



eBook

IT Operations Management

Operations Bridge: Automated Operations, Powered by AIOps

AIOps-Driven Automated Operations for an Always-On Digital Enterprise

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In the Idea Economy, IT is the Business Partner for Value Creation

As the digitalization of countless aspects of our modern lives rushes forward, businesses have new opportunities to differentiate themselves and new mandates to modernize their IT services and customer interactions.

Today's customers and business users routinely enjoy a rich and dynamic set of capabilities via their personal always-on tablets, smartphones, and laptops, and they now expect the same from the businesses they patronize or work for.

In this new digitally driven era, an exceptional user experience fuels business performance. This means that feature-rich modern apps, which are updated often and perform well, are now the foundation for your digital business. Anything less than an exceptionally good user experience could cause your customers to take their business to competitors and your business users to turn to third-party cloud services—or shadow IT.

The Changing IT Landscape

The challenges for your IT organization don't stop with changing user expectations and agile business demands. Traditional IT infrastructure is also changing. Newer technologies such as public, private and hybrid cloud, and containerization have become the new normal.

In addition to changing infrastructure, agile processes such as DevOps are speeding implementation times. This is pushing traditional IT to become hybrid IT—IT Operations must keep up with these changes.

While all of this is happening IT is being told to take on this additional workload with the same or fewer resources. This is forcing IT to manage the cost of operations by optimizing resource allocations.

So can IT cope with the changes brought by this new era for IT operations?



Figure 1. Market trends: IT landscape is growing in complexity.



IT Must Transform from a Cost Function to a Value Creator

Gone are the days when IT was essentially a cost center for the business. To meet today's strategic imperatives, the IT organization must become a strategic enabler of the business. Some will even say IT is the business, an expression of how vital and differentiating IT capabilities are today.

This new mandate for IT recognizes that business success will increasingly hinge on the IT organization's ability to meet the changing expectations of end users, harness Big Data, and exploit automation to release skilled staff to more innovative tasks and control a rapidly evolving infrastructure landscape.

This shift from cost center to business value creator requires notable changes in the IT environment, as summarized here.

IT As a Cost Function

Let's look at the problems that come with IT as a cost function. In the typical IT organization, visibility into the environment is blurred by a proliferation of fragmented IT event management tools. Nobody has an end-to-end view. Moreover, triage is slowed by reliance on too many war rooms, in which valuable IT professionals spend their time debating how issues arose.

To make matters worse, the evolution and upgrading of IT Operations technology can be time consuming and resource intensive. As a result, many IT teams are often stuck relying on legacy product versions, instead of the latest containerized software deployment technology.

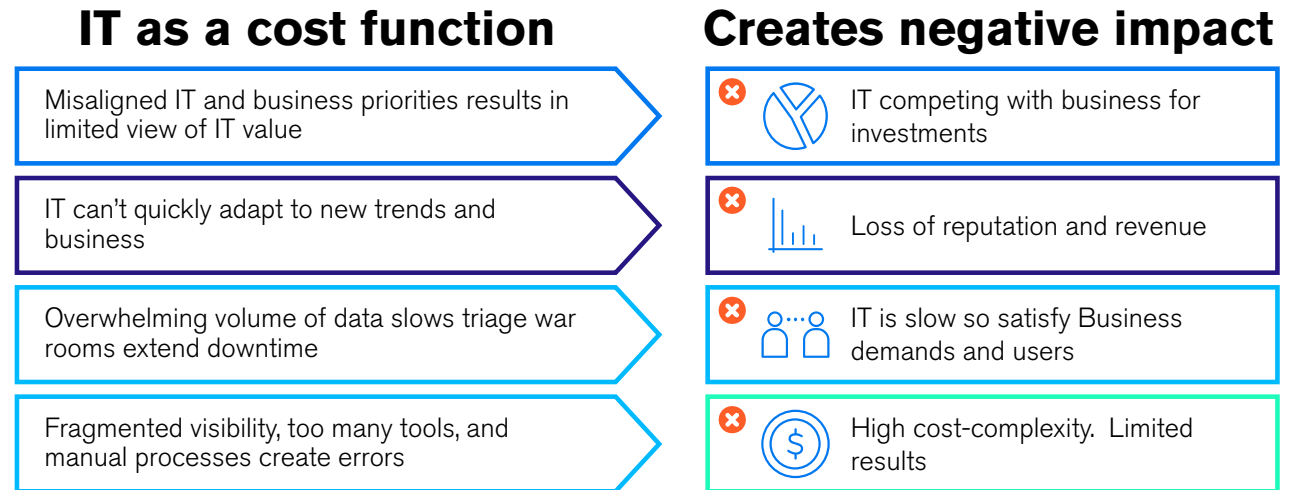


Figure 2. IT as a cost function.



In another common challenge, IT organizations lack the automated capabilities they need to reduce the burdens of repetitive manual tasks and the associated—and costly—human errors. This all adds up to a drain on IT efficiency and productivity, unresponsiveness to changing business climates, and thus a growing gap between IT capabilities and business needs.

Shadow IT is omnipresent as frustrated business teams contract eagerly with external entities to replace IT in important projects that IT can't handle immediately. And to further complicate matters, IT typically lacks effective ways to communicate how it is acting to support the business, which leaves business leaders less inclined to invest in IT.

Ultimately, when IT is cast into the role of a cost function, the business pays a steep price—in terms of lost revenue, unsatisfied customers turning to competitive offerings, and higher costs of operations.

“Enable the deepening of your IT operations team’s analytical skills by selecting tools that support the ability to incrementally deploy the four phases of IT-operations-oriented machine learning: visualization and statistical analysis, automated pattern discovery, pattern-based prediction, and root cause analysis.”

Gartner³

³ Gartner “Market Guide for AIOps Platforms” August 2017

IT As a Value Creator

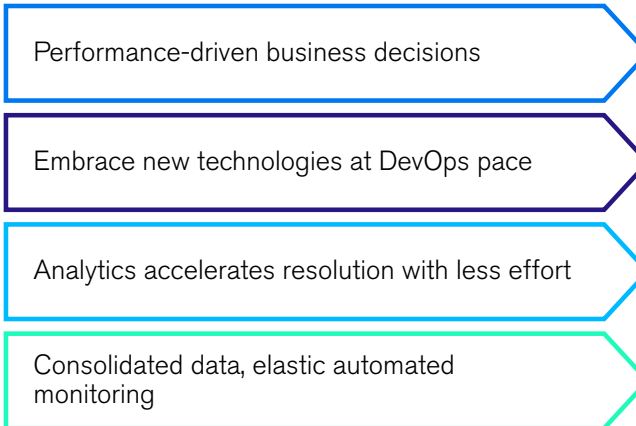
The answer lies in shifting the IT role from that of a cost function to a business value creator. Adopting predictive analytics and automation is now key to transforming the way operations teams work.

