Operations Digital Transformation using OpsBridge Suite
Roadmap, Demo and Experiences at Schlumberger

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January 18th 2018
Agenda

- Operations Bridge overview
- Roadmap
- Demo
Forward-looking statements

This is a rolling (up to three year) Roadmap and is subject to change without notice

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Modern IT is focused on business outcomes
Transforming from traditional to digital enterprise

Efficiency
- Complexity inhibits progress

Agility
- DevOps driving IT to Continuous Operations

Innovation
- Dynamic modern workloads

Traditional IT

IT at the speed of DevOps

Digital Enterprise
IT Operations Management Suites
Simple, integrated, easy to consume

- **Hybrid Cloud Management**: DevOps ready, multi-cloud management and orchestration
- **Data Center Automation**: Comprehensively automated data center
- **Operations Bridge**: Autonomous operations with actionable insight for stakeholders
- **Network Operations Management**: Service management for enterprise networks
- **IT Service Management Automation**: Self-service, intelligence-driven fulfillment
Desired Situation
IT must transform into a value creator

Hybrid IT
- Performance-driven business decisions
- Embrace new technologies at DevOps pace
- Analytics accelerates resolution with less effort
- Consolidated data, elastic automated monitoring

Targeted business value
- Business on target
- Enhanced IT efficiency
- Highest user satisfaction
- Strategic investment
Requirements needed to change the game
Reduced cost of operations and improved speed and responsiveness

- Business prioritized analytics and visibility
- IT on target
- Analyze trends and optimize workloads
- Predict issues ahead of disruption
- Integration of existing IT tools to filter noise
- Focus on issues affecting the business
- Manage new technologies in Hybrid IT
- Enhanced IT efficiency
Vodafone Germany
Mobile Telecom/ISP cuts costs and improves efficiency

20x reduction in critical events

118% gains in 5 months

<table>
<thead>
<tr>
<th>KPI</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td># of critical and major events/mo.</td>
<td>4.8M</td>
<td>280k</td>
</tr>
</tbody>
</table>

ROI: 300% in the first year of implementation

"With the new micro service and containerized architecture, the Operations Bridge is going in the right direction, it’s an exciting evolution and will bring real value to us.”

- Luke Bradley, Senior Manager of Engineering, Vodafone Group Services Limited

The Challenge
Too many operations tools, analysis far too slow, manually intensive resulting in low user satisfaction, and high operations costs

The Solution
Consolidate all data into a single pane of glass, share a common view across operators, apply correlation, analytics and report to stakeholders
Operations Bridge
Innovative architecture to gain Autonomous Operations

- Business service, user and transaction focus
- Visualize environment in real-time
- Integrate your tools & technologies
- Discovery & monitoring automation
- Automated analytics of all data
- Automate remediation
Operations Bridge Suite – AIOps\(^1\) at its best
Comprehensive, automated IT health in a single pane of glass to gain autonomous operations

**VISUALIZE** to see live what’s happening
Give your stakeholders real-time visibility of key information.

**SENSE** the state of the IT environment
Consolidate 110+ integrations into a single pane of glass.

**ANALYZE** all your data automatically
Full loaded AIOps\(^1\) offering with automated machine learning, anomaly detection, predictive analytics.

**ADAPT** with automatic remediation
Execute simple scripts from 5,000+ workbooks.

\(^1\) see Gartner report
Leading innovation to gain Autonomous Operations
Changing the way IT Operations works to gain Autonomous Operations

- Log streaming legacy agent
- Automated service modelling across AWS, Azure, Docker
- Automated root cause and business prioritization

Automated:
- Discovery
- Monitoring
- Analytics
- Remediation
- Reporting

Automated anomaly detection
ChatOps DevOps collaboration
Industry 1st real-time, tablet-ready actionable insight
## Customer realized outcomes

<table>
<thead>
<tr>
<th>Efficiency</th>
<th>Agility</th>
<th>Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 Man-hours savings/mon</td>
<td>50% More work with the same staff</td>
<td>33% Incident reduction</td>
</tr>
<tr>
<td>80% IT processes Automated</td>
<td>4x Faster first time fixes</td>
<td>58% MTTR reduction</td>
</tr>
</tbody>
</table>

![Fidelity Investments](image1.png)

![KMD](image2.png)

![Swiss Mobiliar](image3.png)
Gartner AIOps

AIOps replaces ITOA which replaced BSM

Table 1. Capabilities of Representative AIOps Vendors

|--------|-----------|------|---------|------|---------------------|-------------------|-------------------|----------------|-------------|-------|
| Hewlett Packard Enterprise (HPE) | x | x | x | x | x | x | x | x | x | x

Get your copy [here](#) courtesy of [Micro Focus](#)

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**Recommendations**

Infrastructure and operations (I&O) leaders responsible for optimizing IT operations to drive business value should:

- Ensure success in the deployment of AIOps functionality incrementally by adopting an incremental approach that focuses on historical data.
- Ensure comprehensive insight into past, present and future states of IT systems by selecting AIOps platforms that are capable of ingesting and providing access to log data, test data, wire data, metrics, API data and social-media-derived user sentiment data.
New container-based Operations Bridge software
Container Deployment Foundation accelerates TTV and minimizes upgrade effort

- Pre-integrated containers, unified license model, and shared services
- Easy to install, maintain and patch with zero downtime upgrades
- Auto-scaling, HA/DR, self-healing and secure
- Flexible Multiple Deployment Options

Operations Bridge Implementation

Container Deployment Foundation

Container options

BVD Server
Perf Engine
Log Analytics
Reporting
Event Engine
**Operations Bridge Premium in Containers**

Supporting HA deployments

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**Premium available in Containers**
Event Management (OMi), Reporting (OBR), Performance Analytics (PE) and BVD ava

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**HA ready deployment**
HA ready foundation
Parallel container for OMi & BVD
Quick auto restart for rest

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**Flexible deployment options**
Physical or virtual in production
On AWS for evaluation with Yoda

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**Container options**

- BVD Server
- Event Engine
- Perf Engine
- Reporting

**Operations Bridge Implementation**

**Container Deployment Foundation**

- Physical
- Virtual
- Cloud

Via Yoda
Hybrid Cloud now including first AWS & Azure PaaS services
Automated Monitoring & Analytics across Multi cloud

Can I reach my Service hosted in the cloud?
Wherever it is in the world.

