AIOps based Ops Management: Multi cloud solution with MF Operations Bridge Suite as Manager of Managers

EXECUTIVE SUMMARY

Rouge International is a French personal care giant with offices distributed across the globe. To manage their IT services delivery, Rouge International uses 3rd party event, topology & performance management tools. In isolation these are good tools, but they lack comprehensive event correlation and data analytics capabilities.

They are looking for a cloud-based IT Services Management platform on top of the existing tools so they can get a single pane of truth that enhances agility and efficiency and brings in global scalability.

THE CUSTOMER

Rouge International is a French personal care company. It is amongst the world's largest cosmetics companies. It has top of the line products in hair colour, skin care, sun protection, make-up, perfume, and hair care.

THE CHALLENGE

To manage their IT services delivery, Rouge International uses the following:

1. Disparate 3rd party event, topology & performance management tools;
   a. SolarWinds
   b. Viptela
   c. Cisco Meraki

2. 3rd party ticketing stool
   a. ServiceNow

These tools have limited capabilities of event correlation and data analytics. In addition to that, to run these tools efficiently, Rouge International needed to maintain the overhead of workforce with different skill sets.

Given the evolving technology and business scenario, Rouge International was clear that they needed to deploy a cloud-based IT Services Management platform on top of the tools mentioned above as a manager of managers. In short, they needed a single pane of truth with the following capabilities.

1. AI capability for their operations;
   a. Integration of all tools
   b. Automation of manual tasks
   c. Visualisation of what's being impacted
   d. Highlighting the root cause that's impacting business

2. Transparency of reporting.
3. Agility – shortening time taken for resolution & service fulfillment.
4. Enhancement in efficiency.
5. Global scalability.

Achieving the above objectives was made difficult by the following constraints:

ITSM Tools	Constraint / Focus Area	Detailed Constraint
ServiceNow	Incidents Table	The incidents table of ServiceNow was not exposed to API calls. Instead, integration with the manager of managers was to be done on a staging table.
	CMDB[1] Sync	The ServiceNow instance in production did not allow CMDB to sync with MF OBM[2].
	CI[3] Information Flow	The ServiceNow instance in production did not allow CI information from OBM to flow into it
	Direction of Integration	The default is bi-directional, but what was required was unidirectional integration.
	CI at RTSM[4]	CIs at RTSM were not mapped with Affected Services. This prevented appropriate assignment group to be aligned with Incident.
Cisco Meraki	Technology	Cisco Meraki did not publish any REST[5] API[6] for alerts integration.
	Environment	Customer expressed inability to provide a Public IP address/SSL as required by an alternate solution based on Webhook.

[1] CMDB – Configuration Management Database
[2] MF OBM – Micro Focus Operations Bridge Manager
[3] CI – Configuration Item
[4] RTSM – Run Time Service Model
[5] REST – Representational State Transfer
[6] API – Application Programming Interface

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THE SOLUTION

The core of this solution is the Micro Focus (now OpenText) Operations Bridge suite which is provisioned under IAAS service in Microsoft's public cloud Azure. Opsbridge manager automatically monitors and analyses the health and performance of multi-cloud and on-premises resources for any device, operating system, database, application, or service across all data types. With industry leading event consolidation engines and big data analytics noise reduction technology, it uniquely integrates end-to-end service awareness with rule and machine learning-based event correlation capabilities delivered on top of Collect Once Store Once (COSO) Data Lake.