IT Operations technology based on containers and microservices architecture allows IT teams to realize the promise of zero downtime and elastic scalability. Meeting the demands of dynamic workloads and supporting new business and IT initiatives will be more efficient.

“With the new micro service and containerized architecture, OpsBridge is going in the right direction. With simpler deployment, faster versioning and streamlined patching as well as improved scalability, it’s an exciting evolution and will bring real value to us.”

Luke Bradley, Senior Manager of Engineering
Transformation and Operations, Vodafone Group Services Ltd.

IT as a strategic partner



Targeted business value

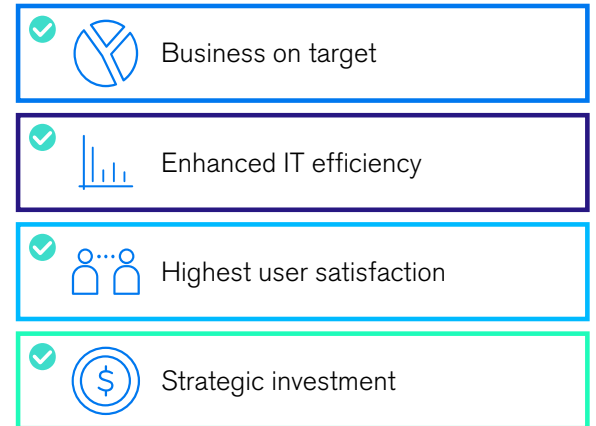


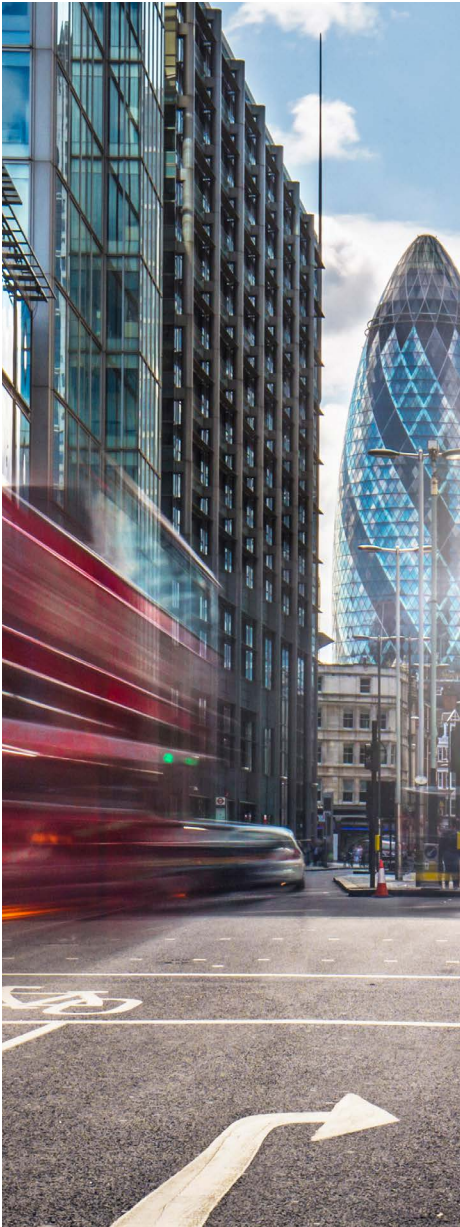
Figure 3. IT as a strategic partner.



When IT transforms itself to become a business value creator, operations are managed through a single pane of glass that provides an end-to-end infrastructure monitoring view of the IT landscape. Microservices-based architecture allows for instant scaling of monitoring, accelerating IT to the speed of DevOps.

The IT organization trades burdensome manual processes and unproductive war rooms for automated discovery, monitoring, and remediation, all enabled by the power of analytics. With higher levels of automation, IT increases its efficiency and staff productivity. These gains enable IT resources to be redirected to put more focus on analyzing business and operational data to drive the business forward.

This shift to a value creator role empowers IT to deliver and document measurable benefits. IT must continuously describe these benefits to stakeholders in easily consumed, attractive, and real-time formats, which when exploited allow executives to make rapid judgements and decisions. IT then plays a leadership role in helping the business meet its targets, move toward its strategic goals, and deliver an ideal user experience. Put simply, IT becomes more of a strategic partner.



The Path Forward: Transform IT Operations with Automation and Containerization

To lift IT to the role of strategic business partner and value creator, IT organizations need to bridge traditional and new predictive analytics technologies to transform IT operations. As IT transforms, it must adapt operations to include required capabilities. IT operations should **automate** continuous discovery and IT event monitoring so it can **sense** the state of IT resources and how this impacts business; **analyze** all data sources to find root cause and **visualize** how situations arose; and **adapt** to ever-changing environments using remediation and microservices-based architecture.

Putting the “O” in DevOps

Are you adopting DevOps? The accelerated rate of versioning and rollout of new applications strains existing processes and defines the need for more accurate instrumentation of applications. But that’s an ideal that few can realistically perform. With the robotization of operations tools, and channels such as Slack, Microsoft Teams, and others, ChatOps gives rise to improved, agile collaboration between operations and other teams. IT operations data is shared. When diagnosis succeeds, the dialogue that occurred can be captured and used to accelerate operations the next time this event occurs.

Orchestration of multiple automated tasks increases process efficiency, drives costs out of IT operations, helps maintain compliance with legal and regulatory requirements, and keeps business services up and running. Predictive analytics, when applied, will derive pertinent information faster than humanly achievable.

Collectively, these gains help you complete the transformation of IT from cost function to value creator.

