

HP Unified Communications and Collaboration Management Solution Advanced Edition 2010.12



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Abstract

This white paper provides an overview of the HP Unified Communications and Collaboration Management Solution (UCC) Advanced Edition 2010.12. The solution overview provides information about the different HP products that integrate to provide this management solution for monitoring and managing a Microsoft Unified Communications and Collaboration environment. In addition, this document also includes some sample use case scenarios to emphasize the value proposition offered by this solution. You can also use the quick reference installation and configuration checklist to assist you in installing and configuring the solution.

Audience

This white paper is intended to familiarize you with HP UCC Advanced Edition 2010.12. It is assumed that the audience for this white paper is familiar with Microsoft Unified Communications and Collaboration environment. It is also recommended that the audience is familiar with the HP Software suite of products that integrate to provide this solution.

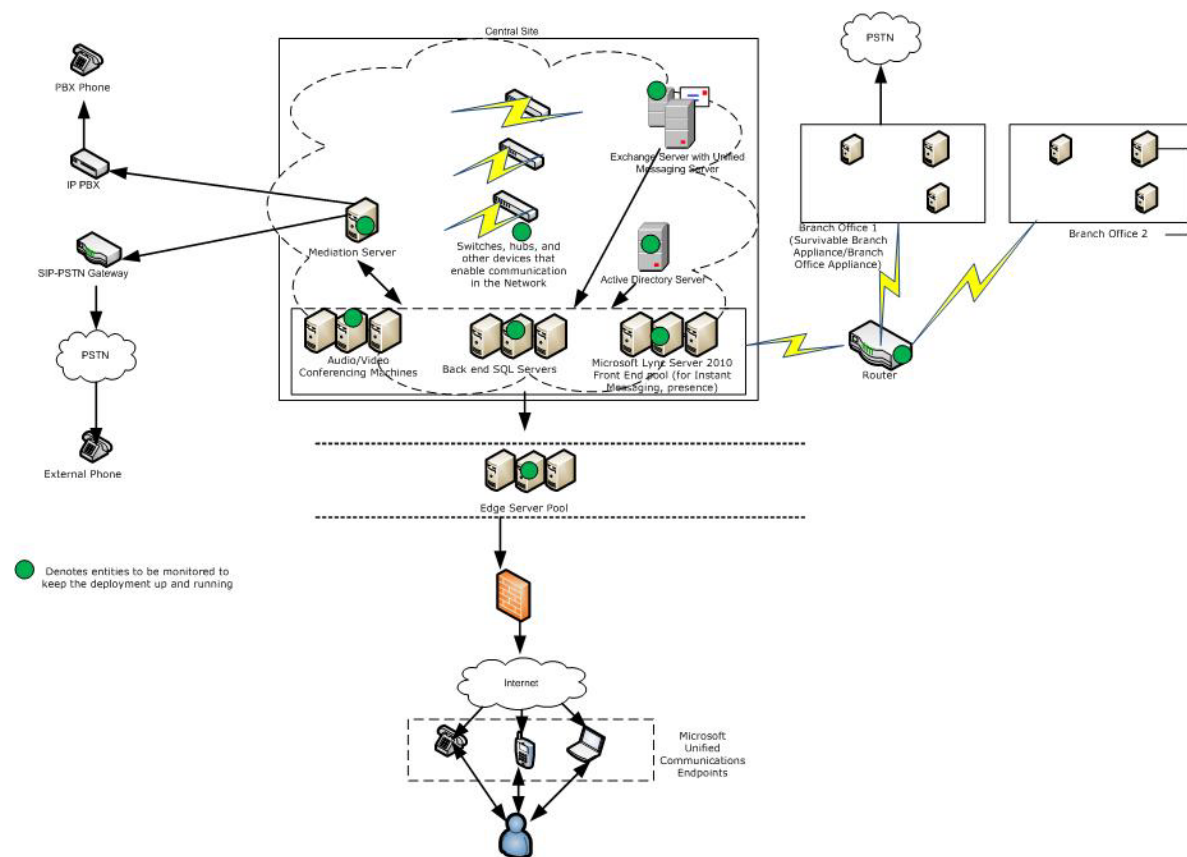
Microsoft Unified Communications

The Microsoft Unified Communications is provided by Microsoft Exchange and Microsoft Lync Server 2010. Microsoft Unified Communications provides a unified communication experience by integrating instant messaging, presence, IP telephony, audio/video conferencing, voice mail, web or data collaboration, and other capabilities. This allows the users to switch from different modes of communication in an enterprise using different types of interfaces such as browsers, email applications, instant messaging applications, IP phones, and so on from a single interface. Some of the main advantages that Microsoft Unified Communications offers are as follows:

- A unified interface for different modes of communication using a communication device (Microsoft Unified Communications endpoint) of your choice
- Lower costs for collaboration and data sharing
- Reduction in real estate space usage
- Consolidation of email, voice mail, and IP telephony through a single interface

A sample Microsoft Unified Communications deployment in an enterprise is shown in the following figure, highlighting the applications and the devices that you can monitor using the HP Unified Communications and Collaboration Management Solution Advanced Edition 2010.12.

