

CA APM User Group

What's New in APM 10.7

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7th of February 2018, Paris, France



Agenda

1 QUOI DE NEUF DOCTEUR ?

2 DÉMO ?

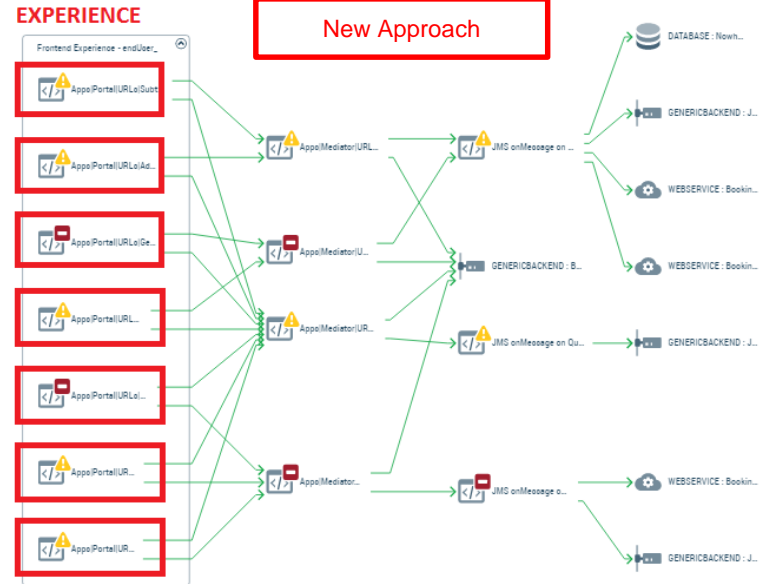
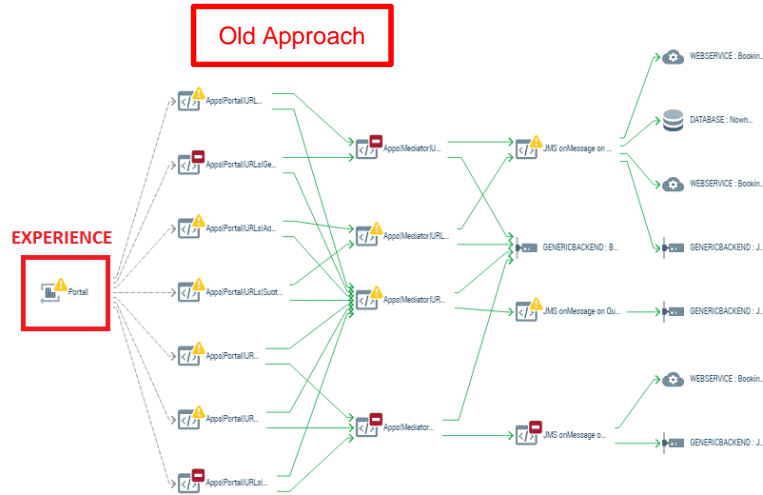
3 CONCLUSION

**Quoi de
neuf Dr.?**



APM Team Center MAP

Introducing Experiences – 10.5.1 vs. 10.7



Map Layers

- Correlation of infrastructural performance (agent, docker, host) to application performance
 - Deduplication of data – links between related (correlated) objects instead
- Application, APM Infrastructure, and Infrastructure layers
 - Visualizing APM and network infrastructure
 - Automatic correlation between applications and agents
 - Attribute panel shows available data (metrics, attributes, alerts) in other layer
 - Filter narrows other layer view
 - Filters are one-layer only at the moment. The filter components are prefixed with layer identification if the layer is switched
- Features
 - Map layers
 - Component View Tabs

App to Infra

Layered application and infrastructure topology views

Details by Application, Agent or Docker

Maps relationships between applications, Docker containers, and host

Host level Metrics

Component View

Application AGENT DOCKER

Name	zheji01-S196979 - docl
Type	Group
Components	35

Alerts Summary

Alert Status OK

Alerts (5)

- ✓ CPU Utilization (35)
- ✓ Memory Utilization (35)
- ✓ Network - Dropped Packets (70)
- ✓ Network - Errors (70)
- ✓ Status Value (35)

Metrics Overview (9)

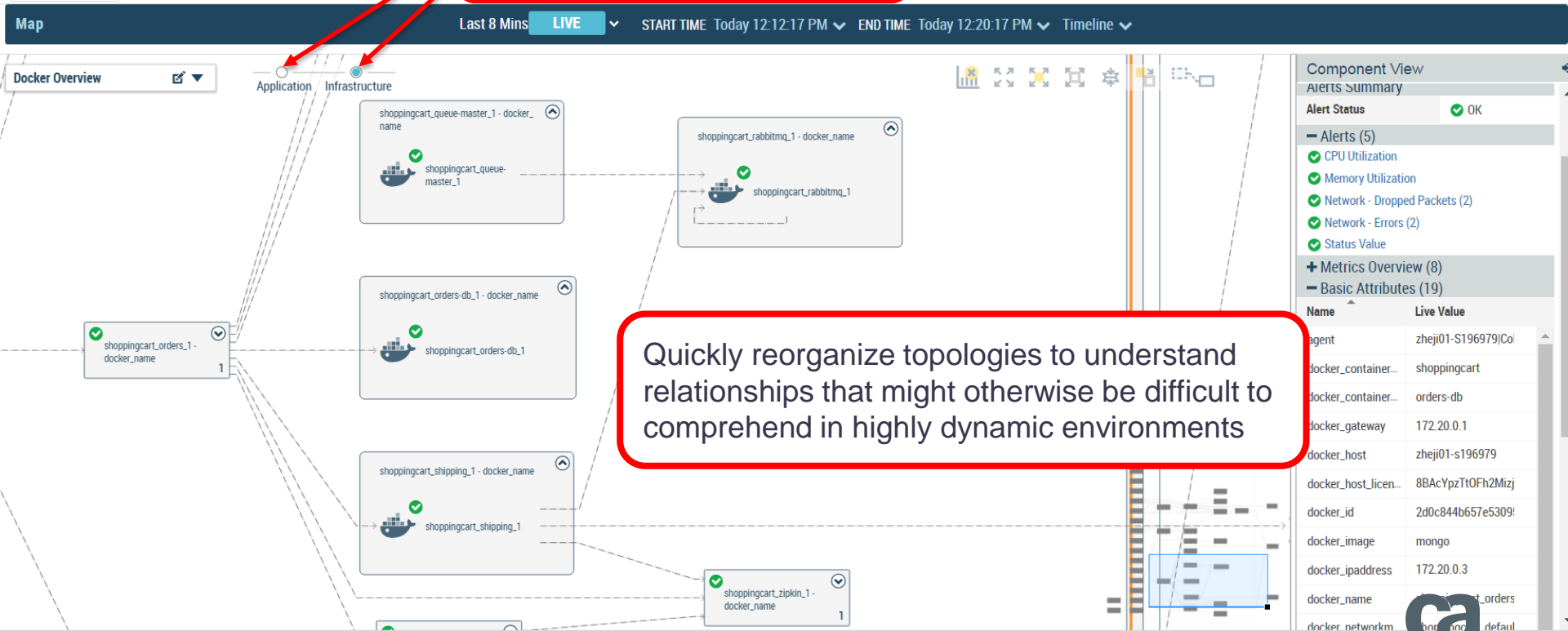
Basic Attributes (22)

