



CA Network Operations Analytics

What's New in CA Performance Management 3.6

Lutz Holzbecher

Customer Success Solution Architect



Disclaimer

Certain information in this presentation may outline CA's general product direction. This presentation shall not serve to (i) affect the rights and/or obligations of CA or its licensees under any existing or future license agreement or services agreement relating to any CA software product; or (ii) amend any product documentation or specifications for any CA software product. **The development, release and timing of any features or functionality described in this presentation remain at CA's sole discretion.**

Notwithstanding anything in this presentation to the contrary, upon the general availability of any future CA product release referenced in this presentation, CA may make such release available to new licensees in the form of a regularly scheduled major product release. Such release may be made available to licensees of the product who are active subscribers to CA maintenance and support, on a when and if-available basis. The information in this presentation is not deemed to be incorporated into any contract.

Copyright © 2018 CA. All rights reserved. All trademarks, trade names, service marks and logos referenced herein belong to their respective companies.

THIS PRESENTATION IS FOR YOUR INFORMATIONAL PURPOSES ONLY. CA assumes no responsibility for the accuracy or completeness of the information. TO THE EXTENT PERMITTED BY APPLICABLE LAW, CA PROVIDES THIS DOCUMENT "AS IS" WITHOUT WARRANTY OF ANY KIND, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. **In no event will CA be liable for any loss or damage, direct or indirect, in connection with this presentation, including, without limitation, lost profits, lost investment, business interruption, goodwill, or lost data, even if CA is expressly advised in advance of the possibility of such damages.**

Top 5 Release Feature Themes

- NetOps Alarm Console improved UX, filters, and events
- Extended PDF reporting options in CA Performance Center
- Automation and OpenAPI
- Baseline threshold enhancements to support % from baseline rules
- Workflow and UX improvements for Cisco ACI including VMM vSphere support

NetOps Alarm Console

Key use cases

- I need to be able to view Fault and Performance in a unified and easy to use web application with simple workflows to solve problems faster
- I don't want to worry about client side requirements such as Java or Flash
- I need the experience to be intuitive leveraging industry best practices while innovating using today's technologies
- I need smart defaults out of the box but smart views that adapt to what I need to see and do for my specific responsibility
- Me and my team need to take advantage of alarm filtering and sorting to ensure we have visibility to the items we need to monitor
- When evaluation and alarm, I need to be able to view related events to understand frequency and related issues which may be relevant

NetOps Alarm View

UX improvements

My Operations teams
a simple and optimal
experience to maxim
their efficiency.

The capability for the UI to a
various use cases while pro
the right data
essential.

Vertical re-design to
maximize space

Alarm Details

Impact: Management Lost

Impact: Symptoms

Neighbor Topology

Control which sections
appear

Over 20 columns available as
needed

Alarms

Permission Group: My Assigned Groups

<input type="checkbox"/> Severity	Date/Time	Last Occurrence	Item Name	Model Type	Address	Alarm Title	Impact
<input checked="" type="checkbox"/> Major	March 7, 2018 7:...	March 7, 2018 7:...	Stack	Summit Ver2...	138.4...	HIGH AGGREGATE CPU UTILIZATION	0
<input type="checkbox"/> Major	March 6, 2018 2:...	March 6, 2018 2:...	Sim30214-w-de...	SiemensDV	10.24...	Polling has been temporarily reduced due to prior timeouts. Check the PollSummary.log for more details. The device may be down or may be receiving more polls than it can respond to.	0
<input type="checkbox"/> Major	March 6, 2018 2:...	March 6, 2018 2:...	Sim30215-w-de...	SiemensDV	10.24...	Polling has been temporarily reduced due to prior timeouts. Check the PollSummary.log for more details. The device may be down or may be receiving more polls than it can respond to.	0
<input type="checkbox"/> Major	March 6, 2018 2:...	March 6, 2018 2:...	Sim30214-w-de...	SiemensDV	10.24...	MANAGEMENT AGENT LOST	0
<input type="checkbox"/> Major	March 6, 2018 2:...	March 6, 2018 2:...	Sim30215-w-de...	SiemensDV	10.24...	MANAGEMENT AGENT LOST	0
<input type="checkbox"/> Major	March 5, 2018 9:...	March 5, 2018 9:...	Cisco7606-96.37...	Cisco 7606s	138.4...	MANAGEMENT AGENT LOST	0
<input type="checkbox"/> Major	March 5, 2018 1:...	March 5, 2018 1:...	cis2524-blue-96...	Cisco2524	138.4...	HIGH AGGREGATE CPU UTILIZATION	0
<input type="checkbox"/> Major	March 5, 2018 1:...	March 5, 2018 1:...	cis2524-blue-96...	Cisco2524	138.4...	HIGH AGGREGATE CPU UTILIZATION	0