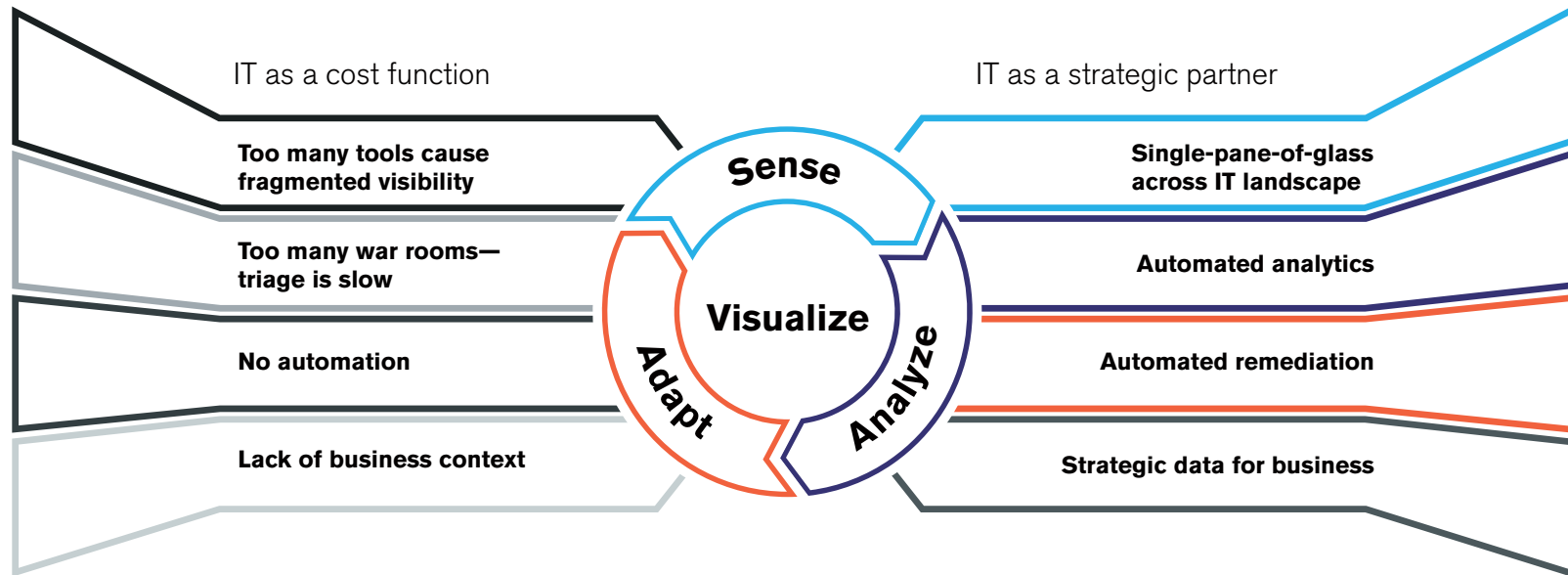


Figure 4. To bridge traditional and new, you need to transform IT operations.

How do you bring all of this together? Look to OpsBridge. It provides the analytics-driven capabilities you need to sense, analyze, and adapt automated operations across IT landscapes from traditional to hybrid cloud, including Amazon Web Services (AWS), Microsoft Azure, and Google Cloud infrastructures. Adding to this, the solution provides both high-level real-time visualization of business and IT parameters to executive stakeholders, as well as the needed views on operations to operators and subject matter experts. Using powerful graphics and intelligent reporting. Operations Bridge delivers these required capabilities to transform IT into a value creator that functions as a strategic partner to the business.



Operations Bridge: Industry Leading AIOps Platform Leads to Autonomous Operations⁴

Operations Bridge brings together a real-time service driven infrastructure management console with embedded Big Data analytics and automation across many dimensions of IT operations. Among other functions, the software gives you the tools you need to automatically discover, monitor to **sense** what's happening, then **analyze** your all-data, and finally **adapt** through remediation and dynamic scaling.

IT is the source of information to characterize how the business is performing. It's time to **visualize** business and IT information in formats and on devices that stakeholders can exploit. The result is a great foundation to support your IT organization in its quest to become a more strategic business partner.

Providing Business and IT Stakeholders with Real-Time Visibility

With the Business Value Dashboard (BVD), OpsBridge can deliver a TV-like channel of constant, realtime news to executives. The dashboard allows business leaders to visualize and collaborate closely with IT, making strategic decisions faster to keep the company competitive. Operations Bridge also enables you to provide real-time monitoring and performance analytics in tablet-ready dashboards to accelerate qualification of trends by SMEs.

In addition, reporting, an everlasting IT operations function, becomes faster and easier with lightweight reporting based on the BVD which adds to our existing comprehensive Operations Bridge Reporter (OBR) report generation and publication capability. Both use the same common data store.

^{4,5} Gartner "Market Guide for AIOps Platforms" August 2017



Get a closer look at OpsBridge.

[Watch the video](#)

AI-Based Analytics

Gartner defines AIOps and evaluates 20 vendors in this report. Operations Bridge is rated as providing 100% of their recommended capabilities.⁵ Operations Bridge incorporates multiple forms of analytics with capabilities for continuous real-time multi-mode correlation; automated log, event, and predictive analytics; “time machine” interactive visual analysis, as well as predictive capabilities.

Gartner also recommends using a common data management approach. Operations Bridge uses collect once store once (COSO) technology, based on the Vertica platform, as a single data store for real-time data ingestion and processing.

Automated and Continuous Discovery

Operations Bridge provides fast, accurate, and continuous discovery of your IT environment. It discovers topology information relating objects and their dependencies in the IT landscape. This discovered information is used to build and continuously update a model of the IT environment that supports business services. This dynamically updated model, called the Run-time Service Model (RtSM), is a unique capability for OpsBridge.

We provide agents, light weight sensors and/or agentless sensors for discovery—as well as the third-party connectors that bring identity and topology information from your existing legacy management tools from other vendors. Discovery can also be driven by a specific discovery engine called Universal Discovery, with which the RtSM is compatible, accelerating the creation of that model.

Automated End-to-End Monitoring

Infrastructure monitoring is also driven automatically. Any new instance of an IT element or composite application implementation is automatically detected and best practice-based infrastructure management policies are deployed and activated. This removes a lot of issues where monitoring is activated long after implementations, and sometimes even forgotten.

The monitoring capabilities in OpsBridge are enriched with business-focused triage capabilities and business value dashboards applied to millions of objects, more than 200 technologies used to develop modern applications and cloud services, such as Docker and MongoDB, and popular third-party management tools.



Customer Success Story
Operations Analytics



TIM Brazil

Global telecom provider increases savings and leverages data to improve customer experience with Micro Focus® Operations Analytics.

Overview
A subsidiary of Telecom Italia Mobile, TIM Brazil is one of the most prominent mobile operators in the country, serving all Brazilian states. To improve customer satisfaction and gain market share, the company needed to optimize its customer service processes.

Challenge
RESOLVING ISSUES IN A COMPLEX ENVIRONMENT
TIM Brazil places a high value on customer experience. Nowhere is this more pronounced than in its call center, which features an interactive voice response (IVR) system designed to automatically connect customers with the answers they need quickly and efficiently. The IVR handles millions of calls per month.

“HPE Operations Analytics (now part of Micro Focus) provides SMEs the ability to reduce the amount of time spent troubleshooting problems. With OpsA, we can identify a problem in a few minutes instead of days.”

FEDRICO BOMENTE
IT Manager
TIM Brazil

However, due to various system errors, a small percentage of these calls were being unnecessarily routed to a human agent, which had an impact on both the customer experience and the call-handling costs.

COMPLEX ENVIRONMENT, MASSIVE DATA

- 65 million customers
- Tens of millions of customer calls per month
- 60GB of log data generated daily
- Need for near real-time information

TIM Brazil relied on a business intelligence reporting system to gather data, but with the high volume of calls and complexity of the IVR infrastructure, accessing this data was limited to history reports that were generated with a two-day delay. Consequently, it could take days to detect a problem—such as unnecessarily routed calls—making timely troubleshooting and resolution a costly challenge.

