HP Business Service Management

For the Windows and Linux operating systems

Software Version: 9.22

BSM What's New

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Acknowledgements

This product includes software developed by the Apache Software Foundation (www.apache.org).

This product includes software developed by the JDOM Project (www.jdom.org).

This product includes software developed by the MX4J project (mx4j.sourceforge.net).

Documentation Updates

The title page of this document contains the following identifying information:

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What's New in BSM 9.22

This file provides information about new features and enhancements to HP Business Service Management (BSM) 9.22, BSM 9.21 and BSM 9.20.

MyBSM, Service Health Dashboards

- Service Health Isolation improvements:

  - CIs in Top View now display Health Indicators, if present, enabling quick and easy drill to relevant HI data
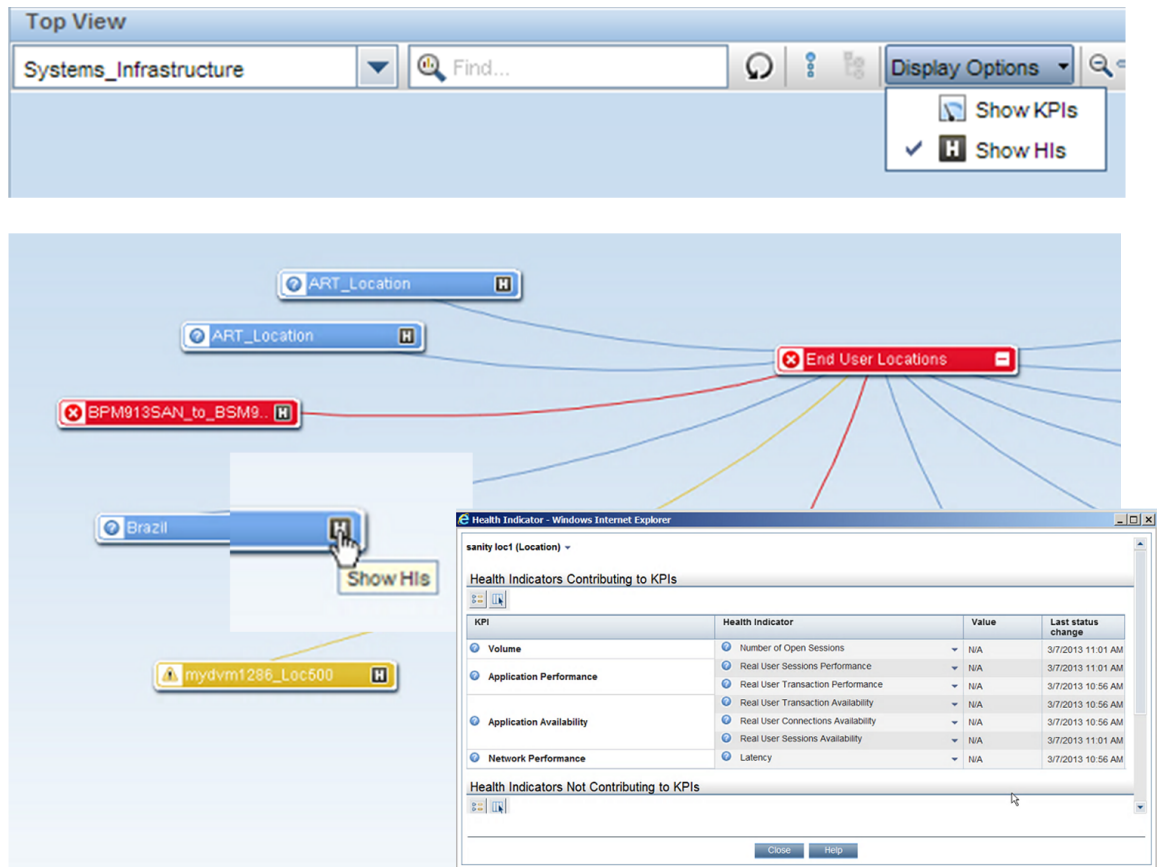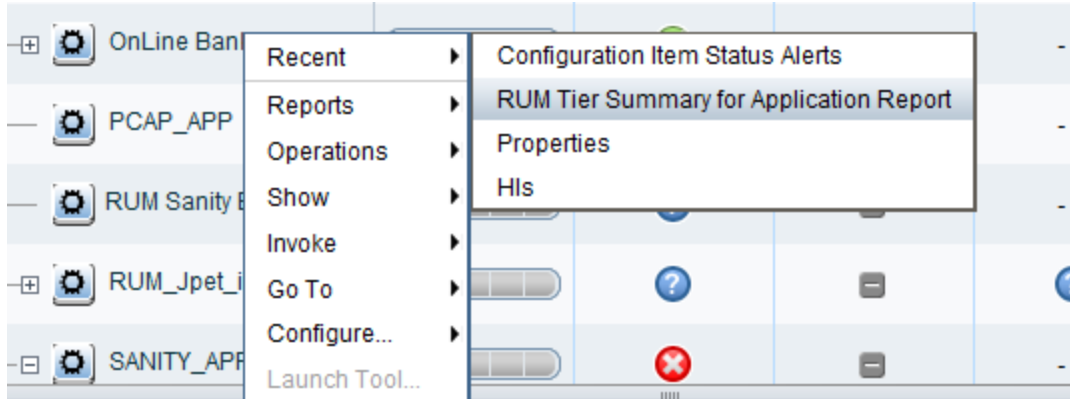

