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Consolidating and Upgrading Multiple APM Instances at a Large Retailer
February 28, 2019

Brought to You By

Vivit Application Performance Management Special Interest Group (APM SIG)

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Today's Speakers

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House Keeping

- 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

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Webinar Control Panel

Toggle View Window between Full screen/window mode.

Questions

Intro

- **Worked in IT for 20+**
- **Doing ESM for about 9 years**
- **Started IT career as 411 operator-**
  - "Hi, this is Sydney what city please?"

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Falconer and wildlife rehab volunteer

BSM / APM 9.2x Deployment

Traditional BSM deployments as we usually see them today

BSM 9.2x MoM

3rd party
(Service Now,
Xmatters, others)

CMS   SM / SMAX   OO

Ops Bridge Analytics

DIAGS   RUM   OMW   OMU/L   NOM   SiS   Agents   BSMC 10   BPM

IOM product

non IOM

3rd party
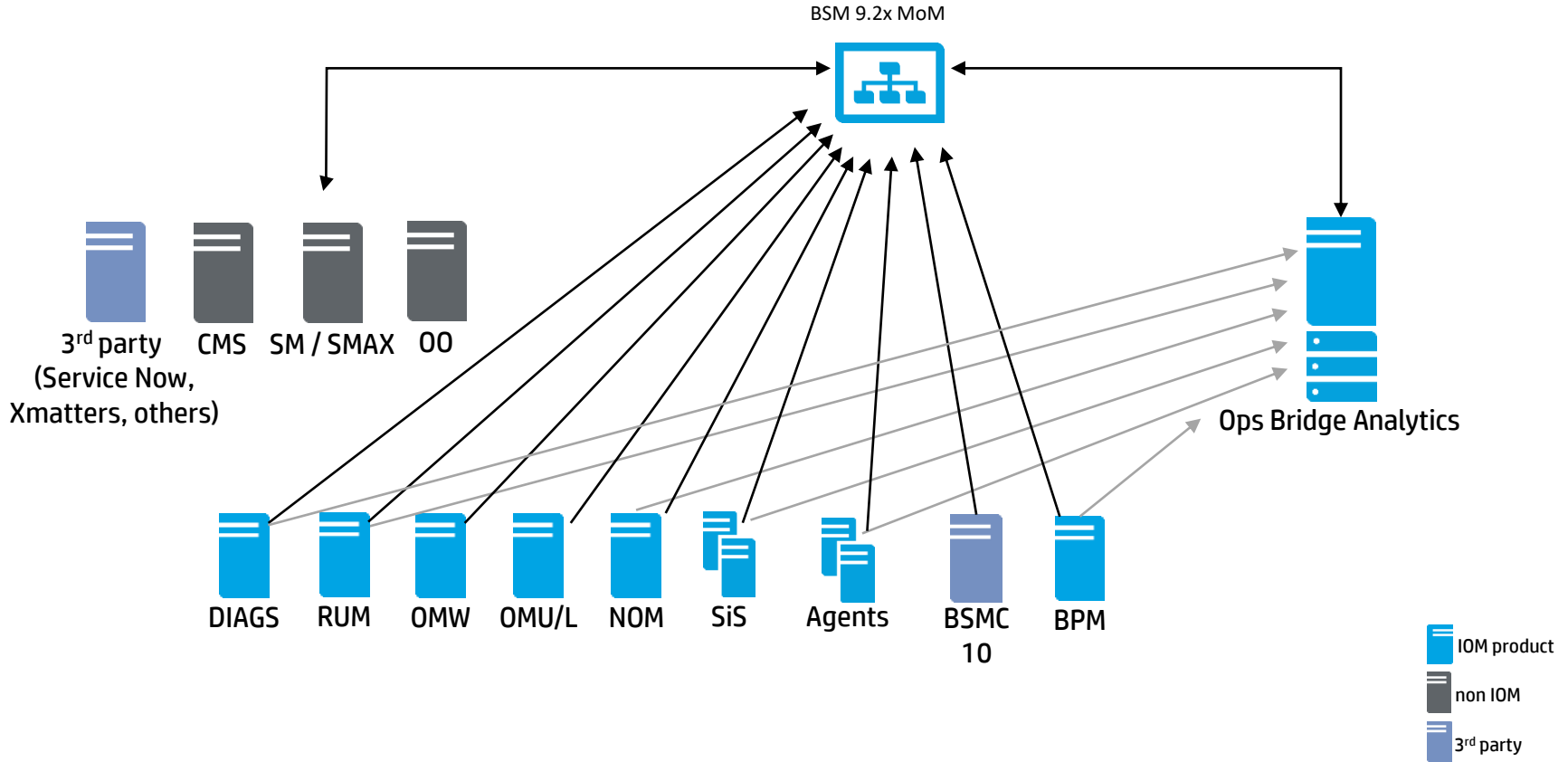
ESM 2016 Monitoring Deployment Plan