FUNCTIONAL DIAGRAM
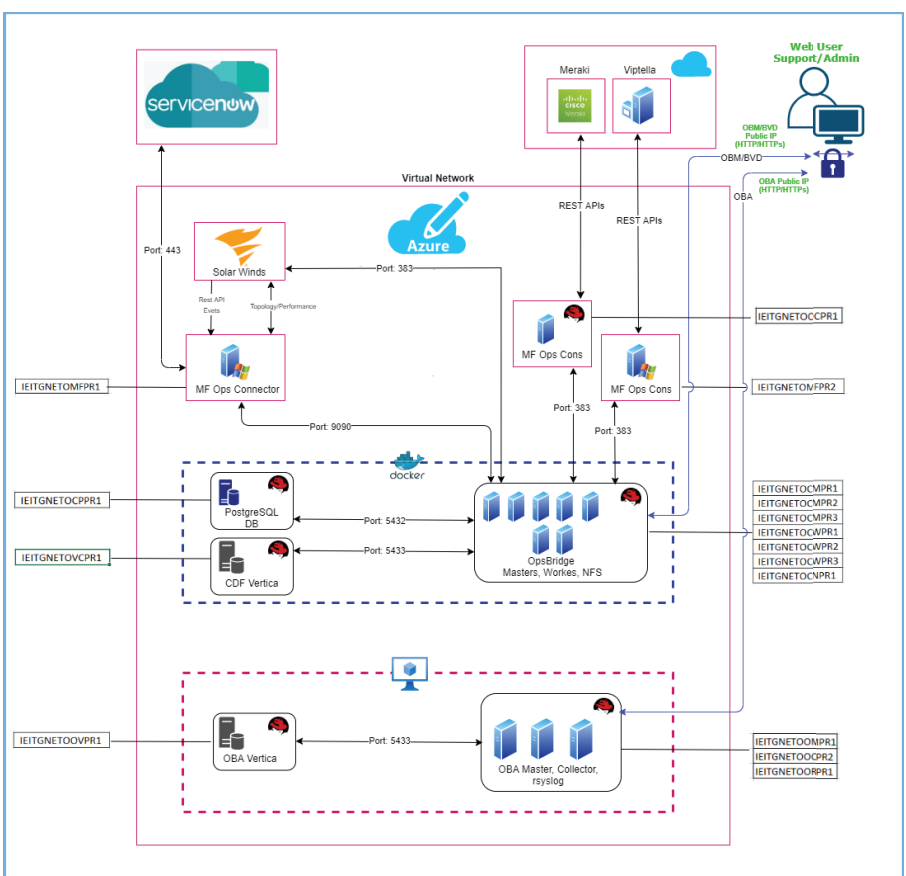
Multi-vendor toolsets consolidation with out-of-box integration for all major IT Operations vendors including SolarWinds and ServiceNow, for Rouge International to get a consolidated picture of their IT operations environment in one central place.

Noise and event reduction using multiple forms from simple de-duplication and downtime aware suppression to rule-based correlation across time, stream, and topology. The reduced events point faster to the underlying root cause and lower the overall ticket volume, cost in the operation, and improve MTTR.

This solution is leveraging Micro Focus ITOM tool stack through the excellent combination of monitoring and automation expertise and reliability of industry standard Micro Focus Operations Bridge Manager and techniques to provide an efficient and reliable solution to meet stated requirements.

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THE MAJOR FOCUS AREAS HERE ARE:

Gather information from Rouge International's Network monitoring tools (Cisco Meraki, Viptela, SolarWinds)

- Implement Micro Focus Operations Bridge Suite – Install one (1) instance of OBM in production environment with three (3) Master and three (3) Worker nodes with COSO and BVD capability features enabled.

- Integrate Micro Focus monitoring solution with ServiceNow for incident management via Auto ticketing.

- Install Data flow probe for topology synchronization from OBM to ServiceNow on one of the Operations Connector Server

- Implement Micro Focus Operations Connectors for integration of SolarWinds, ServiceNow, Cisco Meraki and Viptela with OpsBridge suite - Install one (1) instance of Operations Connector in Dev environment and three (3) instances of Operations Connector in production environment.

- Install and configure Vertica for COSO. Install and configure Vertica for storing data to be presented in the form of reports.

- Install one instance each of OpsBridge Master and OBA collector enabled with Vertica database to analyze RSyslog data.

CONTAINERIZED OPERATIONS BRIDGE SUITE:

- **MF OBM –** For event consolidation and correlation (root cause analysis). It is the core component of this solution and sits in the center to integrate with all the other products involved in this solution to provide central event management console and perform cross domain event correlation.

