Brochure

Operations through a business lens: HPE Operations Bridge technology integrations

Gain complete visibility and control of your **entire** IT environment with 110+ tool and technology integrations for Operations Bridge

Get started >

Hewlett Packard Enterprise

Table of contents

Why read this e-book?

An end-to-end view of the entire IT environment is essential for efficient operations

If you manage IT operations, you're being asked all the time to do more with fewer resources, respond faster to business requests, and deliver zero downtime. Meanwhile, modern businesses of all types now rely completely on IT to support and enable business activities. Downtime translates directly to lost revenue, lost productivity, and more pressure on IT.

That's why it is imperative for IT operations to understand exactly what's happening in the entire IT environment, precisely as it happens. With an ever-expanding IT landscape and increasing complexity, managing IT in siloed domains is no longer an option. You need a holistic view of the entire environment, and you need help managing it.

That's **HPE Operations Bridge—an analytics-driven, automated IT operations management solution**. This e-book explores how Operations Bridge (OpsBridge, OpsB) creates and helps manage the end-to-end service view by integrating with the common tools, technologies, and applications that IT operations teams rely on.

Let's get started.

“For us, the story is tying together all of the disparate systems. HPE OMi—the OpsBridge—is the only tool I know that lets you do that, and automate management from a single pane of glass.”

– Jay Rooney, a systems analyst III at Vancity

The IT landscape is changing, fast

We've spoken before about the massive changes affecting IT operations management.

- More than 50% of enterprises will adopt hybrid cloud by 2017.[1]
- "IT operations leaders are challenged to show how the services they provide tie to business value and move the organization forward."[2]
- Due in part to increasingly challenging business demands, 40% of IT spending is outside of CIO control.[3]

Additionally, new tools and technologies are released every day and with them come new and greater risks of fragmented visibility, poor integration, and negative impacts on business services. One thing is becoming ever more important all the time—a dynamic, real-time, end-to-end view of the entire IT environment. How can IT manage operations if it can't see what is happening, as it happens? How can IT operators identify and remediate issues, **before service impact**, if they don't know how all their technologies work together?

That's why Operations Bridge is more necessary now than ever, because its core focus is pulling the information from your entire IT environment and delivering the pertinent information directly to you, at the right time.

What allows Operations Bridge to do this? Integrations with more than 110 tools and technologies. It's the broadest technology coverage of any competing products. A true single pane of glass.

[1] Gartner. "Gartner Says Nearly Half of Large Enterprises Will Have Hybrid Cloud Deployments by the End of 2017." News release. October 1, 2013.

[2] Gartner. "Six Ways to Drive Cost and Value Optimization for IT Operations." Document 2854418. September 24, 2014.

[3] **Member-based advisory firm CEB**.

True end-to-end visibility

Operations Bridge integrations provide deep insights—from infrastructure monitoring to application—in a single console
Technology integration is the key to the substantial value provided by Operations Bridge. And integrations happen with domain-specific management packs, operations connectors, and specific cross-domain processes. These integrations pull critical data into Operations Bridge from cloud infrastructure, containers, databases, applications, middleware, third-party monitoring tools, and much more.

Once the data is consolidated, the operations team can monitor health and orchestrate processes. Lastly, customers have the flexibility to create or tailor any integration to fit their specific needs by using the **Management Pack Development Kit** and the **Operations Connector SDK**.

> "One of the many values of Operations Bridge is its ability to integrate and optimize existing domain-specific tools through predictive analytics and service modeling."[4]
>
> – Mid-tier healthcare enterprise in the United States

[4] "Evolving from Systems Management to Service Management with HPE Operations Bridge: A View from Four Real-World Deployments," page 3, **ssl.www8.hp.com/ww/en/secure/pdf/4aa5-5590enw.pdf**.

Management packs

HPE Management Packs for applications and infrastructure extend the monitoring capabilities of Operations Bridge to offer a consolidated view of your entire IT environment—from infrastructure monitoring to application. Coupled with Operations Manager i, management packs enable your operators to deploy, monitor, and correlate information from disparate applications and infrastructure elements. In fact, many management packs enrich **Operations Bridge** by adding predefined correlation rules and Operations Bridge Reporter (OBR) reports, specific to the IT domains they support. Additionally, custom monitoring can easily be built using the **Management Pack Development Kit**.