No Filter Search

Acknowledge Unacknowledge Clear Troubleshooter Poll Ping Traceroute On Demand Create Ticket

Alarm Details

Stack HIGH AGGREGATE CPU UTILIZ

High Aggregate CPU Utilization. The aver

ptoms:

performance of the network device. S

nw response in Telnet or unable to Te

nw response on the console.

nw or no response to ping.

ible Cause:

ssible security issue. Commonly, high

erloaded device. Perhaps the device

ssible firmware or hardware issues n

1s:

v the device vendor's recommended

Alarms

Alarms - Settings

Title: *

Sub Title:

Max Alarms To Retrieve: *

Ping Count: *

Sort Column: *

Sort Direction: *

Grid Height: *

Alarm Details:

Impact: Management Lost:

Impact: Symptoms:

Neighbor Topology:

Alarms

Permission Group: My Assigned Groups

20000

3

Date/Time

Descending

400

☒ Enabled

☒ Enabled

☒ Enabled

☒ Enabled

Sort Ascending

Sort Descending

Columns

Save Column Settings

Use Default Settings

☒ Severity

☒ Date/Time

☒ Last Occurrence

☒ Item Name

☒ Model Type

☒ Address

☒ Alarm Title

☒ Impact

☒ Number Of Occurrences

☒ Acknowledged

☒ Trouble Shooter

☒ Trouble Ticket ID

☐ Item Type

☐ System Name

☐ IfAlias

☐ Landscape

☐ Clearable

☐ Contact

☐ Device Location

☐ Cause Code

☐ Modified Time

Control height of alarm
grid

Simple workflows enable quick access between fault & performance

I need to be able to easily access performance in context for devices/interfaces in view

Being able to generate and view performance data from my console is key to streamlining improving

Alarms

Permission Group: My Assigned Groups

Severity	Date/Time	Last Occurrence	Item Name	Model
<input checked="" type="checkbox"/> Major	March 7, 2018 7:...	March 7, 2018 7:...	Stack	Summ
<input type="checkbox"/> Major	March 6, 2018 2:...	March 6, 2018 2:...	Sim30214:w-de-...	Siemens
<input type="checkbox"/> Major	March 6, 2018 2:...	March 6, 2018 2:...	Sim30215:w-de-...	SiemensDV
<input type="checkbox"/> Major	March 6, 2018 2:...	March 6, 2018 2:...	Sim30214:w-de-...	SiemensDV
<input type="checkbox"/> Major	March 6, 2018 2:...	March 6, 2018 2:...	Sim30215:w-de-...	SiemensDV
<input type="checkbox"/> Major	March 5, 2018 9:...	March 5, 2018 9:...	Cisco7606-96.37...	Cisco 7606S
<input type="checkbox"/> Major	March 5, 2018 1:...	March 5, 2018 1:...	cis2524-blue-96...	Cisco2524
<input type="checkbox"/> Major	Marc			

Clear Troubleshooter Poll Ping Traceroute On Demand Create Ticket

Alarm Details

Stack HIGH AGGREGATE CPU UTILIZATION

Contextual launches from alarm grid or details ensures the details I need are only a click away

Quick launch On-Demand report with automatic context of selected items

IM On-Demand/Multi-Metric Trend Report

View Type: Chart with Multiple Metrics

Resolution: Use default resolution

Baseline Metrics: Enabled

Items or Groups to Include

Name	Parent Device	Description
cisco2511-96.16.ca.com		Cisco Internetwork Operating System Software IOS (t...
cis2524-blue-96.25.ca.com		Cisco Internetwork Operating System Software IOS (t...

Metric Calculate Level: by Group by Device by Component

Metrics to Include

Available	Selected
<input checked="" type="checkbox"/> Availability	
<input checked="" type="checkbox"/> CPU	
<input checked="" type="checkbox"/> Device Polling Statistics	

Apply Changes: My User Account

Run Save Cancel

Easy to build and use alarm filters

I need to be able to filter my alarm view to ensure I don't miss important issues and can organize my alarm lists

Operations are evaluated on speed and efficiency and are held accountable when things are missed.

