HP Unified Communications and Collaboration Management Solution Standard Edition

for the Windows ® operating system

Software Version: 2011.05

Deployment Guide

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1 Introduction

This guide contains a number of scenarios and use cases to deploy and use HP Unified Communications and Collaboration Management Solution Standard Edition (HP UCC Standard Edition).

This guide assumes that you have already installed and deployed the following products:

- HP SiteScope
- HP Network Node Manager i Software (NNMi)
- NNM iSPI for IP Telephony
- NNM iSPI Performance for Metrics
- NNM iSPI Performance for QA
- NNM iSPI Performance for Traffic

See the following guides to install and deploy each of these products:

Product Name	Document Name
HP SiteScope	 HP SiteScope Deployment Guide HP SiteScope Using SiteScope
NNMi	 HP Network Node Manager i Software Installation Guide HP Network Node Manager i Software Deployment Reference
NNM iSPI Performance for Metrics	 HP Network Node Manager iSPI Performance for Metrics / Network Performance Server Installation Guide HP Network Node Manager i Software Deployment Reference

 Table 1
 Reference Documents

Product Name	Document Name
NNM iSPI for IP Telephony	 HP Network Node Manager i Software Smart Plug-in for IP Telephony Software Installation Guide HP Network Node Manager i Software Smart Plug-in for IP Telephony Deployment Guide
NNM iSPI Performance for QA	 HP Network Node Manager iSPI Performance for Quality Assurance Software Installation Guide HP Network Node Manager iSPI Performance for Quality Assurance Software Deployment Reference
NNM iSPI Performance for Traffic	 HP Network Node Manager iSPI Performance for Traffic Software Installation Guide HP Network Node Manager iSPI Performance for Traffic Software Deployment Reference

 Table 1
 Reference Documents

2 Deployment Scenarios

You can deploy HP UCC Standard Edition to collaborate metrics and events from globally dispersed installations of HP SiteScope and NNMi. The following deployment scenarios aim to familiarize you with the deployment specifications based on the number of Microsoft Lync Servers managed.

Scenario 1: Single HP SiteScope Server - Single NNMi Management Server - Single Network Performance Server

We recommend you to use this deployment scenario if you need to manage less than 1500 Microsoft Lync Servers.



The following figure displays a sample HP UCC Standard Edition deployment, highlighting the integrated applications:

This deployment scenario consists of the following components:

- Single HP SiteScope server managing less than 1500 Microsoft Lync Servers.
- Single NNMi management server and the following NNM iSPI products:
 - NNM iSPI for IP Telephony
 - NNM iSPI Performance for Metrics
 - NNM iSPI Performance for QA
 - NNM iSPI Performance for Traffic
- Single Network Performance Server

Scenario 2: Multiple HP SiteScope Server - Single NNMi Management Server - Single Network Performance Server

We recommend you to use this deployment scenario if you need to manage 1500 to 5000 Microsoft Lync Servers.

The following figure displays a sample HP UCC Standard Edition deployment, highlighting the integrated applications:



This deployment scenario consists of the following components:

• Multiple HP SiteScope servers managing 1500 to 5000 Microsoft Lync Servers.

The HP SiteScope servers must not manage overlapping nodes. That is, the HP SiteScope monitors must monitor different sets of managed nodes for each server.

- Single NNMi management server and the following NNM iSPI products:
 - NNM iSPI for IP Telephony

- NNM iSPI Performance for Metrics
- NNM iSPI Performance for QA
- NNM iSPI Performance for Traffic
- Single Network Performance Server

Scenario 3: Multiple HP SiteScope Servers - Globally Deployed NNMi - Multiple Network Performance Servers

We recommend you to use this deployment scenario if you need to manage more than 5000 Microsoft Lync Servers.



The following figure displays a sample HP UCC Standard Edition deployment, highlighting the integrated applications:

This deployment scenario consists of the following components:

• Multiple HP SiteScope server managing more than 5000 Microsoft Lync Servers.

