



CA APM User Group

What's New in APM 10.7

Bilel Sfaxi, Pr. Consultant, Presales

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Agenda

1 QUOI DE NEUF DOCTEUR ?

2 DÉMO ?

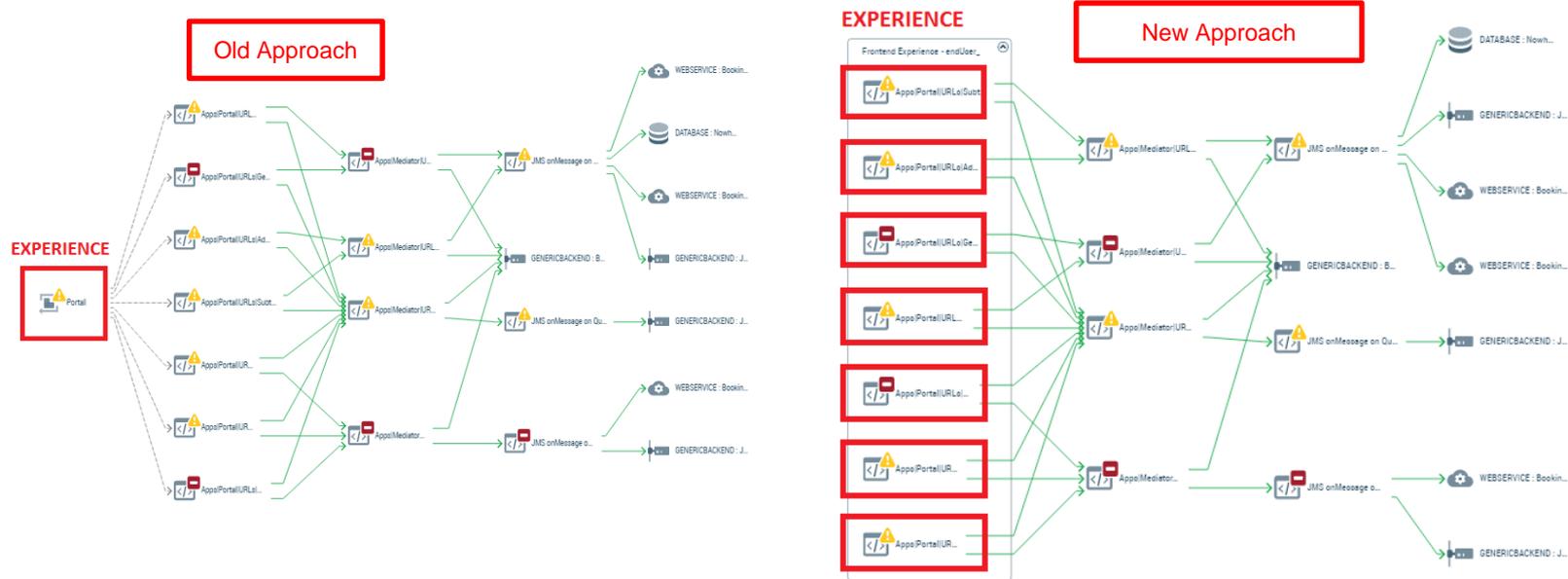
3 CONCLUSION

**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

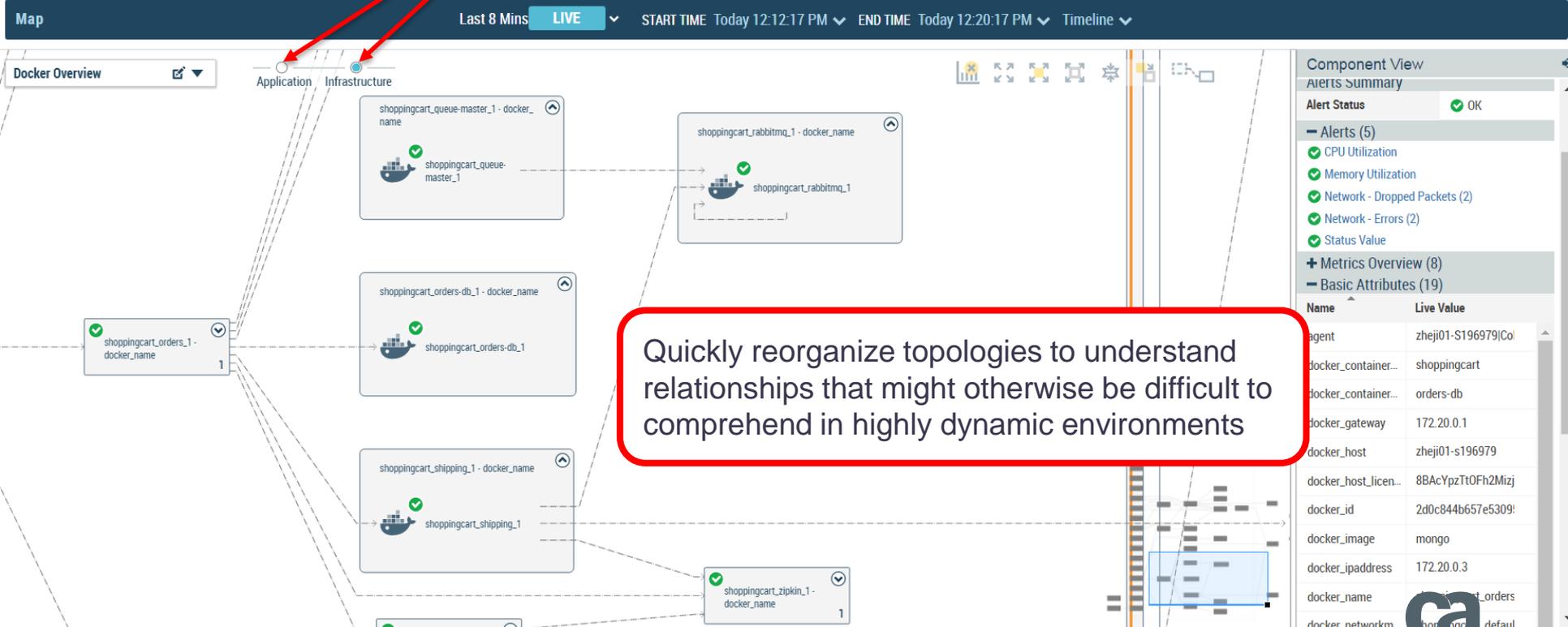
Host level Metrics

The screenshot displays a monitoring dashboard with several key sections:

- Navigation:** A 'Docker object' dropdown menu and tabs for 'Application' and 'Infrastructure' are located at the top left.
- Topology Views:** The main area shows a layered topology of Docker containers. Containers are represented by icons with a gear and a checkmark. Arrows indicate dependencies between containers. For example, 'DOCKER shoppingcart_shipping' depends on 'DispatcherServlet...'. 'DOCKER shoppingcart_carts_1' depends on 'DispatcherServlet...' and 'SOCKET.carts-db:...'.
- Component View:** On the right, a 'Component View' panel shows details for a specific component. It includes tabs for 'Application', 'AGENT', and 'DOCKER'. The 'AGENT' tab is selected, showing details for 'zheji01-S196979 - docl'. It lists 'Name', 'Type', and 'Components'. Below this is an 'Alerts Summary' section showing 'Alert Status' as 'OK' and a list of alerts including 'CPU Utilization (35)', 'Memory Utilization (35)', 'Network - Dropped Packets (70)', 'Network - Errors (70)', and 'Status Value (35)'. A 'Metrics Overview' section shows 'Basic Attributes (22)'.
- Host Level Metrics:** A small bar chart is visible at the bottom right, representing host-level metrics.

App to Infra

Layered application and infrastructure topology views



Quickly reorganize topologies to understand relationships that might otherwise be difficult to comprehend in highly dynamic environments