- Create/Edit/Save alarm filters
- Filter capability based on AND/OR conditions
- Filter support various attribute types
- Filter supports ability to Hide/Show attributes
- Viewing filter results on Alarm Console View

The screenshot displays the 'Alarms' console interface. At the top, it shows 'Time Range: Last 30 Days'. Below this is a table of alarms with columns: Severity, Date/Time, Item Name, Model Type, IP Address, Alarm Title, and Trouble Ticket ID. The table lists several alarms, including 'Major' and 'Critical' severity events related to CPU utilization and WLC controller thresholds.

Overlaid on the bottom of the screenshot is the 'Create Filter' dialog box. It features a 'Conditions' section with a dropdown for 'Model Class' and a 'Hide' button. Below this is a text box that says 'Model class for item - Select items from the provided list'. To the right, there are two lists: 'Available' and 'Selected'. The 'Available' list contains items like 'Amplifier', 'Anti Virus Application', 'Application', 'Application Server', and 'Automatic Teller Machine'. The 'Selected' list is currently empty. Search bars are provided for both lists.

A callout box with the text 'Create filter for specific attributes' points to the 'Create Filter' dialog.

Share and manage alarm filters

Teams need alarm filters to ensure they don't miss anything and can easily track active alarms & tickets.

An operations team is only as effective as their visibility into situations on the network.

- Leverage organization and team best practices through sophisticated alarm filters
- Specify who can see a rule during or after a filter is created
- Leverage Roles to automatically add rules for new users
- Granular Role controls ensure users have the right permissions

- Leverage roles and tenants to control and easily manage access to rules
- Allow users to maintain their own rules for job specific tasks

Scope: *

For My Use

Name: *

For My Use

Last Modified By:

For All Users With My Role

Last Modified:

For All Tenant Roles

Tooltip:

For Specific Users or Roles

Manage Filters

Name	Description	Modified By	Modified Date	Shared
<input checked="" type="checkbox"/> Only Critical Port Threshold Profiles	Filter alarms to cause code related to CAPM Port (interface) Threshold Events (0x5c40011) and Critical Severity	admin	April 10, 2018 10:56:38 AM EDT	No
<input type="checkbox"/> Only Critical Threshold Profiles	Filter alarms to cause code related to CAPM Threshold Events (0x5c40011) and Critical Severity	admin		No
<input type="checkbox"/> Only Threshold Profiles	Filter alarms to cause code related to CAPM Threshold Events (0x5c40011)	admin	April 10, 2018 10:48:07 AM EDT	No

Search

Page 1 of 1

Displaying 1 - 3 of 3

Max Per Page 100

New

Edit

Copy

Delete

Users

Roles

Close

No Filter

No Filter

Only Critical Port Threshold Profiles

Only Critical Threshold Profiles

Only Threshold Profiles

Manage Saved Filters...

Manage Saved Filters... - Manage saved alarm filters that can be used in any alarm view

Expanded NetOps PDF/Reporting

By popular demand...

Idea	Votes
An On-Demand Report Saves Current Page	21
Automatic report generation without E-mail by CAPC	53
scheduled reports - want to send link instead of report.	13
Migrate monthly PDF Reports from eH to CAPM	7
PDF Store	34
Print only saves current page	32
Save scheduled pdf/csv reports on CAPC server and choose a target directory	27

187

PDF Rendering now supports multi-page views and report link distribution

- I need to be able to schedule PDF generation of CAPC Dashboards including all pages of multi-page views
- I need to be able to schedule PDF generation of CAPC context pages including all supported sections and pages of multi-page views
- I need to be able to provide a link to the scheduled report in an email
- I need to be able to continue to leverage existing functionality to send reports as attachments in email links
- I need my larger schedule report jobs to minimize impact to users leveraging ad-hoc Dashboards
- I need users to be able to access their reports from a Report list
- I need to be able to provide unauthenticated access to reports as needed
- I need to be able to store generated PDFs on a fileserver so users can access pre-generated reports quickly
- I need to be able to leverage CAPC as my PDF storage or chose a different filesystem (mount point in CAPC)
- I need to be able to control the number of report files retained to manage report storage requirements
- I need the Report scheduler to notify me when I am reaching capacity of my disk storage to avoid running out of space and/or crashing the system

Expanded PDF Controls

Does recipient need to login?

Control scope of PDF export

✕

Email Dashboard

Dashboard:

Infrastructure Overview

Send To: *

executive@acme.com

Subject: *

Infrastructure Overview

Message:

Here's the weekly Infrastructure Overview Report. You don't need to login to download/view the generated PDF.