The HP SiteScope servers must not manage overlapping nodes. That is, the HP SiteScope monitors must monitor different sets of managed nodes for each server.

• Each HP SiteScope server should be integrated with an NNMi Regional Manager.

• Multiple NNMi management server using Global Network Management. Multiple regional managers report to the global manager, which in turn displays the consolidated events and reports. These reports include the Microsoft Lync Reports and Microsoft Exchange Server Reports, generated using the NNM iSPI for IP Telephony - HP SiteScope integration.

The global manager may not have an integrated HP SiteScope server.

Each NNMi management server consists following NNM iSPI products:

- NNM iSPI for IP Telephony
- NNM iSPI Performance for Metrics
- NNM iSPI Performance for QA
- NNM iSPI Performance for Traffic
- Network Performance Server

Sitescope System Metric reports generated on the regional managers are not consolidated on the global manager. Each NNMi management server (global manager or regional manager) displays these reports using its own HP NNMi - HP SiteScope integration.

A Use Cases

Use Case 1: Visualizing Enterprise Lync Topology

SummaryThis use case represents a scenario that monitors different asp Microsoft Lync servers managed by HP UCC Standard Edition					
Application HP Unified Communications and Collaboration Management Solutio Standard Edition					
Actors NNMi Network Administrators SiteScope Administrators SiteScope/NNMi End Users 					
Pre-Condition	 The following components of HP UCC Standard Edition are installed: HP SiteScope NNMi NNM iSPI Performance for Metrics NNM iSPI for IP Telephony NNM iSPI Performance for QA NNM iSPI Performance for Traffic Network Performance Server (NPS) contains performance data for at least past 24 hours. 				
Assumptions for the Scenario	• We have two Microsoft Lync server sites; one central site and one branch site.				

Use Case Process

- 1 Log on to NNMi console using your username and password.
- 2 Select Microsoft IP Telephony workspace.

3 Select Lync Sites to view the list of central and branch Microsoft Lync server sites.

Network Node Manager								User N	ane: system NMA R	sie: Administrator	
File View Tools Actions Help											
A Incident Management	¥	Lync Sites									
.t. Topology Maps	¥	2 🖻	0	B P	E			10	1 - 2 of 2	٥	ଖ 🖻
Monitoring	¥	Identity	- N	lame	Туре	Parent Site	Descriptio	Manager	ment Server		
Troubleshooting	¥	Ste BRAN	CHIS B	RANCHISEN	fl RenoteSte	Ster HPUCSITE!	HP ProCurv	e Branch			_
1) Inventory	¥	Ste HPUC	SITE1 H	PUCSITE1	CentralSite		UC Solution	test Lyn Local			
Management Mode	¥										
🄥 Incident Browsing	¥										
Strate Cisco IP Telephony	¥										
State IP Telephony	¥										
S Awaya IP Telephony	¥	Updated 4	/11/11 0	3:04:26 PM I	ST	Tob	st 2	Selected: 0	Filter: OFF	Auto ret	tresh: 3 min
St Microsoft IP Telephony	\$	Analysis									
Lync Sites		Summary	0								
E Servers	8		No	Objects Se	elected						
Cateways	- 1										
Gateway Interfaces											
E Lync End Users	•										
Integration Module Configuration	¥										
≁ Configuration	¥										