Is my Cloud service working?
From any location & from inside cloud

Are my Cloud costs under control?
Help optimize costs automatically

What are my consumer think?
Integrate non IT Data sources

PROMOTIONAL OFFER
27
Users Connected per Second
3000
Visitors Online Now
98%
Percentage of Mobile Traffic

CIRSITE BEHAVIOR
4.00
Amount Sold in S
10,600
Number of Mobile Operations

MOBILE APPLICATION
5:42 PM 5:46 PM
5:48 PM
Site Visitor Traffic
6:42 PM 6:46 PM 6:48 PM
Amount Sold in S
7:42 PM 7:46 PM 7:48 PM
Number of Mobile Operations
New Sensor for real time streaming with Agent techn.

Install in seconds with minimal costs to run

10% of the full agent footprint to install in seconds & run efficiently

App Service Health

Auto Discovery of Application

Appl. logs to search & detect anomalies

Real time data from within the cloud
Sense Google Cloud Compute Services
Container and hybrid cloud services visualized – including Google Cloud

Service tree automatically populated for Google Cloud topologies

KPI grouped into domain and customizable health indicators

Context aware event browser showing root cause

OOTB Google Performance Analytics Dashboards
More flexible Business Value insight

Combine Real Time data with historic analytical insight

**Reporting**
SQL access to database
combine real time and historic data

**Analytics**
Utilize built in Vertica analytics
Get Top5, Averages, etc. via SQL

**Extensible**
Plug in your own D3 library
Dynamic layout via grouping
X-Ops
Consolidated Operations data correlated with business impact

Infra-Ops
Metal to Business outcome visibility

Sec-Ops / Risk-Ops
Correlate Security Alerts to Business Impact

AppOps
Integrated App outcome and real Biz insights

IoT-Ops
Consolidate non IT industry data
On-Prem Secure ChatOps to support DevOps

Integrated OpsB User Roles & Microsoft Teams

**Secure**
- Validate users before execute actions
- Integrated into OpsB user roles

**OnPremise**
- Support MS Teams as on prem chat
- No SaaS based option needed

**Extended**
- Provide reporting bot to integrate performance data into chat
Operations Bridge – Strategic investments

<table>
<thead>
<tr>
<th>Modern Platform and UX</th>
<th>Current</th>
<th>Next</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>• OpsB Premium CDF HA</td>
<td>• OpsB Premium CDF DR</td>
<td>• Ultimate on CDF</td>
<td></td>
</tr>
<tr>
<td>• BVD rolling upgrades</td>
<td>• Upgrade from classic</td>
<td>• LW reporting</td>
<td></td>
</tr>
<tr>
<td>• BVD SQL Data access</td>
<td></td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Autonomous Operations</th>
<th>Current</th>
<th>Next</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Anomaly detection &amp; Analysis</td>
<td>• COSO platform</td>
<td>• Self Remediation</td>
<td></td>
</tr>
<tr>
<td>• App &amp; Transaction Monitoring</td>
<td>• PD as COSO apps</td>
<td>• Analytics COSO apps</td>
<td></td>
</tr>
<tr>
<td>• High volume data insertion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• On-Prem Secure ChatOps</td>
<td></td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Digital Enterprise Content</th>
<th>Current</th>
<th>Next</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Google, AWS, Azure offering</td>
<td>• Config pull stream agent</td>
<td>• Expand Cloud Content</td>
<td></td>
</tr>
<tr>
<td>• Docker infrastructure</td>
<td>• K8S &amp; APM integration</td>
<td>• Additional IoT content</td>
<td></td>
</tr>
<tr>
<td>• IoT examples (wind / rail)</td>
<td>• Add MF integrations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IoT expansion via partners

This is a rolling (up to three years) Roadmap and is subject to change without notice
Cloud Native OpsBridge

**Current**

- **Deployment**
  - Faster
  - Lightweight Sensor
  - OpsBridge in Cloud

**Next**

- **Application Awareness**
  - Cloud Service Assurance
    - Worldwide vantage points
  - Big Data Cloud Service Insight

**Future**

- **Public Cloud Content**
  - More flexible

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**Benefits**

- Faster path to value
- Faster path to data
- Faster path to resilience
- More flexible infrastructure
- More flexible platform
- More flexible apps

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Operations Bridge—Suite

Cloud Operations Bridge
- SW based installation
- Premium Container based installation
- Monitoring as a Service

Functionality
- Executive Real time Editorial
- Multi mode Correlation & business impact
- Autonomous Anomaly Detection

Licensing
- Express to Ultimate
- Add ons (Sys. Collector, NNMi, BVD, IoT)
- Perpetual and MSP

Big Data-Operations Bridge
- Ops Bridge Ultimate Containerized
- Enterprise ready container installation
- Product to Container upgrade

Functionality
- Store-Once & Collect-Once Big Data
- Container Scale out Ops Bridge

Licensing
- Express Suite with Sitescope
- EUM collector add-on

Digital-Operations Bridge
- SaaS offering

Functionality
- Self service Operations Bridge
- Self Remediation
- Semantic driven analytics