  - Improved HIs window and added **Last Status change** indicating when a problem started/ended
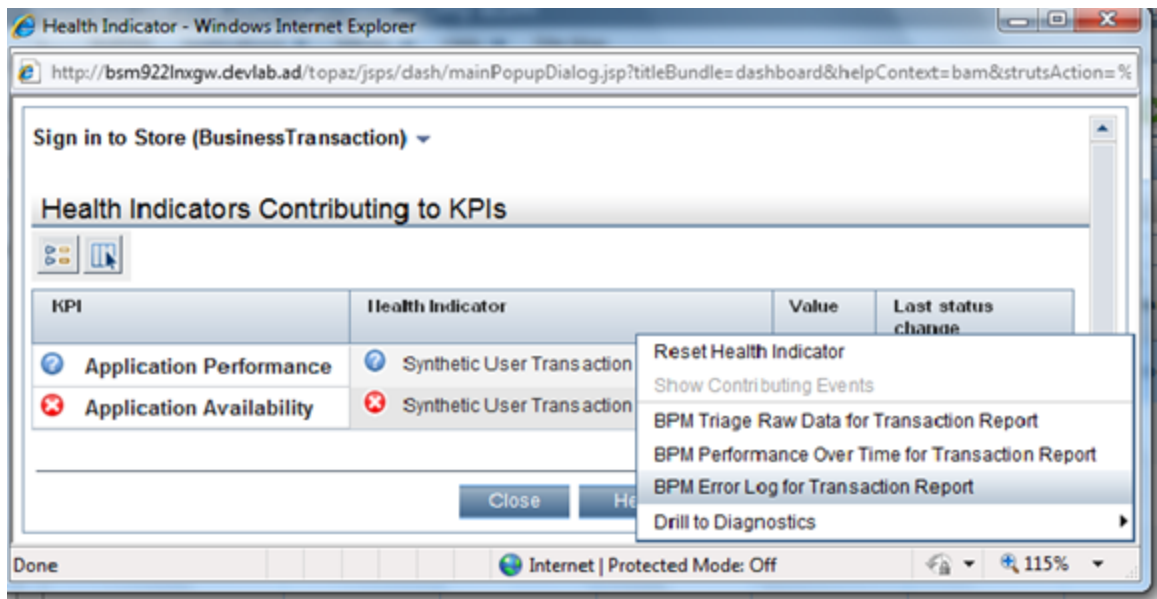
- Added **Recent** option to the CI context menu that shows the last chosen actions -- allows quick access to frequently used items

- Additional and enhanced drills from HIs; drill directly from HI with problematic status to the most relevant report or tool for the problem at hand

- New MyBSM Page called SiteScope Multi-View – helps troubleshoot multiple SiteScope servers from within BSM (for more details, see "SiteScope Multi-View" on page 10 and "System Availability Management" on page 12)
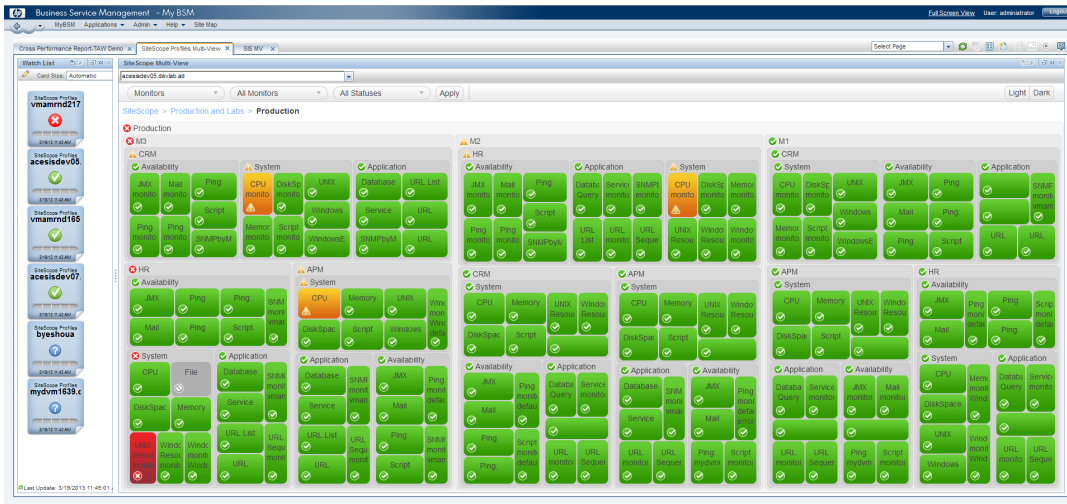
- Watch List – automatic card resizing; improved look and feel

- Improvements to MyBSM report components

BSM Platform Enhancements and Shared Services

Platform Enhancements

- Report improvements:

  - Group By and Legend state remain persistent from login to login

  - Improved legend look and feel enhances screen real estate usage and user experience

- Linux silent installation, which enables installing BSM on Linux operating systems without the need for X-Server/X-Windows display

- BSM has been certified to support additional concurrent users. BSM can support up to 150 concurrent users when using one BSM Gateway Server and one Data Processing server. BSM can support up to 400 concurrent users when using three BSM Gateway Servers and one Data Processing server.

- 508 compliance – CI Indicators administration page now supports keyboard navigation

- Support Microsoft SQL Server 2008 R2 Enterprise Edition Service Pack 2

- Support Firefox 17.0 ESR for client viewing

RTSM

- BSM 9.22 supports UCMDB Discovery Content Pack (CP) 11.05, which contains class model and Discovery fixes and enhancements (for details, see the CP 11.05 Release Notes)

System Health 9.22

- New Capacity Meter – includes nine capacity measurements of BSM (BSM users, Service Health users, CIs, HIs, KPIs, RTSM CI and Relationships, SLAs, WDE EPS, OMi EPS) that show actual configuration data and load on BSM servers. The Capacity Meter helps ensure that BSM capacity is compliant with BSM Capacity Calculator definitions, aids in managing BSM more efficiently, and facilitates timely troubleshooting of problems being caused by over-utilization of the system.