4 Select a site to view the details of the site.

Network Node Manager			User Name: system NMM Rok	n Administrator Sign Out
File View Tools Actions Help				
ncident Management ¥	Lync Stes		10 A	
.1. Topology Maps X			10 Q 1-2012	o a B
tigi Monitoring ¥ ♠ Troubleshooting ¥	Identity A Name Type Ste:BRANCHIS BRANCHISEMI RenoteSt	Parent Site Description te SterHPUCSITE1 HP ProCurve B	Management Server	
i Inventory ¥	StelHPUCSITE1 HPUCSITE1 CentralSte	e UC Solution tes	t Lyn Local	
Management Mode ¥				
🄥 Incident Browsing 🛛 🕹				
Strain Cisco IP Telephony ¥				
Street IP Telephony ¥				
😨 Avaya IP Telephony 🗧 🗧	Updated: 4/11/11 11:45:55 AM IST	Total 2 Sel	ected: 1 Filter: OFF	Auto refresh: 3 min
Microsoft IP Telephony 🔅	Analysis			۲
E Lync Sites	Lync Site Summary : Site HPUCSITE1 3	A Party(last 24 hrs) S	Calls by Media Type(last 24 hrs) S	Calls by Call Type(last 🕨 🖛
Servers Gateways Goteway Interfaces Lync End Users Seture attion Module Configuration	No. of 1 Branches 1 No. of 1 Osteways 1 No. of Pools 7 No. of Users 47 Parent Ste HA Drivens ellefond yes see			-
> Configuration ¥	RegistrarPool m			¥

5 Select Microsoft IP Telephony -> Lync Site Neighborhood and display how it is connected to its neighbors using the map view.



6 View health and performance reports of various Microsoft Lync server components using NNM iSPI Performance for Metrics.



Use Case 2: Monitoring Application Performance

Summary	This use case represents a scenario that monitors the performance of the available Microsoft Lync Frontend servers.						
Application	HP Unified Communications and Collaboration Management Solution Standard Edition						
Actors	 NNMi Network Administrators SiteScope Administrators SiteScope/NNMi End Users 						
Pre-Condition	 The following components of HP UCC Standard Edition are installed: HP SiteScope NNMi NNM iSPI Performance for Metrics NNM iSPI for IP Telephony NNM iSPI Performance for QA NNM iSPI Performance for Traffic Network Performance Server (NPS) contains performance data for at least past 24 hours. 						
Assumptions for the Scenario	 The Frontend Server component performance of the Microsoft Lync Server site HPUCSITE1 is degraded. We have two Microsoft Lync server sites; one central site and one branch site. 						

Use Case Process

- 1 Log on to NNMi console using your username and password.
- 2 Select Microsoft IP Telephony workspace.
- 3 Select Lync Sites to view the list of central and branch Microsoft Lync server sites

4 Select a site and select UCC Applications >Microsoft Lync > Frontend Server.

(b) Network Node Manager	e l					User Name: system	NMM Role: Administrator	THE OW
File View Tools Actions Help								
A Incident Management	¥	Lync Stes						
.t. Topology Maps	¥	🖉 🖴 Ø 🖷 🕴	P 🖴			10 Q 1-2 of	2	0 01 🖻
Monitoring	¥	Identity - Name	Туре	Parent Site	Description	Management Server		
Troubleshooting	¥	Ste.BRANCHIS BRANCHIS	EM1 RenoteSte	Ste HPUCSITE!	HP ProCurve B	ranch		
) Inventory	¥	SterHPUCSITE1 HPUCSITE*	Ste HPUCSITE1 HPUCSITE Select AL			t Lyn Locel		
Management Mode	¥		Sort I					
🏠 Incident Browsing	¥		Export To CSV					
SP Cisco IP Telephony	¥		IP Telephony	·			-	
St Nortel IP Telephony	¥		UCC Applications	Microsoft	Lyno +	A/V Conterencing Server		
S Avaya IP Telephony	¥	Updated: 4/11/11 01:01:37 P	MIST	Tob	R 2	Director Server	Aut	to refresh: 3 min
Strosoft IP Telephony	*	Analysis				Edge Server		۲
E Lune Star		Lync Site Summary : Site H	PUCSITE1 C	A 4 ONE	or Calino Part	Frontend Server	d Party(last 24 hrs) G	Cals E b
Eync Stes Servers Gateways Oateway Interfaces		No. of Branches		No data for last 24 hours		Mediation Server Monitoring Server Registrar Server		Const C C
		Gateways No. of Pools 7		10				
Lync End Users	*	No. of Users 47 Parent Ste NA						
A Integration Module Configuration	¥	Prinary sitetfepool	xyz.com					
J Configuration	¥	Registrarrool m		- L				

