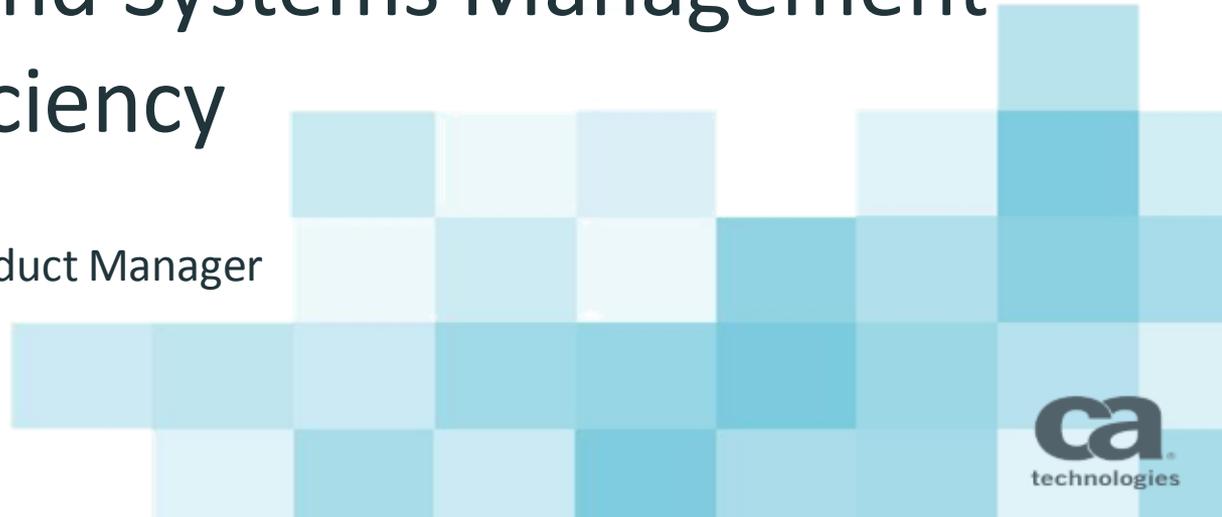


*EMEA DevXchange 2017*

# Hands-On Lab: Integrate Network and Systems Discovery, Network Fault Management and Systems Management for Greater Efficiency

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# Agenda

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**VALUE PROPOSITION**

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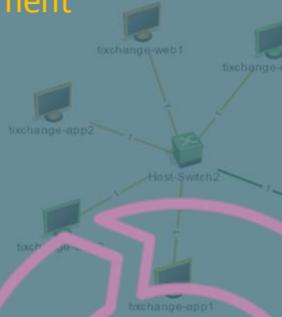
**QUESTIONS**

# Value Proposition

## CA Spectrum

Analytics Driven, Agile Monitoring For Today's Networks

Fault Management



## CA Unified Infrastructure Management

Analytics Driven, Agile Monitoring For Today's Infrastructures

Performance Management



# Inventory Sync Overview

## Bidirectional Sync and Correlation of Inventory

- Selective inventory sync from CA Spectrum to CA UIM through global collection
- VMWare and virtual servers sync from CA UIM to CA Spectrum
- QoS metrics sync from CA UIM to CA Spectrum
- Manage unreported inventory during the course of multiple syncs

## Root Cause Analysis and Fault Isolation

- CA Spectrum RCA leveraged for CA Spectrum and CA UIM alarms
- Out-of-the-box condition correlation rules for physical and virtual inventory
- Ability to create custom correlation domains

## Single Topology View

- View and monitor network devices, physical servers and virtual servers within single pane of glass