- CLIP integration monitoring – all CLIP solution components (UCMDB, Operations Orchestration, Service Manager, Events REST API) are now monitored by System Health to ensure operational efficiency

- Improved log monitoring

- Monitoring of BPMs separately

- Content, quality and stability improvements

Security Enhancements

- Security fixes

- Smart Card Authentication support – BSM supports user authentication using smart cards. Smart cards store certificates verifying users' identity and allow access to secure environments. Smart cards replace the standard model of each user manually entering a user name and password.

Application Performance Management

End User Management

- General improvements to legend and personalization in EUM reports

- Improvements to user flow and experience for quicker root cause analysis when isolating application problems using BSM Service Health tools. Each BPM and RUM HI now has a set of drilldowns tailored exactly to the specific HI (as described in "MyBSM, Service Health Dashboards" on page 5 above).

- Look and feel improvements in Triage, Application Health and Application Summary reports

HP Real User Monitor 9.22

- User Flow Analytics report – highlights application flows and application usage as experienced by real users; provides visibility into real user sessions including page click flow; enables configuring RUM transactions or creating VuGen scripts based on a session

- RUM Mobile Client Monitor for Android Apps – monitors user mobile experience on native Android applications from the actual user device. Enables troubleshooting application performance problems across devices, network, and backend.

- Enhanced RUM engine performance, now supporting up to 2000 pages per second

- Third-party upgrades: Java 1.7.17, MySQL 5.5.29, and JBoss 6.1.0

HP Business Process Monitor 9.22

For complete details on new features in BPM 9.22, see the BPM Release Notes.

- Support of LoadRunner 11.51, including:

  - Browser compatibility

    - Ajax TruClient IE protocol, a new protocol that brings TruClient capabilities to Internet Explorer 9

    - Ajax TruClient Firefox protocol enhanced – uses Firefox 8.0 for better performance, HTML 5 support, and TruClient engine performance and heuristics improvements

  - Protocol compatibility

    - Citrix Support – added Citrix XenApp 6.5, Citrix XenDesktop and Citrix Access Gateway support; added a set of new functions for logging off a Citrix server and retrieving the Citrix server name in order to allow better scripting and isolation

    - Oracle NCA – added support for Oracle forms 11

    - Added Web (HTTP/HTML) & Flex Protocol Asynchronous support for advanced web applications such as chat messaging, stock tickers, news updates, and others

- Enhancements in the BPM Performance Over Time report – adjust the presentation to the screen resolution

- Security fixes and enhancements

- Smart card authentication support in BPM Console

- Flexibility in determining transaction status upon script failure or timeout

- Prerequisites are automatically installed in a silent installation

- Update of Java version used in BPM Administration Console to Java 7

SiteScope 11.22

BSM 9.22 integrates with SiteScope 11.22. For complete details on new features in SiteScope 11.22, see the SiteScope 11.22 release notes.

SiteScope Multi-View

- Displays the status of all SiteScope objects in a single view, enabling you to more easily understand the overall impact of problems in your IT infrastructure, without having to navigate between different views

- Multi-View is HTML-based; it is supported in additional browsers, including Chrome and Safari, and it runs in web browsers without having to install Java

- Multi-View is supported on iPad tablets

Monitor Enhancements

- Added ability to create a dedicated log with specified log level for each monitor instance, and to view that log form the Logging Settings panel

- Added the Multi-Log monitor which enables checking for specific entries added to log files in a given directory, by looking for entries containing a text phrase or a regular expression

Custom Monitor Enhancements

- Added ability to perform offline debugging of a custom monitor script using a remote debugging environment. This makes the script development process easier, since it enables you to complete the code and see the debugged data inside the script during the data processing stage.

Preference Enhancements

- Added a quick search to General Preferences and Infrastructure Preferences which enables searching for a specific string in preference setting labels

Security Enhancements

- SiteScope supports user authentication using smart cards

- Added the SiteScope Hardening Tool which enables you to perform SSL configuration tasks that previously required manual configuration

API Enhancements

- Added Data Acquisition APIs that enable getting historical data for monitor runs matching specified query parameters