Licensing
- Extend vertical content
- Subscription pricing

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Operations Bridge—Manager¹

Current
- Containerized OpsB premium
  - Faster overall Premium TTV (install) incl. HA
  - Higher and simpler scale out
- µ-Services delivery for BVD
- Java free UI for Operations
- Hyper converged and IOT content
- Rich event automation & performance analytics
- ChatOps ready for Slack, Mattermost and MSFT
- Significant automation (monitoring, remediation)
- Flexible, simple biz level dashboards
- Embedded ‘free’ DB to enterprise DB

Next
- Scale out OpsB µ-Services
  - µ-Services Perf Engine, Data Ingestion
  - DR, Rolling upgrades—Enterprise readiness
  - HTML 5 event browser and Flex free admin
  - OM-to-OpsB acceleration
  - Built in integrated Analytics services
    - Data Ingestion U service, MA for log streaming
    - PD on new ingestion and store platform
  - Extend content from Micro Focus & 3rd party
  - Extend Management Packs
  - MicroFocus Rebranding

Future
- Full OpsB µ-Services architecture
- Collect Once & Store Once
- In stream correlations and clustering
- Analytics driven remediation
- Single UI from Mobile to Browser
- Enhance tenant Self Service
- Improved multi tenancy
- Bridge level service level management
- Chat-Ops driven Bridge
- Extend to SaaS offerings

¹ Formally Operation Manager
Self Remediation – Link Events to Remediation

Catalogue all available actions
Automatically link actions to events using scores

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OpsBridge Container Delivery Strategy

Deliver all of OpsBridge as Container
Create multiple µ-Services out of OpsB
Rolling upgrades, elastic scale & HA
Provide incremental improvements

Current: OMi OBR Analytics OO UD COpt

Next: OMi OBR Analytics OO UD COpt COSO COpt PE

Future: OMi OBR Analytics OO UD COpt COSO OBA COpt PE

Container Value: BVD Scale
Rolling upgrades
Classic migration
Predictive scale

This is a rolling (up to three years) Roadmap and is subject to change without notice
Collect Once, Store Once, Use Many

- Reduce TCO, reduced complexity
- Optimize skill sets – common set of tools
- Faster deployment / upgrades
- Optimize systems resources
- Flexible consumption
- Scale the functionally use
- Managed platform
This is a rolling (up to three years) Roadmap and is subject to change without notice

Operations Bridge - Business Value Dashboard

Current

- Dashboard templates for large organizations
- Cross Launch Integration (Context based)
- Suite Installation deploying dockerized BVD enabling elastic scaling and HA
- Multi-LDAP support
- WYSIWYG Dashboard design
- SQL access to Vertica data for LW reporting & analytics
- Dynamic lists of line items (e.g. services, tickets)
- API to plug your own Custom Widgets
  - Examples available via BVD community content on GitHub

Next

- Scheduling option for DB queries
- Support connection to multiple databases
- Direct BPM and SiS integration
- LWR PDF generation
- OOTB reporting dashboards

Future

- Dashboard-Sets
  - Create dashboards via drag-n-drop
  - Auto-rearrange elements depending on device
- Direct link to Operational updates
  - Update BVD with discovered elements
  - Adopt templates based on OpsB data
- Extend design tool support
- Expand connectors via partner & MF
- Direct use of Adobe Illustrator
- Dynamic placement of widgets on geo-maps
- Interactive reporting (e.g. change query timeframe)

NOTE: all product views are illustrations and might not represent actual product screen shots.
BVD Dashboard Sets - Responsive Dashboards

- Dashboard Sets are collections of classic BVD dashboards arranged as boxes in a flow-layout: from left-right and top-bottom
- The flow-layout adapts the collection to the available screen size
- Dashboard Sets are compiled within the BVD UI based on uploaded dashboards
- Other layouts (beyond flow) are possible, as well as layout options
Operations Bridge Analytics

Strategy

IT Ops Analytics

Data collection, analytics

Suites, analytics empowerment

Roadmap

Current

- Log Analytics support for:
  - Azure and AWS (Cloud Management Packs)
  - MS Windows Event (Management Pack)
  - Docker logs (Management Pack)
- JDBC Collection
- Metrics collection from customer Logs
- RTSM content pack improvements
- Improved Vertica query performance
- Data Ingestion improvements
- Various defect fixes

Next

- Anomaly Detection improvements
- Internationalization
- Off-line Log Analytics (batch loading)
- XQL for dashboards and visual analytics
- MicroFocus Rebranding
- Collect Once for ITOM integrations
- SAP Log Analytics for NetWeaver and Hana

Future

- Collect Once for ITOM integrations
- Store Once - Single unified Big Data DB
- UI Improvements
- Expand OOB Log Content
- BVD integration
- UI enhancements
- Chat-Ops Support
- Containerized deployment / μ-services
- Advance Predictive Analytics
- Anomaly fingerprinting
- Inferred topology for Ops Bridge
- Natural Language Querying

(1) Available with SAP Management Pack
(2) Some limitations with searching

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Operations Bridge – Roadmap to Cloud
Automate the control of your cloud investments

**Current**
- **OpsB hosted in Public cloud**
  - AWS - Whitepaper
- **Enhance instrumentation for cloud²**
  - Real time streaming – log
- **Monitoring Cloud Services - IaaS**
  - AWS – EC2, EBS, ECS, CloudWatch Logs
  - Azure – Compute, Storage, Activity Log
  - Google - Compute
  - HPE Helion
  - OpenStack
- **Cloud Analytics & Reporting**
  - Right Sizing & Placement for Cloud (AWS)
  - Compare SLA & performance across clouds
  - Log search & analytics – AWS, Docker