Solution
NEAR REAL-TIME VISIBILITY AND OPTIMIZATION
Unlike a typical point solution tool, Operations Analytics provided TIM Brazil with a state-of-the-art platform that uses innovative machine-learning intelligence to deliver intuitive log and event insights and real-time anomaly detection. From a single-dashboard view, the IT team was able to access near real-time visibility into business and technical metrics.

At a Glance

- **Industry:** Telecommunications
- **Location:** São Paulo, Brazil
- **Challenge:** Gain real-time visibility into IVR supported systems to enable optimization of performance, customer satisfaction, and revenue
- **Solution:** Deploy Operations Analytics in the company's IVR systems, which receive millions of calls per month, to discover causes of misdirected calls
- **Results:**
 - Reduce the mean KPI—the number of IVR system errors that misdirected calls to a human agent—by 40%
 - Detect, correlate, and address business-data flows and IT infrastructure deviations in near real-time
 - Gain a single dashboard from which to manage IVR health
 - Use alerts to proactively address anomalies and resolve issues before damaging IVR



Rapid Remediation

The built-in remediation capabilities in OpsBridge automatically perform remedial actions with simple scripts or powerful runbook automation using Micro Focus® Operations Orchestration and its 8000 runbooks. One example of very powerful process automation is the automated closed-loop management of key processes using out-of-the-box integrations to popular industry IT service management (ITSM) platforms.

Coupling Automated Big Data Analytics with Real-Time Operations Management

Operations Bridge Analytics provides the means to access lightning-fast analytics. When events occur for which the operators have little or no further information, qualification of the “unknown” issue is accelerated—in some use cases operators have done this 72 times faster than they could before.

They do this by loading the context—such as time of event, event details, affected object identities, and performance data—which is then exploited in analytics to provide lightning-fast powerful visualizations. These visualizations include “time-machine” type capabilities to quickly correlate across **all** the gathered Big Data and isolate the root cause to vastly shorten mean time to repair.

Operators can also profit from automated analytics capabilities that graph over time log and event activities, attracting operators to the most pertinent information in a few log entries derived from mountains of logs and data on event history. Pairing isolates particular metrics that are exhibiting similar behavior and helps detect anomalies.

See how TIM Brazil increases savings and leverages data to improve customer experience

[Read the TIM Brazil story](#)

A consolidated view of OpsBridge

Operations Bridge

Business transactions	Business services
Private cloud services	Public cloud services
Online services	Applications
OS domains	Systems
Networks	Hardware domains

Figure 5. A consolidated view of OpsBridge.



Automated Hybrid IT Service Discovery, Dynamically Updated

Operations Bridge manages hybrid IT, from simple IT components to complex private and public cloud services. The magic glue to providing prioritization of IT activities, and finding the root cause of IT issues, is the Run-time Service Model (RtSM). Our Automated Service Modeling probes discover service definitions from your cloud, populate the RtSM, and then connect to the associated applications and infrastructure components.

Alternatively, your service definitions can be built from your existing configuration management database (CMDB) and maintained dynamically by automated discovery of topology data integrated from Micro Focus system collectors or third-party monitoring products. The net result is a model that allows extensive analytics to accelerate dependency analysis and correlation rules to expose root-cause events to operators. The RtSM model also serves as a basis for our OpsBridge Reporter, greatly easing the task of report maintenance because the right data is always available when reporting on SLAs and the components impacting them.



Visualizing Impact Through a Business Lens and Managing from a Single Pane of Glass

Visualize a Real-Time TV Channel of Business and IT News

Real-time news helps all of us form opinions and make better decisions. Line-of-business executives need the same, and when IT provides operations through a business lens, stakeholders see what's happening, as it happens. This real-time view of business data, mixed with IT status, opens the door to more strategic collaboration between both worlds. To enable this view of operations through a business lens, our Business Value Dashboard (BVD) provides exciting colorful formats, made in minutes, and shows them on devices everybody has these days. BVD now access a Vertica system directly allowing pre-processing of an data filed for aggregation other mathematical function s before displaying data.

Many organizations find it difficult to consolidate events from increasingly complex IT infrastructures into a single event stream. They simply don't have the right event correlation tools to create the bridge, or they have too many best-of-breed tools but lack the overall visibility to triage events and prioritize responses based on common information.

Operations Bridge solves this challenge. It consolidates IT events from all of your domains, top down and bottom up, into management activities that can be carried out from a single pane of glass. This consolidated view, shared across multiple domain "towers," helps your IT operators quickly identify the causes of IT incidents and rectify issues in less time. Once sorted, filtered events are aggregated in OpsBridge. They can then be used to correlate state using the dynamically updated service model that represents the topology and status of your most important IT resources, and to accelerate isolation of the root cause.

Single Pane of Glass through 200+ Integrations

The events, topology, and metrics OpsBridge consumes can come from a variety of popular industry third-party tools, so you get all the advantages of the data they provide—with the power of OpsBridge that exploits that data. This approach does NOT require any rip-and-replace changes, so it protects your investments while helping you avoid the trap of having multiple teams working on symptoms.



Get a close-up look at single-pane-of-glass management for IT event correlation and management.

[Watch the video](#)

Actionable Insights—Identifying Business Impacts

Correlation based on stream, time, and pre-defined rules is executed using the relations between objects in RtSM. Operators can thus avoid the classical sea of red alerts. They are presented with the event root cause in dashboards and may choose to see the symptomatic related events. Dashboard topological views linked to health indicators, watch lists, and the event browser provide a single pane of glass. These views allow prioritization of events that are most impacting business users and performance, making assignment of the most important events to the appropriately skilled teams a lot faster and easier.

Automatically identifying, prioritizing, analyzing, and remediating IT incidents significantly reduces the amount of time your IT organization needs to spend on monitoring and managing the IT infrastructure. With the capabilities of OpsBridge, your team can avoid having to spend minutes or hours of wasted time in war rooms discussing, debating, and blaming before an action plan is established.