- Added support for creating remote server on Windows and UNIX environments

HP TransactionVision 9.22

- IPv6 support

- JRE 1.7u17

- WebSphere MQ 7.5 for WMQ Agent support

System Availability Management

- Multi-View is supported in MyBSM when SiteScope is connected to a BSM server, enabling you to see multiple SiteScope Multi-Views simultaneously in the same view. The predefined MyBSM Multi-View page also displays the status of all SiteScope servers connected to the BSM system. This enables you to access and troubleshoot SiteScope without having to drill down to the SiteScope instance. Note that when you initially open the SiteScope Multi-View page, the Watch List is empty. You must select SiteScope Profile CIs and save your selection in order to populate the Watch List.
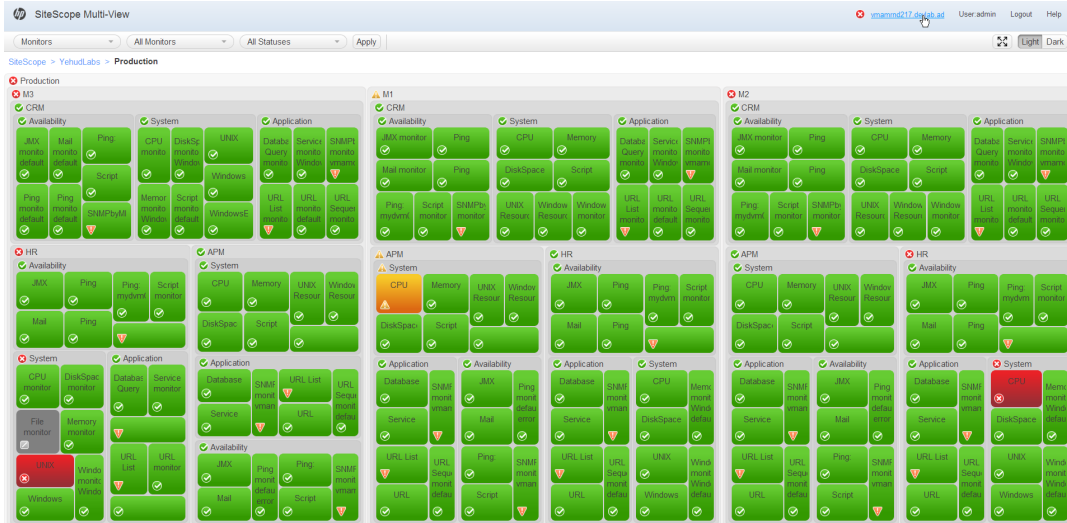
- Added ability to drill down from Service Health HIs (context menu) to the SiteScope Cross-Performance Report

- Added ability to drill down from any CI monitored by SiteScope to the SiteScope Cross-Performance Report

- Added ability to export EMS technology integration monitors from SiteScope and import them to BSM Connector as policies

- Added ability to use the profile database in BSM as the data source for graphing metrics to Performance Graphing in Operations Management. The profile database option is a more robust and scalable data source than the HP Operations agent which is installed on the SiteScope server, and does not require configuration of the HP Operations Integration. The profile database is available when SiteScope is connected to a BSM 9.22 server and metrics reporting to BSM is enabled.

Service Health Analyzer

- Improved anomaly detection algorithm – as SHA analyzes more metrics its detection becomes more accurate, resulting in fewer false alarms

- Improved accessibility to SHA investigation UI:

  - When there are no significant anomalies,display less significant anomalies (which are normally hidden)

  - When there are no anomalies, enable access to the investigation UI and see all tracked application metrics and baselines

  - Direct drill down from SHA events in OMi to the investigation UI

- Improved usability:

  - Easier metric correlation – you no longer need to capture the correlation timeframe before you correlate metrics. Just drag the metrics you want to the correlation pane, and a default correlation period is automatically selected.

  - Diagnostics metric units show up in SHA UI

  - Improved graph legend

Service and Operations Bridge

Operations Manager i

- User interface enhancements:

    - Extended options for event coloring in Event Browser

    - Easy event content copying from the Event Browser to clipboard for consumption in email, and so forth

    - Support for custom icons in Event Dashboard headline

- Event automation enhancements:

    - Easy and secure access to RTSM within custom scripts (EPI, custom actions, forwarding)

    - Synchronization of OMU/L layout groups

BSM Connector

- Smart card authentication – BSM Connector supports user authentication using smart cards. If configured, users cannot log in without a valid smart card.

- Migration of SiteScope Technology Integration Monitors to BSM Connector – you can migrate existing technology integration monitors from SiteScope 11.22 and higher to BSM Connector. The export downloads a technology integration monitor from SiteScope and converts it to the BSM Connector policy format for import to BSM Connector. Such imported policies can be maintained and further customized in BSM Connector.

- Enhanced local topology synchronization – the new topology policy type "XML File" enables you to run discovery scripts on remote servers to create an XML input file for topology synchronization.

- Enhanced documentation:

  - Jython-based topology scripts – the BSM Connector documentation now includes a section on developing Jython-based topology scripts, including detailed descriptions of the available library scripts and the supported Java classes and methods.

  - Metrics integration – the BSM Connector documentation now includes a tips and tricks section with information on what to do and what to avoid when collecting metrics.

- Support for Firefox 17.0 ESR

What's New in BSM 9.21

BSM Platform Enhancements and Shared Services

Platform Enhancements

- Upgrade of Apache Web Server to ensure compliance with the latest industry release and security standards

- Certification for Windows Server 2008 R2 Datacenter Edition

- Certification for BSM on Oracle Enterprise Linux (OEL) 5.5

- Additional improvements in the security area

- Downtime integration with Service Manager to improve centralized downtime configuration

- Improved BSM Health reporting in System Health

Performance Graphing

- Supports BSM Connector data source

- Support SiteScope-profile database data source – provides an option to choose the data source for SiteScope used by Performance Graphing (it is recommended to use SiteScope-profile database data source)

MyBSM, Service Health Dashboards

- Use of latest innovative UI Mash-up (v. 3) technology improves operations efficiency with better design and usability

- Improved report table personalization for MyBSM and Service Health

- In Top View, you can now modify the node size to improve visibility when viewing in portlet or using a small screen

Service Health Analyzer

- Anomaly detection improvements:

  - Directional baselines – reduces false positives by ignoring baseline violations where the violation direction is less likely to indicate a problem. For example, an unusually short response time might not indicate a problem.

  - Baseline sensitivity per domain – reduces false positives by allowing different sensitivity settings for different domains instead of a generic sensitivity setting for all domains

  - Better detection of anomaly closure – algorithm improvement leading to less open anomalies

to be investigated

- Anomaly severity control - users can now define which metrics should be considered as business critical. If those metrics breach their baseline, the severity for the detected anomaly would be set to Critical.