## Configurable Sync Intervals

- Full sync
- Incremental sync
- On demand sync

# Inventory Sync



Discover



Model

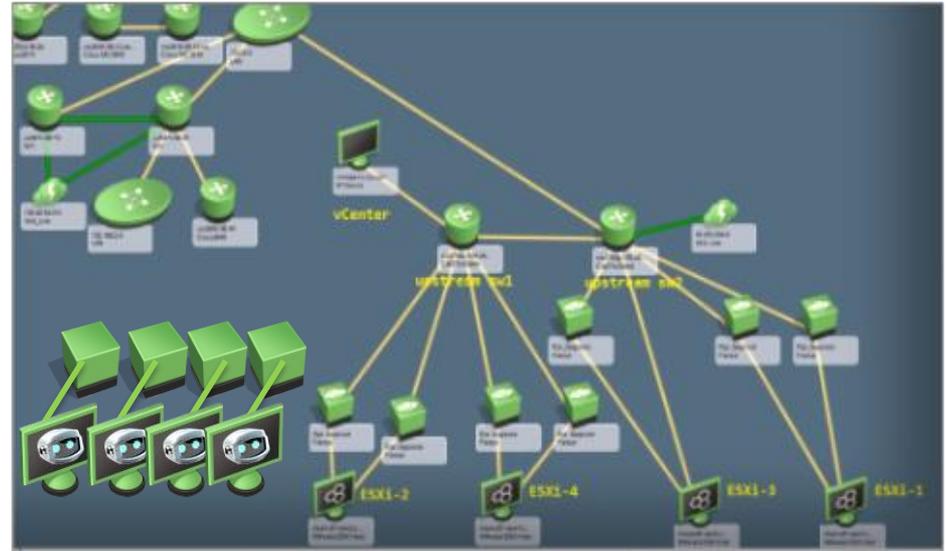


Root Cause Analysis

# Inventory Sync



## Complete Topology View



# Alarm Sync Overview

Fault and performance alarms in single view

Flexibility to Select the Direction of Sync

- Bidirectional sync from CA UIM to CA Spectrum (default option)
- Sync from CA Spectrum to CA UIM
- Sync from CA UIM to CA Spectrum

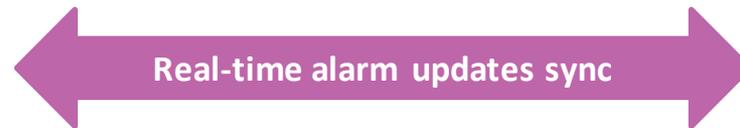
Alarm Management

- For alarms originating at CA UIM or CA Spectrum through either of the solutions:
  - Assign troubleshooter
  - Clear/acknowledge alarms
  - Ticket ID sync
- Root cause alarms and symptomatic alarms sync to CA UIM

Configurable Sync Intervals

- Full sync
- Incremental sync
- On demand sync

# Alarm Sync



# View Fault and Performance Alarms

Network and Infrastructure alarms are synced

The screenshot displays two overlapping windows from a network management system. The top window, titled 'Contents: Universe of type Universe', shows a table of alarms filtered by severity. The bottom window, titled 'UnifiedServiceManager', shows a list of alarms for various hosts. A large purple arrow points from the top window to the bottom window, indicating that the alarms are synced between the two views.

**Filtered By: Severity**

Severity	Date/Time	Source	Name	Assign	Network Add	Secure De	Type	Alarm Title
Critical	Aug 19, 2016 1:39:59 PM IST	SPECTRUM	138.42.94...		138.42.94.144	Directly M...	WA_Link	WIDE-AREA I
Critical	Aug 30, 2016 9:31:24 AM IST	SPECTRUM	10.10.10.0		10.10.10.0	Directly M...	WA_Link	WIDE-AREA I
Major	Aug 31, 2016 2:05:27 PM IST	SPECTRUM	name		138.42.94.90	Directly M...	Catalyst...	MANAGEMENT
Major	Aug 30, 2016 10:22:08 AM IST	SPECTRUM	Jun2300-9...	user1	138.42.94.14	Directly M...	J2300	MANAGEMENT
Major	Aug 30, 2016 8:41:06 PM IST	SPECTRUM	Stack		138.42.94.134	Directly M...	Summit...	HIGH CPU UT
Major	Aug 31, 2016 2:20:02 PM IST	NAC	kvatc01-co				EventM	The monitor