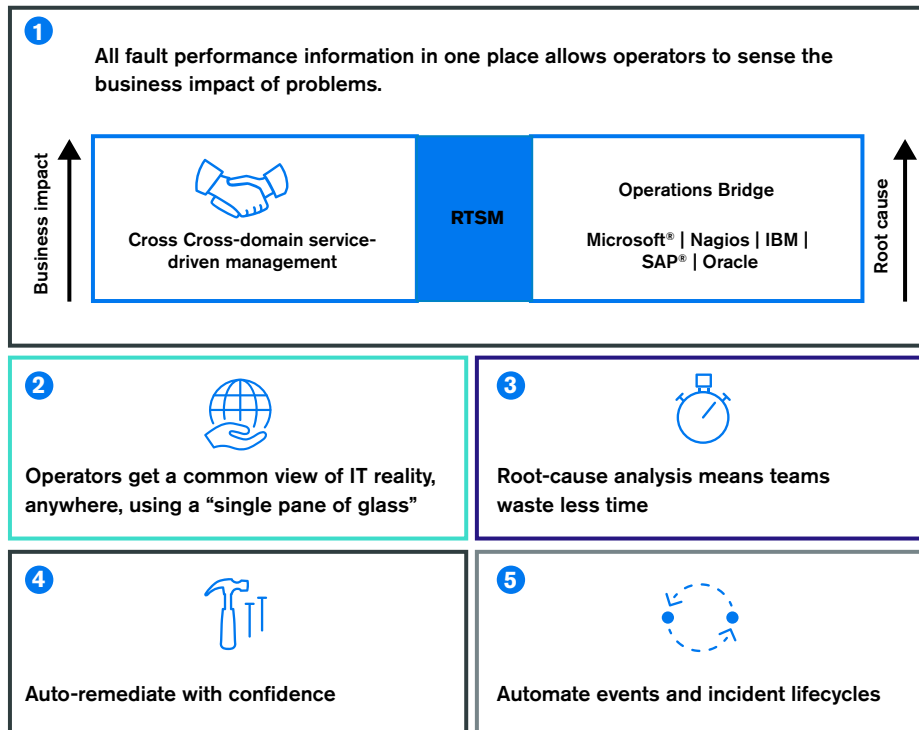


Figure 6. Autonomous operations with OpsBridge.

Tangible Benefits with OpsBridge

What could OpsBridge do for you? Consider these benefits gained by our customers:

The benefits don't stop there. With OpsBridge you will enjoy a simpler yet more powerful means to directly communicate with business stakeholders and take on the role of a strategic partner to them. Better communications can help you regain the confidence of business stakeholders and strengthen your case for IT funding.

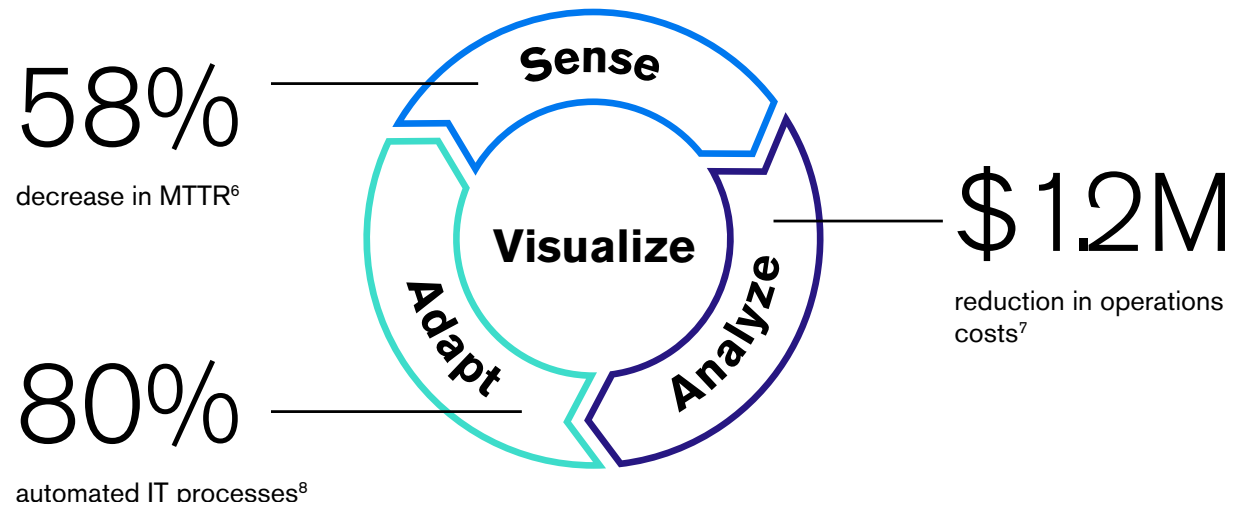
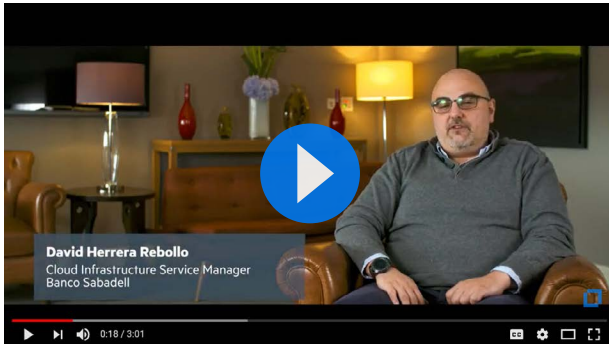


Figure 7. Benefits of OpsBridge.

⁶ Die Mobiliar case study

⁷ Fidelity Investment

⁸ Vodafone case study



Learn how Banco Sabadell transformed IT operations with OpsBridge.

[Watch the video](#)

Customer Results

Here are a few examples of the benefits that specific customers are realizing with OpsBridge.

75%

Typical event volume reduction leads to fast time to value and reduced operations costs⁹

72x

Faster triage and root cause identification¹⁰

90%

Improvements in SLA¹¹

\$420K

Per annum savings¹²

Figure 8. Customer results.

⁹ OOREDOO Tunisia use case

¹⁰ HPES (now part of DXC)
Production IT use case

¹¹ Injazat data systems

¹² Kuveyt Turk use case

What Makes OpsBridge Manager Unique?

OBM is the only product that dynamically and automatically discovers and correlates—even as the environment changes—data, events, topology, and metrics.

OBM provides:

- Scaling from simple to distributed hierarchy with millions of managed objects
- Fast time to value with container-based and single-server installation and embedded PostgreSQL database, including active-active HA deployments
- Top-down and bottom-up visibility of events and the business impact of true root causes
- Monitoring automation for infrastructure and composite applications, with SME parameterization
- Multi-mode automated event correlation enriched per managed domain by selected OBM management packs
- The Business Value Dashboard, the world's first real-time editorial for sub-second display of business and IT status and metrics, as well as online contextual information from online sensors, cameras, RSS news feeds, and streaming video
- Topology data that ties evolving IT infrastructure to the business services that rely on it. This data is integrated from 3rd party tools, connectors, our collectors and Micro Focus AppManager
- Real-time streaming of more than 300 metrics to describe availability and performance of the business service and its dependencies
- Automatic remediation through the activation of more than 5000 workflows that execute best-practice-based actions

- User engagement to apply gamification principles to reward and promote operational excellence
- Fast navigation access to actionable HTML5 operator dashboards for roles from subject matter experts to qualify information and guide remediation actions
- Out-of-the-box and customized watch lists and health indicators that enrich the dashboards and provide a focused means to attract a team's attention to the right priorities
- Content enrichment that interprets domain-specific enriched IT management data from management packs specific to application, infrastructure, and composite application combinations, including expert-defined specific metrics, thresholds, predefined specific correlation rules, and reporting content packs
- Elastic performance analytics with dashboards featuring real-time streaming from agent and agentless collectors, light-weight sensor, and connectors for real-time graphing, alerts, and analytics