Used in conjunction with HPE Operations Agents, the Operations Bridge Management Packs collect metrics using vendor-supported interfaces. They automatically refresh applicable topology maps in the HPE OMi console, constantly showing up-to-date relationships between various IT domain-specific resources allowing rapid identification or root cause analysis for issues in your environment. Management Packs ensure that no new IT resource or service is left without monitoring by automating the deployment of best-practice-defined monitoring policies specific to each domain.

Management packs help you:

- Monitor your key IT services automatically. Best-practice-defined monitoring policies can be assigned based on automation rules or the assignment can be triggered from a self-service portal using OMi's monitoring automation REST web service
- Reduce maintenance overhead—changes are automatically detected, keeping infrastructure views up to date and easing maintenance of dependencies
- Leverage monitoring automation to enable best-practice-based management is available and activated for each new IT resource
- Enrich the availability and performance management of your IT environments
- Enhance the value of your HPE Operations Bridge implementation—add domain- and application-specific Topology-Based Event Correlation (TBEC) rules for advanced correlation related to domain-specific events and managed objects, providing faster more accurate triage and root cause analysis (selected OMi Management Packs)
- Add domain-specific reports to enhance and accelerate the analysis of data and visualization
- Accelerate operations and improve capacity and configuration planning (selected OMi Management Packs)

A sophisticated and growing portfolio of management packs

HPE provides management packs for infrastructure, cloud, containers, databases, middleware, and more. They are offered in four different categories, as **Standard, Community, Premium**, and **Partner** content. The management packs are detailed in the following pages. Visit **Operations Bridge Integrations** on **hpe.com** for comprehensive information about each.

Legend for management pack content

- HPE Standard Management Pack—provided by HPE and supported via HPE SW Support to HPE SW customers with a current maintenance contract
- HPE Community Management Pack—provided freely by HPE, but supported by the community, rather than HPE SW Support
- HPE Premium Management Pack—provided by HPE and supported via HPE SW Support for an additional fee
- Partner Management Pack—provided and supported by HPE Software partners that may offer content as trial, demo, or free versions, as well as their own premium or fee-based offerings

HPE Management Packs by domain

Domain: Infrastructure

The **HPE Management Pack for Infrastructure** supports more than 20 products. It features automated dynamic discovery and monitoring of infrastructure instances both physical and virtual, as well as multiple out-of-the-box management templates to cater different monitoring needs. The infrastructure MP provides proactive monitoring of the availability and performance of infrastructure resources like physical servers, hosts, and virtual systems, in addition to seamless monitoring of clustered servers, and cross-domain correlations for event reduction and faster root cause analysis and detection.

HPE Management Pack for Infrastructure supports:

- AIX
- HP-UX
- Cent OS
- Debian Linux®
- Oracle Enterprise Linux
- Red Hat Enterprise Linux
- Solaris
- Windows Server®
- Windows®
- Ubuntu Linux
- SUSE Linux Enterprise Server
- HACMP
- Microsoft® Cluster
- Red Hat® Cluster Suite
- Sun Cluster
- Veritas Cluster Server
- MC Serviceguard
- VMware® vCenter™*
- KVM*
- Xen*
- AIX LPAR
- Solaris Zones

* HPE recommends using HPE Cloud Optimizer to monitor x86-based virtualization technology

Domain: Cloud

HPE management packs for cloud allow automated and dynamic discovery of cloud instances in public and private cloud infrastructure, as well as proactive monitoring of availability and performance of cloud instances. They help customers visualize the performance of the compute instances in real time—in state-of-the-art dashboards—allowing performance comparisons of compute instances across multiple cloud providers like AWS and Azure, along with calculated overall uptime and performance over time.