**Next**
- **OpsB hosted in Public cloud**
  - Azure – Whitepaper
  - Google Cloud – Whitepaper
- **Enhance instrumentation for cloud²**
  - Real time streaming – metric
  - Deep insights into workload perf
- **Monitoring Cloud Services – IaaS, PaaS**
  - Kubernetes (K8S)
  - AWS – RDS, S3, ELB, AutoScaling, Cost & usage, Lambda, DynamoDB, SQS, RedShift
- **Cloud Analytics & Reporting**
  - Log search & analytics – Azure, Google

**Future**
- **Cloud Services – IaaS, PaaS**
  - AWS – Key Management Service, Kinesis Streams, Beanstalk, EMR
  - Azure – Azure Data Lake, Data Anlaytics Cosmos DB
  - Google – Storage, PaaS
  - Pivotal CloudFoundry
- **Cloud Analytics & Reporting**
  - Right Sizing & Placement for Cloud (Azure)
  - Log search & analytics – App workload, CloudFoundry

*Whitepaper yet to be published
2. New enhanced HPE Operations Agent

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Operations Bridge - System Collector (Agent)

**Strategy**

- **Capable & Scalable**
  - Autonomous Operations Bridge
    - Log streaming content (Win Event logs, UNIX Sys logs)
    - Collect-Once implementation – OpsA, OBR
    - Cloud-scale collection
    - Platform updates

- **Hybrid IT**
  - Hybrid IT System Collection
    - Pull based (in-bound) configuration
    - Configurable throttling & buffering
    - Composable agent based on need
    - Easy deployment in cloud
    - Simplified 1-port communication
    - Pre-configured metrics streaming
    - Non-root operation
    - Central data store and thresholding

- **Autonomous & multi-purpose**
  - Autonomous Operations Bridge
    - Complete Collect Once
    - Agent 'bootstrap'
    - Agent health view in OpsB Manager
    - Multiple purpose agent (event, performance, analytics, reporting, discover, compliance etc.)
    - Support SaaS OpsBridge Manager
    - Platform updates

**Roadmap**

- **Current**
  - TTV
    - Fast installation (<5min)
    - Deployment: OO & SA / Yum / Puppet / MS SCCM
    - Real time metrics & logs
    - Reduced footprint and installation time
  - TCO
    - Central agent health view
    - Robust single data store (SQL-Lite)
    - Local event automation & metric buffering
    - Automatic actions for remediation
  - Security
    - HTTPS, reverse proxy, FIPS, OpenSSL 1.0.2j
  - Platforms
    - RHL 7.3, OEL 7.3, SuSE, Ubuntu
    - IBM zLinux (RHL, SUSE), AWS Linux, Windows 2016, CentOS, Solaris,
    - Docker containerization

- **Next**
  - Autonomous Operations Bridge
    - Complete Collect Once
    - Agent 'bootstrap'
    - Agent health view in OpsB Manager
    - Multiple purpose agent (event, performance, analytics, reporting, discover, compliance etc.)
    - Support SaaS OpsBridge Manager
    - Platform updates

- **Future**
  - Autonomous Operations Bridge
  - Hybrid IT System Collection
    - GPU cluster monitoring
    - Rich pre-configured system and application metrics
    - Cloud-scale collection
    - Automated agent deployment in cloud
    - Multiple source auto thresholding
    - Embrace open source technologies

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Operations Bridge - Cloud Optimization

Current

Usability
- Monitoring (hypervisor, cloud)
- Real-time topology discovery
- Date to Capacity
- VM placement suggestion
- What-if scenarios
- Waste Reclamation - snapshots, orphaned vDisk

Coverage
- Virtual – vCenter 6.5, Hyper-V 2016, KVM, OpenStack Mitaka
- Cloud – AWS, HOS, Xen (Open Source)

Integrations
- HCM/CSA - reservation API & Health status API, containerized
- OpsB Mgr – monitoring, graphing, topology sync
- OpsB Reporter - reporting

Next

Usability
- OOB config recommendation for VMWare alerts
- Self health monitoring improvement

Architecture
- Containerization (rolling update, HA)
- Collect Once Store Once architecture alignment
- Distributed architecture via Kafka message bus

Coverage
- Azure
- Datastore Cluster support (VMware)

Integrations
- OpsB – containerized CO for OpsB Ultimate
- IDM integration

Future

Usability
- Plug-in free user interfaces
- OOB and configurable policies for Virtual/Cloud alerts
- Stateless Cloud-native app infra optimization
- Rich APIs incl. changes to managed cloud and virtual env.

Architecture
- μ-services to scale-out
- Analytics driven optimization over Store Once

Coverage
- Google Cloud
- Physical server metrics
- Citrix Xen, Oracle VM (x86)

Integrations
- OO – auto actions

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Operations Bridge Reporter

**Current**
- Cross-domain Collection & Content
- Content Development Studio
- Architecture ramp for scaling
  - Containerized OBR
  - Data Ingestion Layer – scale-out
- Analytics DB Technology – Vertica 8.0x, 8.1x
- Network Perf Reporting content (IH1, CH2)
- Cloud content – AWS, Azure, Docker
- New Content – Generic Sitescope Content, SCOM, SharePoint, Jboss, Informix

**Next**
- Architecture ramp for scaling
  - μ-services to scale-out, cluster ready
- Content Extensions
  - Network Perf Reporting Content (isPIs)
  - DCA Suite - NA, DMA, SA (update)
- Content Development Studio designer
- Business Value Dashboard Integration
- Service Level Management
- Platform Updates - BO, Vertica