**UnifiedServiceManager**

Alarms Total: 38

Host	Message	Time	Subsystem	Count
specrhel7template	The monitor specrhel7template.GuestState on nv...	8/31 5:19:45 PM	Monitor	14
karja06-gns3.ca.com	The monitor karja06-gns3.GuestState on nv...	8/31 5:19:45 PM	Monitor	14
chumu01-esx4.ca.com	The monitor chumu01-esx4.ca.com.Status on nv...	8/31 5:19:45 PM	Monitor	14
vatas01-rh7u2.ca.com	The monitor vatas01-rh7u2.GuestState on nv...	8/31 5:19:45 PM	Monitor	14
subva01-w2k3-v2	The monitor subva01-w2k3-v2.PowerState on nv...	8/31 5:19:45 PM	Monitor	14
compute	The monitor compute.GuestState on nv...	8/31 5:19:45 PM	Monitor	14
SDN-starter-kit	The monitor SDN-starter-kit.PowerState on nv...	8/31 5:19:45 PM	Monitor	14
name	MANAGEMENT AGENT LOST	8/31 5:13:56 PM		1
Stack	HIGH CPU UTILIZATION	8/30 8:41:46 PM		1
Jun2300-96.4	MANAGEMENT AGENT LOST	8/30 2:54:16 PM		1
10.10.10.0	WIDE-AREA LINK CONTACT LOST	8/30 9:31:40 AM		1

# Symptomatic Alarms Synced to Infrastructure

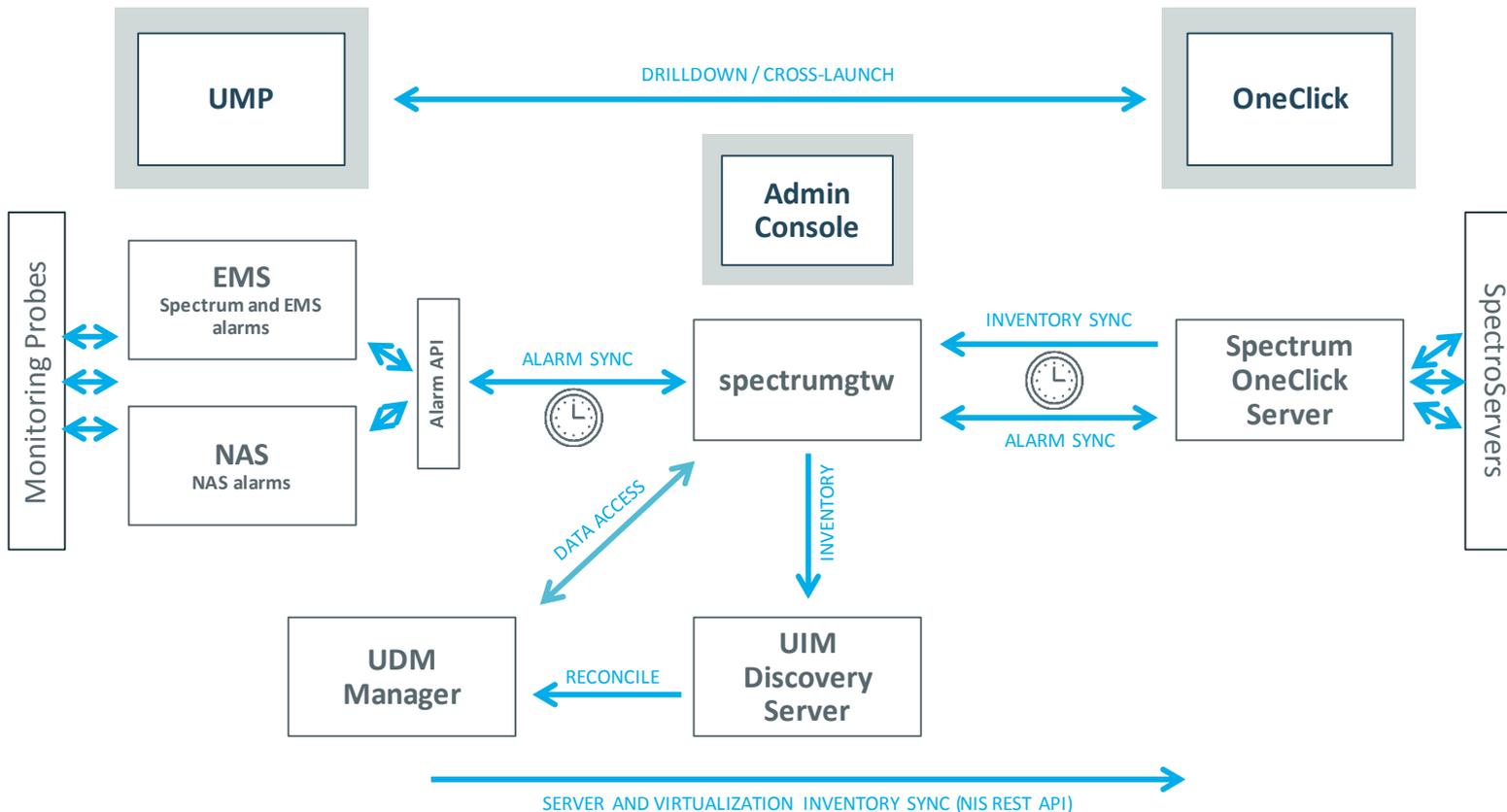
The screenshot displays the CA Spectrum OneClick interface. The top window, titled "Alarm Detail: Sim7641:vms109x.ub7ix109x of type Summit X450a-48IDC - CA Spectrum OneClick", shows the "Symptoms" tab. A message states "The selected alarm resulted in 3 symptoms." Below this is a table of symptoms:

Severity	Date/Time	Name	Network Address	Type	Alarm Title	Assignment	Trouble Ticket ID	UIM Alarm Id	Source	Landscape
Critical	Sep 21, 2016 5:34:...	10.241.0.0		Unplaced	INFERRED CONNECTOR CONTACT ST...				SPECTRUM	kolpo02-f854 (0x1...
Critical	Sep 21, 2016 5:34:...	Sim7641:vms109x.ub...	10.241.251.1	Summit...	DEVICE HAS STOPPED RESPONDING ...				SPECTRUM	kolpo02-f854 (0x1...
Major	Sep 21, 2016 5:34:...	Sim7641:vms109x.ub...	10.241.251.1...	Summit...	BLADE STATUS UNKNOWN				SPECTRUM	kolpo02-f854 (0x1...

The bottom window, titled "UnifiedServiceManager", shows a list of alarms. The selected alarm is "Sim7641:vms109x.ub7ix109x" with the message "CHASSIS DOWN" and "1 since 35 secs ago". Below the alarm details is a table of symptoms:

Host	Message	Time	Subsystem	Count	Assigned To
Sim7641:vms109x.ub7ix109x	DEVICE HAS STOPPED RESPONDING TO POLL	9/21 5:35:02 PM		1	
10.241.0.0	INFERRED CONNECTOR CONTACT STATUS LO...	9/21 5:35:02 PM		1	
Sim7641:vms109x.ub7ix109x	BLADE STATUS UNKNOWN	9/21 5:35:02 PM		1	