Figure 1: Sample Deployment with Applications and Devices that need to be Monitored



As shown in the figure above, Microsoft Unified Communications comprises of different applications that provide a unified communication experience to the user. A network administrator deploys Microsoft Unified Communications in the central site and the branch offices to establish a communication channel for all the users. The users at the central site and the branch office can use the communication channels offered by Microsoft Unified Communications to collaborate and communicate. To maintain the communication channels and to prevent any disruptions in services, the network administrator must ensure that all the applications and devices shown in the figure are monitored on a regular basis. The network administrator also configures one of the branch offices as a survivable branch. A survivable branch acts as the central site in the event of a central site going down. This prevents any communication disruption even when the central site is down. In the example shown above, Branch Office 1 is configured as a survivable branch. When the central site goes down, this branch office acts as the central server to provide the communication services to the rest of the branch offices till the central site is up and running. As a network administrator, the need is for an end-to-end Microsoft Unified Communications management solution that helps to manage the following applications, infrastructure, and attributes in the Microsoft Unified Communications deployment environment shown in *Figure 1* and alert the network administrator about the changes in the deployment environment on a regular basis:

- The Microsoft Exchange Server
- Microsoft SharePoint
- The Microsoft Active Directory Server
- The backend SQL Servers
- The edge server pool that acts as a gateway between the internal network and the external network.
- The Microsoft Unified Messaging Server for voicemail

- The audio/video conferencing machines
- The L2/L3 devices on the network (switches and routers)
- The IP telephony devices and the voice quality on the network
- The performance of the network
- The flow attributes for the traffic on the network
- The Microsoft Windows Enterprise Servers that host other applications in the enterprise
- The Lync Server 2010

In addition to the monitoring, based on the data aggregation, the network administrator is also required to generate reports to foresee performance issues (such as network performance, server performance, application performance, and so on) in the network. The data must be collected based on the various performance parameters applicable for the applications and devices on the network.

Similar to the way Microsoft Unified Communications offers a unified console to communicate using different interfaces, the management solution must provide a unified console to manage all the applications, devices, and ensure connectivity on the network.

HP Management Solution-Products that Integrate

HP Software provides a wide array of products that help you manage your applications and the network. The following table provides a brief overview on the products that integrate to provide this solution.

HP Product and Version	Monitored Area/Feature Provided	Description
Network Node Manager (NNMi) 9.00 + 9.01 Patch 2 + Hot fix	Layer 2 and Layer 3 devices on the network	<p>NNMi discovers and monitors the layer 2 and layer 3 devices in the network infrastructure. NNMi enables you to quickly detect, isolate, and troubleshoot abnormal network behavior. Using NNMi, you can also record what has been done to date to troubleshoot or resolve a problem. NNMi helps you to do the following:</p> <ul style="list-style-type: none"> • Rapidly detect, isolate, and correct the problem • Annotate information for future diagnosis • Look for historical information to proactively monitor the network • View an inventory of what is being managed <p>You can integrate NNMi with the NNMi Smart Plug-ins to utilize additional monitoring and reporting features provided by the NNMi Smart Plug-ins.</p>
Network Automation (NA) 9.00 + Driver Updates	Automated network configuration management, compliance monitoring, and enforcement	<p>NA provides an enterprise class solution that tracks and regulates configuration and software changes across routers, switches, firewalls, load balancers, and wireless access points. NA provides visibility into network changes, enabling an IT staff to identify and correct trends that could lead to problems, while mitigating compliance issues, security hazards, and disaster</p>

HP Product and Version	Monitored Area/Feature Provided	Description
		recovery risks. NA also captures full audit trail information about each device change.
NNM iSPI Performance for Quality Assurance and extension packs 9.00	Discovers and monitors the QA probes configured on the network	<p>NNM iSPI Performance for QA extends the capability of NNMi to monitor the quality of traffic flow in the network. Pre-configured QA probes on the selected network elements ensure that the data packets traversing through the network are treated consistently by these elements. NNM iSPI Performance for QA, in conjunction with NNMi, performs the following tasks:</p> <ul style="list-style-type: none"> • Discover the pre-configured QA probes defined for various network elements. • Run these QA probes on the network elements to ascertain any performance inconsistency. • Display the QA probe results on the NNM iSPI Performance for QA views.
NNM iSPI Performance for Traffic and extension packs 9.00 + 9.01	Enriches the flow attributes gathered from the traffic flow data on the network for analysis and reporting.	<p>The HP Network Node Manager (NNMi) iSPI Performance for Traffic Software extends the capability of NNMi to monitor the performance of the network. The HP NNM iSPI Performance for Traffic (NNM iSPI for Traffic) facilitates enrichment of the obtained data from the IP flow records that are exported by the routers. The iSPI Performance for Traffic performs the following tasks:</p> <ul style="list-style-type: none"> • Aggregates the IP flow records. • Enriches the IP flow records by providing the ability to add or update the available fields in the flow records. • Correlates the obtained IP flow records with NNMi for context based analysis. • Generates performance reports by exporting data to the Network Performance Server (NPS). • Generates maps to view the traffic flow information on your network.
NNM iSPI Performance for Metrics/Network Performance Server 9.00	Infrastructure for data aggregation and reporting based on the performance metrics for the network.	The Network Performance Server (NPS) provides the infrastructure that you can use in conjunction with Network Node Manager i Software (NNMi) to analyze performance characteristics of your network. With the performance data collected by different HP