- Better support for shared CIs – added a setting which allows users to define the desired anomaly scope in the case of shared infrastructure CIs. For example, if the same database server supports multiple business applications and abnormal metrics are detected in those applications, SHA can ignore the shared database relationship and create smaller and more focused anomalies per application vs. one big anomaly for all applications.

- Extended similarity analysis – a larger set of past anomalies will be considered for similarity analysis (vs. the last 500 anomalies which exists today). For large scale environments, this results in a better chance of anomaly similarity matching.

- Investigation user interface - Improved CI filtering, allowing quick isolation of abnormal metrics and better UI performance

Application Performance Management

End User Management

- Usability and performance improvements in Performance Status over Time report (BPM)

- Usability and performance improvements in Metrics over Time Report (BPM and RUM), including adding one-click action to get common metrics

- Added ability to import data from Application Lifecycle Management's Performance Center into BSM that includes BPM scripts and SiteScope configuration templates. Sharing such information between development and operations enables you to use scripts and SiteScope configurations that have already been tested and fine tuned.

HP Real User Monitor 9.21

- RUM Browser – expanding its traditional network packet capture methodology, RUM now offers a new and enhanced web client monitoring. By automatically injecting JS tags, RUM is able to measure client times directly from real users' browsers, adding an outside-in monitoring approach.

  - This solution is ideal for HTTP-based web applications that are heavily dependent on client processing.

  - RUM Browser can be deployed alongside the network probes or as a standalone client offering (front-end HTTP monitoring only) where no network instrumentation is needed.

  - RUM Browser currently supports most of the traditional capabilities including EUM application reports.

  - Data reported includes session, transaction, page, and page component data.

  - The following functionality is currently not supported by RUM Browser: snapshots, script generation, text pattern events

- Data Export – a robust mechanism that provides access to RUM raw data stored on the embedded RUM MySQL database. Data export is configured via an XML file on the RUM engine, and enables you to specify what type of data to extract. Session, transaction, page, and event data can be extracted and saved in CSV file format. This capability enables importing RUM data into external data sources that support importing .CSV files, such as BI tools, databases, or data warehouses. Data export enables extracting RUM data without having to invoke queries to the MySQL database, which can negatively affect database performance.

- Citrix – quality and correctness improvements

- RUM Server Collector – optional deployment for RUM. A lightweight agent that can be installed on the monitored server and serve as a virtual tap. The collector sends the monitored traffic to the RUM probe, while avoiding any network configuration: The RUM probe configures a traffic filter in the server collector which then opens a channel to retrieve all the traffic that it listens to. Processing done on the monitored server is minimal, and it does not have significant impact on CPU or memory usage. This replaces the need to use port spanning or network taps.

- RHEL6 Support – The RUM probe has been certified to be installed on RedHat Linux 6.

HP Diagnostics 9.21

BSM 9.21 integrates with Diagnostics 9.21. For details on new features in Diagnostics 9.21, see the Diagnostics 9.21 release notes.

SiteScope 11.21

BSM 9.21 integrates with SiteScope 11.21. For details on new features in SiteScope 11.21, see the SiteScope 11.21 release notes.

Service and Operations Bridge

Operations Manager i

Mobility

- New OMi mini-app

The OMi mini-app enables users to continually view the most up-to-date status of their monitored environment. Operators can drill into the event details to understand the business priority, take actions, open tickets, and forward events to application support specialists for further handling.

The OMi mini-app is available on HP LiveNetwork.

Simplification

- New event dashboard designer

Event dashboards display status information using different types of widgets (for example, stack and pie widgets). Each widget references an event filter, a view, or both, and only displays the status of those events that match the criteria of the filter and that are related to the configuration items included in the referenced view. The new event dashboard designer provides

a graphical user interface to design dashboards with reusable widgets. It is no longer required to edit .xml files, speeding the time and reducing the effort to create custom dashboards.

- New custom event count-based KPI

Custom event count-based KPI provides a much simpler approach for getting additional event-driven KPIs. A new KPI can be created within Service Health and then fed by ensuring that the sub-category field of incoming events is set correspondingly. For example, you can add a new **Security** KPI and then color this KPI based on the most critical status of all active events having their sub-category attribute set to **Security**.

RTSM

- BSM 9.21 supports UCMDB Content Pack 11.0.

What's New in BSM 9.20

BSM Platform and Shared Services

Installation and Upgrade Improvements

- Reassembly is no longer required when downloading the BSM 9.20 files in electronic package format. However, because these files are greater than 2GB, they cannot be downloaded using Internet Explorer 6.

- Upgrade now available from BAC 8.07 and BSM 9.01 to BSM 9.20 with staging (using Staging Data Replicator and Data Transfer Tool)

- Upgrade available from BSM 9.12 via staging or directly to BSM 9.20

Security Enhancements

Significant improvements in the security area.

Middleware Updates

The following middleware components were updated to more recent versions for improved security and supportability: Java, Sonic Bus, Apache web server, Tomcat.

Platform Enhancements

- System Health Improvements

  - Added ability to manage BPM monitors per instance instead of aggregative monitors

  - Added ability to set different alerts on different BPM instances

  - Added JMX encryption to enable connecting System Health in secure BSM environments

- User permissions enhancement

  - You can now customize the default page and available menu items at a group level. This means that you can restrict access to features or set default pages for all users in a group, including all members of sub-groups that are part of a parent group. If you restrict access to a feature or report for a group, all members of that group will not have access to the feature and you will not be able to override the setting for individual users.