Name	Live Value
------	------------

agent	zheji01-S196979/Col
components	35
docker_conta...	
docker_conta...	
docker_conta...	
docker_conta...	

App to Infra

Layered application and
infrastructure topology views



Map Layers – Filters

- Filters must contain elements from one layer only
- When the layer is switched, the elements are pre-fixed and correlated content is shown on the map



Map Layers -- Perspectives

- Perspectives have a layer assigned
- There can be one default perspective per layer
- Set as default works for the layer currently selected in the map
- “[INFRASTRUCTURE_COMPONENT] Object” attributes in perspective definition are foreign layer attributes. E.g. Azure Object, Agent Object, Container Object, Docker Object, Host Object.

Create a Perspective

Perspective name	Layer	Visibility	Actions
Type	APM Infrastructure	Public Default perspective for APM Infrastructu...	Edit
AWS	Application	Public	Edit Delete Set as default
Default Overview	Application	Public Default perspective for Application	Edit
End User, Application	Application	Public	Edit Delete Set as default
Hostname	Application	Public	Edit Delete Set as default
Jenkins	Application	Public	Edit Delete Set as default
Location	Application	Public	Edit Delete Set as default
Owner	Application	Public	Edit Delete Set as default
Type	Application	Public	Edit Delete Set as default
company	Application	Personal	Edit Delete
Type	Infrastructure	Public Default perspective for Infrastructure	Edit

Map Layers -- Data Sources

- **Application layer**
 - APM Agents reporting Application Servers metrics
- **Infrastructure layer**
 - UIM or Unified Agent reporting network structure via REST interface
- **APM infrastructure layer**
 - Collectors report themselves in a similar way as agents
 - Databases are “guessed” based on connection strings
 - Agents normally report metrics
- Vertices from all layers are stored in regular vertex database, decorated by a layer attribute

Map Layers -- Correlation

- How ATC is correlating application vertices with infrastructure
 - Generic framework that allows you to create any references (edges) between vertices on the map
 - Contains description of correlation pipeline and child pages describing correlation algorithms for various modules
 - Docker correlation, Kubernetes Correlation, Openshift Correlation, Azure, ...
 - Analogy: ATC is an SQL database, layers are tables
 - Filters are WHERE
 - Perspectives are ORDER BY
 - Layers are LEFT JOIN



Assisted Triage

Introduction to Assisted Triage

- Assisted Triage identifies the most meaningful events that occurred in customer's busy systems
- It provides contextualized information (stories) about these events
- These stories appear as problems and anomalies with headlines
- The reliable and intelligent nature of the stories that Assisted Triage generates keeps user fully apprised of the state of their monitoring domain
- First released in 10.5

Resource Event Analyst

Overview

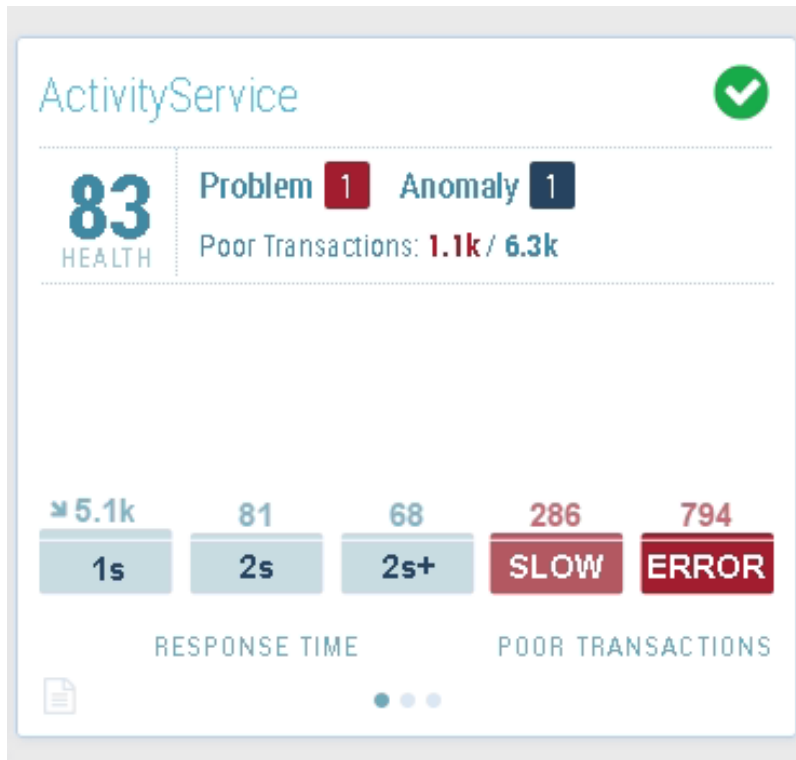
- Assisted Triage now monitors resource events
- Assisted Triage uses a resource event analyst to monitor alerts on resource events like CPU and memory
- An application experiences problems and, or due to, system resources issues
- The resource events are listed as suspects (infrastructure components) for the given problem or anomaly
- Resource analysts support CA APM agents like Java agent, .Net agent etc., and the Infrastructure agent and its monitors like host monitoring, docker monitoring, etc.