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

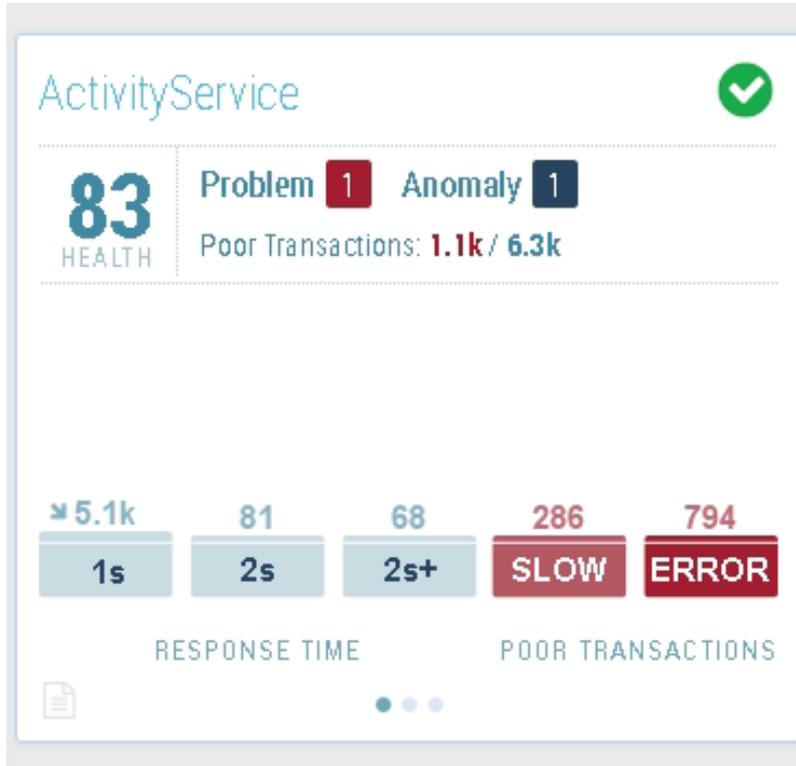
- Assisted Triage now monitors resource events
- Assisted Triage uses a resource event analyst to monitor alerts on resource events like CPU and memory
- An application experiences problems and, or due to, system resources issues
- The resource events are listed as suspects (infrastructure components) 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

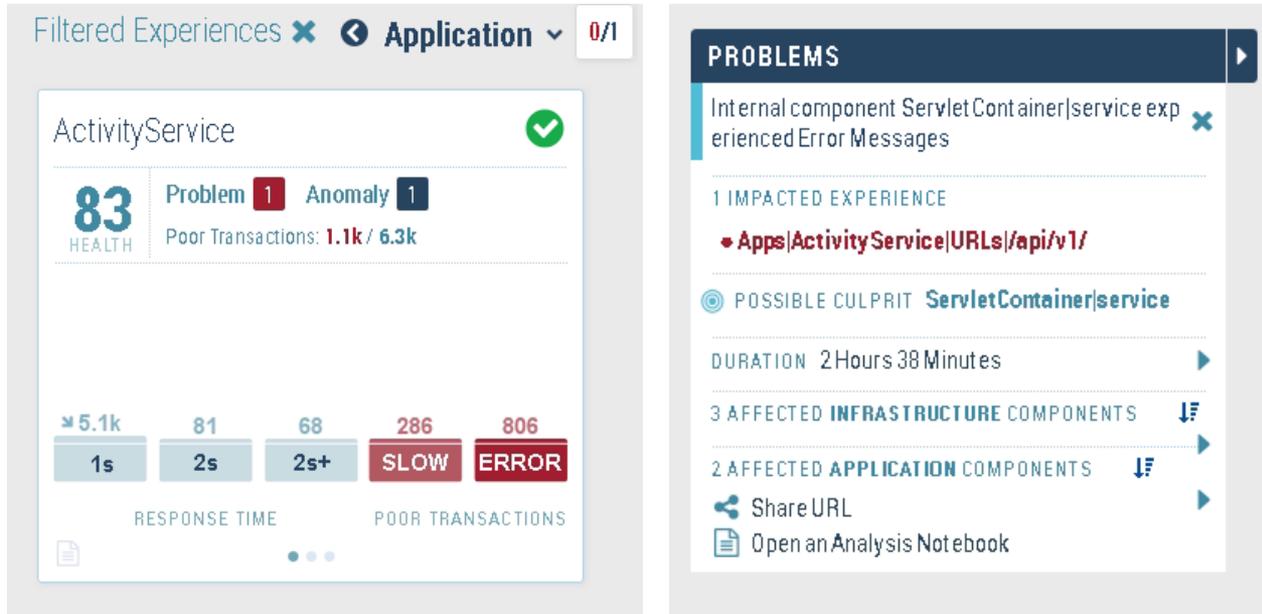
- A CPU is running high on a server
- Infrastructure Agent reports this problem
- Assisted Triage associates this resource problem with the impacted application