Performance Graphing

- Support for Diagnostic Data source

- Performance grapher available on all domains

- Does not require an OMi Event Foundation License

- Performance Improvements

MyBSM and Service Health Dashboards

- Added Watch List, which provides a high level health overview of critical CIs from different views (without having to create a view that contains those CIs). This is useful for dashboards or NOCs displaying health overview on big screens

- Updated Top View

    - Provides cleaner overview of CI status

    - Default displays CI status only, but KPIs can be shown as well

    - Double-click or click on center button to center on CI (new behavior)

    - Single-click no longer moves tree

    - On click, show Business Impact and KPIs

    - Find CI from toolbar

    - Path to root

    - Problematic subtree

    - Based on open source component

- Local Impact View (LIV) delete KPI - provides ability to delete KPI/HI in specific LIV with no impact on the standard view or other LIVs

Service Health Analyzer

- New Anomaly highlights page

- New application tab allows viewing all open anomalies

- Lower total cost of ownership, as no longer need Analytics Server (unless required to extract PA/OM data)

- Improve anomaly isolation, for example ability to identify the CI with the most abnormal metric as possible cause

- Increase out-of-the-box (OOTB) content, including OOTB support for virtualization metrics from SiteScope or PA/OM

Application Performance Management

End User Management

- Automated baselines have been added to the EUM Metric Over Time report (metric: Transaction Response Time (with baseline) and are available for thresholds for generating alerts. The user can select which applications should have calculated baselines. The baseline values are adjusted according to seasonality (e.g., day of week, time of day) to give alerts based on what is normal for the application based on historical data.

- Enhanced ALM integration provides the ability to export RUM data from product monitoring (e.g.,

number of user sessions for the peak hour) into ALM to improve pre-production testing. This also provides the ability to export SiteScope measurements, templates, and application topology from CMDB to ALM for pre-production testing.

- Improved EUM Reports:

  - "Group By" in custom reports

  - Show only locations monitoring the application in the locations filter

  - Five minute granularity in BPM Performance over Time and Metrics over Time reports

HP Business Process Monitor 9.13 (new features since BPM 9.02)

- Supports scripts recorded in LoadRunner 11 patch 3

- Ability to automatically update BPM configurations in EUM when the BPM agent IP address changes

- Mobile protocols - new protocols enabling monitoring of mobile applications. Traffic based analysis is used for native applications and Ajax TruClient technology is used for browser-based mobile applications.

- Support for component breakdown in Ajax TruClient scripts

- Tomcat version upgraded to version 7.11 to enhance security

- Enhanced sensitive data encryption for scripts with AES 256 bits key algorithm

- Enhanced reports for synthetic monitoring of mobile applications:

  - Overview application mobile device user experience in comparison to non-mobile device using Application Summary report

  - Overview application performance and availability distribution by device in Application Health report

  - View application performance and availability over time for different devices in BPM Performance Over Time report

  - Analyze transaction behavior according to the end-user device in Performance Analysis reports

  - View distribution of errors reported by BPM according to emulated device in BPM Error Summary

  - Filter all BPM reports according to mobile device

  - Graph different synthetic monitoring metrics per device

- Alerts by mobile device type - alerts can now be generated based on performance and availability problems by device using the existing, advanced BSM alerting mechanism

- Service Health by mobile device type - view real time synthetic performance and availability of application and its transactions for each of the different devices in BSM Service Health

- BPM monitoring of your mobile applications using real mobile devices - BSM software and Perfecto Mobile services provide technology for you to monitor the end user experience of your

mobile applications. The solution allows you to create scripts that are executed on a mobile device (available from Perfecto Mobile) using your existing BPM points of presence. The solution combines BPM with HP QuickTest Professional automated testing software and Perfecto Mobile MobileCloud for QTP, a cloud-based, mobile testing solution that lets you execute scripts on any of Perfecto Mobile's hundreds of REAL devices located and connected to LIVE networks around the world. Devices are available via a subscription model from Perfecto Mobile.

HP Real User Monitor 9.20

- Protocol support and predefined application templates

  - SAP GUI protocol support that enables monitoring application and network performance of SAP GUI clients. RUM supports auto transaction detection based on SAP TCODEs, trace an individual user's session, detect and filter by username.

  - AMF (Flex) protocol support that enables monitoring Flex-based applications.

  - MQ protocol support that enables monitoring traffic used in message based communication layers. Data that can be extracted provides descriptive information, such as channel and queue names, type of the message (PUT/GET) and more.

  - GRE protocol support enables span port also over GRE tunnel (for Cisco Nexus virtual switches) to simplify traffic monitoring in virtualized environments.

  - Application template for monitoring Quality Center application – out of the box template provides instant value in monitoring HP Quality Center by using predefined key session properties.

- Web tier breakdown

  - Simplified multi-tier configuration – redundant web tier configuration for web tiers of the same application was removed.

  - Break front-end web based tiers accurately and more granularly to speed isolation – i.e., tier 1 load-balancer, tier 2 reverse-proxy, tier 3 web-server, tier 4 web-application.

- Automatic threshold baseline for page download time an page server time thresholds.

- Support monitoring of IPv6 based traffic.

- Integration with HP Universal Discovery (UD) – RUM can serve as a credential-less, passive discovery probe that results in just-in-time discovery.

- Enhanced RUM views in Service Health bring the true value of RTSM by automatically connecting underlying application infrastructure to RUM Business Applications/Transactions CIs.

- Search for Session id in Content is now available through EUM Admin.

- Performance and quality improvements.