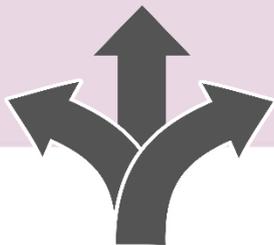
# Architecture



# What's New

## Increased Flexibility

- Control over inventory sync
- No longer re-enter SNMP credentials



## Streamline Monitoring

- Create rules for CA UIM events
- Sync CA UIM custom attributes



## Single Pane of Glass

- Monitor AWS and Azure clouds

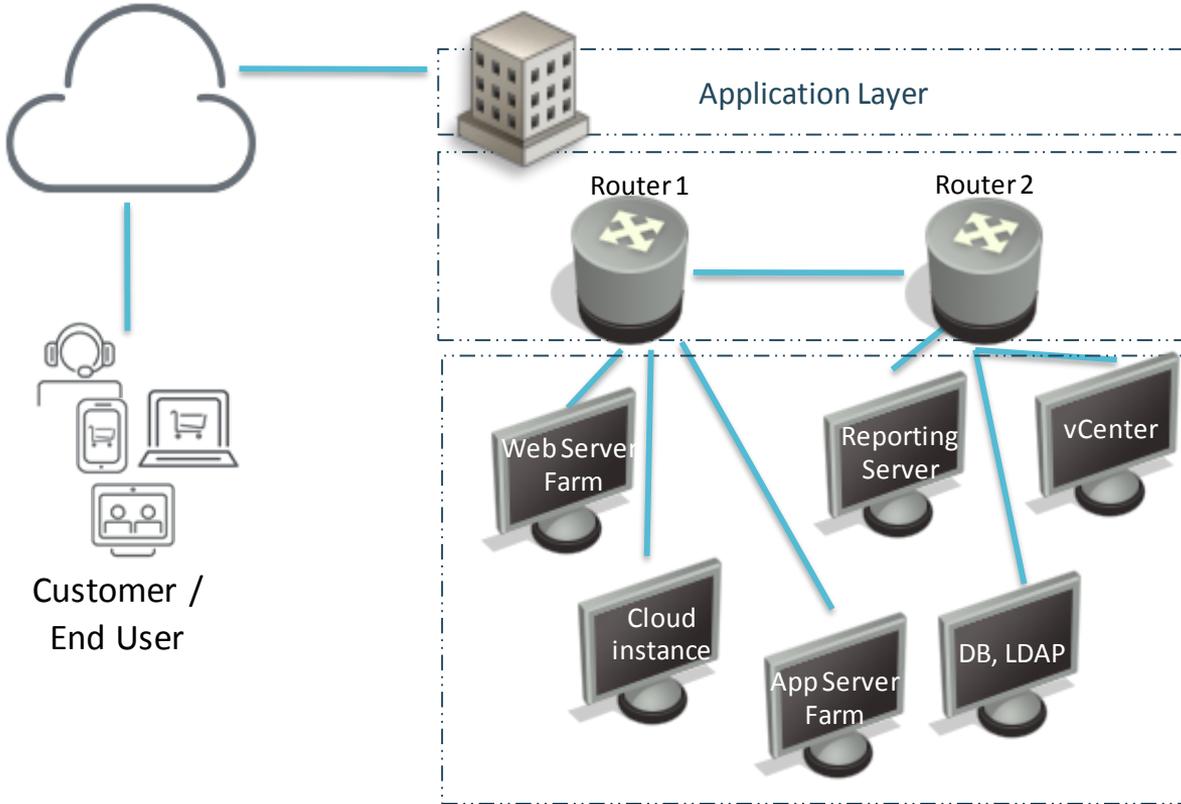


## Secure Communication

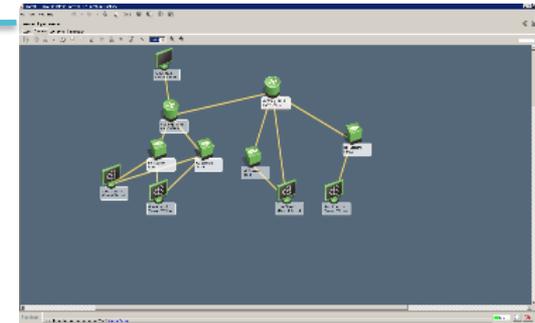
- SSL support for communication



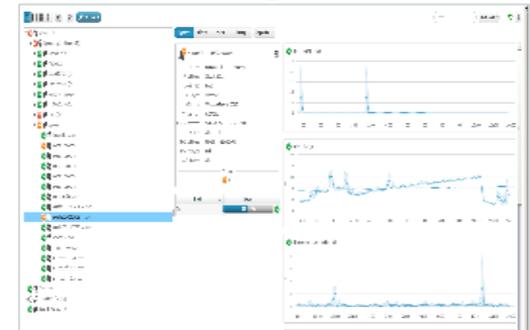
# Deployment View



OneClick client



Unified Management Portal



# Scenario #1:

## Root Cause Analysis for Network and Infrastructure Monitoring

### Usability for NOC Engineers

#### Key Responsibilities:

- Infrastructure availability
- Speed issue resolution

#### Problem Statement:

- Application hosted on a VM is not accessible
- Router Interface is down due to which downstream VMs are not reachable

# What Will You Accomplish

- View inventory sync to CA Spectrum
  - Select the CA UIM inventory to sync
  - Topology view for CA UIM inventory
- View CA UIM alarms in CA Spectrum
  - View root cause and symptomatic alarms based on RCA and FI performed in CA UIM and CA Spectrum alarms
- Manage alarms
  - Assign troubleshooter
  - Clear alarm
  - Create/update trouble ticket ID



# Hands-On Lab

# Topology View

The screenshot displays a network management application interface. The top menu bar includes "File", "View", "Tools", and "Help". A "Device Search:" field is located in the top right corner.