NNM iSPI Performance for Metrics displays the report with the default metrics. You can select different metrics or select a different report to view the health and performance of the available Frontend servers



5 Click **Confirm Selection** to display the report with new metrics.

		🔁 tieep this version 🔻 🗼 🛛 🖛								
Current Status	() NNM iSPI Performance	Microsoft Lync - Front_End_Server - Chart Detail								
Package: Microsoft	Options Show Bookmark Help									
Folderi Front Eni Reporti Chart De Stahirti Ready	Apr 11, 2011 12:45:00 PM - Apr 11, 2011 1:45:00 PM (Last 1 Hour), Lync Ste Name = HPUCSITE1 Display Grain: 5 Minutes									
Reports	0.07	6								
Refresh separately	0.06									
• 🕒 Self Monitorir • 🗁 ISPI Metrics	F 0.04	້ ງ ສ								
Avaya IP Tele Cisco IP Tele	0.02	2								
Microsoft IP 1										
C	1230 1235 1240 1245	1250 1255 13.00 13.05 13.10 13.15 13.20 13.25								
Report History	Legend: Metric in Y1 (solid line) Queue Latency (ms) (avg)	Metric in Y2 (dashed line) Backend Processing Latency (ms) (avg)								
Time Control	Avg Blocked Clenit: Threads(tris) (avg)	Exception - Backend Processing Latency (ms) (sum)								
Hour / Day Filters										
Topology Filters	Generated at : 1:48:12 PM (Server Time)									
BI Server										
Dashboard Reportlets										
Cross Launching										

6 Check the SNMP traps received from HP SiteScope for site HPUCSITE1. To view the traps received, select the site and select **Trap Analytics** from the Tools menu.



Use Case 3: Monitoring Edge Server Health and Performance

Summary	This use case represents a scenario where the operator needs to monitor the performance of the available Microsoft Lync Edge Servers.					
Application	HP Unified Communications and Collaboration Management Solution Standard Edition					
Actors	SiteScope/NNMi End Users					
Pre-Condition	 The following components of HP UCC Standard Edition are installed: HP SiteScope NNMi NNM iSPI Performance for Metrics NNM iSPI for IP Telephony NNM iSPI Performance for QA NNM iSPI Performance for Traffic Network Performance Server (NPS) contains performance data for at least past 24 hours. 					
Assumptions for the Scenario	• Monitor the Edge Server component of the Microsoft Lync Server site HPUCSITE1.					
	• We have two Microsoft Lync server sites; one central site and one branch site.					

Use Case Process

- 1 Log on to NNMi console using your username and password.
- 2 Select Microsoft IP Telephony workspace.
- 3 Select the site HPUCSITE1, right click on the site name, and select UCC Applications >Microsoft Lync > Edge Server.

4 NNM iSPI Performance for Metrics displays the report with the default metrics. You can select different metrics or select a different report to view the health and performance of the available Edge Servers.



Use Case 4: Analyzing Call Quality, Call Volume, and Traffic on the Switch

Summary This use case represents a scenario analyzes the call quality and the selected						
Application	HP Unified Communications and Collaboration Management Solution Standard Edition					
Actors	SiteScope/NNMi End Users					
Pre-Condition	 The following components of HP UCC Standard Edition are installed: HP SiteScope NNMi NNM iSPI Performance for Metrics NNM iSPI for IP Telephony NNM iSPI Performance for QA NNM iSPI Performance for Traffic Network Performance Server (NPS) contains performance data for at least past 24 hours. 					
Assumptions for the Scenario	• We have two Microsoft Lync server sites; one central site and one branch site.					

Use Case Process

- 1 Log on to NNMi console using your username and password.
- 2 Select Microsoft IP Telephony workspace.