- Consolidate two instances of BSM.
- Move SiteScope server off of old BSM and integrate with new BSM
- Upgrade BPM, Rum, SiteScope, UCMDB, probes and Operations Agents to supported versions.
  - BPM 9.26
  - SiteScope 11.24 11.32 11.40
  - Operations Agents 11.14
  - UCMDB
- Move data collectors, including Business Process Monitor agents, UCMDB data probe, to new BSM (and OMi servers?)
- Migration of all of the agents and monitoring policies out of OMU to BSM/OMi
- Configure events to show up in BSM

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The Plan - continued

- **Users and groups, notification templates, and auto assignments for alerts and events**
- **AD Integration**
- **TBEC and correlation**
- **Business service maps**
- **Document best practices and support processes**

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The BSMs

- **From**
    - 2 DPS/2 GW -Windows 2008
    - BSM 9.2x
    - SQL Server Database
    - Physical Boxes

  To
    - 1 DPS/1 GW – Windows 2012
    - BSM 9.26 IP2
    - Oracle 12g Database
    - VMs

BSM/APM Architecture with OBM MoM
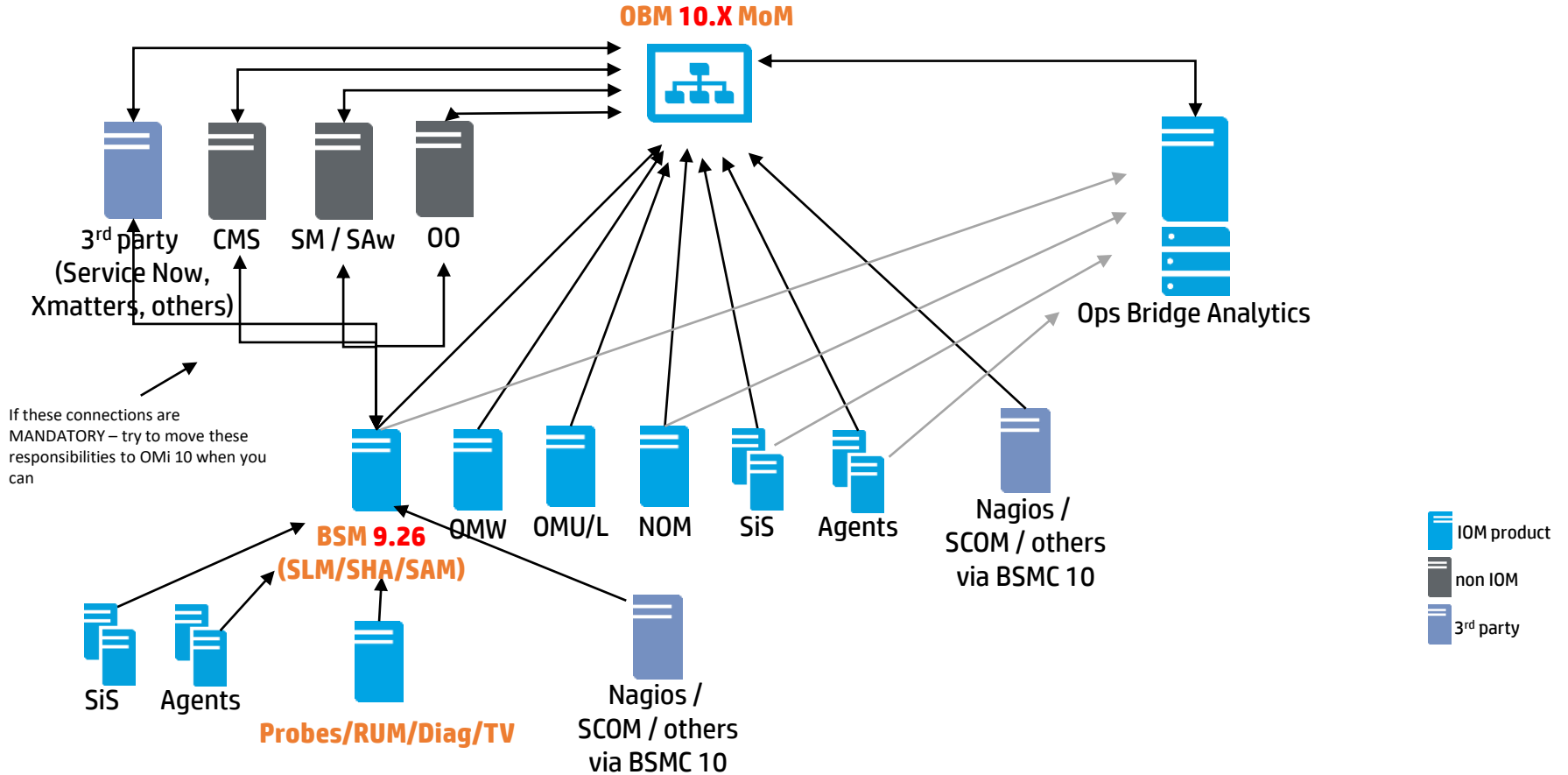
Before you begin