HP Product and Version	Monitored Area/Feature Provided	Description
		<p>Network Node Manager i Software Smart Plug-ins (iSPIs), the NPS builds data tables, runs queries in response to user selections, and displays query results in web-based reports that help you diagnose and troubleshoot problems in your network environment.</p> <p>The NPS media offers you the option to install the HP Network Node Manager i Software Smart Plug-in Performance for Metrics (iSPI Performance for Metrics), which provides the core performance management capability to NNMi by gathering and monitoring the metric data polled by NNMi from different network elements. With the combination of NNMi and the iSPI Performance for Metrics, you can monitor the operational performance of the network infrastructure. You can use this product with the other NNM i Smart Plug-ins listed to generate reports on the various metrics collected and monitored.</p>
Operations Manager for Windows (OMW) 8.1x	Application discovery and monitoring on the network	OMW is a distributed, client/server software solution designed to provide service-driven event and performance management of business-critical enterprise systems, applications, and services.
Operations Manager i (Omi) 9.00 + 9.01	Application discovery and monitoring on the network	<p>BSM Operations Management is the event management foundation for a complete BSM monitoring solution. As the operations bridge, it consolidates all IT infrastructure monitoring in a central event console, and relates the events to the IT services that depend on that infrastructure. Users benefit from a common structured event management model that applies the same processes to both business service management and IT infrastructure management.</p> <p>BSM Operations Management links infrastructure management with application and business service management. It combines events from HP Business Service Management components, such as Business Process Monitor (BPM), Real User Monitor (RUM), and Service Level Management (SLM), with events from the operations management components of the BSM solution, such as HP Operations Manager</p>

HP Product and Version	Monitored Area/Feature Provided	Description
		(HPOM) and HP Network Node Manager i (NNMi). This enables you to keep track of all the events that occur in your monitored environment.
HP Reporter 3.90	Reporting solution for systems and applications on the network	HP Reporter creates web-based reports from data gathered from systems discovered.
Performance Manager for Windows (PM) 8.20	System performance graphing tool.	Performance Manager is a web-based analysis tool that helps you to evaluate system performance, look at usage trends, and compare performance between systems.
Operations Smart Plug-in for Microsoft Active Directory for OMW 8.1x	Monitors and manages the Microsoft Active Directory server.	<p>The Smart Plug-in for Microsoft Active Directory (Microsoft Active Directory SPI) helps you to manage the Microsoft Active Directory in your environment. The Microsoft Active Directory SPI updates you with the following activities:</p> <ul style="list-style-type: none"> • Data consistency across the Domain Controllers (DCs). • Timely replication process. • Systems outages capability. • Successful functioning of role masters. • DCs competing with over-utilized CPUs. • Capacity and fault-tolerance issues in Microsoft Active Directory. • Replication of Microsoft Active Directory Global Catalog (GC) in a timely manner. • Acceptable performance levels of services, event, processes, and synchronizations. • Occurrence of index and query activities such as authentications and light weight directory access protocol (LDAP) client sessions at acceptable levels. • Expected trust relationship status between sites and DCs.
Operations Smart Plug-in for Databases version 12.00 for OMW 8.1x	Monitors and manages the databases in the network	<p>With the Smart Plug-in for Databases configured and deployed to database servers, you can:</p> <ul style="list-style-type: none"> • Increase availability and performance of the database servers • Lower your support costs associated with database servers • Improve capacity management and planning for your database servers
Operations Smart	Monitors and manages the	The Smart Plug-in for Microsoft Exchange

HP Product and Version	Monitored Area/Feature Provided	Description
Plug-in for Microsoft Exchange Server version 13.0x for OMW 8.1x	Microsoft Exchange Server in the network	Server (Microsoft Exchange SPI) helps you to manage the Microsoft Exchange Server 2007/Microsoft Exchange Server 2010 in your environment. The Microsoft Exchange SPI keeps you informed about the conditions related to the Microsoft Exchange 2007/Microsoft Exchange 2010 and updates you with the following: <ul style="list-style-type: none"> • Availability of Microsoft Exchange Server and its roles. • Monitoring events that occur on Microsoft Exchange Servers. • Monitoring functions of different Microsoft Exchange Servers. • Monitoring and reporting important metrics like Mail Flow Latency, Transport Agent Queue Lengths, Information Store DB Cache Size, and SPAM Statistics among others • Providing ExBPA Integration • Introducing the Smart Plug-in for Microsoft Exchange 11 • The Microsoft Exchange SPI enables you to oversee your distributed Microsoft Exchange environment from a central, easy-to-use console. You can apply the performance and problem management processes that you use for networks and systems to monitor Microsoft Exchange Server 2007/Microsoft Exchange Server 2010.
Operations Smart Plug-in for Microsoft Enterprise Servers version 8.0x for OMW 8.1x + 8.02 + OMW_00077 - intelWIN2003 1.00 OV MESSPI8.00 patch	Monitors and manages the Microsoft Enterprise servers in the network	The Smart Plug-in for Microsoft Enterprise Servers (Microsoft Enterprise Servers SPI) helps you to manage the Microsoft Enterprise Servers in your environment. The Microsoft Enterprise Servers SPI helps you to monitor the following Microsoft Enterprise Servers: <ul style="list-style-type: none"> • BizTalk Server 2006 and R2 • Internet Security and Acceleration Server 2006 • Microsoft Office SharePoint Server 2007 • Microsoft Lync Server 2010
Operations Smart Plug-in for Infrastructure version 1.60 for OMW 8.1x (Includes the HP	Monitors and manages the enterprise infrastructure that includes the systems and associated software and hardware, high availability	The HP Operations Smart Plug-ins for Infrastructure (Infrastructure SPIs) forms a software suite that integrates fully with the HP Operations Manager (HPOM) and extends HPOM's management scope to include