**Future**
- Collect Once, Store Once
- Extended use cases on Ops Bridge store
  - Capacity Optimization & Reporting
  - Baselines / Thresholds
- Extend OOTB Reports
  - Ops Bridge (OEM, Nutanix, SNOW CloudFoundry, Citrix, Skype for Business, TIBCO)
- SolarWinds
- Unstructured data
- Mobile Report Access
Operations Bridge Connectors Roadmap

Strategy

Seed integration content
- Technology:
  - BSM Connector: Event/Metrics/Topology/Drill Down
- Micro Focus Integrations:
  - SM, Arcsight, NNMi
- 3rd Party Integrations:
  - OneView, SIM
  - MS SCOM, OEM, SAP Solution Mgr
  - IBM Tivoli & Netcool, CA Spectrum
  - VMware vCops, vRops, Nagios, Icinga
  - Zenoss, Zabbix, vRealize, CA APM

Extend content
- Technology:
  - Simplify configuration
- Micro Focus Integrations:
  - NetIQ AppManager
- 3rd Party Integrations:
  - New – OMS, Cisco UCS, Cisco Prime
  - Update – SAP Solution Mgr
  - Update – SCOM, CA Spectrum, Zenoss, vRealize
  - Update – Icinga, Vrops, Zabbix
  - Update - OneView, SIM
- Partner Content
  - ManageEngine, WhatsUpGold, EMVXRail, Dell Open Manage

Support/drive community
- Technology:
  - Simplify configuration
- General
  - Update & extend content
- New Content
  - Net App FlexPod, Simplivity
  - AutoPilot M6, BMC RemedyForce, CA Nimsoft
  - vFootLight, SteelCentral, EMC Smarts
  - Other integrations based on customer demand and Partner Ecosystem
- Community Content Development
  - Dev Guides and Dev Kits

Current

Technology:
- BSM Connector: Event/Metrics/Topology/Drill Down

Micro Focus Integrations:
- SM, Arcsight, NNMi

3rd Party Integrations:
- OneView, SIM
- MS SCOM, OEM, SAP Solution Mgr
- IBM Tivoli & Netcool, CA Spectrum
- VMware vCops, vRops, Nagios, Icinga
- Zenoss, Zabbix, vRealize, CA APM


Next

Technology:
- Simplify configuration

Micro Focus Integrations:
- NetIQ AppManager

3rd Party Integrations:
- New – OMS, Cisco UCS, Cisco Prime
- Update – SAP Solution Mgr
- Update – SCOM, CA Spectrum, Zenoss, vRealize
- Update – Icinga, Vrops, Zabbix
- Update - OneView, SIM

Partner Content
- ManageEngine, WhatsUpGold, EMVXRail, Dell Open Manage

Future

Technology:
- Simplify configuration

General
- Update & extend content

New Content
- Net App FlexPod, Simplivity
- AutoPilot M6, BMC RemedyForce, CA Nimsoft
- vFootLight, SteelCentral, EMC Smarts
- Other integrations based on customer demand and Partner Ecosystem

Community Content Development
- Dev Guides and Dev Kits

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### Operations Bridge Management Pack Roadmap

#### Strategy

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<th>Hybrid Cloud - IaaS</th>
<th>Hybrid Cloud - PaaS</th>
<th>Extend – Cloud &amp; IoT</th>
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#### Roadmap

**Current**

**Traditional Apps**
- Infrastructure (Part of Operations Agent)
- DB – Oracle DB, MS SQL, Sybase, MySQL, Informix
- MW – Weblogic, WebSphere, Apache, Tomcat, Active MQ, iPlanet, Jboss, TIBCO
- MS - Active Directory, Exchange, .NET, SharePoint, IIS, Skype for Biz
- Misc – SAP, DHCP, FTP, HTTP, BIND, LDAP, HPE – Storage Essentials, vPV, CO

**New Style of IT**
- DB - Mongo, HANA, Cassandra, Postgres, Couchbase, Marklogic, Riak
- Big Data – Vertica, Apache & Cloudera Hadoop, Hbase, Flume, Oozie, Solr, Zookeeper, Storm, Spark, Falcon
- MW – Rabbit MQ, Glassfish, Memcached, Varnish, Redis, Kafka, gUnicorn, Lighttpd
- Cloud - AWS, OpenStack, Azure, Google
- Others – Docker, Nodejs, Chef, Jenkins, Nginx, Postfix, Github, HAPProxy

**Verticals**: Bank – Murex, Energy: Windpark

**Partner Content**
- IBM Mainframe, DB2, Citrix

**Community Content Development**
- Dev guides, Dev kits

#### Next

**Traditional Apps**
- MS (Updates) – AD, Exchange, SharePoint
- DB (Updates) – MSSQL, Oracle
- ERP (Updates) – SAP, SAP HANA
- MW (Updates) – WebSphere, Jboss, Apache, TIBCO

**Vertical**
- Energy – Windpark expand

**New Style of IT**
- Cloud (New) – Azure Stack, Cloud Foundry, Kubernetes
- Cloud (Updates) – AWS, Azure, Google
- Big Data (Updates) - SAP HANA, Vertica
- MW (Update) – Kafka

**Partner Content**
- Citrix (Update)

**Community Content Development**
- SPI to MP Evolution Kit

#### Future

**New Style of IT**
- MS – BizTalk
- MW – Tuxedo, WebMethods
- Cloud – Office 365, Eucalyptus, Mesosphere, Exchange Online, Rackspace
- DB – Neo4j, Greenplum, MaxDB
- Middleware – IronMQ, Django, Squid, Big Data – MapR Hadoop
- Generic – PHP
- ERP – Microsoft Dynamics
- Bank: Orchestrade

**Partner Content**
- Blackberry, XenMobile, Domino, IBM InfoSphere, DataStage,

**Vertical Specific Content**
- Telecom – Huawei

**Community Content Development**
- Dev guides, Dev kits
This is a rolling (up to three years) Roadmap and is subject to change without notice.