- **Business Value Dashboard (BVD) –** Executive stakeholder dashboards keep all stakeholders informed about the IT status real-time and mix the IT availability and performance data with external data such as business outcomes, RSS feed, and social media data. This allows IT to show its value to the company.

- **OpsB COSO Reporting –** Collect Once Store Once (COSO) Data Lake consolidates data from all the IT resources into a unified data collection and big data storage for real-time streaming data ingestion and processing. COSO helps organizations to turn volumes of raw data into actionable insights by unifying reporting, alerting, and analysis across all types of IT data. Collect Once Store Once (COSO) is the central data lake to store events, topology and metrics data from these multiple sources in its Vertica Database.

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In all, total of 15 VMs were deployed in production to host the solution of OBM, BVD & COSO. Solution Summary Table

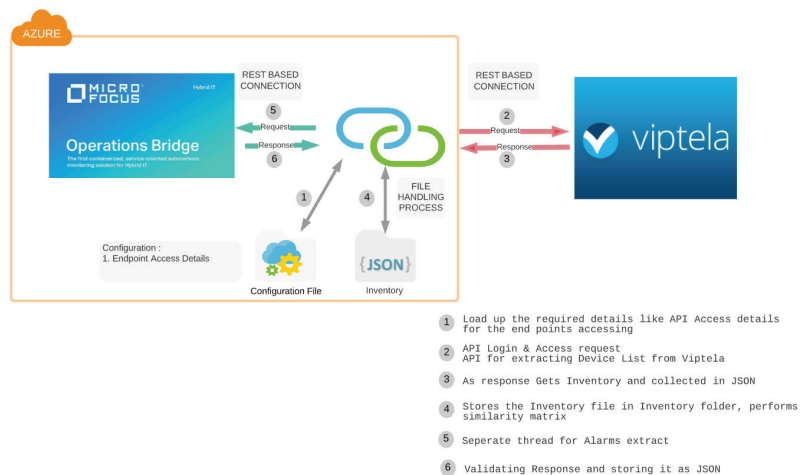| ITSM Tools	Constraint / Focus Area	Detailed Constraint	Solution Worked / Deployed
ServiceNow	Incidents Table	The incidents table of ServiceNow was not exposed to API calls. Instead, integration with the manager of managers was to be done on a staging table.	Custom scripts were built.
	CMDB Sync	The ServiceNow instance in production did not allow CMDB to sync with MF OBM.	Custom scripts were built.
	CI Information Flow	The ServiceNow instance in production did not allow CI information from OBM to flow into it	Custom scripts were built.
	Direction of Integration	The default is bi-directional, but what was required was unidirectional integration.	Customised unidirectional integration was done.
	CI at RTSM	CIs at RTSM were not mapped with Affected Services. This prevented appropriate assignment group to be aligned with Incident.	Customisation was carried out to map the CIs at RTSM with affected services to populate the affected service along with CI details.
Cisco Meraki	Technology	Cisco Meraki did not publish any REST API for alerts integration.	We developed an alternate method based on Webhook in our lab.
	Environment	Customer expressed inability to provide a Public IP address/SSL as required by an alternate solution based on Webhook.	The customer was confident on an alternate tool, Zapier. It was also tested in labs as an alternate to Public IP address & SSL.