Resource Event Analyst

Example

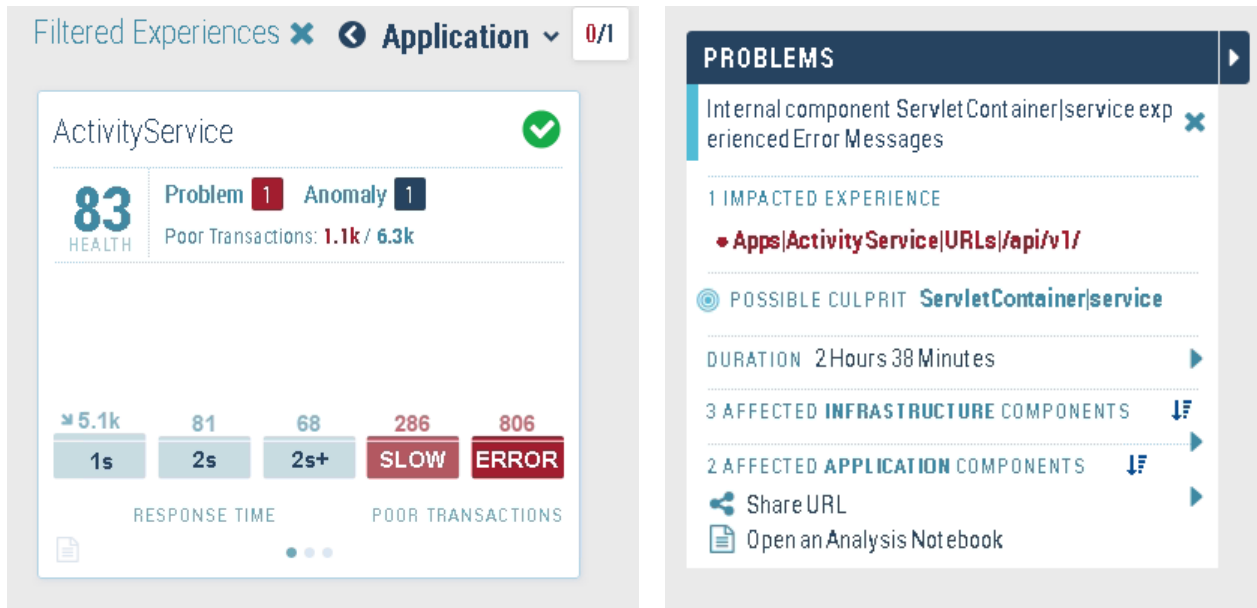
- A CPU is running high on a server
- Infrastructure Agent reports this problem
- Assisted Triage associates this resource problem with the impacted application

Resource Event Analyst 1.0 (RA) Walk-through:



- Since 10.5 UI, Assisted Triage shows up first on the Experience Page tiles
- This tile has one problem and one anomaly
- Some of the failed transactions may be related to the problem

Resource Event Analyst 1.0 (RA) Walk-through:



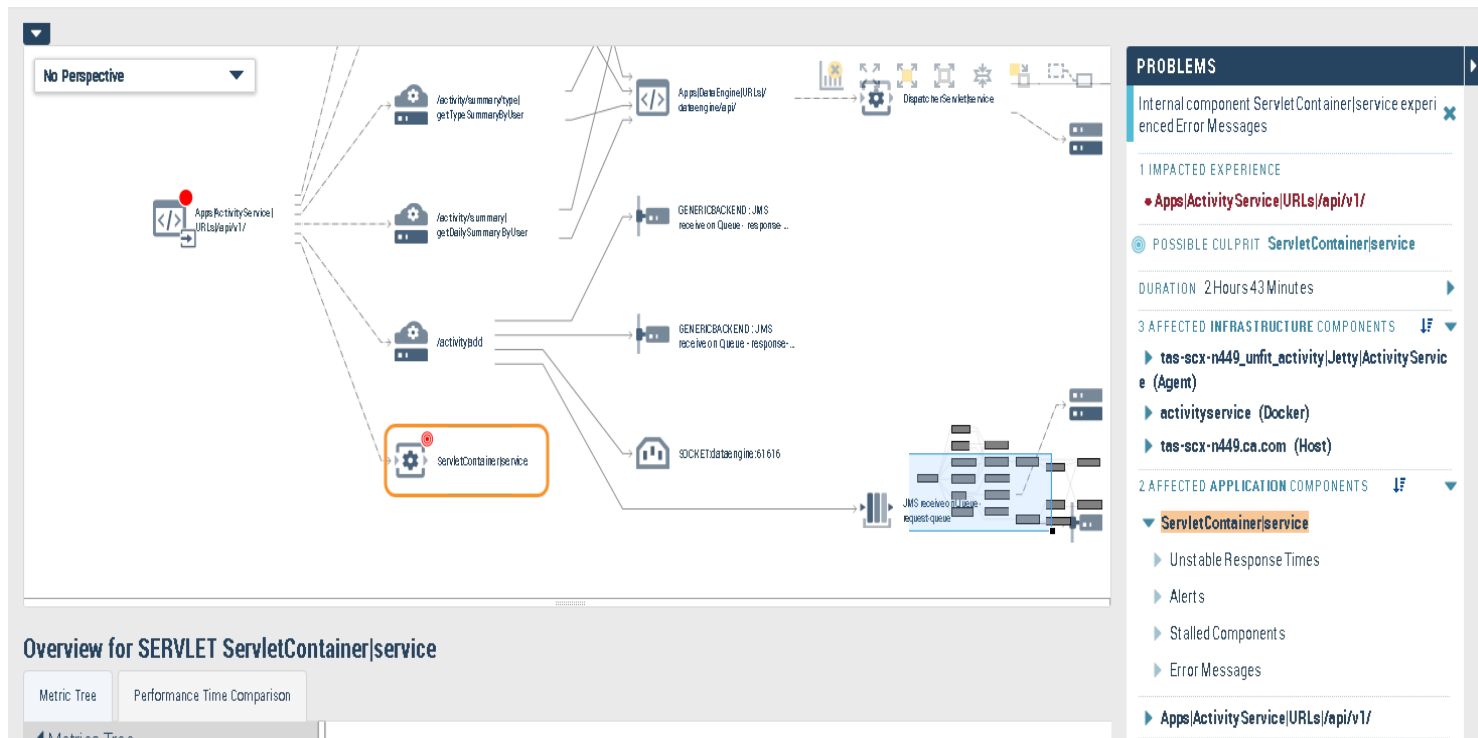
- In the AT story panel, I can see one problem associated to ActivityService Experience card (left image)
- The Problem occurred on 'ServletContainer' (Possible culprit) and Impacted Experience 'ActivityService'