HP TransactionVision 9.20

- New Simplified OS Instance Licensing Model

- Significant performance and stability improvements, and simplified install in the z/OS Agent

- Processing Server and Agent platform support updates

- Improved Stability: over 70 maintenance updates

- New Transaction Management UI localization support for German, Japanese, Korean, Russian, and Spanish

- Upgrade support for 8.0x, 9.0x, and 9.1x to 9.20

HP Diagnostics 9.20

BSM 9.20 integrates with the recently released Diagnostics 9.20. For details on new features in Diagnostics 9.20, see the Diagnostics 9.20 release notes.

SiteScope 11.20

BSM 9.20 integrates with the recently released SiteScope 11.20. For details on new features in SiteScope 11.20, see the SiteScope 11.20 release notes.

Service and Operations Bridge

BSM Connector

BSM Connector combines the technology used by HP BSM Integration Adapter with that of HP SiteScope Technology Integration Monitors to create a unified solution for integration of third-party managers, applications, and enterprise management systems. BSM Connector 9.20 provides the following capabilities:

- Discover topology from the product BSM Connector connects to (based on log files, database tables, Web services, or custom data sources using topology scripts); discovered topology populates RTSM

- Get events (from log files, database tables, Web services, XML files, SNMP traps, Open Message Interface messages, or scheduled tasks)

- Get metrics (from log files, database tables, or Web services); metrics are stored in the BSM Profile Database

- Define policies using Web-based UI

- Synchronize events

- Manage BSM Connector from BSM

- Backward compatibility with previous integrations based on BSM Integration Adapter (SiteScope Technology Integration Monitors remain available for existing integrations; for new integrations, BSM Connector should be used)

- Supports BSM's open integration strategy, providing out-of-the-box connectors to HP and third-party products. This enables expanding connectivity of BSM and related products (Operations Manager *i*, Service Health Analyzer). Customers can access connectors via HP Live Network (HPLN); NNMi Connector, BSM Connector for Nagios, BSM Connector for Microsoft SCOM, and BSM Connector for IBM Tivoli are already available. HP certified partners will also be able to

build their own connectors and post them on HPLN. See the HP Live Network site
https://hpln.hp.com/group/bsm-integrations.

Operations Manager i

Simplification

- New event dashboards

Event Dashboards provide an at-a-glance overview of the events from the environment you are monitoring. Event Dashboards enable you to quickly assess the health of the environment and to identify areas that require your attention.

For example, operators might use Event Dashboards in the following ways:

- To get an overview of their monitored environment

- As an Operations Center Dashboard that is displayed on large screens

- As a starting point for daily management operations

- To quickly apply event filters to the event browser

- To keep an eye on the monitored environment while working on an event

Event Dashboards display status information using different types of widgets (for example, stack and pie widgets). Each widget references an event filter, a view, or both, and only displays the status of those events that match the criteria of the filter and that are related to the configuration items included in the referenced view.

In BSM, Event Dashboards are available as MyBSM components and can be added to MyBSM pages as required.

- Shared event filters

In the Event Browser, shared filters are available for all users to apply. Users with permissions to create shared filters can modify or delete a shared filter. This allows administrators to prepare event filters that are used by multiple users.

- View-based authorization in event browser

Administrators can now configure views such that operators can only see events that belong to views for which the operator has permissions. This helps in separating operator groups and assures that operators only see those events they are responsible for.

- Simplified setup/upgrade

The certificate setup on the Gateway and Data Processing servers is now totally automated and no longer requires the manual execution of commands. Granting certificates from BSM Connector or SiteScope systems can now be done from within the BSM console using the new Certificate Requests Admin UI and also supports automatic granting of certificates.

- Reduced memory footprint

- Color event background in accordance with the event's severity

Applies a colored background that represents the severity of the event to the event in the Event Browser. Event background coloring includes "Color all events" and "Color only events assigned to current user"

Automation

- Stream-based event correlation

  Stream-based event correlation (SBEC) uses rules and filters to identify commonly occurring events or combinations of events, and helps simplifying the handling of such events by automatically identifying events that can be withheld, removed, or need a new event to be generated and displayed to the operators.

  The following types of SBEC rules can be configured:

  - Repetition rules: frequent repetitions of the same event may indicate a problem that requires attention

  - Combination rules: a combination of different events occurring together or in a particular order indicates an issue, and requires special treatment

  - Missing recurrence rules: a regularly recurring event is missing, for example, a backup event does not arrive when expected

- Advanced TBEC rules: correlation rule weighting and potential cause events

  Correlation rule weighting can now be used in TBEC rules to override existing cause-symptom relationships. Potential cause events are now shown on the Potential Cause tab inside the Related Events tab.

  For example, two events are received:

  - an application failure event

  - a database problem event for the database used by the impacted application

  The database failure is marked as cause for the application failure. Subsequently, an application server down event for the application server that our application is running on is received. The new event is a more appropriate cause with a higher weighting and therefore replaces the database problem event as cause.

  The database problem event is now shown as possible cause event in the Potential Causes sub-tab located in the Related Events tab. Additional information, such as the rule weight factor, and the time when the event was received, are also displayed.

  Operators can inspect all possible causes for a symptom event, better understand the matching correlation rules, and, if they have the appropriate permissions, manually change the cause of that event to any one of the available alternatives when investigating a problem.

- Automatic event storm detection

  Operations Manager *i* can be configured to look for event storms from managed systems and discard all subsequent events until the event storm condition for a particular system is over.

  Exception rules can be defined so that important events, for example security-related events, from a system under event storm condition are still displayed.

- Automatic event archiving

  Closed events are now automatically archived and deleted from the event database after a configurable time. Archives are automatically zipped and can be stored on disk or on HP Cloud Object Storage.

- Automatic user group assignments based on view filters

  Automatic user group assignments can now assign events based on event and view filters. This allows administrators to assign events belonging to view A to another operator group then events belonging to a view B.