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'. Below the title, it indicates '1 IMPACTED EXPERIENCE' with a red dot icon, listing the affected URL as 'Apps|ActivityService|URLs|/api/v1/'. A 'POSSIBLE CULPRIT' is identified as 'ServletContainer|service'. The 'DURATION' is '2 Hours 41 Minutes'. The 'First Appeared' time is '1/24/18 7:23:00 PM' and the 'Last Appeared' time is '1/24/18 10:04:33 PM'. There are two lists of affected components: '3 AFFECTED INFRASTRUCTURE COMPONENTS' and '2 AFFECTED APPLICATION COMPONENTS'. The infrastructure components listed are 'tas-scx-n449_unfit_activity|Jetty|Activity Service (Agent)', 'activityservice (Docker)', and 'tas-scx-n449.ca.com (Host)'. The application components listed are 'ServletContainer|service' and 'Apps|ActivityService|URLs|/api/v1/'. At the bottom, there are options 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 an associated application problem
- Infrastructure components list is populated by Resource Event Analyst
- Components in the two lists are grayed out, as a map is not available at this stage

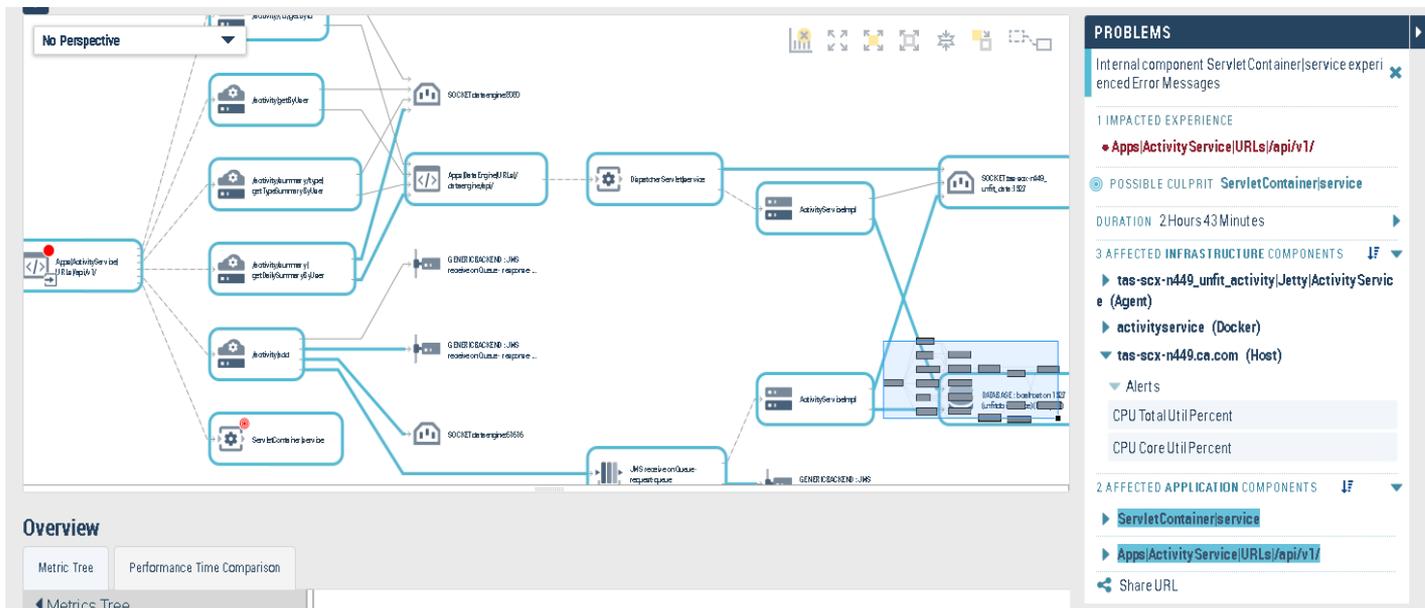
Resource Event Analyst 1.0 (RA) Walk-through:

The screenshot displays a 'PROBLEMS' section with the following details:

- Problem:** Internal component ServletContainer|service experienced Error Messages
- IMPACTED EXPERIENCE:** 1 impacted experience, specifically `Apps|ActivityService|URLs|api/v1/`.
- POSSIBLE CULPRIT:** ServletContainer|service
- DURATION:** 2 Hours 43 Minutes
- AFFECTED INFRASTRUCTURE COMPONENTS:** 3 components listed:
 - `tas-scx-n449_unfit_activity|Jetty|ActivityService (Agent)`
 - `activityservice (Docker)`
 - Alerts: Memory Utilization on ActivityService
 - `tas-scx-n449.ca.com (Host)`
 - Alerts: CPU Total Util Percent, CPU Core Util Percent
- AFFECTED APPLICATION COMPONENTS:** 2 components (partially visible).