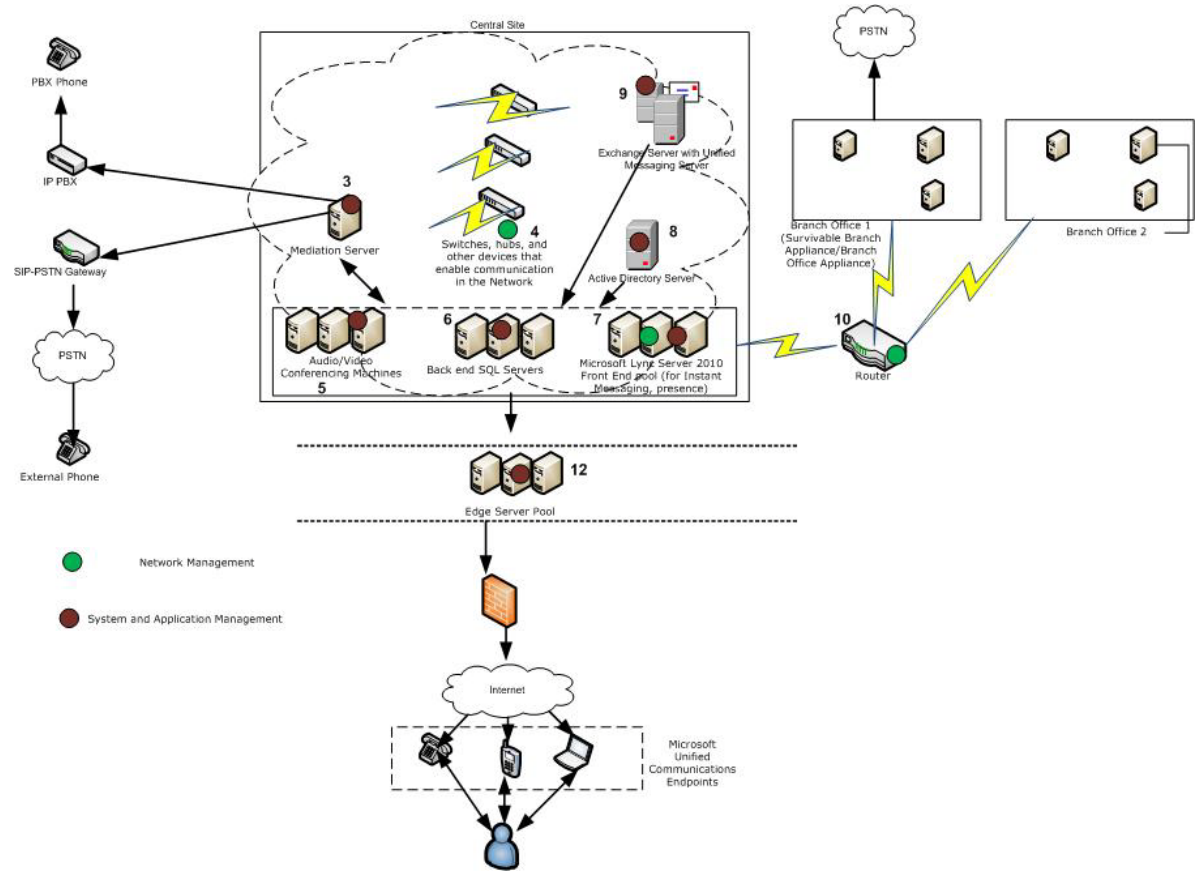
HP Product and Version	Monitored Area/Feature Provided	Description
Operations Smart Plug-in for Cluster Infrastructure, HP Operations Smart Plug-in for Virtualization Infrastructure, and the HP Operations Smart Plug-in for Systems Infrastructure)	clusters, and the virtual infrastructure.	distributed enterprise-wide base infrastructure including systems, high-availability clusters (HA clusters), and virtual infrastructure. The Infrastructure SPIs provide pre-defined management policies to enable you to quickly gain control of the essential elements of your IT infrastructure. It enables relating the cross domain IT infrastructure events with relevant applications and maps them into a hierarchical service map. The map view displays the real-time status of your infrastructure environment and helps to identify the root-cause of alarms reported on operating systems, associated software services, and, in addition, essential hardware elements such as CPU, memory, swap space and so on.