Cloud management packs for:

- **OpenStack**®
- OpenStack Service Health
- **Amazon Web Services**
- **Microsoft Azure**

HPE Standard Management Pack
HPE Community Management Pack
HPE Premium Management Pack
Partner Management Pack

Domain: Container technology

HPE Management Pack for Docker provides automated and dynamic discovery of Docker Swarm Clusters, Docker host, containers and workloads. The Docker MP also features proactive monitoring of status, availability, and performance of various Docker containers, with information regarding:

- Throttling of containers
- Container status
- Resource usage

It also delivers real-time visualization of the Docker host and container metrics in state-of-the-art dashboards, with monitoring configuration by container tags and reports on Docker usage trends.

The HPE Management Pack for Docker gives customers a consolidated visualization of the hybrid IT topology, as well as detection and reporting on poor SLAs from applications deployed using containers. It supports DevOps by providing automated deployment and activation/deactivation of monitoring for resources.

The Docker management pack comes with out-of-the-box TBEC and SHR reports.

Domain: Big Data

HPE management packs for Big Data give customers automated and dynamic discovery of wide array of Big Data infrastructure, like Hadoop nodes, Vertica clusters, HBase deployment, and more. These management packs provide proactive monitoring of availability and performance of the various Big Data components like cluster status, job status and performance, workload metrics, and more. Cross-domain correlations deliver event reduction and faster root cause analysis and detection.

Big Data management packs for:

- **HBase**
- **Solr**
- **Zookeeper**
- **Storm**
- **Oozie**
- **Flume**
- **Falcon**
- **Spark**
- **Vertica***
- **Hadoop***

* With out-of-the-box TBEC and OBR reports.

HPE Standard Management Pack
HPE Community Management Pack
HPE Premium Management Pack
Partner Management Pack

Domain: Microsoft applications

HPE offers management packs for several Microsoft applications. They offer automated dynamic discovery and auto-detection and monitoring of Microsoft application instances, and proactive monitoring of key operational activities and events of:

- Microsoft Active Directory resources services, response time, trust relationships, Sysvol, and more
- Microsoft Exchange services, resources, mailbox databases, delivery times, and more
- Microsoft SharePoint services, SharePoint portals and configuration, content databases, and more

HPE Management Packs for Microsoft applications:

- **Microsoft SharePoint Server**
- **Microsoft IIS**
- **Microsoft Exchange Server***
- **Microsoft Active Directory***
- **Microsoft Skype for Business***

Domain: Database

Management packs for databases give customers automated dynamic discovery and monitoring of database instances, multiple out-of-the-box management templates to cater different monitoring needs, and proactive monitoring of the availability and performance of mission-critical databases with:

- Database server and related object availability
- Database connectivity
- Space management
- Workload monitoring like CPU and throughput metrics
- SQL query performance
- Database errors and log intelligence monitoring

The database management packs also provide seamless monitoring of clustered databases and cross-domain event correlation reduction and faster root cause detection.

HPE Management Packs for Database:

- **MongoDB**
- **Cassandra**
- **Couchbase**
- **Marklogic**
- **CouchDB**
- **Riak**
- **PostgreSQL**
- **MySQL**
- **SAP® Sybase ASE**
- **Informix**
- **DB2**
- **Oracle Database***
- **Microsoft SQL Server***

* With out-of-the-box TBEC and OBR reports.

HPE Standard Management Pack
HPE Community Management Pack
HPE Premium Management Pack
Partner Management Pack

Domain: Middleware

HPE management packs for middleware offer automated dynamic discovery of application server service components and underlying infrastructure, with associated dependencies. They also provide proactive monitoring of key operational activities and events to facilitate high availability, like application server availability and application server logfile events. Additionally, the middleware management packs monitor critical application server performance metrics like:

- Transaction rates, loads, and durations
- Thread pool performance
- Executing times, time-outs, and request rates
- Resource utilization
- Connection status and performance
- Memory utilization, Web application processing

HPE Management Packs for Middleware:

- **Apache Web Server**
- **Apache Tomcat**
- **ActiveMQ**
- **Glassfish**
- **RabbitMQ**
- **Oracle iPlanet Web Server**
- **Apache Kafka**
- **Redis**
- **Varnish**
- **Gunicorn**
- **HTTP**
- **Lighttpd**
- **Memcached**
- **Oracle WebLogic***
- **IBM WebSphere***

Domain: SAP

Management packs for SAP provide automated dynamic discovery of SAP J2EE servers, SAP ABAP servers, SAP HANA® clusters and other related infrastructure components. They monitor different jobs in ABAP server, like batch job monitoring, work process monitoring, and transport monitoring. For J2EE servers, the management pack monitors J2EE services, performance, and kernel parameters. In the HANA environment, the management pack monitors the performance and availability of different services and DB instances.