Resource Event Analyst 1.0 (RA) Walk-through:

The screenshot displays the 'PROBLEMS' section of the Resource Event Analyst 1.0 (RA) interface. It shows a problem titled 'Internal component ServletContainer|service experienced Error Messages' with a close button. Below this, it indicates '1 IMPACTED EXPERIENCE' for the path 'Apps|ActivityService|URLs|api/v1/'. The 'POSSIBLE CULPRIT' is identified as 'ServletContainer|service'. The 'DURATION' is '2Hours41 Minutes'. It also shows the 'First Appeared' and 'Last Appeared' timestamps. Under '3 AFFECTED INFRASTRUCTURE COMPONENTS', there are three items: 'tas-scx-n449_unfit_activity|Jetty|Activity Service (Agent)', 'activityservice (Docker)', and 'tas-scx-n449.ca.com (Host)'. Below these, '2 AFFECTED APPLICATION COMPONENTS' are listed: 'ServletContainer|service' and 'Apps|ActivityService|URLs|api/v1/'. At the bottom, there are links to 'Share URL' and 'Open an Analysis Notebook'.

- On the Story Panel, we can click on story statement (heading) and expand the story
- This story has both Infrastructure components (resource related components) and Application components
- For an Infrastructure component list to exist, there must be a associated application problem
- Infrastructure components list is populated by Resource Event Analyst
- Components in the two list are grayed out, as map is not available at this stage

Resource Event Analyst 1.0 (RA) Walk-through:



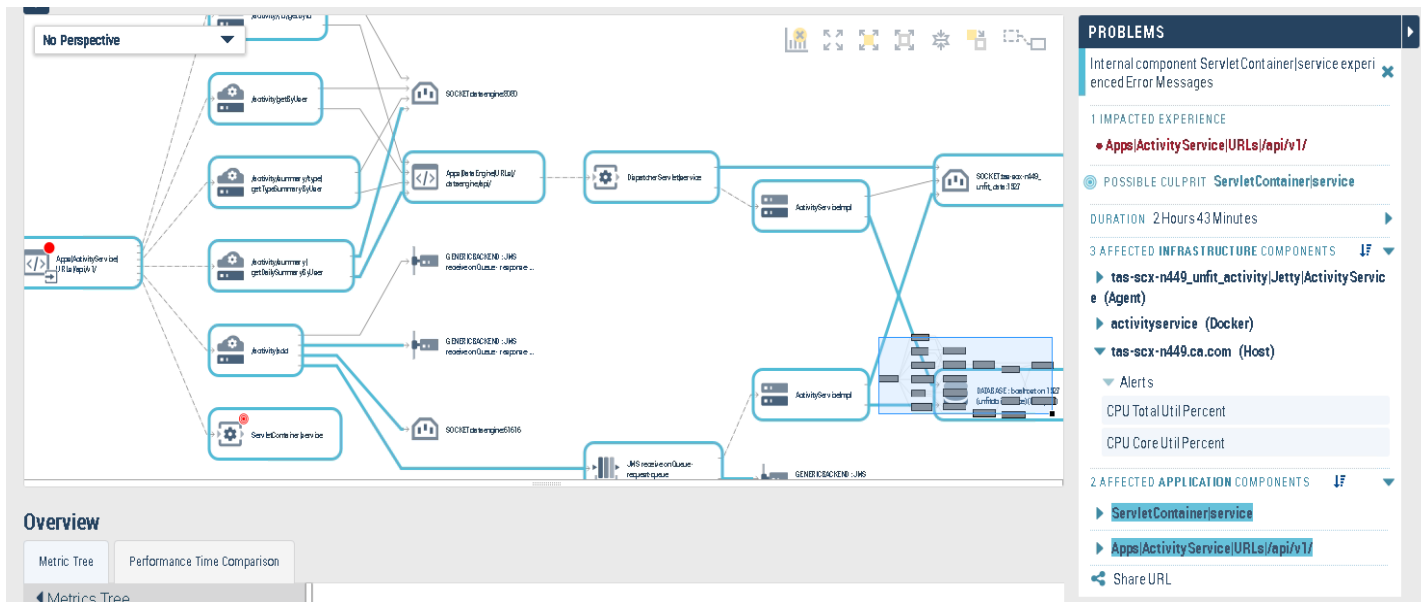
We can click on Analysis Notebook and analyze the problem further

Resource Event Analyst 1.0 (RA) Walk-through:

The screenshot displays the 'PROBLEMS' section of the Resource Event Analyst 1.0 (RA) interface. It shows a problem titled 'Internal component ServletContainer|service experiencedError Messages'. Below the title, it indicates '1 IMPACTED EXPERIENCE' with a red heart icon and the path 'Apps|ActivityService|URLs|api/v1/'. The 'POSSIBLE CULPRIT' is identified as 'ServletContainer|service'. The 'DURATION' is '2Hours43Minutes'. Under '3 AFFECTED INFRASTRUCTURE COMPONENTS', it lists 'tas-scx-n449_unfit_activity|Jetty|ActivityService (Agent)', 'activityservice (Docker)', and 'tas-scx-n449.ca.com (Host)'. Each component has a list of alerts: 'Memory Utilization on ActivityService' for the Agent, and 'CPU Total Util Percent' and 'CPU Core Util Percent' for the Host. At the bottom, it shows '2 AFFECTED APPLICATION COMPONENTS'.