- **Backups**
- **Inventory**
    - Users
    - Connected servers
    - Reports
    - Software
- **Server requirements**
    - Space/memory
    - Make note of regedit entries, vm params files, etc.
- **Licensing**
- **Metrics**
    - Didn't move any data
    - Reconnected SiteScope instances

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Ports

Port Number	Type of Traffic	Port Usage	Mandatory/Optional
161	External	SNMP channel from the Data Processing Server to the SNMP manager	Mandatory
1098	Internal	RMI management channel used by the JBoss application server	Mandatory
1099	Internal	Naming service used by the JBoss application server	Mandatory
2506	Internal	Sonic Bus Domain Manager port for the connection between the Data Processing Server and the Gateway Server	Mandatory
8080	External	HTTP channel for JMX Console and RMI communications	Mandatory, JMX
8083	Internal	RMI dynamic class loading	Mandatory
8093	Internal	TCP JMS OIL/2 and UIL used by the JBoss application server	Mandatory
8443	Internal	Secure Connection to RTSM URL	Mandatory
11020	Internal	RMI management channel for the HP Business Service Management Service (Nanny Manager)	Mandatory
11021	External	HTTP channel for the HP Business Service Management Service (Nanny Manager)	Mandatory, JMX
21212	External	HTTP channel for the ODB process	Mandatory, JMX

Integrations

- **SiteScope/SAM**
- **BPM Agents**
- **Data Probe**
- **Ticketing Integration**
- **BSM connector**
- **Operations Agents**

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2016 BSM Migration/Upgrade Next Steps

Before we cut over all the external data collectors will need to be updated to point to the new servers. This includes the following:

- Dynatrace servers
- SiteScope servers
- BPM collectors
- Operations agents
- Any urls pointing to existing prod bsm servers
- Any jobs or external dashboards
- MST integration
- Anything else?

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Tools To Help Troubleshoot and Resolve Issues

- **Debug**

- **SiteScope Java Console**

- **Persistency Viewer**

- **BSM Browser**

- **Connector Backend**

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Turn on debug for SiteScope APM Integration Health Monitor

Data Integration - Debug

Go to SiteScope\conf\core\Tools\log4j\PlainJava , open the log4j.properties file and append the following lines at the bottom:

- ##
- TopazIntegritiValidator
- ##

- log4j.category.com.mercury.sitescope.integrations.bac.util.TopazIntegrityValidator=DEBUG, topazvalidator.appender
- log4j.additivity.com.mercury.sitescope.integrations.bac.util.TopazIntegrityValidator=false

- log4j.appender.topazvalidator.appender=org.apache.log4j.RollingFileAppender
- log4j.appender.topazvalidator.appender.File=../${log.file.path}/topaz_validator.log
- log4j.appender.topazvalidator.appender.MaxFileSize=${def.file.max.size}
- log4j.appender.topazvalidator.appender.MaxBackupIndex=${def.files.backup.count}
- log4j.appender.topazvalidator.appender.layout=org.apache.log4j.PatternLayout
- log4j.appender.topazvalidator.appender.layout.ConversionPattern=%d [%t] (%F:%L) %-5p - %m%n
- log4j.appender.topazvalidator.appender.encoding=${general.encoding

Recreate the issue and check *topaz_validator.log* generated under *SiteScope\logs* folder

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```
#############################################################################
#                         log4j Configuration file                         #
#############################################################################

log.file.path=logs/bac_integration
#loglevel can be any of DEBUG INFO WARN ERROR FATAL
loglevel=ERROR
monitor.loglevel=ERROR
def.file.max.size=1000KB
def.files.backup.count=5
general.encoding=UTF-8


# Main integration category
log4j.category.com.mercury.sitescope.integrations.bac=${loglevel}, integration.appender
log4j.additivity.com.mercury.sitescope.integrations.bac=false