SiteScope Roadmap

**Strategy**

**Collect & Monitor**
- Support both License types
- HTML 5 Dashboard and admin page
- Docker Monitoring
  - Containerized SiteScope (Docker Store)
  - Swarm & Kubernetes support
- Online Help
- Cloud support
  - AWS & Azure – AutoScale & dynamic monitors

**Next**
- UI Rejuvenation
  - Java Web Start
  - Continue HTML 5 UIs rejuvenation
- Managing Large SiS Environments
  - REST APIs for config & monitor mgmt.
  - Metric consolidation on central data store
  - Monitoring Automation enhancements
- REST APIs for Automation
  - Report on alerts, thresholds, monitor status, monitor mgmt
  - Content – Cloud, SAP, SaaS content, app refresh
  - SiteScope as OpsBridge Express

**Consolidate & Scale**

**Future**
- HTML 5 UI
  - Complete HTML 5 Transition
- Managing Large SiS Environments
  - Monitoring Automation enhancements
  - Out of the box dashboard & reporting via the central data store
  - Improved OpsB Integration
- Automation
  - API evolution to support automation needs such as MA & OO
  - Extend ChatOps
- Content
  - Extend Cloud, SaaS content, app refresh

NOTE: all product views are illustrations and might not represent actual product screen shots.
Managing Multiple SiteScope Environments

REST APIs & Consolidated Manageability

**API based management**
- Monitor actions – create, copy, move, delete
- Config management
- Health status

**Consolidate to scale**
- Consolidate in a central data store
- Reduce complexity, common toolset

**Automate Configuration**
- Monitor & config management via monitoring automation

---

This is a rolling (up to three years) Roadmap and is subject to change without notice
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Business Process Monitor Roadmap
Including APM Platform

**Collect & Measure**
- Adopt latest replay engines
  - LR/VuGen 12.53, TruClient 12.53, QTP\UFT 12.53
- BPM Mobile real device monitoring with HPE Mobile Center
  - Support for HP Mobile Center 2.0
  - Support for AWS device farm
  - Support for Emulators
- Support open source scripting engines (Selenium)
- App Health UI Rejuvenation
- Re-run transaction on Error
- BPM BOT

**Connect & Extend**
- BPM Agent UI Rejuvenation - Java Web Start
- SLM for OpsBridge Events
- Event & Metric consolidation on central data store (COSO)
  - Performance graphing, reporting and analytics
- Snapshot on Error as alert & email attachments
- Location based reporting
- Search on Application Health Watch List
- Adopt latest replay engines – LR/VuGen 12.56, TruClient 12.56, QTP\UFT 14.03
- MC version refresh – 2.6

**Consolidate & Scale**
- Synthetic Monitoring Collector for OpsBridge
  - AppHealth on OpsBridge
  - Configuration via OpsBridge
  - Alerting, advanced performance graphing, reporting and analytics for BPM
- SLM on central data store (COSO)
- Container
- Open APIs
- Lean FT

**Current**

**Next**

**Future**

NOTE: all product views are illustrations and might not represent actual product screen shots.
BPM Collector for OpsBridge

Consolidate to Optimize

Single Platform - BPM & OpsBridge
Optimize system resources
Common toolset
Faster deployment & upgrades

Consolidate metrics
One version of truth
Easier reconciliation

Consolidate Configuration
Collector (Agent, Agentless, Transaction, Connector) configuration from one single view

This is a rolling (up to three years) Roadmap and is subject to change without notice
Operations Bridge Platform ready for IoT

- Oil temperature
- Gearbox vibrations
- Rotor pitch angle

Condition Monitoring System / Controller

- Automatic reset
- Manual Start / Stop, Pitch

- Power yield in watt
- Status of grid connection
- Voltage, frequency, phase

OpsBridge Windpark Solution
Who likes OpsBridge

Vodafone Germany and Operations Bridge

Creating Business Value with Optimized IT Monitoring
Operations Bridge

- Autonomous Operations
- Hybrid Cloud
- X-Ops
ITOM paving the way toward smart Operations

Philippe Sartiaux
ITOM Toolset & Automation Manager
Schlumberger
Agenda

Introduction

ITOM Toolsets: Operation Bridge Ultimate

Automation: Bots

SMAX our new Service Management choice

Questions
World’s leading supplier of technology, integrated project management and information solutions to customers working in the Oil & Gas industry worldwide.

100,000 people working in more than 85 countries.

Main offices in Paris, Houston and London.

$35 billion revenues in 2015.

Oriented Upstream Business:

- **Exploration**: Seismic, Geophysics, Geology
- **Production**: Drilling, Testing and Well Intervention
- **Software**: Drilling operations, Geology / Geophysics and reservoir engineering.
- **Project delivery & Solutions**: Consulting and project management
Customer Experience @ Schlumberger
Agenda

- Introduction
- ITOM Toolsets: Operation Bridge Ultimate
- Automation: Bots
- SMAX our new Service Management choice
- Questions
Schlumberger

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- **Project delivery & Solutions**: Consulting and project management
**My experience:**
- 22 years in Schlumberger
- 15 years experience in **IT Operation Management**
- Current position: ITOM toolset and Automation manager

**Monitoring Support structure:**
- 35k critical/major events per month
- Handle ~7k incidents per month

24x7 Support in Kuala Lumpur – 8 per shift.

1 BSM, 1 OMi, 2 Network, 2 ITSM
Schlumberger

Context

Schlumberger suffers for its **biggest crisis** due to the Oil & Gas downturn since 3 years.

To keep market competitiveness, SLB had to **reduce cost** by:

- Reducing the headcount
- Increasing the value per process, software and people.