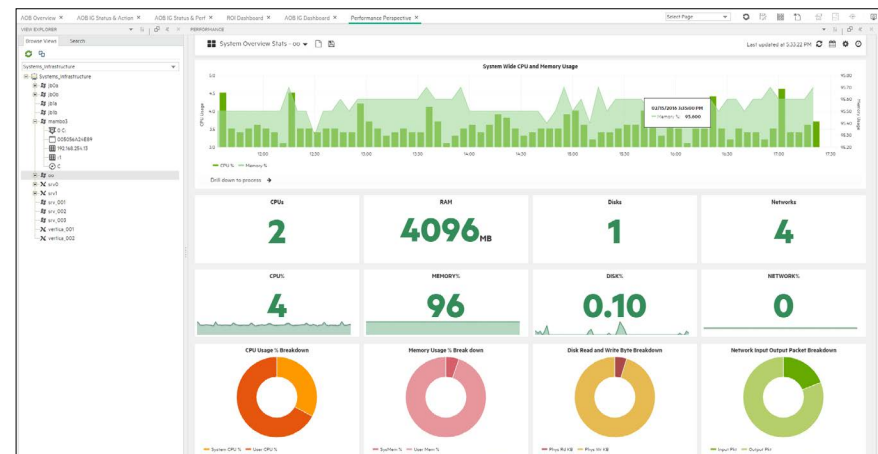


Figure 10. OBM includes a performance analytics dashboard with a wide range of capabilities.

The Power of Real Time

“We could potentially reap benefits related to increased tool usage, more efficient and standard processes, and the intrinsic rewards of friendly competition.”

Joel Equino, Sentara Healthcare



OBM Leverages Real-Time Streamed Data to Determine Root Cause

Events, metrics, and topology are streamed into OBM via end-to-end monitoring from agent and agentless collectors, light-weight sensors, and connectors. Event data from AppManager is also integrated. This allows for existing, application, systems, storage, and network monitoring tools for virtual and physical domains from Micro Focus and many third-party domains to provide data to OBM. This data enables the comprehensive insight, real-time graphing, alerts, and analytics required when you're monitoring and managing hybrid infrastructure, cloud services, and microservices.

Using this rich set of information, OBM applies stream-, time-, and topology-based multi-mode correlation and advanced logic to determine the real cause of an incident, to provide advice on the likely business impact, and to make recommendations on how to prioritize remediation activities.

Automation

OBM provides monitoring automation, which, using the RtSM, detects new IT infrastructure resources and automatically deploys best-practice-based monitoring templates and activates them. This is particularly powerful and unique when applied to composite application deployment. The OBM Management Packs exploit directly this monitoring automation capability, as does OpsBridge Express edition, which is based on SiteScope.

OBM integrates with runbook automation products, such as Operations Orchestration, as well as service management products, such as our Service software and BMC Remedy. Our community provides other solutions for third-party products. These integrations provide the means to further process related qualified information or even take remedial action using best practices. This drives compliance by helping to ensure that specific known configurations are re-established after unauthorized changes or changes made in error.

“By using OBM specifically TBEC (topology-based event correlation)—we were able to consolidate event management with a single pane of glass, significantly reducing the time to understand event alerts raised by the different monitoring systems.”

Jason Siegrist, Manager

Enterprise Management Technologies, Sentara Healthcare



Universal Discovery Software with Automated Service Modeling

Our Universal Discovery software provides the basis for understanding what makes up the services that IT delivers. Automated Service Modeling (ASM) automatically discovers and models critical business services and business applications in a top-down manner, starting from an entry point such as the URL of the service.

From there, AMS can automatically create a map of a particular service or an enterprise application by leveraging the existing out-of-the-box discovery mechanisms to create and then continually maintain service models. These models are maintenance-free and appear in near real time.

AMS delivers faster, more accurate modeling of your services into the RtSM. And for businesses, the result is improved time to value and reduced total cost of ownership. These products are included in the OpsBridge Suite.

Cloud Optimizer

Our Cloud Optimizer is a unified capacity management and performance tool that enables you to monitor, troubleshoot, and optimize hybrid cloud environments. Consolidation of Cloud Optimizer's metrics and events to OpsBridge provides comprehensive insights into capacity, performance, and health. With this consolidated insight, you can optimize your infrastructure, quickly solve virtualization and cloud performance issues, and plan for future growth. Additionally, you can measure your service delivery when using hybrid cloud such as AWS, Microsoft Azure, and Google Cloud.

Cloud Optimizer provides business metric analysis by allowing users to create logical groups, extract insights, assess impact, and plan for capacity allocation. Additionally, cloud administrators can meter usage and cost, and estimate savings from right-sizing recommendations. All these features add up to enhanced performance, service quality, forecast requirements, and reduced total costs.

Business Value Dashboard

Broaden Your View of IT

Our Business Value Dashboard (BVD) helps you align IT operations with the business. You can use BVD to create custom, flexible dashboards that can be accessed anywhere, anytime, from any device. Through custom integrations and graphing, you can find and review relevant information that will aid in decision-making and help you improve business outcomes.

Bridge the Information Gap

BVD works with a variety of data sources, in addition to OpsBridge. You can access the rich information set directly in BVD without rebuilding the integrations for the dashboard separately. Additionally, you can bring in data from other sources to paint a more complete picture. Business Value Dashboard also acts as a light-weight reporter in two ways. It can execute queries on-demand to COSO which offers more than 1000 analytical functions from the Vertica platform it is based on. It can also produce PDF output, allowing what's seen in a dashboard to be captured and used where needed.

“BVD is very important to our autonomous operations because it highlights where problems are, where to save money and where to be faster.”

Now IT...has become a more important partner for the line of business. Business people and people from IT operations work directly together to create new ideas and implement new products.”

Thomas Bauman, Head of IT Performance
Swiss Mobiliar

Give Business Meaning to Your IT Data

Completely flexible and easy to use, BVD lets you visualize the data you need. For a richer view, you can incorporate your own graphics, add color to identify status, and receive real-time updates—so you always understand and can demonstrate the value driven by IT.

Dynamically Scale Monitoring to Support Shifting Workloads and New Initiatives

Due to seasonality, new initiatives or unpredictable events, IT operations teams know that workloads are constantly changing. Consider the example of introducing a new application. Monitoring requirements are greatly increased while the team gathers as much data as possible to perform testing and optimization before release. That's why BVD is built on a microservices platform, so IT teams can easily scale up monitoring when needed, and scale down when appropriate. In addition, BVD is now containerized and offers rolling upgrades.



OBA enables specific data collection from a wide range of data sources, including:

OBM and OM events	Run-time Service Model
Operations Agent	AppManager
SiteScope	NNMi
ArcSight Logger and LogStash	Business Process Manager

Figure 11. Operations Bridge Analytics.