# BAC integration tools category
log4j.category.com.mercury.sitescope.integrations.bac.util.TopazIntegrityValidator=DEBUG, sanityTest.appender
log4j.additivity.com.mercury.sitescope.integrations.bac.util.TopazIntegrityValidator=false
log4j.category.com.mercury.sitescope.integrations.bac.util.FixDuplicateTopazIDUtil=DEBUG, sanityTest.appender
log4j.additivity.com.mercury.sitescope.integrations.bac.util.FixDuplicateTopazIDUtil=false
log4j.category.com.mercury.sitescope.integrations.bac.util.ReplaceMinusOneTopazConfigurationUtil=DEBUG, sanityTest.ap
log4j.additivity.com.mercury.sitescope.integrations.bac.util.ReplaceMinusOneTopazConfigurationUtil=false
log4j.category.com.mercury.sitescope.integrations.bac.util.BACIntegrationTools=DEBUG, sanityTest.appender
```

If there are objects with duplicate BAC IDs or with BAC ID == (-1):

Selected node			
BSM Integration Configuration	✓ ↕	BACIntegrationCo	Total Groups
Counters (12 out of 12)			
BAC ID == (-1)	❓		8125
Duplicate BAC ID	❓		10
Group with duplicate internal name	✓		0
Group with invalid path	✓		0
Measurements with wrong catag...	✓		0
Monitor with invalid path	❓		0
Monitor without internal ID	❓		0
Monitor without internal name	❓		0
status	❓		ok
Target with BAC ID == (-1)	❓		0
Total Groups	✓		213
Total Monitors	✓		1330

If there are objects with duplicate BAC IDs or with BAC ID == (-1):

- Open a JMX Console (there is one provided in ***<SiteScope root directory>\java\bin\jconsole.exe***), and enter 28006 (the default port) in the Port field.
- In the MBeans tab, select ***com.mercury.sitescope/Integration/Bac/Tools/BacIntegrationToolsJMX/Operations*** (see below images)

    - o For objects with duplicate BAC IDs, activate fixDuplicateBACConfiguration().
    - o For objects with BAC ID == (-1), activate fixMinusOneBACConfiguration().

- It is also recommended to activate softSync() to send the new configuration to BAC/APM.
- If measurements have the wrong category ID, restart SiteScope.

Jconsole demo
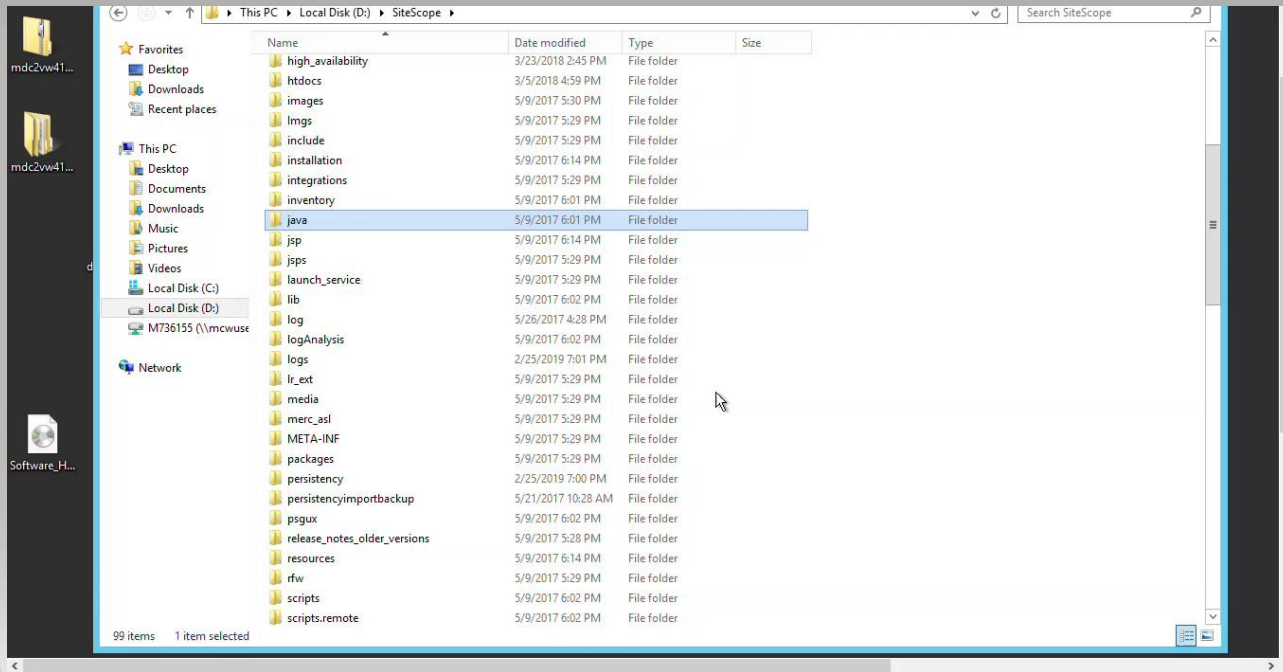
Integration Cache Cleaning

1. Stop SiteScope service.
2. Back up SiteScope\cache and delete its content, not the folder.
3. Back up SiteScope\discovery\hsqldb and delete its content, not the folder.
4. Back up SiteScope\discovery\scripts and delete its content, not the folder.
5. Be sure the discovery/scripts folder is empty before starting the service.
6. Start SiteScope service.
7. Perform a hard sync (SiteScope UI > Preferences > Integration Preferences> BAC/APM profile).

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Metrics Missing from Reports

- Business Process Monitor or SiteScope data are not being reported to APM

There are various conditions that may cause this problem. For details on causes and possible solutions, refer

- to the HPE Self-solve Knowledge Base, and search for article number KM438393.

- (https://softwaresupport.hpe.com/group/softwaresuppo rt/search-result/-/facetsearch/document/KM438393).

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BSM Connector

- **Did you know?**
- **http://<server>:30001/SiteScope/servlet/Main**