Also, you will notice the report is larger as we now have visibility into all of the data within all views of the Dashboard!

Security:

☒ Require login to see reports

— Output Options —

Format:

PDF

PDF Orientation:

☒ Portrait☐ Landscape

PDF Information Scope:

All Pages of multiple page views

— Scheduling Options —

Frequency: *

Run Weekly

On Day: *

Monday

Start Time:

08 : 00

Time Zone: *

(UTC-05:00) America: New York (Eastern Standard Time)

Time Range: *

Previous Week

Suggested Time Ranges: Last 7 Days, Last 14 Days, Last 30 Days, Last 3 Months, Last 12 Months, Previous Week, Current Week

OKCancel

My Reports UI improvements

Scheduled Reports

<input type="checkbox"/> Owner	Subject	Context	Recipients	Type	Enabled	Size	Report Name	Tenant	↑ Delivery	Permission
<input type="checkbox"/> admin	Scorecards	All Groups	Capacity@acme.com	PDF Full	No	0 b	N/A	Default Tenant	Link	Required
<input type="checkbox"/> admin	Router AAG Report	Cisco-3945_10.253....	TeamCore@acme.com	PDF	Yes	15 b	N/A	Default Tenant	Attached	N/A
<input type="checkbox"/> admin	Interface Congestion Scorecards	My Assigned Groups	opsTeam@acme.com	PDF Full	Yes	46.9 Kb	Interface_Congestion_Scorecards_DAILY_2018_0622_0930_EDT...	Default Tenant	Link	Required
<input type="checkbox"/> user	Yesterday's Alarms	All Groups	opsTeam@acme.com	PDF Full	Yes	15.7 Kb	Alarm_Console_DAILY_2018_0622_0945_EDT_id23.pdf	Default Tenant	Link	Not Required
<input type="checkbox"/> user	Interfaces Display	All Groups	Capacity@acme.com	PDF Full	Yes	0 b	N/A	Default Tenant	Link	
<input type="checkbox"/> user2	Weekly Core Overview	All Groups	executive@acme.com	PDF Full	Yes	0 b	N/A	Default Tenant	Link	
<input type="checkbox"/> user2	Monthly Core Overview	All Groups	teamLead@acme.com	PDF	Yes	0 b	N/A	Default Tenant	Attached	
<input type="checkbox"/> user2	Interface Trends	All Groups	opsTeam@acme.com	CSV	Yes	0 b	N/A	Default Tenant	Attached	

☒ Owner

☒ Subject

☐ Dashboard

☒ Context

☒ Recipients

☐ Schedule

☒ Type

☒ Enabled

☐ Next Run Time

☐ Last Run Time

☒ Size

☒ Report Name

☒ Tenant

☐ Next Run Time (Scheduled Time zone)