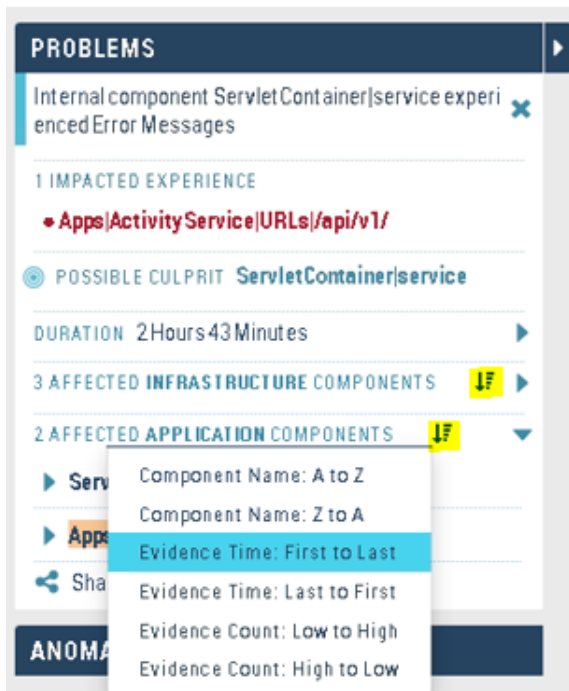
- Expanding Infrastructure Component list, we can see this particular problem has associated Host, Docker and Agent component issues
- Expanding each component, we can see the events received on them
- For example, Docker component 'activity service' is running out of memory

Resource Event Analyst 1.0 (RA) Walk-through:



Selecting any infrastructure component, highlights associated application components

Resource Event Analyst 1.0 (RA) Walk-through:



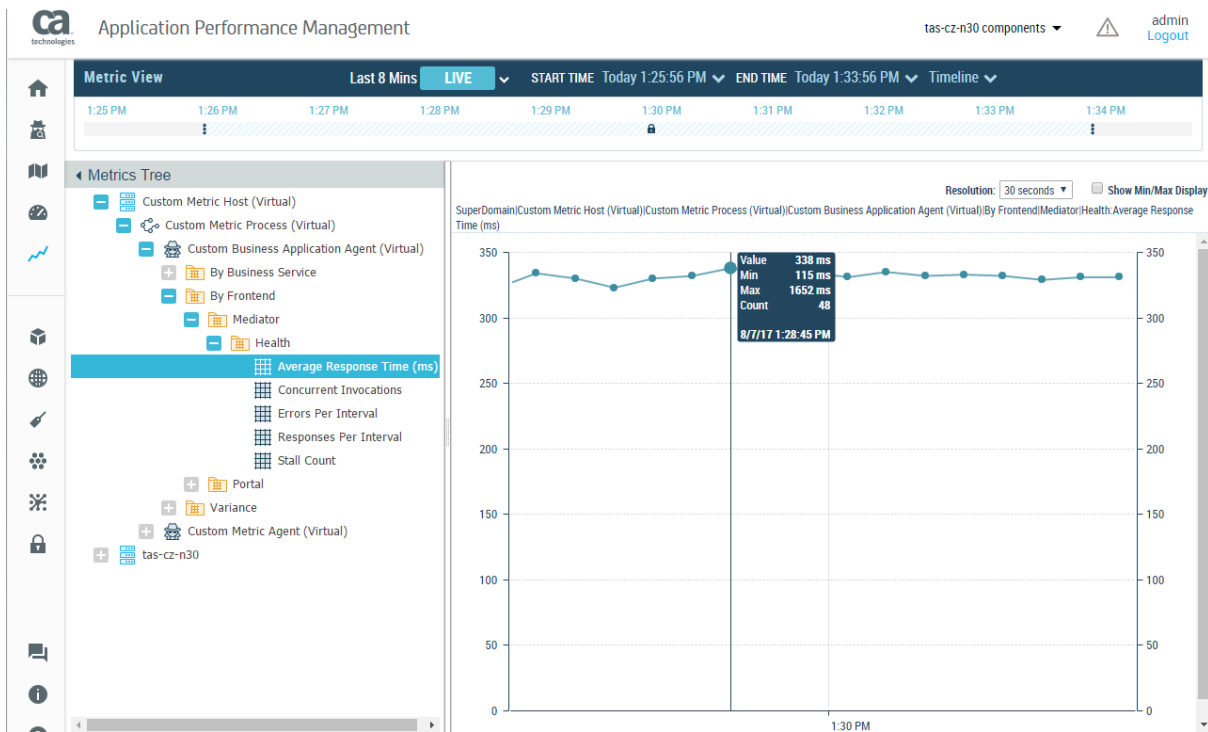
- Clicking on 'sort by' icon, one can select an option and sort the evidence list (component list) by it



Metric Browser

Metric Browser

- Use timeline to select a time range, use Metrics tree to select a metric



Metric Browser

Metric Search

- When a *non-leaf* node (Host, Process, Agent, Folder) is selected, user can search for metrics under that node using the controls:
 - Input field for the string to be searched
 - A checkbox that determines whether we search for substring or a regular expression (in both cases the search is case-insensitive)

The screenshot displays the CA Technologies Application Performance Management (APM) interface. The top navigation bar includes the CA Technologies logo, the text "Digital Experience Insights > Application Performance Management", and the word "ENTERPRISE". The main header area shows "Metric View" with a "Last 8 Mins" filter and a "LIVE" status indicator. Below this, a timeline displays time slots from 2:48 PM to 2:55 PM. On the left, a "Metrics Tree" sidebar shows a hierarchy: "CA APM Demo Host" (expanded), "Tomcat" (expanded), and "CA APM Demo Agent - Tomcat" (selected). The main content area features a search bar with the placeholder "Search metric", a checkbox for "Use Regular Expression", and a "Resolution" button. Two search results are listed: "SuperDomain|CA APM Demo Host|Tomcat|CA APM Demo Agent - Tomcat:EM Host = 723aac1cd98" and "SuperDomain|CA APM Demo Host|Tomcat|CA APM Demo Agent - Tomcat:EM Port = 5001".

Metric Browser

Metric Search

- Search Results table:
 - A metric can be selected by clicking the **Select** button
 - The table also contains the **value** for each metric that was found
 - In Live mode current value is shown.
 - In Historic mode the aggregated value for the entire time range is shown. If the range is larger than 7 days, the aggregated value for the last 7 days is shown.