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The solutions deployed / worked addressed the limited capabilities of event correlation and data analytics of the event, topology & performance management tools (SolarWinds, Viptela & Cisco Meraki) deployed at Rouge International.
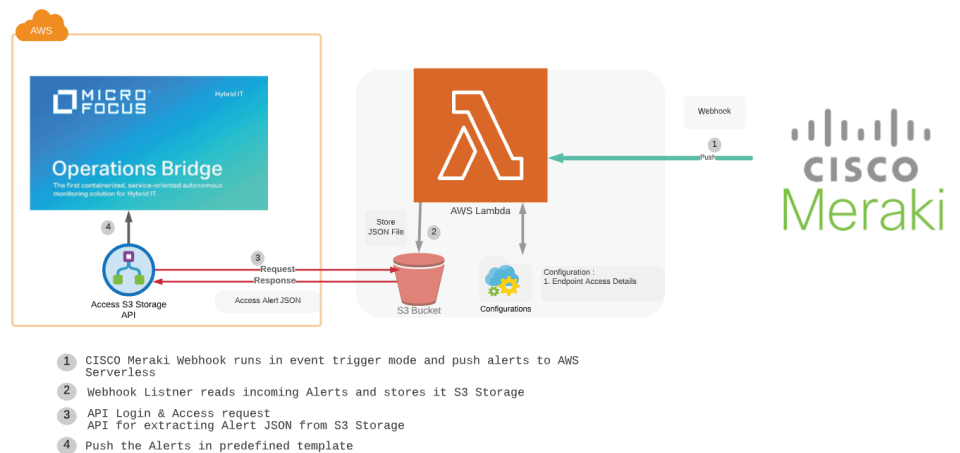
Rouge International now runs a AIOps based Management Platform that has led to 3X Operational efficiency with a reduction in managed services workforce with enhanced executive grade reporting & dashboards.

The custom unidirectional integration to pull Cisco Viptela monitored devices alerts, performance & topology to Micro Focus Operations Bridge Manager (Manage of Manager) is depicted in the figures that follow:

Figure 1:
Cisco Viptela Integration with MF OBM

1. Load up the required details like API Access details for the end points accessing
2. API Login & Access request
   API for extracting Device List from Viptela
3. As response Gets Inventory and collected in JSON
4. Stores the Inventory file in Inventory folder, performs similarity matrix
5. Seperate thread for Alarms extract
6. Validating Response and storing it as JSON

Figure 2:
Serverless Alerts Solution

1. CISCO Meraki Webhook runs in event trigger mode and push alerts to AWS Serverless
2. Webhook Listner reads incoming Alerts and stores it S3 Storage
3. API Login & Access request
   API for extracting Alert JSON from S3 Storage
4. Push the Alerts in predefined template

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WHY ERASMITH?

No.	Erasmith Approach	Details
1	Building Trust	Micro Focus team stayed engaged with the end customer through interactions and product / solution demonstrations with relevant stakeholders. This helped us in winning their trust and confidence leading to the adoption of existing Micro Focus products, which in long run ensured our win.
2	Knowledge Transfer to End Users	The MF team held several user-based sessions for the extended teams such as Operations and security to impart practical training on tool features and use cases involving the solution implemented.
3	User Sensitive Implementation	SAML (Security Assertion Markup Language) based Single Sign On enabled the users to login only once to access all applications despite being beyond the scope of delivery.
4	Stakeholder Alignment	Ours was a milestone-based work package delivery for alignment of stakeholders in the project.
5	Commitment to Customer	Upholding commitment to Rouge International, on Erasmith's request, MF accommodated a delay of 5 weeks in provisioning access to Viptela integration API from the customer end.

In the words of Charles Croft, Infrastructure & Security Manager

"This serverless solution is brilliant and it costs me just a dime."

erasmith

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THE BENEFITS

1. By adopting MF COSO, the missing capability of correlating events and data analytics is added to the existing toolset.

    a. This simplifies the collection, normalization and storage of data from 3rd party vendors, enabling common data analysis and data visualization for important operations tasks such as automated event correlation.

2. Rouge International now runs a AIOps based Management Platform that has led to 3X Operational efficiency with a reduction in managed services workforce with enhanced executive grade reporting & dashboards.

3. By migrating to cloud the solution has room for multi-cloud deployment options.

    a. The customer can thus extend operational best practices while retaining cloud agility.
    b. This ensured an increase in adoption of the existing tools at the end user level.

4. Rouge International now experiences

    a. Quicker RCA.
    b. Reduction in the downtime.

5. Optimized data ingestion now provides a common platform to process and store data, with built-in machine learning and analytics.

6. Rouge International now has the flexibility to cater for uncertain demand & non-linear growth instantaneously by access to license pool for the next 3 years.

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