybrid Delivery	• Integrate AppPulse to On-Premise APM • Bring AppPulse On-Premise

Strategic Direction



Holistic monitoring strategy

IT Ops

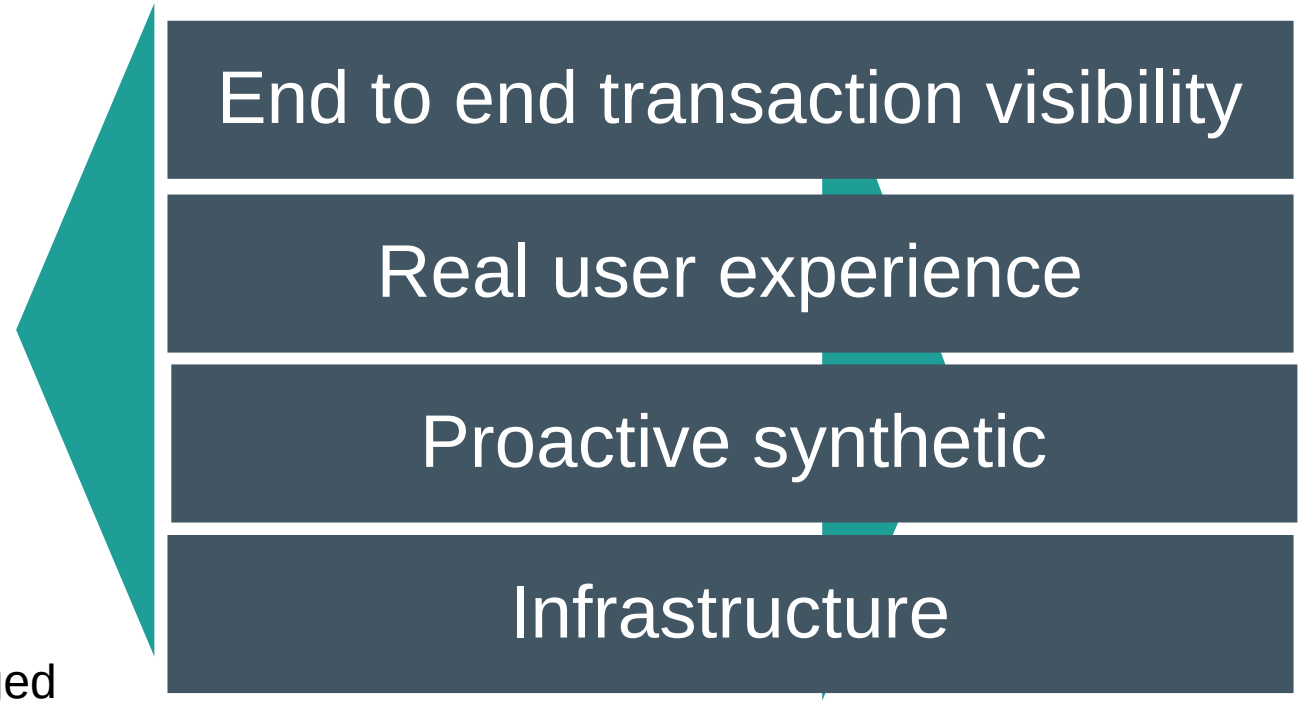
Event management

Alerts

Consolidated dashboards

Performance and availability troubleshooting

Support mobile, web, enterprise and packaged applications – SAP, Siebel, Citrix etc.