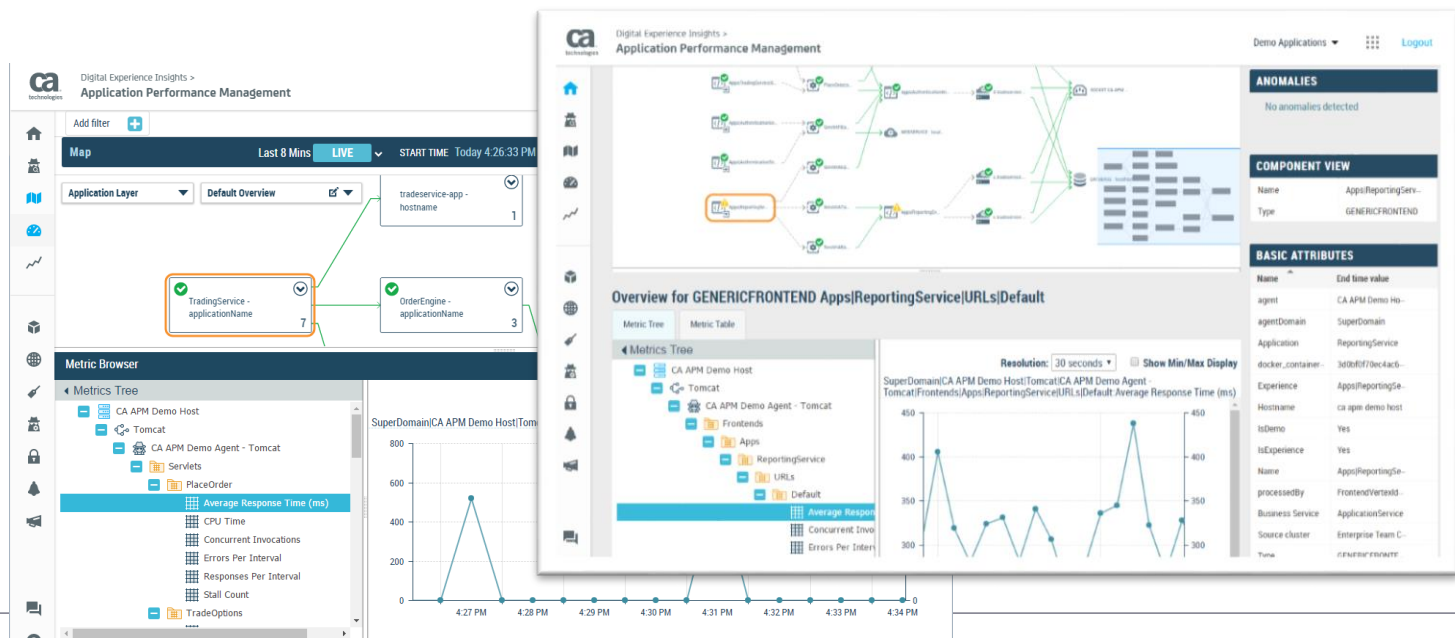
The screenshot shows the CA Technologies Application Performance Management (APM) Metric Browser interface. At the top, the CA Technologies logo and 'Digital Experience Insights > Application Performance Management' are visible. The interface includes a navigation sidebar on the left with icons for home, metrics, and other features. The main area is titled 'Metric View' and shows a timeline from 3:52 PM to 4:01 PM. Below the timeline, there's a 'Metrics Tree' on the left listing various metrics like EM Host, EM Port, Java Version, Launch Time, ProcessID, Virtual Machine, Agent Stats, and Backends. The 'Agent Stats' metric is selected. The main table displays search results for 'average' with columns: Host, Process, Agent, Resource, Metric, Value, and Actions. The table shows four rows of data for 'CA APM Demo ...' agents running 'Tomcat' processes, with metrics like 'Average Compo...', 'Average Cache ...', and 'Average Deep C...'. Each row has a 'Select' button in the Actions column. The interface also includes a search bar, a 'Use Regular Expression' checkbox, a 'Resolution' dropdown set to '30 seconds', and a 'Show Min/Max Display' checkbox.

Host	Process	Agent	Resource	Metric	Value	Actions
CA APM Demo ...	Tomcat	CA APM Demo ...	Agent Stats\Sus...	Average Compo...	2304	Select
CA APM Demo ...	Tomcat	CA APM Demo ...	Agent Stats\Sus...	Average Compo...	14	Select
CA APM Demo ...	Tomcat	CA APM Demo ...	Agent Stats\Sus...	Average Cache ...	1	Select
CA APM Demo ...	Tomcat	CA APM Demo ...	Agent Stats\Sus...	Average Deep C...	1	Select

Metric Browser

Contextual Metric Browser

- Contextual metric browser can be used when a node is selected:
 - In **Map View**: in the "bottom drawer" (as well as transaction traces)
 - In **Analysis Notebook**: under the map in the "Metric Tree" tab