To increase the value per process and software, we had to look for:

- A solution with plug and play integrations to gain value rapidly with low maintenance (**OpsBridge Ultimate**)
- Avoid people working on unnecessary errors (**Correlate**)
- Reduce repetitive tasks (**Automate**)

ITOM toolsets: Operations
Bridge Ultimate

ITOM Toolsets: Leverage out of the box standard capabilities
IT Operations Management Suites
Integrated, easy to consume

Hybrid Cloud Management
DevOps ready, multi-cloud management and orchestration + Comprehensively automated DC operation

Operations Bridge
Autonomous operations with actionable insight

Service Management Automation
Self-service, intelligence-driven fulfillment

Improve service delivery integration, Streamlined operations, Reduce Cost, improve Compliance
OpsBridge evolution
Our IT Operations using OMi

Operations Agent
SiteScope
Business Process Monitor (BSM)
Universal CMDB
Real User Monitor (BSM)
Network Node Management I
CA Spectrum

Monitor, Discover, Map
Network
10000 devices
Server
6000 Servers
Application
400 Apps

Support Activity
Operations Bridge Premium
HPOM
OMi
BMC Remedy

Our 24/7 Operators are using OMi since May 2013. Big improvement compared to HPOM Java GUI:

- Contextual view and tools
- Fast search any attributes
- Event dashboard
- Event priority based on impact
- Manual and Auto Correlation

24x7 Operation

Event Correlation and Deduplication
One event one ticket

Auto-Ticket creation & assign.

Ticket Annotation
Instruction or Key information
Operations Bridge Ultimate Bundle

Enhanced the License Model to follow our needs

Enable all integrations around OMi
Discover, Monitor Infrastructure, Cloud Services

Allow Capacity Planning (Cloud Optimizer)
For VCenter, HyperV

Advanced Correlations
Topology based, Late correlation

Automation (OO)
Detect to Correct, Ticket handle, Health Check

Contextual Reporting
BVD OBR (not implemented yet)

Data Analytics for Microfocus and non-Microfocus data OpsA (not implemented yet)
Integrations
Integrated Console

Keeping a single page for the infrastructure team. When the SSO is set, Cloud Optimizer and Sitescope Console can be shown in OMi.
Capacity planning
Process enabled

Get global view and growth

Detect the Under/Over Sized VM

*Not automated* – require SAP alignment -
Infrastructure Monitoring

Cloud Monitoring: Sunny tomorrow?

Different ways of collecting Operational data and Events

- **Google Cloud**
  - Operations Agents

- **Ms Azure**
  - Azure Agents

- **Amazon**

- **Supervisors** (Vcenter / HyperV)
  - Cloud Optimizer
  - OMi Management Packs for Cloud
  - Script searches for tag/metadata

**Operation Agent installed on each server**
- Great tuning and customization.
- Node management to follow Cloud activity
- Gather separately the Cloud activity log, topology

**Remote agent to gather all data**
- Great for a global view of the cloud
- Limited in metric collections and tuning
- Still need a cloud agent ...

**Metrics**
- Activity log
- Metric from Agent
- Metric Based Events
- Topology
Discover Topology
Consolidated Topology

Network routers/switches

3PAR Logical Volumes mapped to VCenter Data Stores

Oneview Blades mapped to Cloud Optimizer ESX hosts

ESX Cluster mapped with ESX VM

SAP Sol Man topology

To map I used:
- OOTB Topology (BSMc, CO)
- Custom topology using DDM
- CI Enrichment rules
- Mapping table for storage (output from 3PAR)
Agent based monitoring with META DATA

Event enrichment with Operational information
Performance Metrics: Infrastructure
Performance Metric: Database Management Pack
Correlation
Reduce number of significant events

NNMi Discovery
VM relations

Topology correlation
Stream based correlation

Critical events

Correlation Engine

Issues:
NNMi discovery of local network = false correlation
Network world (SNMP) <> Server world (DNS)
Correlate Cloud state and monitoring events
Correlation

Reduce number of events
Automation: Bots

Deliver value quickly and incrementally
<table>
<thead>
<tr>
<th>Level of Automation Maturity</th>
<th>Scripted</th>
<th>Assisted</th>
<th>Auto-triggered</th>
<th>Orchestrated</th>
<th>Tooled</th>
<th>Intelligent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 0</td>
<td>Manual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 1</td>
<td>Scripted</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Level 2</td>
<td>Tooled</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 3</td>
<td>Orchestrated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 4</td>
<td>Auto-triggered</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Level 5</td>
<td>Assisted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 6</td>
<td>Intelligent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Scripted**: Tasks with repeatable steps are run in a simple script program. Foundational building block of automation. Scripts are made by individuals for individuals. Trigger based.

- **Tooled**: The Automation task is available to others. Scripting is standardized for others. Rules based.

- **Orchestrated**: Orchestration organizes and leverages a library of scripts to complete more complex workflows or processes that requires more than one script.


- **Assisted**: Virtual Assistant – Remote Control. Interact with Virtual workforce via GUI or CLI. Synchronous

- **Intelligent**: Intelligent Automation (Contextual) – Machine Learning / System behavior & stats. Artificial Intelligence (Self-Aware) – Learn and Adapt in order to act as human

- **Manual**: Labor is used to perform work or tasks. Varying levels of efficiency
Monitoring Automation
Automate Discover Monitor Map activities

Monitoring What is happening?
Discovery What is out there?
Operations Bridge Ultimate and automation initiatives
Automate the “Manage” activities

**Level of Automation Maturity**

- **Intelligent**
- **Orchestrated**
- **Tooled**
- **Process enabled**
- **Discovery**
- **Assisted**

**Detect to Correct Unknown Issues**
Automated analysis: Detect anomalies, Prevent issue, (Predict system and process behavior), suggest and guide for cause and correction.