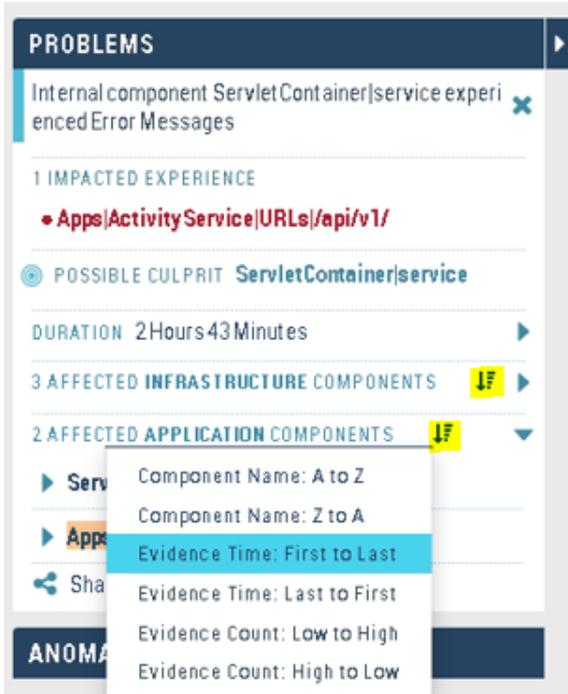
- Expanding Infrastructure Component list, we can see this particular problem has associated Host, Docker and Agent component issues
- Expanding each component, we can see the events received on them
- For example, Docker component 'activity service' is running out of memory

Resource Event Analyst 1.0 (RA) Walk-through:



Selecting any infrastructure component, highlights associated application components

Resource Event Analyst 1.0 (RA) Walk-through:



The screenshot displays the 'PROBLEMS' section of the Resource Event Analyst 1.0 (RA) interface. The main problem is 'Internal component ServletContainer|service experienced Error Messages'. Below this, it shows '1 IMPACTED EXPERIENCE' for 'Apps|ActivityService|URLs|api/v1/'. The 'POSSIBLE CULPRIT' is identified as 'ServletContainer|service'. The 'DURATION' is '2Hours43Minutes'. There are '3 AFFECTED INFRASTRUCTURE COMPONENTS' and '2 AFFECTED APPLICATION COMPONENTS'. A dropdown menu is open over the application components, showing sorting options: 'Component Name: A to Z', 'Component Name: Z to A', 'Evidence Time: First to Last' (highlighted), 'Evidence Time: Last to First', 'Evidence Count: Low to High', and 'Evidence Count: High to Low'. The interface also includes a 'Share' icon and a partial 'ANOMA' logo at the bottom.

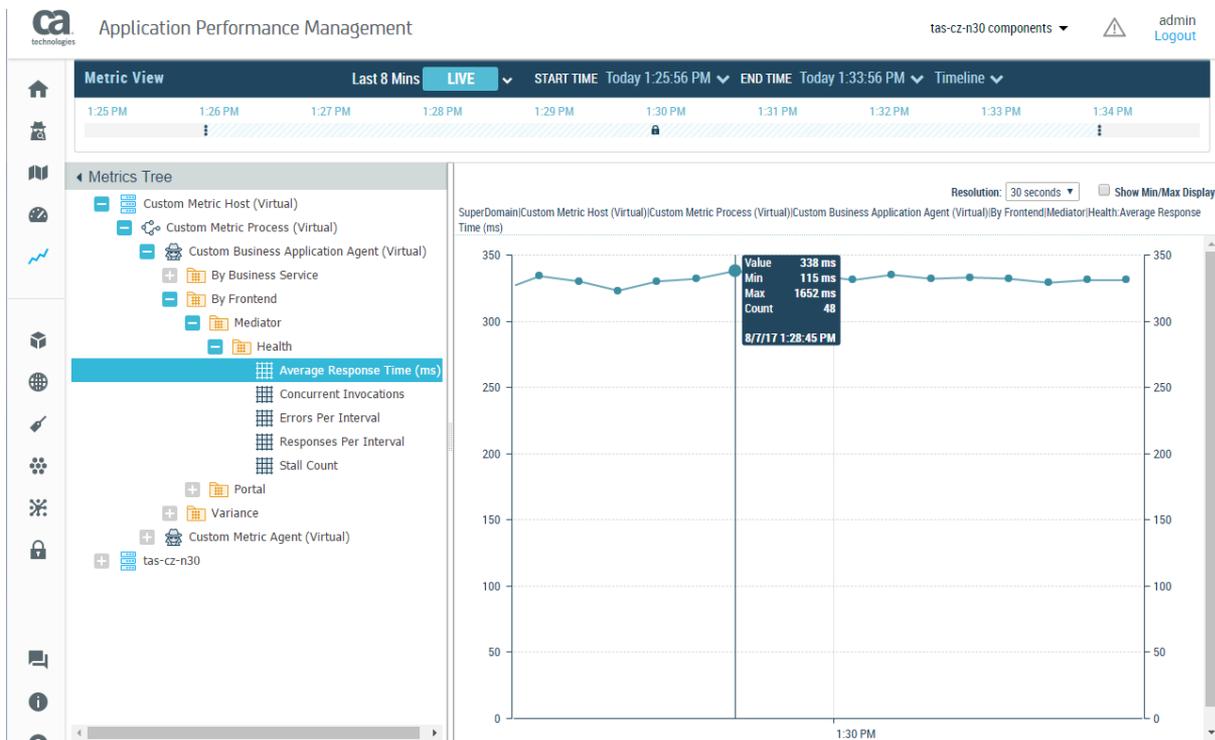
- Clicking on 'sort by' icon, one can select an option and sort the evidence list (component list) by it