Dynamic Environments

Automatic creation of node CIs based on incoming events:

In highly dynamic (virtual/cloud-based service) environments, new nodes are generated and decommissioned repeatedly and often. Discovery processes are sometimes too slow to detect them and create the required related CI. To ensure that it is possible to manage events received from dynamically generated nodes, Operations Manager *i* can create these node CIs automatically when events arrive. Node CIs can be automatically created if the node information inside the event matches a whitelist of IP ranges, node name patterns, or both.

Integrations/Content

- BSM Connector for Tivoli (TEC, ITM, Netcool)

- Content Packs for Microsoft IIS, SAP

- New content pack for SAP

- New TBEC rules for Oracle and Microsoft SQL Server Content Pack

- Updated TBEC rules for Microsoft Exchange Server and Infrastructure Content Packs

RTSM

- BSM 9.20 supports UCMDB Content Pack 10.01, which was released with RTSM 9.05.

- Improvements in Discovery Usability

  - UCMDB now enables you to add a description for an IP address range on a Data Flow Probe to more easily differentiate between ranges.

  - You can now add a new or cloned resource directly into an existing discovery package.

  - You can now choose whether or not to "touch" or update the last access time of CIs after running discovery. By disabling touch, you can ensure that the information is added to the CIs but that their Last Access Time remains unchanged. This prevents the touch from affecting the aging mechanism for those CIs.

  - The global filtering feature, which filters results sent by the probe to the UCMDB, now includes the option for recursive filtering, enabling you to not only filter out a CI so that it is not included in the filter results, but also any of the selected CI's contained CIs or relationships.

- HP Service Manager and Other Integration Enhancements

  The following enhancements were developed to significantly improve integration with HP Service Manager version 9.30 using the SM Content Pack UCMDB_Enhancement version 9.31. The UCMDB adapter for this integration is packaged in CP 10 Update 1 which is also bundled with UCMDB 9.05. These enhancements can apply to other integrations if those adapters implement the appropriate code and are configured to use these enhancements.

- The UCMDB push engine capacity was improved from 1 to 6 million CIs and their relationships per TQL. (This improved capacity is dependent on the specific adapter's own capacity limitations.)

- When pushing data to SM, more complex TQLs (TQLs that hold multiple levels) can be used, where previously only TQLs of two levels were supported.

- Improved performance for pushing virtual relationships (compound and virtual-join).

- Better visibility of warnings and error messages related to both population and push flows.

- Added the ability to repush CIs that returned errors and warnings.

- A new Java API was added to more easily identify Global IDs for UCMDB IDs and vice versa. This is particularly useful when integrating with other HP Software products.

- Improved CI Management

  - You can now include CIs from external data sources (federated CIs) in a view, by defining the base query to run over integration points for federated data sources. The federated CIs appear in the view with an arrow icon indicating that they are from a federated source. This option is also available when getting related CIs and running a CI Conditional search.

  - In the CI Type Manager, data model information for selected CI types and relationships can now be exported to Microsoft Excel (previously only the PDF format was available). You can also select which data model information to include in the report.

  - UCMDB now supports more flexible identification rules for CI instances. You can now change or remove the key attributes of an existing CIT and switch the identification method, if the key attribute values for all instances of that CIT are unique.

  - You can now click a Cancel button if an operation involving a request to the server, such as searching for CIs or calculating a TQL, is taking a long time to complete. Canceling the operation restores the user interface, enabling you to continue working.

- Modeling Studio Precision Improvements

  - When CIs are dynamically added to Pattern Based Models, the models are calculated at the time they are saved and the TQL query runs at specific intervals to update the model. You can now set the starting date and time, and repeat intervals for the pattern-based model updates. You can also use a cron expression to set the updates to run. The repeat interval must be evenly divisible in a 24-hour period to ensure that the updates are performed at the same hours each day. The settings you select also apply to all pattern-based models created subsequently.

  - You can now export and import Pattern-based models using Package Manager. When you export a pattern-based model, the underlying TQL query of the model, as well as an enrichment used to update the model content, are added to the package (the CIs themselves are not added). When you view the package resource, or deploy or undeploy the package, only those resources are displayed. The model name does not appear.

  - When querying the CMDB API, the new Element Layout tab in the Query Node Properties dialog box, enables you to specify the attributes to include in the query results for each query node or relationship in a TQL query. When you make a selection of the attributes to include in the query results for a particular CI type, the selection also applies to all of its descendant CI types. You can manually exclude specific attributes for descendant CI types.

- When building a perspective-based view, you can open the perspectives directly from the View Editor to preview them. The perspectives are opened in a new tab in Modeling Studio.

Documentation and Online Help

- Planning and deployment guides are now available only from the HP SSO Product Manuals Site, to ensure that the most accurate and up-to-date versions of these documents are accessible to customers. The **Get_Documentation.htm** file, which is available from the BSM installation DVD root, from the BSM Online Help system, and from the BSM Help menu, provides deep links into all the documents needed to plan and install or upgrade BSM.

- The BSM Online Help system now uses a new Webhelp engine that improves performance, enables more robust search capabilities (including boolean and string searching), provides quick toggling of the navigation pane, and enhances navigation with options for going to the previous or next topic or for going forward or backward in the browsing history.

- Rearchitecture of the Help assets to provide user/role/need-based access to the key documents used by administrators and users at the different stages of BSM lifecycle (from planning, to installation/upgrade, to platform setup, modeling and monitoring setup, application setup, day-to-day usage, and advanced configuration).

- Cleaner Home page design with links to getting started documents, integration and best practices documents, quick links to main online Help areas, and links to key HP Software support and community sites.