Note: The extension packs mentioned along with some of the products provide the feature to generate reports based on the performance metrics applicable to the entity that product monitors.

Unified Management

The HP Unified Communications and Collaboration Management Solution Advanced Edition 2010.12 when deployed in a Microsoft Unified Communications and Collaboration environment provides you a single console to manage and monitor the applications, interfaces, attributes, infrastructure, and the network devices on your network. See the following figure and table to identify where each HP product helps a network administrator to easily manage a Microsoft Unified Communications deployment environment.

Figure 2: HP Communications and Collaboration Management Suite Deployment



The numbers in the figure provide a mapping to the HP Software products in this management solution and the area the product monitors in a Microsoft Unified Communications and Collaboration environment.

Number	Monitored Device/Application/Service	HP Software Products for Monitoring
3	Mediation Server	<ul style="list-style-type: none"> OMi/OMW Operations Smart Plug-in for Microsoft Enterprise Servers Operations Smart Plug-in for Systems Infrastructure
4	Switches	<ul style="list-style-type: none"> NNMi NA
5	Audio/Video Conferencing Machines	<ul style="list-style-type: none"> NNMi OMi/OMW Operations Smart Plug-in for Microsoft Enterprise Servers Operations Smart Plug-in for Systems Infrastructure
6	SQL Servers	<ul style="list-style-type: none"> OMi/OMW Operations Smart Plug-in for Databases Operations Smart Plug-in for

		<ul style="list-style-type: none"> Microsoft Enterprise Servers Operations Smart Plug-in for Systems Infrastructure
7	Microsoft Lync Servers 2010	<ul style="list-style-type: none"> OMi/OMW Operations Smart Plug-in for Microsoft Enterprise Servers Operations Smart Plug-in for Systems Infrastructure
8	Microsoft Active Directory Server	<ul style="list-style-type: none"> OMi/OMW Operations Smart Plug-in for Microsoft Active Directory Operations Smart Plug-in for Systems Infrastructure
9	Microsoft Exchange Server with Unified Messaging	<ul style="list-style-type: none"> OMi/OMW Operations Smart Plug-in for Microsoft Exchange Server Operations Smart Plug-in for Systems Infrastructure
10	Router	<ul style="list-style-type: none"> NNMi NA
12	Edge Server Pool	<ul style="list-style-type: none"> OMi/OMW Operations Smart Plug-in for Microsoft Enterprise Servers Operations Smart Plug-in for Systems Infrastructure

Key Benefits of the Solution

This section provides a summary of the key benefits offered by the HP Unified Communications and Collaboration Management Solution Advanced Edition 2010.12.

Cost Reduction

- Single console to consolidate events from different domain managers, thus resulting in reducing the labor, licensing, and training costs.
- Eliminate duplicate silos (application support team or network support team) working on overlapping problems.

Improved Service Quality

Reduce time to repair by more quickly identifying root causes of the quality issues.

Unified Network and Application Performance Management

A unified management solution that helps you manage entities in a Microsoft Unified Communications and Collaboration deployment environment such as network devices, network attributes, system performance, network performance, applications and servers, and so on. In addition, you can also generate reports on the performance of specific Microsoft Unified Communications and Collaboration entities or attributes that are monitored and managed.

Automatic Network Changes and Configuration Management

Automatic detection of configuration changes across the networks, compliance monitoring and enforcement that assist the network administrator to get a complete picture from a single console.

Unified Cross Domain Event Consolidation

In a Microsoft Unified Communications and Collaboration deployment environment, where the network administrator has to manage notifications (events) from different entities such as the network devices, systems, applications, and so on, a consolidated event management console helps in simplifying the management tasks. The solution also alerts you based on threshold violations specified for the monitored Microsoft Unified Communications and Collaboration entities.

Near Real-Time Entity Status

The topology map view provides a near real-time status of Microsoft Unified Communications and Collaboration entities in the deployment environment.