Operations Bridge Analytics

Operations Bridge Analytics (OBA) is a key component of the OpsBridge Suite. Built on a Big Data foundation, it uses innovative machine learning intelligence (50+ patents) to deliver intuitive log and event insights and automated anomaly detection. OBA dramatically improves your ability to find data in logs with Smart Search and with Automated Anomaly Detection, it intelligently searches for and displays anomalies with no manual configuration. OBA is the secret weapon for IT operations to pinpoint the root causes of issues in minutes, not hours or days. This insight enables your operations team to drive real business results, such as less time and resources spent on “war room”-style troubleshooting, dramatically faster MTTR, and significantly less downtime.

Automated Log Streaming and Data Collection

Our lightweight sensor, also called Cloud agent, provides powerful log streaming that is consumed by OBA **automatically**, zero configuration. Log analytics is activated and executed continuously for pattern matching and machine learning as soon as you point it at the source. Operations Bridge Analytics offers multiple connector mechanisms to allow data to be collected. While no business service management data collection is needed, OBA is integrated out of the box to gather metrics, events, topology, and log file data from a diverse set of sources. This includes our application performance management (APM) and end user management (EUM) products, and OpsBridge. It provides powerful log file data collection as well as collection of other machine data through CSV.

Operations Orchestration

Our [Operations Orchestration](#) (OO) provides automated remediation capabilities in OpsBridge. It helps accelerate the accurate resolution of IT issues. You can perform remedial actions with simple scripts or powerful runbook automation that leverages more than 5000 runbooks.

A general IT process automation (ITPA) tool, Operations Orchestration covers a broad range of use cases that span from monitoring tools and service desk tools to virtualization and hybrid cloud management.

Capabilities in Operations Orchestration include:

- Graphical design of workflows
- Comprehensive integration capabilities
- Interactive performance graphing
- Out-of-box content across multiple IT domains
- Flexibility in flow execution

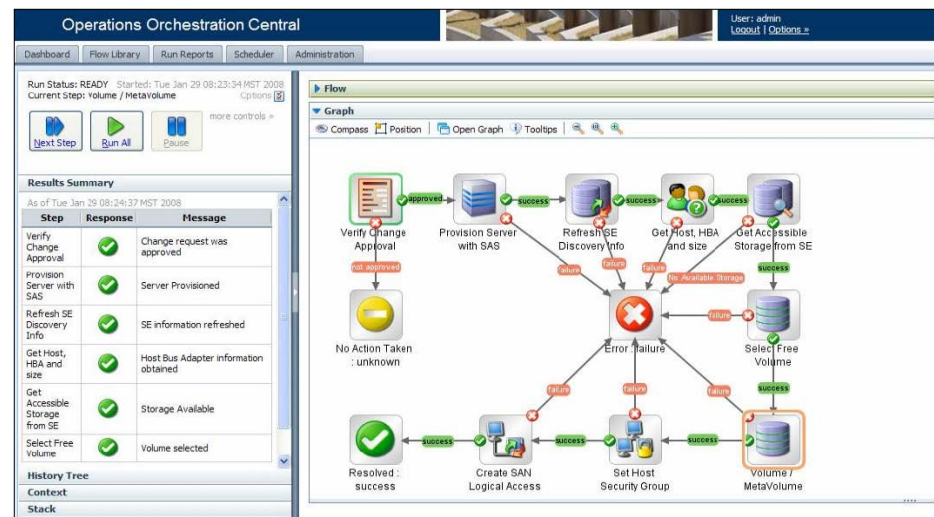


Figure 12. Operations Orchestration automates resolution of IT issues.

**“I’m really impressed with what I see...
what we have here is like a mother of all
reporting tools.”**

Worldwide power management leader

Operations Bridge Reporter

Our OpsBridge Reporter (OBR) was built to address the challenges of reporting in dynamic IT environments and includes Vertica, a Big data platform, as its main database. In addition to consolidating performance data and metrics from multiple domain-focused collectors, OpsBridge Reporter collects and collates specific information regarding the relationships between IT elements and the business services they support.

View Data from New Perspectives

By concurrently performing the collection and collation of both types of information, OpsBridge Reporter enables viewing of the data from a number of valuable and unique perspectives:

- Across infrastructure elements residing in multiple technology domains—particularly important when physical and virtual resources combine to support delivery of business services
- In the context of the business services that the infrastructure elements support—clearly showing how the infrastructure impacts business service levels
- In a consistent manner, irrespective of changes in the relationships between the IT infrastructure and the business services—enabling dependable reporting in flexible or dynamic environments, such as virtualization or clusters
- In the context of IT domains—Management Pack software adds content-rich predefined OBR reports specific to IT domains

What Makes OpsBridge Reporter Unique?

Operations Bridge Reporter is the only reporting solution that brings together the rich resource utilization, application performance, and end-user response time metrics available from our application performance management (APM) and end user management (EUM) products, and combines them with the discovered topology of your IT environment from RtSM. This unique perspective delivers industry-leading business service health reporting capabilities. With ChatOps, you can also get access to any OBR report.

End User Monitoring—Know Before Your Customers Do

To deliver the best user experience, start measuring and monitoring what users actually do across all your application types. End user monitoring (EUM) is proactive, run at regular intervals, typically every 15 minutes. It emulates what a user does like going to a web page for a banking transaction, signing in, and transferring money. While doing this it gathers performance information by measuring the time it takes to complete the transaction. Since it runs continuously it can find problems even when users are not using a particular business process. This allows IT to fix problems before users start working with that business process. By linking end-user monitoring data with the infrastructure performance, IT staff can quickly identify the infrastructure-related root cause of an end-user problems.

Business Process Monitor

Business Process Monitor (BPM) software proactively measures the end-user experience by executing controlled, repeatable transactions from multiple locations—inside or outside your firewall—to identify availability and performance issues before they impact your customers. It supports a range of applications including Flex, HTML 5, .Net, Java, SOAP, ERP, and CRM without agents. By monitoring from the end-user's perspective, you can validate performance and availability across all tiers.

BPM's top-down approach enables teams to better identify, isolate, and solve problems while making more effective business decisions. And by linking end-user monitoring data with the infrastructure monitoring data, IT staff can quickly identify the infrastructure-related root cause of an end-user problem.

Micro Focus SiteScope

SiteScope is a solution for both EUM of applications, and infrastructure monitoring. Data collection is performed through remote monitoring and does not require agents to be installed on monitored nodes. Basically, SiteScope logs into systems as a user from its central server, where several connection methods are supported, including TELNET, rlogin, HTTP, SSH, NetBIOS, and WMI.

Both BPM and SiteScope integrate with OpsBridge for those who need both agent-based and agentless monitoring.



OpsBridge integrates with 200+ brands, including the ones shown above.

See the details in our [OpsBridge technology integrations e-book](#)



Operations Bridge Integrations

Our OpsBridge Management Packs for applications and infrastructure, including public and private cloud, to extend OBM monitoring capabilities to offer a consolidated view of your entire IT environment—from infrastructure to application. Enriched with the capabilities of OBM and monitoring automation, OpsBridge Management Packs enable your operators to deploy, monitor, and correlate disparate applications and infrastructure elements.