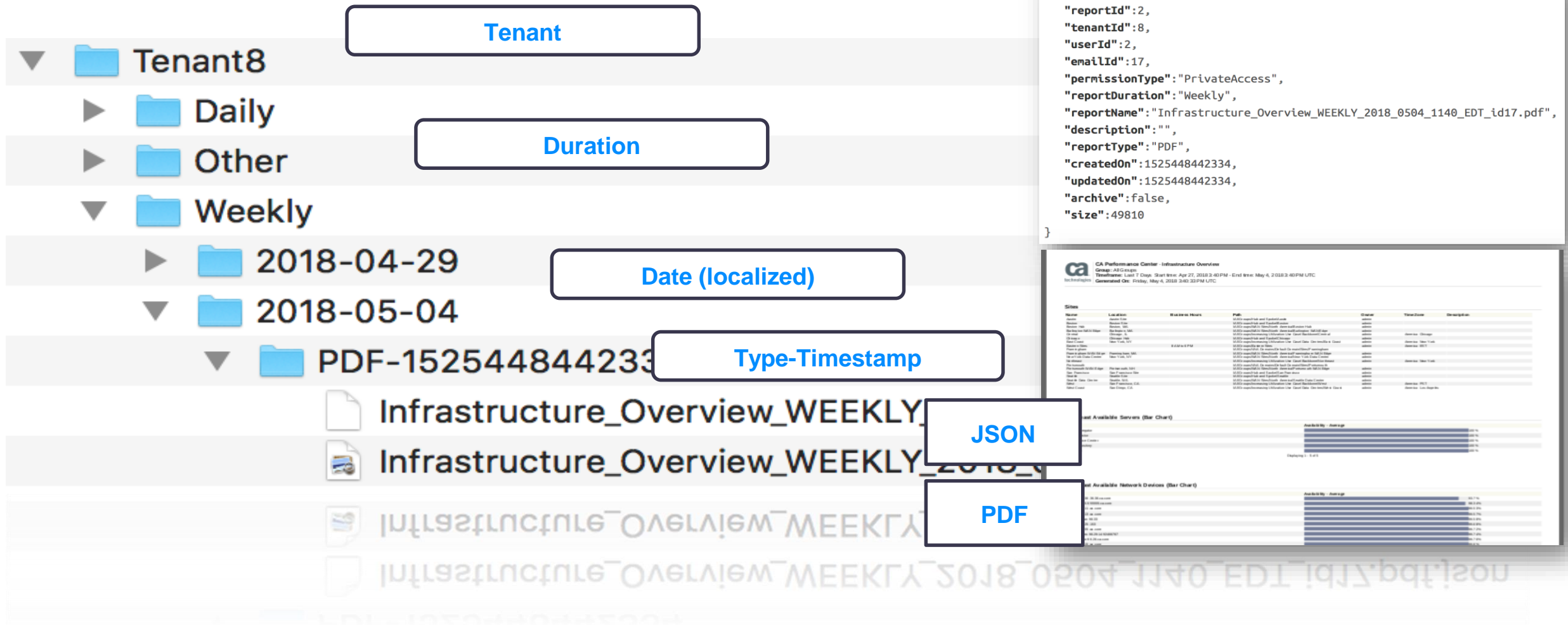
☐ Last Run Time (Scheduled Time zone)

☒ Delivery

☒ Permission

Expanded columns present significantly more information about your scheduled report jobs

Folder/file hierarchy provides separation at tenant, user and other key aspects



You can control how long to keep the files and we'll make sure you don't fill up the disk

Repository.Free.Disk.Space.Limit.Pct	20
Repository.Retain.Daily.Reports.Days	30
Repository.Retain.Hourly.Reports.Hours	168
Repository.Retain.Monthly.Reports.Months	12
Repository.Retain.Other.Reports.Hours	168
Repository.Retain.Quarterly.Reports.Quarters	12
Repository.Retain.Weekly.Reports.Weeks	12
Repository.Retain.Yearly.Reports.Years	5
Repository.Root.Directory	/opt/CA/PerformanceCenter/DM/repository

- Reports “age” out to reclaim disk space
- Smart out of box defaults, but customizable as needed
- Monitor available disk space with configurable limit boundary
- Integrated System Health to raise visibility if space is running low

Scheduled Report Repository

Normal

Operational Status	Number of Reports	Path Name	Capacity Utilization	Free Capacity	Total Capacity	Version
Up	1	/opt/CA/PerformanceCenter/DM/repository	5 %	181 GB	192 GB	1.0