HPE Management Packs for SAP:

- **SAP***
- **SAP HANA***

Domain: Load balancers

Management packs for load balancers provide automated dynamic discovery and monitoring of the load balancer topology, and proactive monitoring of the key load balancer services. These management packs also monitor critical availability and performance metrics, like server errors and logs, and workload metrics.

HPE Management Packs for Load Balancers:

- **HAProxy**
- **Nginx**

* With out-of-the-box TBEC and OBR reports.

HPE Standard Management Pack
HPE Community Management Pack
HPE Premium Management Pack
Partner Management Pack

Domain: Application platform and automation

Management packs for application platform and automation offer automated dynamic discovery and monitoring of the application platforms seven automation tools, like Node.js, Chef, and Jenkins. Additionally, the management packs deliver proactive availability monitoring of key services like Chef, Docker, and Jenkins, as well as performance monitoring like:

- Jenkins job performance and status
- Chef workload
- Docker container workload
- Node.js request rate, response time, resource utilization

HPE Management Packs for Application Platform and Automation:

- **Node.js**
- **Chef**
- **Jenkins**

Domain: Generic

Generic management packs automatically discover the infrastructure elements that your critical services depend on, like filesystem, generic protocols, development, and automation framework. They also provide proactive monitoring of the availability of the generic services like:

- SMTP service availability
- DHCP status
- FTP server availability
- Availability of OpenSSH, JMX, and others

HPE Generic Management Packs include:

- **BIND**
- **DHCP**
- **File Change Monitor**
- **FTP Server**
- **Generic SMTP**
- **JMX**
- **.NET**
- **OpenSSH**
- **Perfmon**
- **SNMP**

Domain: Others

HPE “other” management packs address GitHub and Postfix servers, providing automated dynamic discovery, proactive monitoring of the Postfix Daemon services, and monitoring of critical performance metrics like: GitHub commits and repository size, GitHub site response time, and Postfix messages.

Other HPE Management Packs include:

- **GitHub**
- **Postfix**

HPE Standard Management Pack
HPE Community Management Pack
HPE Premium Management Pack
Partner Management Pack

Manager of managers

Operations connectors enhance your existing monitoring investments

Operations Bridge consolidates and automates IT monitoring across domains and third-party tools for comprehensive coverage, but at the same time protects and enhances existing monitoring investments. Incorporate everything from events and metrics, to topology and more. For example, HPE offers off-the-shelf connectors for Nagios, IBM Tivoli Netcool/Omnibus, Microsoft System Center Operations Manager, CA Spectrum, and others.

These integrations from HPE and third parties enable you to leverage these domain management tools with greater sophistication. No rip-and-replace necessary.

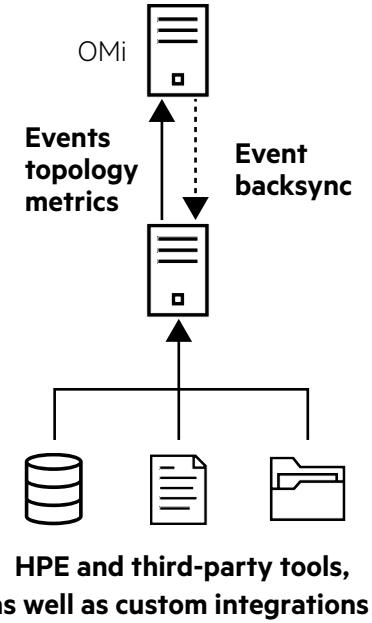


Figure 1: All events, metrics, and topology flow from HPE and third-party tools to Operations Bridge giving you complete visibility. In many cases, events can also be synchronized from OMi back to the source system.