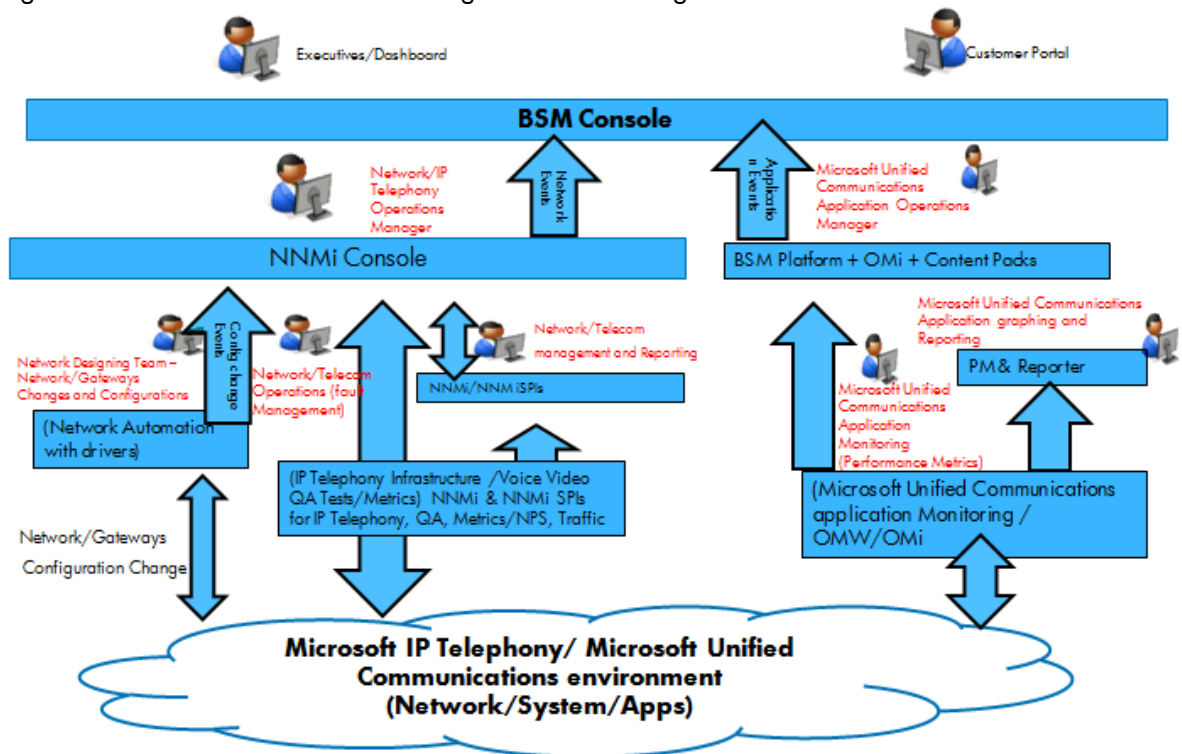
Automatic Updates About the Availability and Non Availability of Microsoft Unified Communications Entities

Automatic discovery and monitoring to alert about the availability and non availability of Microsoft Unified Communications and Collaboration entities on a periodic basis helps you distinguish when an entity is not available or when the entity is available.

Integrated Console

This enterprise-class solution offers a rich feature set provided by all the products that integrate to provide the complete management solution. This solution provides a unified management console through the Business Service Management (BSM) console. This solution is aimed at large enterprises and small and medium business units that plan to use the single BSM console for unified Microsoft Unified Communications and Collaboration management. See the following figure to see how the products integrate to provide this solution variant.

Figure 3: Advanced Edition Product Integration and Management Console



Installing and Configuring the Solution: A Quick Reference

The instructions provided in the table serve the purpose of a check list to identify the main tasks to be completed to install and configure each of the products listed. See the individual product documentation listed for detailed instructions for installation, configuration, best practices, and troubleshooting. The latest documentation for all the products listed is available at the following location: <http://support.openview.hp.com/selfsolve/manuals>

Note: After installing each product, follow the post installation configuration steps listed in the respective product documentation to enable management and monitoring using that product.

Product	High-level Overview for Installation	Status (✓)
Installation and Configuration of HP Operations Manager for Windows and Smart Plug-ins for OMW		
Install HP Operations Manager for Windows (OMW)	<p>Follow the instructions in the <i>HP Operations Manager for Windows Installation Guide</i>:</p> <ol style="list-style-type: none"> 1. Verify the hardware and software requirements 2. Verify the database requirements 3. Verify the network requirements 4. Verify the Windows service requirements 5. Verify the agent requirements 6. Install the product using the product DVD <p>Note: By default, the product installs with a 60-day trial license.</p>	
Install Smart Plug-ins for OMW	<p>Follow the instructions in the <i>HP Operations Smart Plug-ins DVD Installation and Upgrade Guide</i>:</p> <ol style="list-style-type: none"> 1. Verify the installation of HP Operations Manager 2. Start the installation of the Smart Plug-ins using the Smart Plug-ins DVD (SPI DVD B7490-15337: HP Operations Smart Plug-in DVD for HP Operations Manager for Windows 8.1x) 3. Select the Operations Smart Plug-in for Active Directory, Operations Smart Plug-in for Databases, the Operations Smart Plug-in for Microsoft Enterprise Server for installation, and Operations Manager Smart Plug-in for Microsoft Exchange Server 4. Make sure that you install the OMW_00077 - intelWIN2003 1.00 OV MESSPI8.00 patch from the SSO portal: http://support.openview.hp.com/selfsolve/patches 5. Install the Operations Manager Smart Plug-in for Infrastructure using B7490-15336 DVD. 6. Install OMW_00061 - intelWIN2003 1.00 OV EXSPI13.00 Exchange 2010 Support from the following location: http://support.openview.hp.com/selfsolve/patches See the patch text for installation instructions. 	