Search

Page 1 of 1

Displaying 1 - 1 of 1

Max Per Page 10

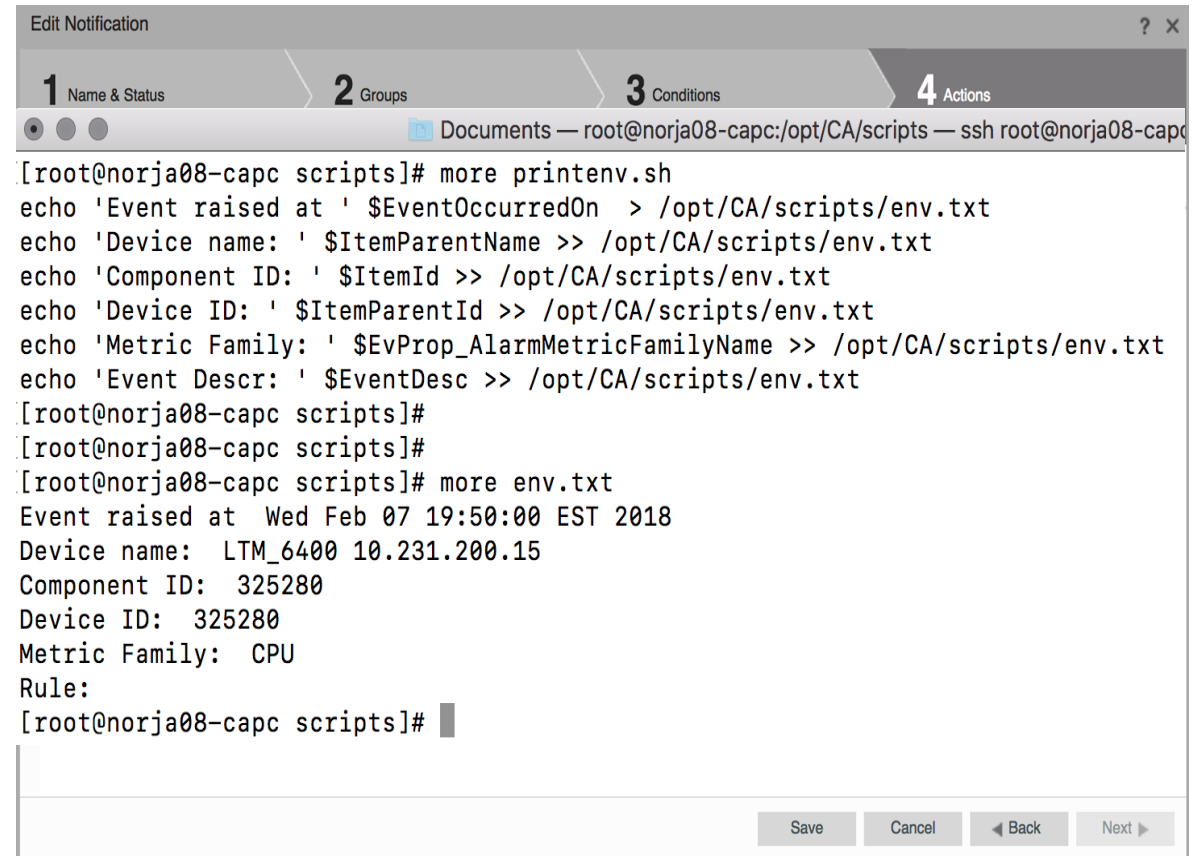
Scripting from event notifications

Key Use Cases:

- Enhance event data to streamline triage
- Send events to multiple trap destinations
- Drive automation & self-healing

Highlights:

- Key attributes passed in environment of script shell
- Serial execution to ensure proper queue order
- Logging and timeout events



```
Edit Notification
1 Name & Status 2 Groups 3 Conditions 4 Actions
Documents — root@norja08-capc:/opt/CA/scripts — ssh root@norja08-capc

[root@norja08-capc scripts]# more printenv.sh
echo 'Event raised at ' $EventOccurredOn > /opt/CA/scripts/env.txt
echo 'Device name: ' $ItemParentName >> /opt/CA/scripts/env.txt
echo 'Component ID: ' $ItemId >> /opt/CA/scripts/env.txt
echo 'Device ID: ' $ItemParentId >> /opt/CA/scripts/env.txt
echo 'Metric Family: ' $EvProp_AlarmMetricFamilyName >> /opt/CA/scripts/env.txt
echo 'Event Descr: ' $EventDesc >> /opt/CA/scripts/env.txt
[root@norja08-capc scripts]#
[root@norja08-capc scripts]#
[root@norja08-capc scripts]# more env.txt
Event raised at Wed Feb 07 19:50:00 EST 2018
Device name: LTM_6400 10.231.200.15
Component ID: 325280
Device ID: 325280
Metric Family: CPU
Rule:
[root@norja08-capc scripts]#
```

Simplify Baseline Comparison Event Rules - % of Baseline

Key Use Cases:

- Thresholds for metrics with very low standard deviation from baseline
- Normalized baseline threshold for groups with high variance in standard deviations from baseline
- Alert on DSL or VSDL re-training at a lower speed
 - Alert on bandwidth drop of 25% for an extended period and alert the NOC

Create / Edit Event Rule

Name: *

Temperature Alert

Description:

Metric Family: *

Environmental Sensor - Temperature

Duration (sec): *

300

Window (sec): *

300

Severity: *

Major

A violation occurs when all of these conditions are met:

Metric: *

Temperature (Celsius)

Operator: *

Above

Value: *

50.0

Condition Type: *

Percent of Baseline

+ Add Condition

A violation is cleared when:

Metric: *

Temperature (Celsius)

Operator: *

Equal To Or Below

Value: *

10.0

Condition Type: *

Percent of Baseline

Save

Cancel

Highlights:

- New rule type built into the standard threshold rules

Device Name:

Cisco-3945_10.251.1.123

Property Name	Event Property Value
Metric Family Name	CPU
Profile Folder ID	6694
Profile ID	6696
Profile Name	Profile A
Rule Detail	Utilization < -10.0 PercentOfBaseline
Rule ID	6720
Rule Name	Percent of Baseline CPU
Severity	1
Window	300

Search


Page 1 of 1

Displaying 1 - 13 of 13

Max Per Page 100

OK

16 | Broadcom Proprietary and Confidential. Copyright © 2018 Broadcom. All Rights Reserved. The term "Broadcom" refers to Broadcom Inc. and/or its subsidiaries.