**Navigation Pane (Left):**

- My Spectrum
- Global Collections (1)
  - UIIM\_GC (2)
    - centos72
    - Huawei-96.35
- Configuration Manager (3)
  - eHealth Manager
  - IP Routing Manager
  - MPLS Transport Manager
  - Policy Manager
- Service Performance Manager (2)
  - VPLS Manager
  - VPN Manager
- spectrum (0x100000)
  - Chassis Manager (4)
  - Secure Domain Manager (1)
  - Service Manager (3)
  - TopOrg
- Universe: (70)
  - 10.10.10.0 (1)
  - 10.10.10.12 (1)
  - 10.10.10.16 (1)
  - 10.10.10.4 (1)
  - 10.10.10.8 (1)
  - 10.253.11.0 (1)
  - 10.253.11.4 (1)
  - 10.253.15.0 (1)
  - 10.253.15.4 (1)
  - 10.253.253.28 (1)
  - 10.253.254.8 (1)
  - 10.253.3.28 (1)
  - 10.253.3.36 (1)
  - 10.253.3.4 (1)
  - 10.253.3.40 (1)
  - 10.253.3.44 (1)
  - 10.253.3.48 (1)
  - 138.42.94.128 (1)
  - 138.42.94.160 (1)
  - 138.42.94.176 (1)
  - 138.42.94.212 (1)
  - 138.42.94.224 (1)
  - 6.6.6.0 (1)
  - SPECTRUM (1)

**Main Topology View:**

The main area shows a network topology with various devices and connections. Key components include:

- Three Cisco Catalyst 3750G switches (Cat37xxStack) connected in a line.
- A VMware vCenter (vMqga-vc/VMware vCenter) connected to the switches.
- A stack of switches (Stack Summt Ver2Stack) connected to the main line.
- Various IP devices (IP Device) and links (WA\_Link) connected to the network.
- An Event Admin (EVENT ADMIN) component connected to the network.

**Component Detail Pane (Bottom):**

The "Component Detail" pane shows information for the selected component, "Universe: 101". It includes tabs for "Information", "Host Configuration", "Root Cause", "Interfaces", "Performance", "Neighbors", "Alarms", "Cleared Alarms History", "Events", "Attributes", "Path View", "SDN VirtualOverlay", and "SDN ServiceView". The "General Information" section shows the component's condition as "Normal".

# Root Cause and Symptomatic Alarms

The screenshot displays the CA Spectrum OneClick console interface. The main window shows a network topology with several nodes connected. A specific alarm is highlighted, and a detail window is open for it.

**Component Detail: cis3750g-159.249.ca.com of type Cat37xxStack**

Severity	Date/Time	Name	Network Address	Secure Domain	Type	Alarm Title	Source	Cause Code	Model Type Name
Critical	May 5, 2017 9:54:33 AM EDT	cis3750g-159.24...	10.131.159.249	Directly Managed	Cat37xxStack	DEVICE HAS STOPPED RESPONDING TO POLLS	SPECTRUM	9x10f69	SwCasc10S
Minor	May 5, 2017 9:54:33 AM EDT	cis3750g-159.24...	10.131.159.249	Directly Managed	Cat37xxStack	BLADE IN STATUS UNKNOWN			

**Alarm Detail: cis3750g-159.249.ca.com of type Cat37xxStack - CA Spectrum OneClick**

**Service Impact** There is currently no service impact due to the selected alarm.

**LSP Impact** There are currently no LSPs impacted by the selected alarm.

**Symptoms** The selected alarm resulted in 2 symptoms.

Severity	Date/Time	Name	Network Address	Secure Domain	Type	Alarm Title
Critical	May 5, 2017 9:54:33 AM EDT	cis3750g-159.24...	10.131.159.249	Directly Managed	Cat37xxStack	DEVICE HAS STOPPED RESPONDING TO POLLS
Minor	May 5, 2017 9:54:33 AM EDT	cis3750g-159.24...	10.131.159.249	Directly Managed	Cat37xxStack	BLADE IN STATUS UNKNOWN

# Selective Sync of CA UIM Inventory

The screenshot displays the CA Spectrum OneClick UIM Configuration interface. A modal window titled "Edit Group NewGroup1" is open, showing configuration options for a group named "Windows servers". The group type is set to "Dynamic" and the member type is "System". Below the form is a table with columns: Name, Alias, IP Address, Caption, Description, Dedicated, OS Type, OS Name, OS Version, OS Description, and Origin. The table is currently empty. A sidebar menu on the left lists various administration pages, with "UIM Configuration" selected. The main configuration area shows fields for UIM Server Host Name (kolpo02-U158720), UIM Server Port (8443), UIM Group Name (Windows servers), and UIM Server Protocol (HTTPS). A "Save" button is visible at the bottom.