Connectors list

Connectors for many popular applications, with many built by HPE Software Gold Partners including Comtrade, J9 Technologies, Melillo Consulting, and Do IT Wise.

HPE gold partner Do IT Wise explains how its operations connectors and services help clients accelerate their ITSM implementations and analytics.

Integrate event and topology data, including forwarding alarms, event-context drilldown, and synchronizing topology. Integrate detailed metrics and application performance data.

Operations connectors for:

Apache Ambari (HPE)

AppDynamics (Do IT Wise)

AppDynamics (J9 Technologies)

Aternity (J9 Technologies)

BMC Impact Manager (Comtrade)

CA APM (HPE)

CA Spectrum (HPE)

Collectd (HPE)

DynaTrace APM (Do IT Wise)

DynaTrace Data Center RUM (Do IT Wise)

DynaTrace Data Center RUM (J9 Technologies)

ExtraHop (J9 Technologies)

Helion Monasca (HPE)

HPE OneView (HPE)

HPE Systems Insight Manager (HPE)

IBM Tivoli (HPE)

Microsoft SCOM (HPE)

Nagios (HPE)

NewRelic (Do IT Wise)

Oracle Enterprise Manager (HPE)

Orion Solarwinds (Do IT Wise)

SAP Solution Manager (HPE)

Solarwinds SAM (Do IT Wise)

Splunk (J9 Technologies)

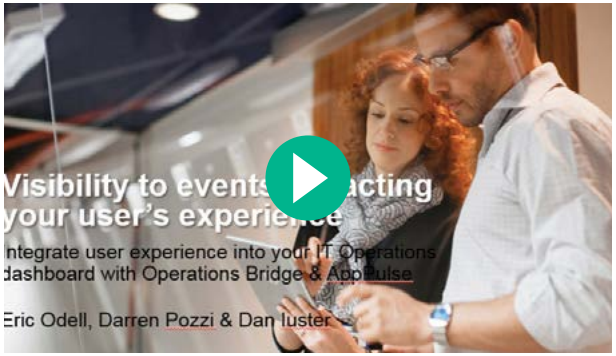
Splunk (Melillo Consulting)

VMware® vCenter™ Operations Manager™ (HPE)

Zabbix (HPE)

Zenoss (HPE)

User experience insights with Application Performance Management and AppPulse integration



Webinar: Integrate User Experience into Your IT Operations Dashboards with HPE AppPulse and Operations Bridge.

IT professionals understand the importance of viewing the health of their entire environment. But one aspect routinely forgotten, despite its rapidly increasing significance, is user experience. With modern businesses relying ever more on apps to generate revenue and drive employee productivity, it's critical to understand how they perform. That's why HPE has tightly integrated Operations Bridge with **Application Performance Management** (APM) and the **AppPulse Suite**, products designed to detect app performance issues before users notice.

The Operations Bridge integration feeds critical app data into the single pane of glass, giving operators the ability to quickly identify, diagnose, and troubleshoot issues. Once an operator notices a worrisome app performance metric or alert, he can use the single pane of glass in Operations Bridge to easily troubleshoot the event, or assign it to the relevant SME who can use APM or AppPulse to track the issue directly to the source.

The Operations Bridge single pane of glass incorporates robust app data:

- Availability and performance metrics
- Detailed event and crash reports
  - –Number of users affected
  - –Where in the app the crash occurred
  - –Problem scripts
  - –Type of errors

Closed loop incident process with service desk solutions

Accelerate CLIP with ChatOps and help your te collaborate better!

Stefan Bergstein 06-09-2016 05:11 PM - **edited**

You will probably hear more and more about ChatOps - at conferences, DevOps meet- coffee station. ChatOps is a term and concept coined by GitHub. It's about the convers operations.

Now the question is: why and how would I, as an ops-focused engineer, implement an next question then is: How to include my tools into the chat conversation?

Let's begin by having a look at a use case. The Closed Looped Incidents Process (CLI work from the incident detection runs through monitoring until the resolution of issue be accelerated with improved, cross-team communication and collaboration.