 **BROADCOM**

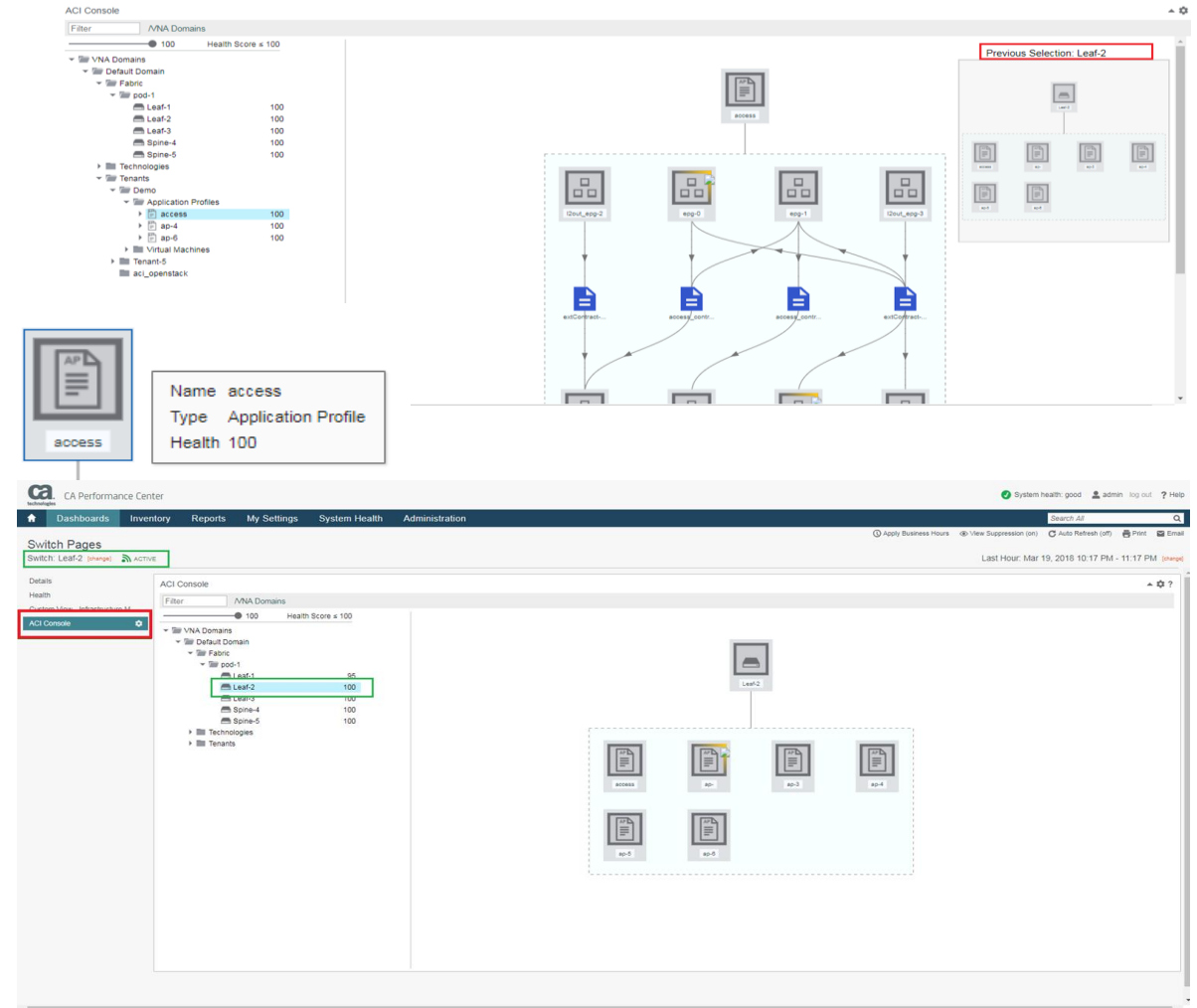
Cisco ACI Workflow and Navigation Enhancements

Key Use Cases:

- Zoom too small in history boxes and not sure what it is for
- Browser history is not kept when navigating back
- Would be great to show more details for nodes
- Why can't I see the ACI Console tab in Switch context page?