CA UIM custom groups used for selective sync of inventory from CA UIM to CA Spectrum

# CA UIM Custom Alarm Attributes Sync

Table Preferences - CA Spectrum OneClick

Columns: Sort: Filter:

- State
- Secondary
- Impact
- Clearable
- Cause Code
- System Name
- Last Occurrence DelayTime
- Alarm Modified Time
- UIM Alarm Id
- Change Owner

UIM User Tag 1

UIM User Tag 2

UIM Custom 1

UIM Custom 2

UIM Custom 3

UIM Custom 4

UIM Custom 5

CA UIM custom attributes sync over to CA Spectrum

Console - CA Spectrum OneClick

Navigation

- My Spectrum
- Global Collections (1)
- Configuration Manager (3)
- MPLS Transport Manager (6)
- Service Performance Manager (2)
- VPLS Manager (4)
- Virtual Device Manager (1)

Contents: My Spectrum

Custom 1	UIM Custom 2	UIM Custom 3	UIM Custom 4	UIM Custom 5
UIM attribute 1	custom attribute 2	custom attribute 3	custom attribute 4	custom attribute 5
UIM attribute 2	custom attribute 2	custom attribute 3	custom attribute 4	custom attribute 5
UIM attribute 3	custom attribute 2	custom attribute 3	custom attribute 4	custom attribute 5
UIM attribute 4	demo2	demo3	demo4	demo5
UIM attribute 5	custom attribute 2	custom attribute 3	custom attribute 4	custom attribute 5

Component Detail: AzureUS:VM of type EventModel

User Tag 1:  
User Tag 2:  
Custom 1: custom attribute 1  
Custom 2: custom attribute 2  
Custom 3: custom attribute 3  
Custom 4: custom attribute 4  
Custom 5: custom attribute 5

# Scenario #2:

## Root Cause Analysis on CA UIM Events

### Usability for NOC Engineers

#### Key Responsibilities:

- Infrastructure availability
- Speed issue resolution

#### Problem Statement:

- Application hosted on a VM is not accessible
- SQL server on the VM related to the application is not available

# What Will You Accomplish

- View inventory sync to CA Spectrum
  - Select the CA UIM inventory to sync
  - Topology view for CA UIM inventory
- View CA UIM alarms in CA Spectrum
  - View root cause and symptomatic alarms based on RCA and FI performed in CA UIM and CA Spectrum alarms
- Manage alarms
  - Assign troubleshooter
  - Clear alarm
  - Create/update trouble ticket ID



# Hands-On Lab

# Root Cause and Symptomatic Alarms

The screenshot displays a network management interface with a navigation pane on the left and a main content area on the right. The navigation pane shows a tree structure of devices, with 'appserver3' selected. The main content area is divided into three sections:

- Contents: appserver3 of type UIMHost**: This section shows a table of alarms. A single alarm is displayed, highlighted with a pink box. The alarm details are as follows:

Date/Time	Name	Network Address	Type	Alarm Title	Source	Cause Code	Mo
May 5, 2017 10:34:46 AM EDT	appserver3	10.131.159.177	UIMHost	Profile test, Cannot connect to database instance 10.131.159.177: (connection timeout).	NAS	0x6330080	UIM
- Component Detail: appserver3 of type UIMHost**: This section shows a table of symptoms. A single symptom is displayed, highlighted with a pink box. The symptom details are as follows:

Severity	Date/Time	Name	Network Address	Type	Alarm Title	Source	Ca
Major	May 5, 2017 10:37:46 AM EDT	appserver3	10.131.159.177	UIMHost	URL response for 'appserver3' failed. 7 Couldn't connect to server	NAS	0x
- Alarm Details**: This section shows a table of events. It is currently empty, displaying '0 of 0' events.

# Additional Events Mapping

- Unique event codes for additional event configuration
- Metrics from the following probes now have unique event codes
  - sqlserver (SQL Server Monitoring) probe – 76 metrics
  - cdm (CPU, Disk, Memory Performance Monitoring) probe – 39 metrics
  - net\_connect – 6 metrics
  - processes (Process Monitoring) probe – 16 metrics
  - logmon – 4 metrics
  - rsp (Remote Systems) probe – 16 metrics

# What Questions Do You Have?

THANK YOU!