Product	High-level Overview for Installation	Status (✓)
	<p>Note:</p> <ul style="list-style-type: none"> • Make sure that you do not install the Reports package and the Smart Plug-in Reports and Graphs packages. • Make sure that you disable automatic deployment. • By default, the products install with a 60-day trial license. 	
Install HP Operations Agent	<p>Follow the instructions in the <i>HP Operations Agent Installation Guide</i>. The following instructions assume that you are installing the HP Operations Agent in a centralized monitoring environment with HP Operations Manager:</p> <ol style="list-style-type: none"> 1. Start the installation using the HP Operations Agent DVD 2. Install the HP Operations Agent deployment packages on the HP Operations Manager management server 3. Install the HP Operations Agent on the required nodes 4. Install HP Operations Agent patch 08.60.501(OAWIN_00001) on each agent system. You can download the patch from the following location: http://support.openview.hp.com/selfsolve/patches/ <p>If a previous version of the agent patch is already installed on the system, make sure that you uninstall that patch before installing HP Operations Agent patch 08.60.501.</p> <p>Note: By default, the product installs with a 60-day trial license.</p>	
Configure HP OMW to manage required nodes	<p>Follow the instructions in the <i>HP Operations Manager for Windows Online Help</i>:</p> <ol style="list-style-type: none"> 1. Configure the nodes that you want to manage. You can include all the Lync Servers that you want to manage. 2. Configure tools, services, and service types 3. Create new policies if required to monitor the nodes and deploy the policies on the nodes 4. Create user roles and assign operators and administrators to the appropriate user roles 5. Grant the certificates for all the managed nodes from the management server <p>Note: Make sure that you disable automatic deployment when configuring managed nodes.</p>	
Deploy Agent Policies for Smart Plug-ins installed	<p>Deploy the agent policies for the Smart Plug-in for Active Directory (health monitor policies for Windows 2008), Operations Smart Plug-in for Databases (Quick Start policies for the SQL server), and the Operations Smart Plug-in for Microsoft Enterprise Server.</p>	
Installation and Configuration of Business Service Management (BSM)		
Install OMi	<p>Follow the instructions in the <i>HP Business Service Management Deployment Guide</i> for detailed instructions.</p> <p>Note: If you have already installed Business Service Management (BSM) 9.00, you must install BSM 9.01 as an</p>	

Product	High-level Overview for Installation	Status (✓)
	<p>upgrade. If you are installing BSM for the first time, you can install BSM 9.01 by following the instructions in the BSM 9.01 <i>Deployment Guide</i>.</p> <ol style="list-style-type: none"> 1. Collect the information required prior to installation as listed in the <i>Deployment Guide</i>. 2. Verify the prerequisites for installation 3. Make sure that you have installed the Web Server before installing OMi 4. Install the HP Business Service Management servers from the HP Business Service management DVD 	
Configure OMW to OMi event forwarding	<ol style="list-style-type: none"> 1. Establish certificate trust between OMW and OMi 2. Add OMi as a node on OMW 3. Add a policy to forward events on OMW to OMi 	
<p>Configure OMW Web Console launch from OMi when an event is generated.</p> <p>Note: This configuration requires you to create a tool that enables the launch of OMW Web Console from OMi</p>	<ol style="list-style-type: none"> 1. Open the BSM console. 2. Select Admin > Operations Management 3. Select Tools from the Design Operations Content tab. 4. From the left panel, select the CIT node in the CI Type Selector. 5. From the Node – Tools panel, select the * (New Item) button. This launches a window to create a new tool. 6. Type the following details in the respective boxes: <ol style="list-style-type: none"> a. Display Name: Show OMW Console b. Name: show_omw_console c. Description: Launches the OMW Console. d. Click Next. e. Select Uri as the Type and click Next. f. Type the URL as follows: http://\${event.originatingServer}/OVOWeb/?service=\${event.omServiceId} 7. Click Finish. <p>For more information, see the following document: HP Business Service Management Deployment Guide</p>	
Installation and Configuration of NNMi and NA		
Install NNMi	<p>Follow the steps listed in the <i>NNMi Installation Guide</i> to install NNMi:</p> <ol style="list-style-type: none"> 1. Verify the pre-installation checklist in the <i>NNMi Installation Guide</i> 2. Make sure that the DNS servers are configured correctly to prevent delays in resolving nslookup requests. 3. Install NNMi using the NNMi installation media. 4. Install NNMi 9.0x Patch 2 for Windows or NNM900W_00002 available from http://support.openview.hp.com/selfsolve/patches 	
Install NA	<p>Follow the steps listed in the <i>Network Automation Upgrade and Installation Guide</i> to install NA:</p>	