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 APM Metric Browser interface. At the top, the CA Technologies logo is on the left, followed by "Digital Experience Insights > Application Performance Management" and "ENTERPRISE" on the right. Below this is a "Metric View" header with a "Last 8 Mins" filter, a "LIVE" status indicator, and time range controls for "START TIME" (Today 2:48:35 PM) and "END TIME" (Today 2:56:35 PM). A timeline below the header shows 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). Under the selected agent, "EM Host" and "EM Port" are listed. The main search area contains a "Search metric" input field with a clear button (X), a "Use Regular Expression" checkbox, and a "Resolutive" label. Two search results are shown: "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.



Digital Experience Insights >

Application Performance Management

ENTERPRISE ▾



[Logout](#)

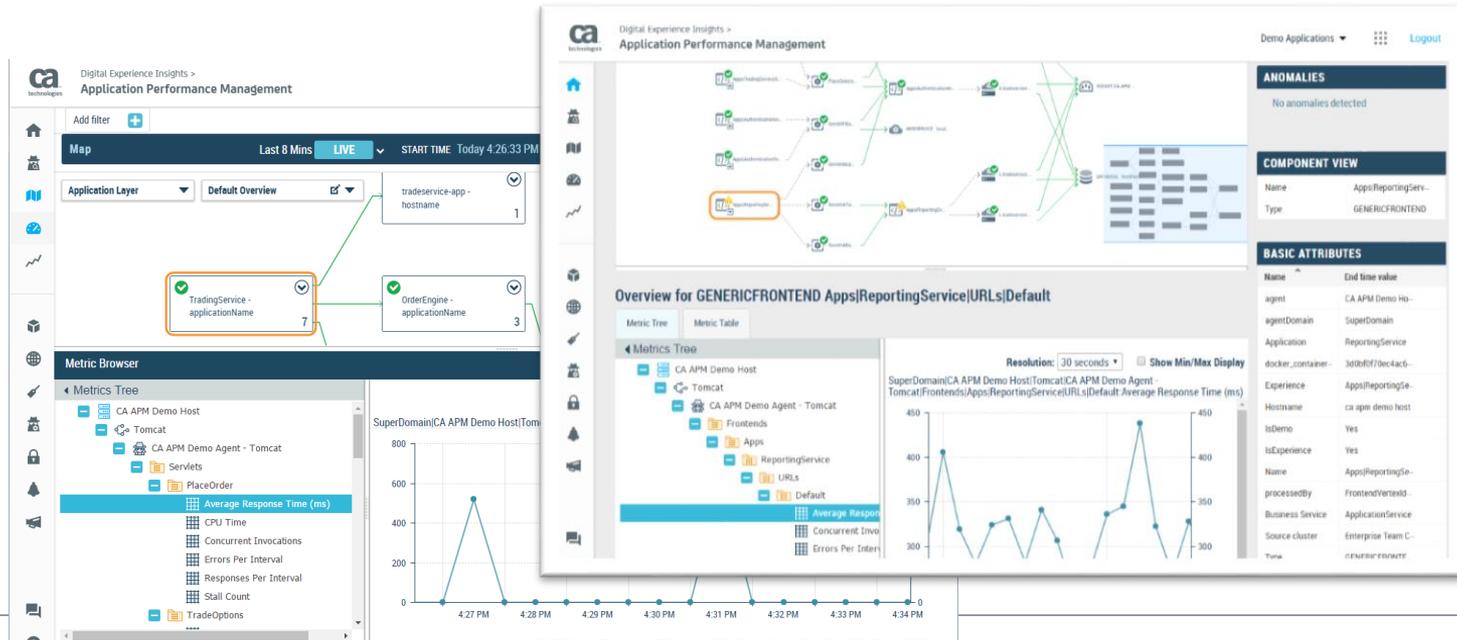
The screenshot shows the Metric Browser interface. At the top, there's a navigation bar with 'Metric View', 'Last 8 Mins', 'LIVE' mode, and time range filters. Below this is a timeline view. On the left, a 'Metrics Tree' shows a hierarchy of metrics, with 'Agent Stats' selected. The main area displays a search for 'average' with a table of results. The table has columns for Host, Process, Agent, Resource, Metric, Value, and Actions. Each row includes a green 'Select' button.