Visit the HPE IT Operations Management blog to read a use case about leveraging ChatOps and CLIP within Operations Bridge.

Managing business services goes beyond just monitoring. It means managing the entire lifecycle of an event, including automatic submission to service desks. That's the role of the "**closed loop incident process**" or CLIP, an integration between HPE Operations Bridge and **HPE Service Manager or HPE Service Anywhere**.

Operations Bridge Ultimate includes an integration between OMi and Operations Orchestration, which gives operators contextual access to a wide range of pre-defined runbooks, for speedy and more secure remediation.

However, when operators identify events that require help from SMEs, CLIP can automatically create and synchronize incidents, and instruct third-party notification systems, like **xMatters**, to notify IT staff of incidents (for example, via paging and SMS) for greater speed and efficiency. When the issue is resolved, CLIP can help close tickets automatically.

CLIP enables your IT staff to overcome the drawbacks of event and information overload, the lack of linkage between events and service desk solutions, and manual ticketing, troubleshooting, and qualifying events. Operations Bridge CLIP integrations are also available for other popular service desk solutions like ServiceNow (integrations from **AppLink** and **Do IT Wise**), **BMC Remedy**, and **Cherwell ITSM**.

IT operations management community for content and connectors

The BSM Community provides tools and knowledge sharing that helps customers extract even more value from Operations Bridge and many other HPE solutions.

HPE supports an active community to federate contributions from HPE engineers and third parties that extend the reach of HPE IT Operations Management solutions. This community includes blogs with technical information submitted by HPE subject matter experts, partners, and customers—the community also creates Operations Connectors.

The IT Operations Management community exploits the HPE Live Network, including a repository to freely share and download features that extend HPE Operations Bridge and monitoring products. It is meant for everybody interested in sharing content (such as scripts, integrations, policies, and tools) and knowledge around IT event management.

To get started:

A few tips on the community:

- Read the **Community FAQ** for easier navigation and community guidelines.
- Browse the **IT Operations Management Community** for information on all IT Operations Management topics.
- Visit the dedicated **Operations Bridge blog**, browse the articles and start a conversation.
- Post any questions or feedback in the dedicated **forum**.
- Check out the **HPE Live Network** for even more content—extensions, connectors, information, and more.

"[The] Partner Community program that HPE pulled together helps us tremendously. For us to get direct support from their R&D makes a huge difference."

– Clay Roach, J9 Technologies CEO

Learn how Vancity Credit Union evolved to HPE Operations Bridge to provide an "always-on" customer experience.

Watch the video

Transform IT operations with HPE Operations Bridge

Given the complexity of today's IT environments, siloed approaches to operations management are no longer viable. To maintain the availability and performance of business services, you need to put powerful automation and predictive analytics capabilities to work to drive operational efficiency across the data center.

That's **HPE Operations Bridge**, a solution that automates discovery, monitoring, and remediation to help you maintain the availability and performance of your critical business services—and enable IT to function as a business value creator.

Let's get started

Here are a few next steps on the route to your IT operations bridge.

Explore:

HPE Operations Bridge:
hpe.com/software/opsbridge

HPE Operations Analytics:
hpe.com/software/opsanalytics

HPE Business Value Dashboard:
hpe.com/software/bvd

HPE Operations Manager i-series:
hpe.com/software/omi

See more details concerning cross-domain reporting at **hpe.com/software/obr**.

HPE Cloud Optimizer
www8.hp.com/us/en/software-solutions/capacity-planning-server-virtualization-management/

See how KMD has evolved its operations from OM to OpsBridge:
Watch the video

Learn how Swiss Mobiliar reduced MTTR by 50% and improved user satisfaction:
Watch the video

See how Vancity Credit Union now uses a single pane of glass to manage an "always-on" digital enterprise with HPE Operations Bridge: **Watch the video**

See how to simplify IT management with HPE OMi monitoring automation:
Watch the video

Explore consolidated IT event management and five requirements for greater efficiency: **Read the white paper**

Learn more at
hpe.com/software

Sign up for updates

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4AA6-7834ENW, October 2016