Highlights:

- Enlarge the Zoom-in history boxes to make it more visible; Add title on top of box
- Properly maintain browser history using url rewriting
- Show details with Mouse over on topology icons and navigate to context page
- Embedded ACI Console Tab into Switch Context page



OpenAPI Support for SD-WAN

Key use cases:

- I need to be able to export SD-WAN overlay inventory, relationship, and performance data
- I need to be able to leverage the OpenAPI App platform to drive enhanced analytics and new visualizations

Feature highlights:

- OpenAPI Support for key SD-WAN items: Devices, Interfaces, SLA Classes, Tunnels, & App Classes
- Key relationships to simplify data extraction and visualization
- Query Builder support for easy exploration and query URL generation

Query Expression

×

for

sdnslapathmf

×

group/aggregate

groupby(groups/ID, aggregate(im_JitterPercentOfThreshold with max as Value, im_LatencyPercentOfThreshold with max as Value1, im_PacketLossPercentagePercentOfThreshold with max as Value2))

×

time range

Last 24 Hours/As polled

×

filter

(groups/ID equal 22965) and (groups/ID equal 22967) and ((Value greater 100) or (Value1 greater 100) or (Value2 greater 100))

×

select

ID, Value

×

limit(top)

top=500, skip=0, expand top=1000

×

format

Text/CSV

▼ OData URL

 Copy to clipboard

http://norja08-dev-da.bluesky.ca.com:8581/odata/api/sdnslapathmfs?\$apply=groupby(groups/ID, aggregate(im_JitterPercentOfThreshold with max as Value, im_LatencyPercentOfThreshold with max as Value1, im_PacketLossPercentagePercentOfThreshold with max as Value2))&&resolution=RATE&period=1d&\$top=500&\$skip=0& top=1000&\$format=text/csv&\$select=ID,Value&\$filter=((groups/ID eq 22965) and (groups/ID eq 22967) and ((Value gt 100) or (Value1 gt 100) or (Value2 gt 100)))

Interface (max) 95th Percentile Group Scorecard

Key Use Cases

- 1. Capacity planners need to easily understand circuits with capacity needs across multiple groups
- 1. Capacity planning needs to easily understand which interface is impacting a logical service or location

Child group entries show max for each group
Easily drill-down to view individual details

Interface 95th Maximum Percentile Trend Scorecard - In							
User Group: North America							
Timeframe: Last 24 Hours Metric Calculate Level: by Group							
Critical Status (80.0) Major Status (60.0) Minor Status (40.0) Normal Status							
Group/Sub-Group Name	Apr 11, 2018 11:00 AM	Apr 12, 2018 11:00 AM	Apr 13, 2018 11:00 AM	Apr 14, 2018 11:00 AM	Apr 15, 2018 11:00 AM	Apr 16, 2018 11:00 AM	Overall Average (%)
North America	87.96%	75.35%	78.36%	81.36%	84.36%	86.87%	81.34%
Boston Hub	87.96%	75.35%	78.36%	81.36%	84.36%	86.87%	81.34%
Burlington WAN Edge	62.41%	64.1%	65.75%	67.41%	69.09%	70.47%	65.71%
Framingham WAN Edge	71.07%	30.71%	35.36%	42.49%	49.63%	55.65%	49.84%
New York Data Center	25%	25%	25%	25%	25%	25%	25%
Portsmouth WAN Edge	62.42%	64.09%	65.76%	67.41%	69.09%	70.5%	65.72%
Seattle Data Center	25%	25%	25%	25%	25%	25%	25%

Feature Highlights

- 1. New out of the box view leverages industry best practice 95th percentile with custom max aggregation
- 1. New group trend scorecard shows individual highest utilization value for each group

View In, Out, or In/Out
Configurable historical and projection aggregates

Interface 95th Maximum Percentile Trend Scorecard - Settings

Title:

Interface 95th Maximum Percentile Trend Scorecard

Sub Title:

User Group: North America

Direction Settings:

In

Number of Time Intervals:

6

Number of Projections:

0

Projection Calculation Method:

Approximation

Detailed Data

Critical Status:

80

Major Status:

60

Minor Status:

40

Results Limit (Max Rows):

500

Questions?





Thank You





BROADCOM[®]

connecting everything[®]