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



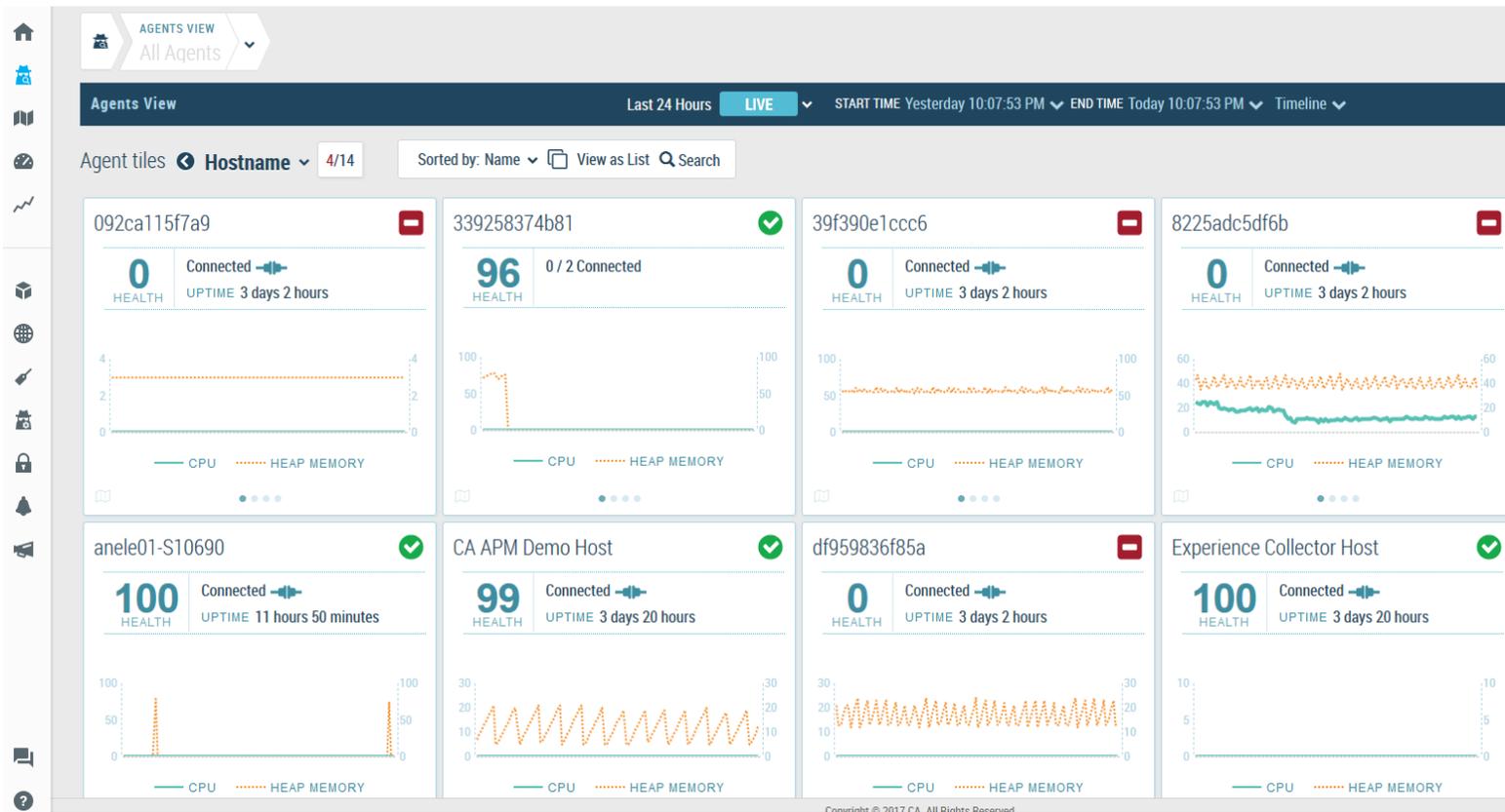


Agent Health

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

Error Snapshot

HOME | CONSOLE | **INVESTIGATOR** | TOOLS | MANAGEMENT

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

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