App Team

Self Service

UX measurement

Client isolation

Code level visibility

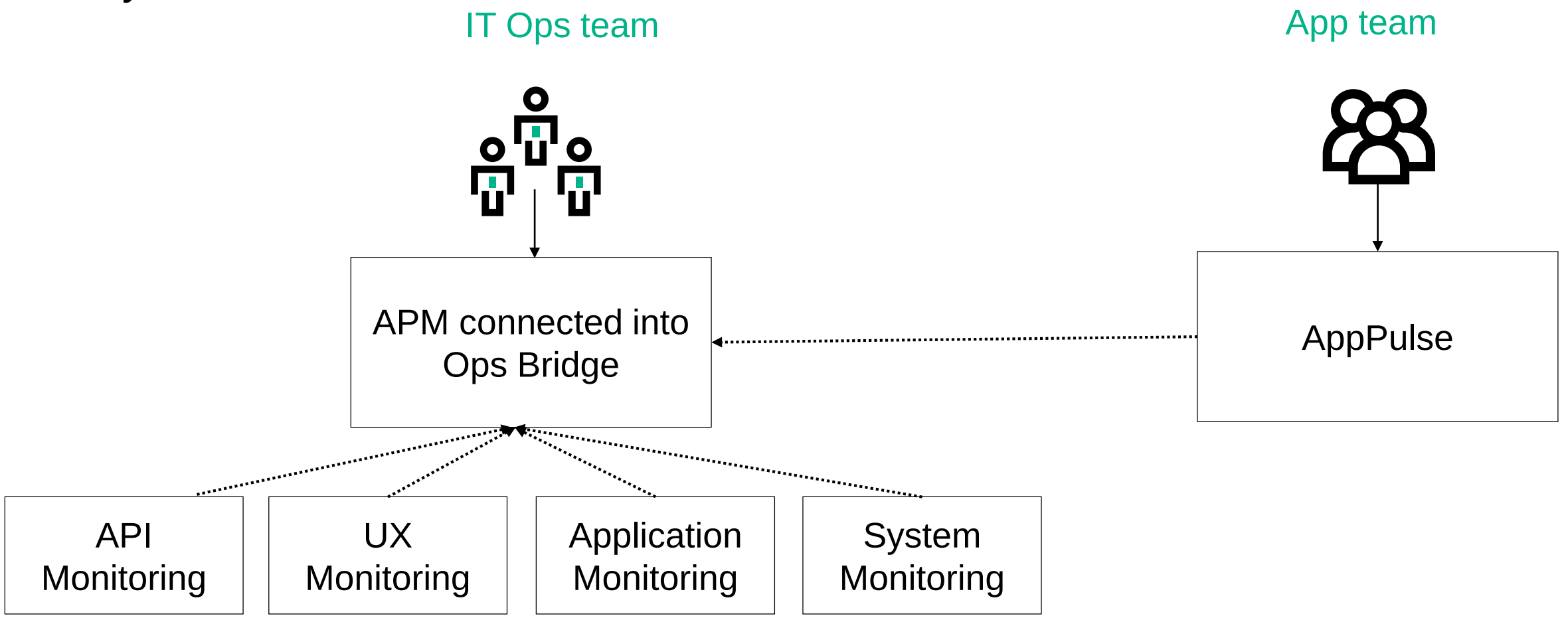
User behavior

Business insights

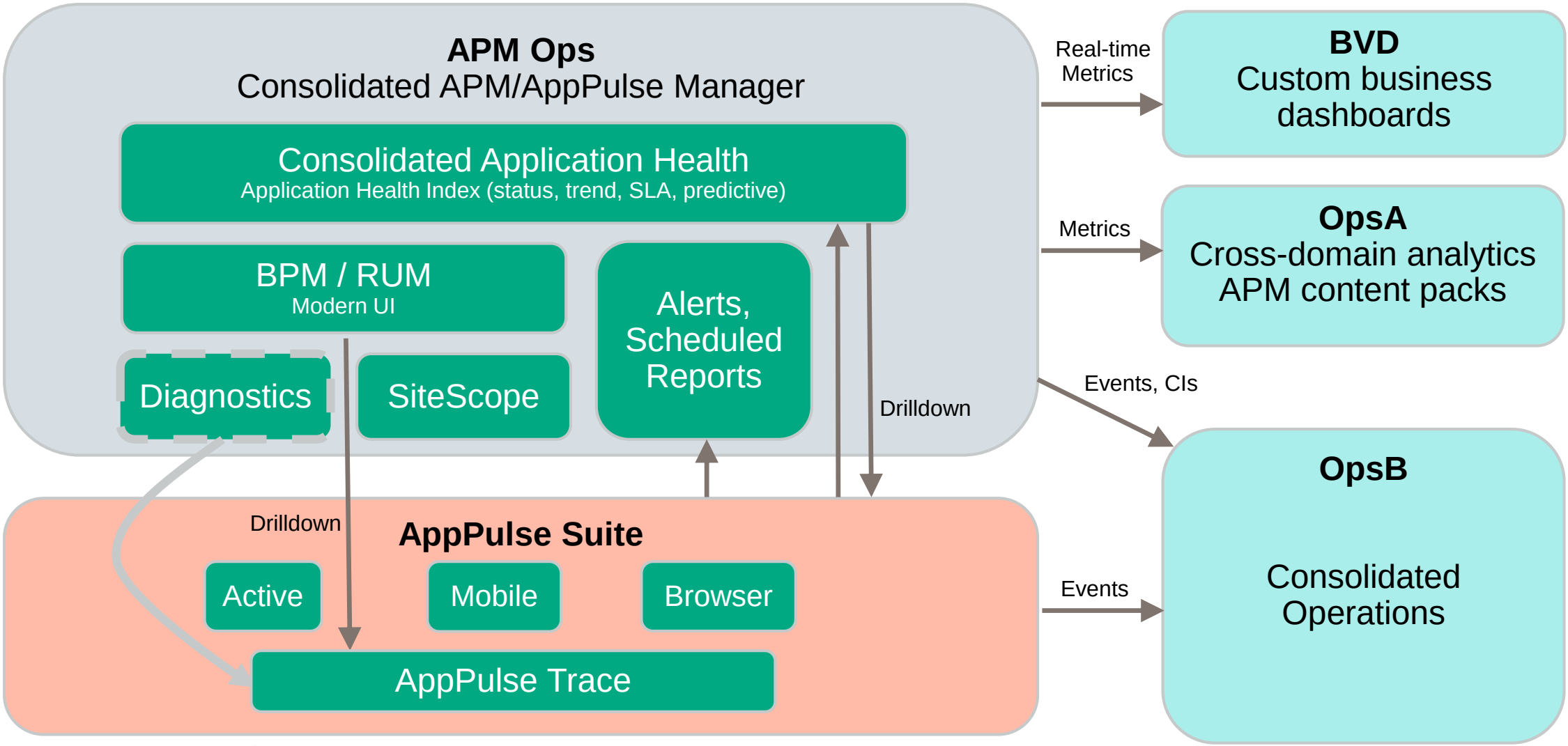
Agile closed loop process for fixes

APM or AppPulse

Why choose?