**User’s/business Contextual Service Health**
Guided analysis to find anomalies for optimization (Health, scheduled outage, impact calendar, automatized reports in or nearly real-time, process performance...)

**Remove known issues from human task**
Identify cause (Advanced Correlation, ...), Automate remediation and Diagnostic (Handle One Event), Auto ticketing: (Escalate One Event)

**Operation BI – Real-time operation analytics (OPSA)**
- Capacity Management (HPE Cloud Optimizer)
- Predictive analysis, anomaly Detection, Log analysis
- Intelligent Search, Guided Troubleshooting, Visual analytic

**Traditional BI - Real-time Value Dashboard (OBR and BVD)**
- Advanced Correlation (OMi)
- Escalate One Event (NOC support tasks) OO

**Performance management (OMi)**
- Event Management (OMi)
- Metric capture
- Event Capture

**Log Capture**
- Topology capture (uCMDB)

**Log Capture**
- Topology capture (uCMDB)
Smart Operation
Our Virtual Workforce - Automation Maturity Auto-triggered (level 4)

Automation Today
Robot acting as operator for Advanced Correlation and Autonomous Ops.

- **PABOT**
  - Events 24/7 Operator (Handle one Event)

- **TABOT**
  - Incidents Service Desk (Handle one Ticket)

- **BABOT**
  - L2 Support BS Ops Request (Handle one Request)

- **SABOT**
  - Recover failure HPE Tools Admins (Handle One Check)

- **R2BOT**
  - Emails Service Desk (Handle one Email)

- **C3Bot**
  - Instant Message Service Desk (Handle one Task)

Run by MicroFocus Operations Orchestration (OO)
Time for a first video
**Smart Operation**

Process Automation Bot (PaBot)

- Operations Agent
- SiteScope
- Business Process Monitor (BSM)
- Universal CMDB
- Real User Monitor (BSM)
- Network Node Management
- Cloud Optimizer
- CA Spectrum

**Monitoring, Discovery, Mapping**

- Network
  - 10,000 devices
- Server
  - 6,000 Servers
- Application
  - 400 Apps

**Operations Bridge Premium**

- Basic Event Management
- Event Correlation and Deduplication
  - One event one ticket
- Auto-Ticket creation & assign.
- Ticket Annotation
  - Instruction or Key information

**Virtual Workforce**

(Automation and Orchestration)

- HPOM
- OM10
- OPSA
- OBR
- BMC Remedy

**Support Activity**

- 24x7 Operation

**Automation of repetitive support tasks.**
Delegation to Robotic Process Automation (Virtual Workforce)
**Process Automation: Event Management**

**Automation Operations Bridge activities: Handle One Event**

---

**Process: Event Management within IT Ops**

**Goal:** Improve the efficiency and reduce the Non Productive Tasks

- Time to Detect
- Time to Know (Cause/Symptom)
- **Time to Fix (Remediation)**
- Time to Validate
Example of “Handle one Event”
Values: Robot activities (NOC support tasks) OO/OMI
Handle one Event
Working Side by Side with Bots
SMAX our new Service Management choice

Leverage out of the box standard capabilities & Deliver value quickly and incrementally
Time for a second video
R2Bot C3Bot (IT Support Assistant)

Virtual Assistant = Automation Maturity Assisted (level5)
Working Side by Side with Bots
Working Side by Side with Bots
Benefits of process maturity improvement
Robots activities vs Percentage of Tickets Resolved within Target
Values for automating part of an ITSM process for all services – Handle One Email (OO)
Reaching more than 20 FTEs by month now

<table>
<thead>
<tr>
<th>Automation Dashboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog</td>
</tr>
<tr>
<td>(All)</td>
</tr>
</tbody>
</table>

- **Savings**: $659K
- **Time**: 21,966 hrs
- **FTE**: 16.9

Total Execution Stats for Service by Month (From R2Bot Robot(s) and all flows)

<table>
<thead>
<tr>
<th>Month</th>
<th>% of Total Number of Records</th>
<th>Total Executions</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-17</td>
<td>91% 43,214</td>
<td>577,871</td>
</tr>
<tr>
<td>Jan-17</td>
<td>88% 56,972</td>
<td>71% 412,825</td>
</tr>
<tr>
<td>Jul-17</td>
<td>78% 50,430</td>
<td>29% 164,748</td>
</tr>
<tr>
<td>Aug-17</td>
<td>72% 54,358</td>
<td></td>
</tr>
<tr>
<td>Sep-17</td>
<td>69% 43,405</td>
<td></td>
</tr>
<tr>
<td>Oct-17</td>
<td>66% 51,927</td>
<td></td>
</tr>
<tr>
<td>Nov-17</td>
<td>62% 47,176</td>
<td></td>
</tr>
<tr>
<td>Dec-17</td>
<td>59% 38,316</td>
<td></td>
</tr>
<tr>
<td>Jan-18</td>
<td>60% 24,018</td>
<td></td>
</tr>
</tbody>
</table>
Why we chose SMA-X

RFP result: Microfocus as Recommended Vendor –Automation Maturity Intelligent (level6)

- Focus on IT needs, ITIL requirements met
- Improvements provided in problematic areas of our existing setup
- Automation built-into the tool
- Machine learning & big data capabilities
- Most competitive offer
- Opportunity to have one ITOM vendor suite of tools (ITSM, Operation Bridge, BSM, HCM etc..)
- Improved user experience
- Partnership and solution design membership
- Alignment and combined efforts between SIS & IT concluding on single vendor
- SM capability for non IT process
Questions
Questions