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





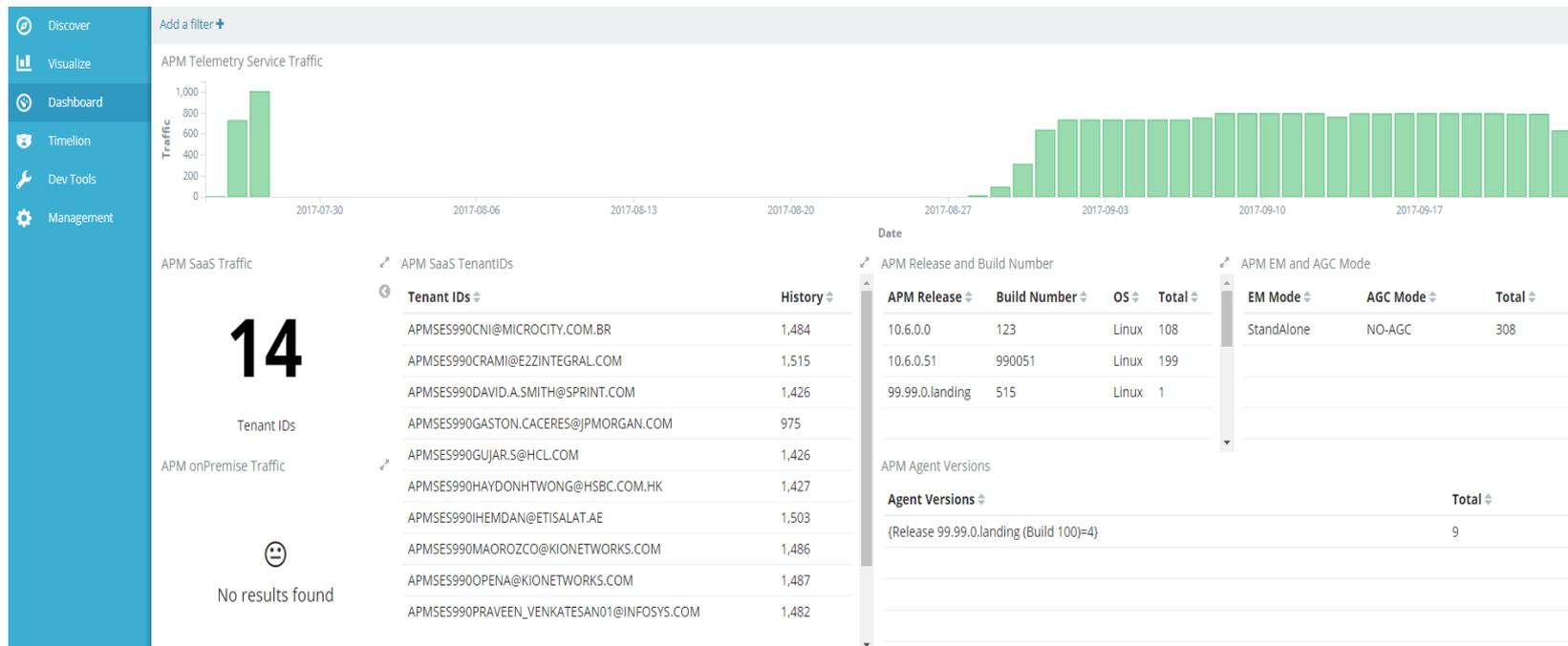
Telemetry Service

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





Bilel SFAXI

Pr. Consultant, Presales

bilel.sfaxi@ca.com



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Thank You.