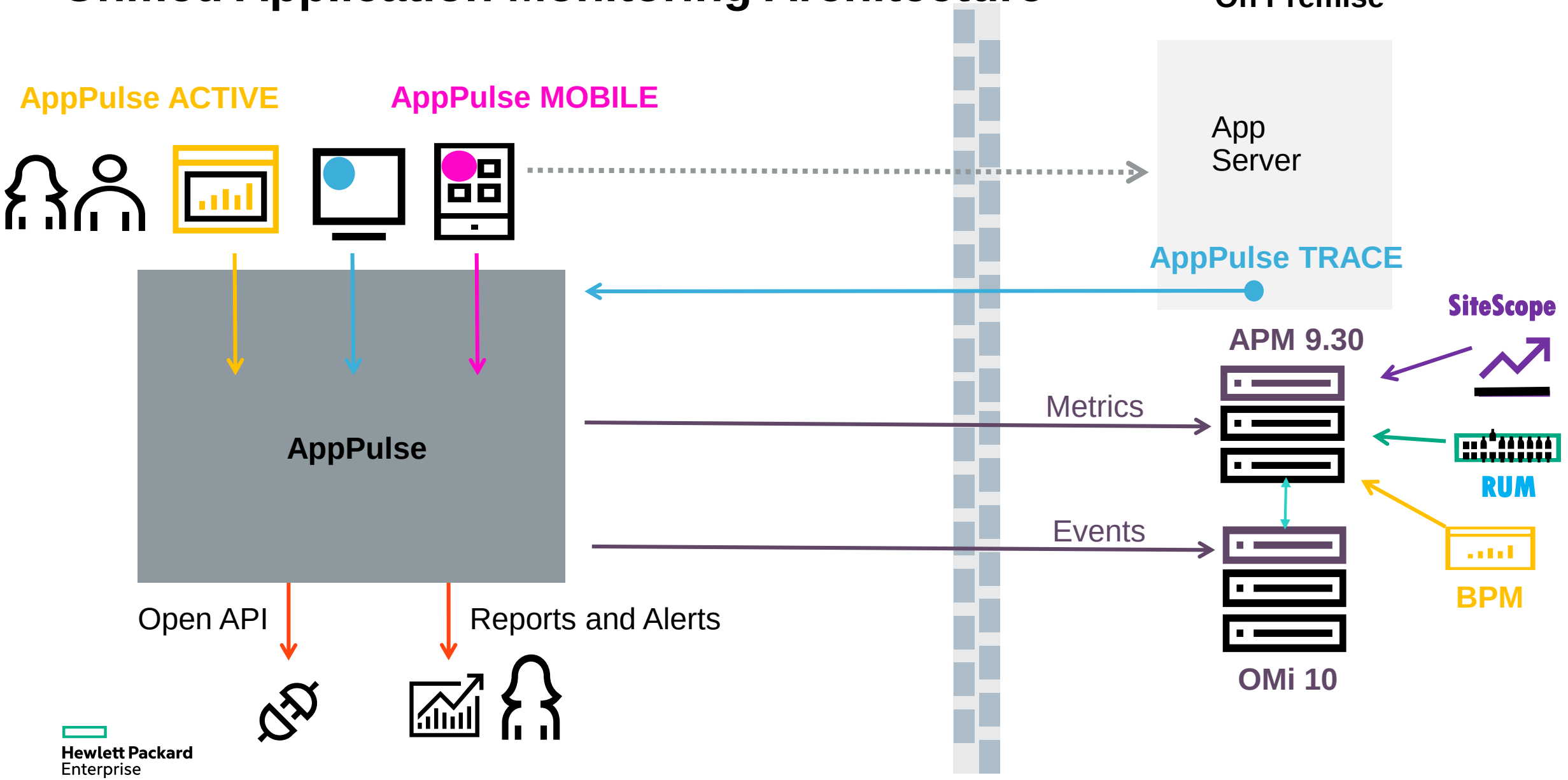


Unified APM Suite



Hewlett Packard Enterprise

Unified Application Monitoring Architecture



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Summary

– We reviewed the APM story including BPM, RUM and SiteScope

– We looked at the capabilities of Real User Monitor and drilled into the Docker monitoring features

– We looked at a specific instance of troubleshooting a containerized application and identified the container in trouble and the server it is running on.

– We reviewed the capabilities of APM predictive analytics and the new SLM interfaces

– We presented the forward looking vision for how APM and AppPulse will walk into the future

Thank You!

Thank you

- Complete the short survey and opt-in for more information from Hewlett Packard Enterprise.

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