Many Management Packs enrich OpsBridge by adding predefined correlation rules and OBR reports specific to the IT domains they support.

Operations Bridge Management Packs Help You:

- Gain rapid time to first use with a self-service portal that your subject matter experts can use to customize monitoring
- Reduce maintenance overhead—changes are automatically detected, keeping infrastructure views up to date and easing maintenance of dependencies
- Enrich the availability and performance management of your IT environments
- Enhance the sense value of the OpsBridge—add domain- and application-specific TBEC rules for advanced correlation related to domain-specific events and managed objects, providing faster more accurate triage and root-cause analysis (selected OpsBridge Management Packs)
- Automatically discover and monitor AWS, Microsoft Azure, Google Cloud Platform, Kubernetes, and Docker containers
 - Automatically discover and monitor AWS Elastic Cloud Compute (EC2) Server Instances, EC2 Container Service (Amazon ECS), Elastic Block Storage (EBS), Remote Database Service (RDS), Auto-scaling within the Elastic Container Service (ECS). AWS PaaS services are now monitored such as Elastic Load Balancing (ELB), and Simple Storage Service (S3) are now automatically discovered, represented in our service views and then monitoring is activated including metrics on cloud costs for billing
 - Automatically discover and monitor Microsoft Azure of virtual machines, Azure Service Dashboard, Azure SQL Service and load balancing services, storage accounts and activity log of Resource Manager
 - Microsoft Azure Stack private cloud offering is also supported
 - Automatically discover and monitor Google Cloud virtual machine instances and projects
 - Automatically discover and monitor of Docker containers (Docker certified) and Kubernetes
 - Automatically discover and monitor SAP, SAP HANA, SAP Sybase

e-Book



Thomas Baumann from Swiss Mobiliar explains how OpsBridge and BVD transformed IT, helping them gain autonomous operations, and turning their IT department into a more strategic business partner.

[Watch the video](#)

- Microsoft Azure App Service for visibility of Web Apps, Mobile Apps, Logic Apps, API Apps and use Azure Storage along with SQL/MySQL/Postgres databases
- App Service plan are now supported, providing details of Azure App Service Constraints, Service Limits and Quotas
- Accelerate and improve capacity and configuration planning (selected OpsBridge Management Packs)



To review the available OpsBridge Management Packs, see the **OpsBridge Integrations page**.

Community for Content and Connectors

We support a very active community to federate contributions from our engineers and third parties. This community includes blogs with technical information submitted by our subject matter experts, partners, and customers.

The community exploits the ITOM Marketplace, including a repository to freely share and download features that extend OpsBridge and monitoring products. It is meant for everybody interested in sharing content (such as scripts, integrations, policies, and tools) and knowledge. [Visit the OpsBridge Community now.](#)

A few tips on the community:

- Subscribe be informed about new posts using the icons at the top of the page:
- If you have any suggestions for this community, we would like to hear about them   [dedicated forum discussion.](#)
- Post any questions or feedback in the forum.

“The Partner Community program that Micro Focus pulled together helps us tremendously. For us to get direct support from their R&D makes a huge difference.”

Clay Roach, J9 Technologies CEO

Agile OpsBridge Service

Your OpsBridge needs to operate at the speed of your business. To get there you need not just the right tooling but also a framework that enables on-board services onto your OpsBridge with consistency and agility. The Agile OpsBridge offering from our Software Services team enables you to do just that. [Read the service brief.](#)

Our three-step approach, “organize, standardize, automate,” allows you to understand what information you need to collect, how to collect it, and how to best represent and deliver it to the stakeholders, whether these are people, processes, or tools.

The result is a simplified monitoring architecture that allows you to reduce the costs associated with managing your OpsBridge by consolidating your monitoring standards into a single set that you consistently apply across your entire environment.

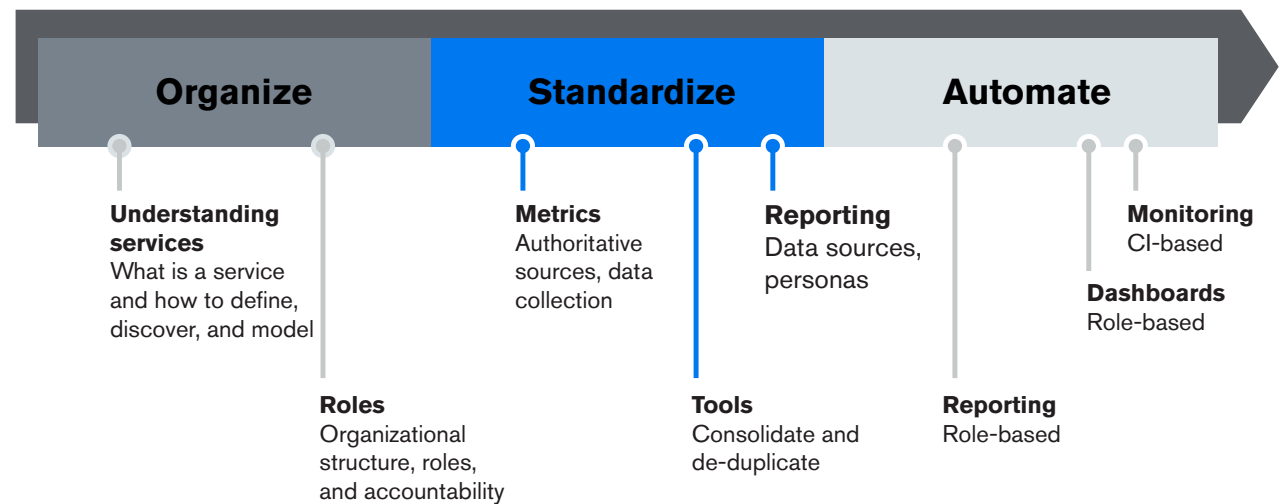


Figure 13. Our three-step approach.

Let's Get Started

Here are a Few Next Steps on the Route to Your IT OpsBridge.

Explore:

Operations Bridge: www.microfocus.com/opsbridge

Operations Bridge Analytics:

www.microfocus.com/opsbridgeanalytics

Operations Bridge Manager: www.microfocus.com/omi

See more details concerning cross domain reporting at

www.microfocus.com/obr

Watch:

See how Banco Sabadell Pioneers Multi-cloud Real-time Visibility with Operations Bridge:

[Watch the video](#)

Learn how Vodafone was able to reduce critical events by 80%: [Watch the video](#)

See how Accenture Changes the Dynamics of IT Ops with OpsBridge:

[Watch the video](#)

See how to simplify IT management with Operations Bridge Manager:

[Watch the video](#)

Learn how our Agile OpsBridge service can assist you on your journey.

[Read the service brief.](#)

Additional contact information and office locations: microfocus.com/about/contact