Product	High-level Overview for Installation	Status (✓)
	<ol style="list-style-type: none"> 1. Verify the pre-installation checklist in the <i>Network Automation Upgrade and Installation Guide</i> 2. Install the HP Live Network Service for periodic updates on network security and compliance 3. Install NA using the installation media 4. Install the latest NA driver pack for Windows (NA76-90_driver_setup_windows_november2010_6545-111510.exe) from the following location: https://h20106.www2.hp.com/servlets/ProjectDocumentList?folderID=567&expandFolder=567&folderID=0 5. Install the fixes that you can obtain through HP Support for the following NNMi-BSM integration enhancements: <ul style="list-style-type: none"> • QCCR1B49680 • QCCR1B49681 • QCCR1B50239 • QCCR1B50244 6. Configure integration between NNMi and NA by following the steps listed in the <i>Network Automation Integration User's Guide</i>. 	
Configure NNMi discovery to discover and manage the servers and networking devices and interfaces on the network	<p>Follow the steps in the <i>NNMi Installation Guide</i> for detailed instructions to configure discovery using NNMi:</p> <ol style="list-style-type: none"> 1. Install SNMP services on each of the servers to be monitored. 2. Configure community strings for the nodes (servers) that you want to monitor 3. Configure the spiral discovery process. 	
Configure NNMi-BSM integration adapter, This adapter enables you to monitor event sources, and, if certain conditions apply, to forward the detected events as HP Business Service Management (BSM) events directly to the BSM Operations Management event browser. For BSM Integration Adapter to be able to convert the source events to BSM events, the event sources must make their data available as SNMP traps or in XML-formatted files.	<p>See the <i>BSM Integration Adapter User Guide</i>, <i>BSM Integration Adapter Installation Guide</i>, and the <i>NNMi Deployment Reference Guide</i> for detailed instructions:</p> <ol style="list-style-type: none"> 1. On the BSM console, select Infrastructure Settings > Operations Manager Settings > Certificate server > and provide the FQDN of the BSM server as the Certificate Authority (CA) server. 2. Install the integration adapter on NNMi management server. 3. Integrate topology information from NNMi to BSM 4. Configure Single Sign On (SSO) to enable BSM to NNMi UI launch for events displayed on the BSM console. <p>Note: To disable unmatched events from being forwarded from NNMi to BSM, you can do as follows: Edit the SNMP policy by selecting the Send to Closed Event Browser or the Ignore options under the Options tab for the policy.</p>	

Product	High-level Overview for Installation	Status (✓)
Installation of HP Performance Manager		
Configure HP PM	Follow the steps listed in the <i>HP Performance Manager Installation, Upgrade, and Migration Guide</i> to install and configure HP Performance Manager: <ol style="list-style-type: none"> 1. Verify the system requirements and installation prerequisites 2. Install HP PM using the HP Performance Manager CD/DVD 	
Installation of HP Reporter		
Configure HP Reporter	Follow the steps in the <i>Installation and Special Configurations Guide</i> to install HP Reporter.	
Configuring Reporting and Graphing for Smart Plug-ins for OMW		
Configure reporting and graphing on Smart Plug-ins	Follow the instructions in the <i>HP Operations Smart Plug-ins DVD Installation and Upgrade Guide</i> : Install the Reports package and the Smart Plug-in Reports and Graphs packages for the Smart Plug-ins installed, using the Smart Plug-ins DVD.	
Configuring BSM Content Packs		
Configure BSM content packs	The content packs, though installed, are not imported. You can import the content packs as follows from the BSM console: <ol style="list-style-type: none"> 1. Select Admin > Operations Management > Content Manager 2. Import the contents from the location: <Install_Dir>\conf\opr\content <p>Note: <Install_Dir> refers to the directory where you have installed BSM.</p>	
Installation and Configuration of NNM i Software Smart Plug-ins for Performance		
Install iSPI Performance for Metrics/NPS	Follow the instructions in the <i>HP Network Node Manager i Software Smart Plug-in Performance for Metrics/Network Performance Server Installation Guide</i> for detailed instructions: <ol style="list-style-type: none"> 1. Verify the installation prerequisites as listed in the <i>Installation Guide</i> 2. Plan for installing iSPI Performance for Metrics/NPS on a dedicated server (not installed with NNMi) 3. Run the enablement script (on the NNMi management server). 4. Install the iSPI Performance for Metrics/NPS using the DVD provided. 	
Configure NNMi monitoring settings for performance data collection	Enable SNMP performance polling for interface groups of interest. See the <i>NNMi Online Help</i> for more information.	
Install evaluation licenses	<ol style="list-style-type: none"> 1. From https://webware.hp.com/, generate the evaluation licenses for each of the installed products. 2. Apply the license for each of the installed products using 	

Product	High-level Overview for Installation	Status (✓)
	the license wizard.	
Install iSPI Performance for QA	<p>Follow the instructions in the <i>HP Network Node Manager i Software Smart Plug-in Performance Quality Assurance Installation Guide</i> for detailed instructions:</p> <ol style="list-style-type: none"> 1. Verify the installation prerequisites as listed in the <i>Installation Guide</i> 2. Install the iSPI Performance for QA on the NNMi management server using the installation DVD. 	
Install iSPI Performance for Traffic	<p>Follow the instructions in the <i>HP Network Node Manager i Software Smart Plug-in Performance for Traffic Installation Guide</i> for detailed instructions:</p> <ol style="list-style-type: none"> 1. Verify the installation prerequisites as listed in the <i>Installation Guide</i> 2. Install the iSPI Performance for Traffic on the same system where you installed the iSPI Performance for Metrics/NPS 	

References

For more information about the products that integrate to provide this solution, see the individual product documentation from the following location:

<http://support.openview.hp.com/selfsolve/manuals>

Feedback

We appreciate any feedback that you may have on this document. You can send your feedback for this document to <mailto:docfeedback@hp.com>

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