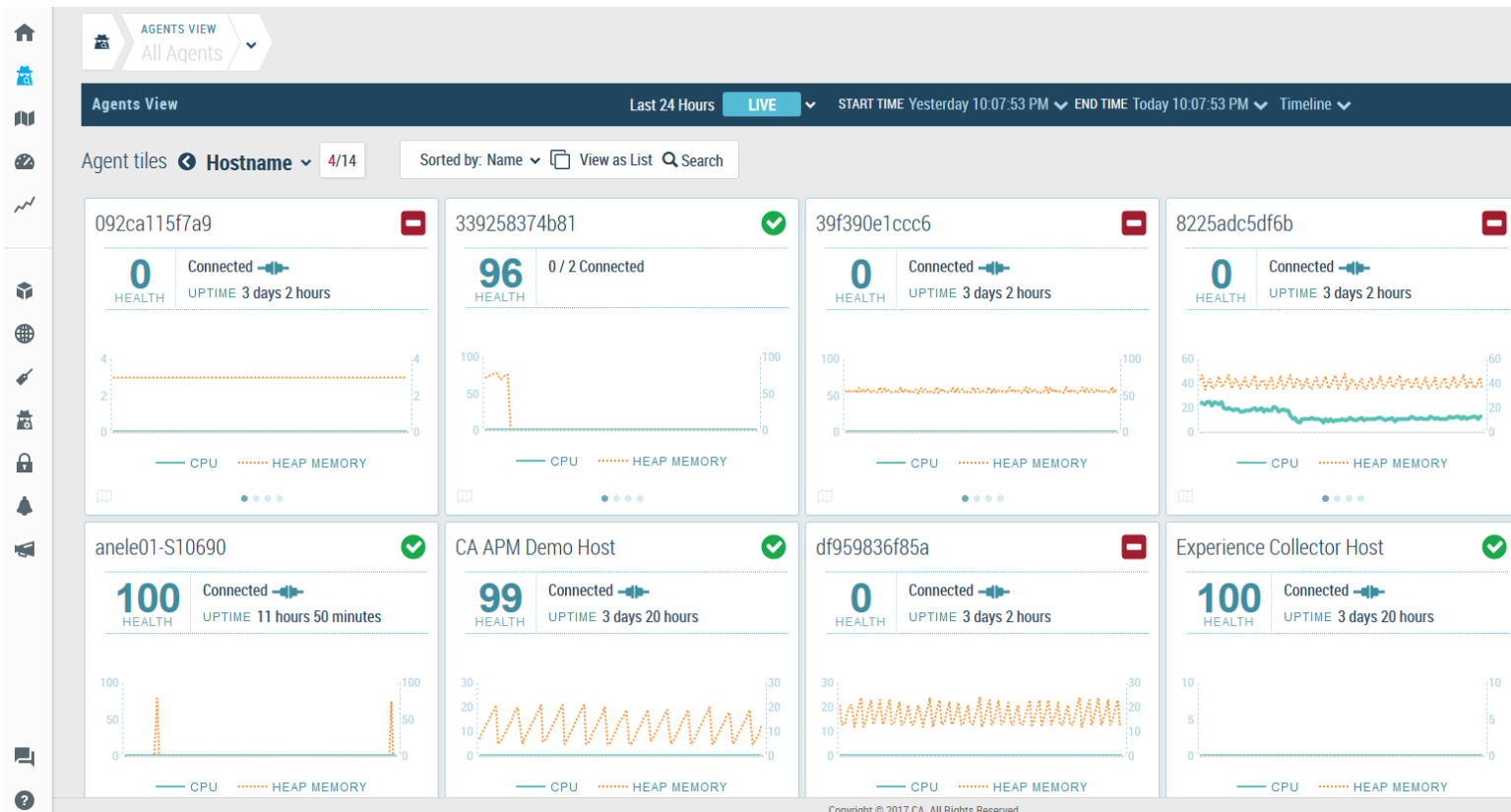


Agent Health

Agent Health

- Look and feel of Agents View is very similar to the Experience view, but however there is a difference in used layer.
- **Agents View** for the APM_INFRASTRUCTURE layer = **Experience View** for the APPLICATION layer
- How many agents are currently connected? How many agents was being connected at the time he investigate in?
- There is also possibility to check memory and CPU consumption

Agent Health



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APM Command Center

Infrastructure Agent (IA) Support in ACC

- Infrastructure agent:
 - Replacement for EP agent
 - EP agent removed from default distribution
 - Included in default distribution
 - To use select CA APM Infrastructure Agent when creating new package
 - Agent type: apmia
 - Command Center extension to report to ACC
 - Supports pushing new extensions and configuration changes
- Available bundles for Infrastructure Agent
 - PHP Agent Extension, NodeJs Extension Docker Monitoring, L5 LTM Monitoring, Host Monitoring, Openshift Monitoring, Webserver Monitoring

ACC Authorization

- Purpose of the feature:
 - Introduces role-based authorization in ACC
 - Turned off by default. OOTB behavior is the same as in ACC 10.5, i.e. ACC uses users.xml for authentication and all authenticated users have root permissions.
- Two configurations are supported :
 - ACA mock inside ACC (this is default configuration)
 - full privileges to all users from users.xml
 - this is the configuration used for OOTB clean install
 - upgrade of prev. version continues to use users.xml (through ACA mock)
 - ACA hosted inside EM



Browser Agent

Browser Agent

- Common component between two SKUs: APM and AXA
- Provides visibility into the real end user experience by monitoring web application performance in the browsers
- Manual/Automatic JS Snippet Injection of a single JavaScript file
- Designed to collect
 - Performance metrics from web apps
 - Page load (hard page & soft page)
 - AJAX
 - **Web Resource (New for 10.7)**
 - JavaScript errors
 - **AJAX Errors (New for 10.7)**
 - SPA support
 - Client Information
 - Fingerprint, Session, Geo-location

Web Resource Reporting

APM 10.7

HOME CONSOLE INVESTIGATOR TOOL

SuperDomain > tas-scx-n5bc > DxC Agent > Logstash-APM-Plugin

Metric Browser

- *SuperDomain*
- Custom Metric Host (Virtual)
- tas-scx-n5bc
 - DxC Agent
 - Logstash-APM-Plugin (*SuperDomain*)
 - EM Host
 - EM Port
 - Java Version
 - Launch Time
 - Virtual Machine
 - Agent Stats
 - Business Segment
 - tas-scx-n5bc.ca.com/9091
 - /brmttestapp/
 - /brmttestapp/GETLocalDomain.jsp
 - Average Connection Establishment Time (ms)
 - Average DOM Processing Time (ms)
 - Average Domain Lookup Time (ms)
 - Average Page Load Time (ms)
 - Average Page Render Time (ms)
 - Average Page Stall Time (ms)
 - Average Previous Page Unload Time (ms)
 - Average Time to First Byte (ms)
 - Average Time to Last Byte (ms)
 - Page Hits Per Interval

- Resources
 - HTML
 - tas-scx-n5bc.ca.com/9091
 - /brmttestapp/framework.pack.js.seam
 - Average Resource Load Time (ms)
 - Average Response Download Time (ms)
 - Average Time To First Byte (ms)
 - Invocation Count Per Interval
 - /brmttestapp/hexa.png

- Business Segment
 - tas-scx-n5bc.ca.com/9091
 - /brmttestapp/
 - /brmttestapp/GETLocalDomain.jsp
 - Average Connection Establishment Time (ms)
 - Average DOM Processing Time (ms)
 - Average Domain Lookup Time (ms)
 - Average Page Load Time (ms)
 - Average Page Render Time (ms)
 - Average Page Stall Time (ms)
 - Average Previous Page Unload Time (ms)
 - Average Time to First Byte (ms)
 - Average Time to Last Byte (ms)
 - Page Hits Per Interval

- Resources
 - AJAX Call
 - Async
 - Sync
 - HTML

Error Snapshot

HOME

CONSOLE

INVESTIGATOR

TOOLS

MANAGEMENT

SuperDomain > tas-scx-n438 > DxC Agent > Logstash-APM-Plugin... > Business Segment Mount Agent