BSM Connector- http://<server>:30001/SiteScope

Login Name:
Password:

Log In

Change Password

Nagios connector

- **SiteScope interface to work with policies**
- **Specific versions**
- **The database troubleshooting/logs etc**
- **Nagios agent issues- make sure you have access to your servers**

Security Officer in BSM

How to Remove Security Officer Status Using the JMX Console
This task describes how to use the JMX console to remove security officer status from a user. This may be necessary under unforeseen circumstances when the security officer cannot remove the status. Once the security officer is assigned, there is no other user authorized to make this change within the User Management interface.

To remove a security officer
In a browser, enter the URL of the JMX console:
http://«Gateway or Data Processing Server name>:29000/
Enter your JMX console credentials- If you do not know your authentication credentials, contact your system distractor.

Security Officer in BSM

Locate:
- Domain name: Foundations
- Service: Infrastructure Settings Manager
- Setting: setSettingValuePerCustomerId

- Modify the parameter values as follows:
- Context Name enter security
- Setting Name enter secured.user.login.nawe
- New Value leave empty
- Cbck Invoke

This information can be found in the BSM 9.26 Platform Administration Guide on page 195.

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End User Checkout

- **BSM Upgrade Checkout Checklist**
- **Login- verify user can login with an id and passwd same as prod**
- **Dashboards -Open Dashboards-   View and navigate dashboards**
- **EUM/Rum and BPM monitors – verify list of monitors matches prod – do not run**
- **SAM/SiteScope- in prod can access SiteScope via SAM (not applicable in test)**
- **Reports -List of reports under reports tab matches prod**

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Upcoming Vivit Events

March 5, 2019
Webinar: Retire Multiple Service Management Tools with the Rapid Deployment of Micro Focus SMAX
7:00 - 8:00 AM PST (Los Angeles), 10:00 - 11:00 AM EST (New York), 16:00 - 17:00 CET (Frankfurt)
https://www.vivit-worldwide.org/events/EventDetails.aspx?id=1164213&group=

March 6, 2019
Webinar: How to Mind the Gap with Value Stream Management to Optimize Flow
9:00 - 10:00 AM PST (Los Angeles), 12:00 - 1:00 PM EST (New York), 18:00 - 19:00 CET (Frankfurt)
https://www.vivit-worldwide.org/events/EventDetails.aspx?id=1164219&group=

March 12, 2019
Webinar: Robotic Process Automation - Based on Micro Focus OO & UFT: The Next Frontier for Business
10:00 - 11:00 AM PDT (Los Angeles), 1:00 - 2:00 PM EDT (New York), 19:00 - 20:00 CET (Frankfurt)
https://www.vivit-worldwide.org/events/EventDetails.aspx?id=1195837&group=

March 14, 2019
Webinar: Cyber Hygiene: Keeping Ahead of the Game with Micro Focus
8:00 - 9:00 AM PDT (Los Angeles), 11:00 AM - 12:00 PM EDT (New York), 17:00 - 18:00 CET (Frankfurt)
https://www.vivit-worldwide.org/events/EventDetails.aspx?id=1201216&group=

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