Metric Browser

SuperDomain

Custom Metric Host (Virtual)

tas-scx-n431

Tomcat

Tomcat Agent (*SuperDomain*)

tas-scx-n438

DxC Agent

Logstash-APM-Plugin (*SuperDomain*)

EM Host

EM Port

Java Version

Launch Time

Virtual Machine

Agent Stats

Business Segment

tas-scx-n431.ca.com/8086

tas-scx-n438.ca.com/9091

GC Heap

Host

Domains

Browser

General

Traces

Errors

Search

Metric Count

Differential Analysis

Timestamp	Description	Error Message
15:10:32.890 (19 Jan 2018)	Business Segment	Not Found
15:00:30.882 (19 Jan 2018)	Business Segment	Uncaught MyError: custom message

Stack View

Agent: *SuperDomain*[tas-scx-n438]DxC Agent|Logstash-APM-Plugin

Timestamp: 01/19/18 15:10:32 GMT-08:00

Duration: 1 ms

Error at 15:10:32.890 (19 Jan 2018)

Business Segment[tas-scx-n431.ca.com/8086]/brtmtestapp/spa/index.html|#/|Resources|AJAX Call|Async|httpst

Browser Type: Chrome

Browser Version: 63

Column Number: 0

DataCreationType: 0

Error Message: Not Found

Line Number: 0

Page URL: http://tas-scx-n431.ca.com:8086/brtmtestapp/spa/index.html#/

Subtype: error

Trace ID: 1516403440759:117

Trace Type: ErrorSnapshot



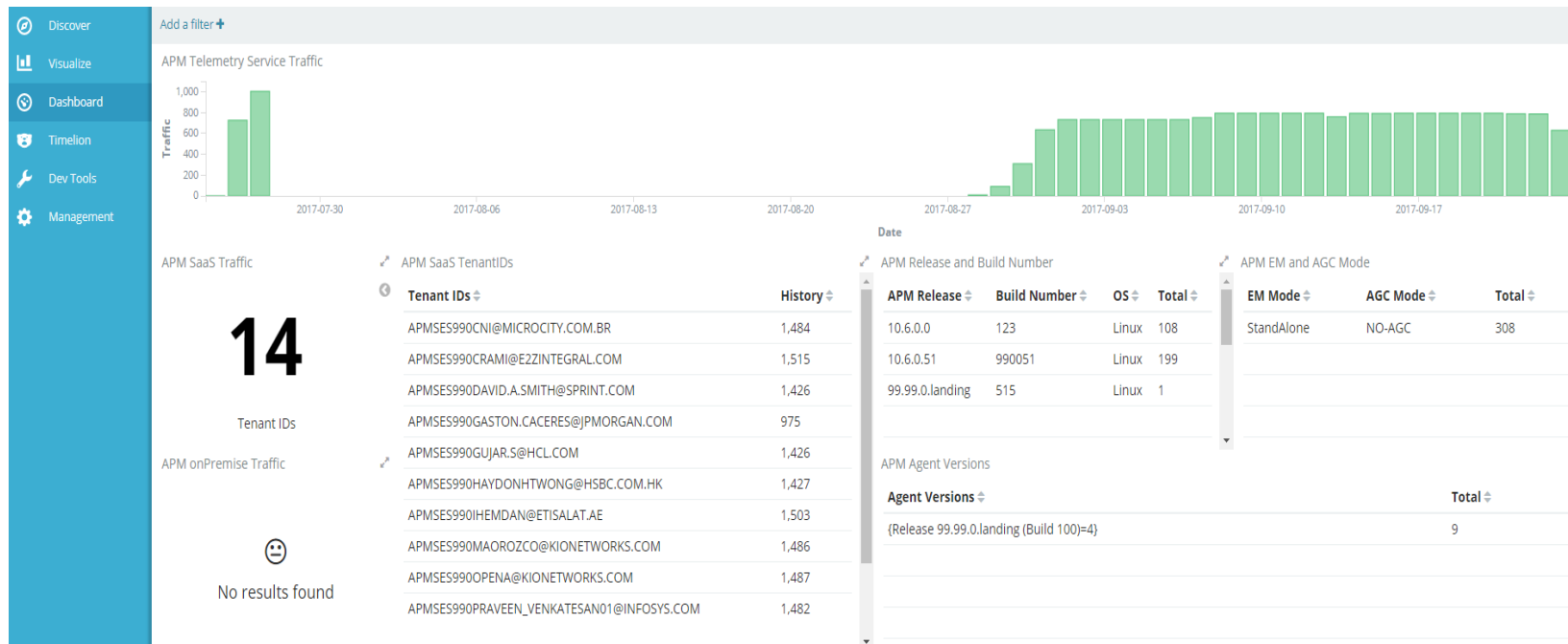
Telemetry Service

Goals

- Gain insight into use of APM Team Center and Webview, so that we can make better decisions on EOL, UI optimization, prioritization of improvements etc.
- Improve customer experience for support cases handling by having automatically collected performance data from APM
- Have data to be proactive in handling customer performance and stability issues

Visualization of collected data

Collected data can be observed, queried and visualized by Kibana dashboard.



Misc

- APM is integrated with Telemetry Service (MeterIT 2.0).
- Both APM SaaS and onPremise installations are supported.
- When APM or Telemetry Service are down, no metrics are available/sent from this period.
- No changes in the APM Installer, by default disabled and configured in the property file.
- APM sends an aggregated data point for each metric instead a sample data point every time interval.



Auditing

Goals

- Gain insight into activities of end users in APM with the detailed description of the action and the name of the users that executed them.
- It can be used to track the history of changes on objects such as Alerts, Actions, Perspectives and Universes.
- It also tracks logins of end users with details about their location such as ip address, hostname and timezone.
- **Background and strategic fit:** Some customers have a large user base with many admins. Unwanted or unintended changes can have serious monetary impacts on our customers and they want to clearly track who did what to their service.

Use Cases

- As an admin I want to archive (copy to other safe location) audit files so that I can later refer to them for security reasons.
- As an admin I want to view and search audit logs by username, time and component so that I can verify security concerns.
- Supported: Team Center, WebView and Workstation, CLW

Conclusion





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Thank You.