3 Select the site HPUCSITE1 and then select **Actions > IP Telephony > Call Details** to launch the Call Reports displaying call durations grouped by Calling Party

Current Status Username: system	E Grouped by	r: Set	usion Sequence			8	Keep this version • • • •
Package: Call_Reports Folder: Call_Detail_Met	R	tank	Session Sequence	Duration (secs) (avg)	Media Type (countDistinct)	Bar Chart for Durati	on (secs) (avg)
Statusi Ready -		1	1	8.07	3		and the second se
· ·		2	10	5.00	1		
		3	100	5.00	1		
Reports		4	11	5.00	1		
Avaya IP Telephony		5	12	5.00	1		
Cisco IP Telephony		6	13	5.00	1		
Microsoft IP Telephony		Z	14	5.00	1		
Call Reports		8	15	5.00	1		
- Call Detail Metrics		2	16	5.00	1		
Calendar		10	17	5.00	1		
Chart Detail	Hide Chart						
Heat Chart							
Most Changed				Details for T	op 10 Session Seque	nce	
Top N	1,400.0001						Combined Element Name
4							• 10
	1,200.000				Λ		± 100
Report History	\$ 1,000.000						+ 11 + 12
Time Control	8 800.000				/		+ 13 + 14
Hour / Day Filters	0 uojt 600.000						* 16 * 17
Topology Filters	a 400.000			/			
BI Server	200.000			/			
Dashboard Reportlets	0.000	2013-	04-07 15:45 2011-04-0	17 16:00 2011-04-12 10:45	2011-04-12 11:00 2011-04-12 1	4:45 2011-04-12 16:15	_
Cross Launching							ن. ب لــــــ

- 4 Select Top N report from Call Reports > Call_Quality_Metrics folder under Reports tab.
- 5 NNM iSPI Performance for Metrics displays the report using the default set of metrics. Select different metrics to display the call quality based on the average Audio Round Trip Time metric.

		🔁 Keep this version 💌 🕨 🗐				
Current Status	(b) NNM iSPI Performance	Call Reports - Call_Quality_Metrics - Top N				
Package: Call_Reports	Hide Options Show Bookmark Help					
Folder: Call_Quality_M Report: Top N	Report Options					
Statusi Ready 💌	Report Options					
	Top / Bottom 'N'	Grouping by:				
Reports	Top 10 -	Calling Party				
Call Reports		1				
Call_Detail_Metrics	Select Metric(s):					
- 🗁 Call_Quality_Metric	Audio Round Trip (avg)	Overall Average Network MOS (avg)				
Calendar	Send Listen MUS (max)	- •				
Chart Detail	Receive Listen MOS (avg) Receive Listen MOS (min)					
Heat Chart	Receive Listen MOS (max)					
D Hart Channel	Audio Jitter (avg)	Confirm Selection				
P Most Changes	Audio Jitter (min)					
Top N	Audio Jitter (max)					
Top N Chart	Audio Packet Loss Rate (avg)					
Gateway Statistics	Audio Packet Loss Rate (max)					
•	TAudio Packet Utilization (avg)					
	Audio Packet Utilization (min)					
Report History	Audio Packet Utilization (max)					
	R Audio Round Trip (avg)	I Average Network MOS (avg) Bar Chart for Audio Round Trip (avg)				
Time Control	Audio Round Trip (min)	2.18				
Hours / Day Elbert	Video litter (ava)	2.14				
nour / Day rices	Hid Video Jitter (min)					
Topology Filters	Video Jitter (max) Video Packet Loss Rate (avg)					
BI Server	Details for Top 10 Calling Party					

6 Select **Confirm Selection** to display the report.

				🔁 Keep this version * 🕨 💽 *		
Current Status Username: system	NNM iSPI Performance Call Reports - Call_Quality_Metrics - Top N					
Parkage: Call_Reports Folder: Call_Quality_M- Report: Top N Status: Ready •	Options Show Bookmark Help Mar 12, 2011 5:30:00 AM - Apr 12, 20 Convend her Colling Bach	011 5:30:00 AM (Last 31 Days)				
Reports	- Grouped by: Coming Party					
Call Reports	Rank Calling Party	Audio Round Trip (avg)	Overall Average Network MOS (avg)	Bar Chart for Audio Round Trip (avg)		
Call_Detail_Metrics	1 Anonymous	1.10	2.18			
Call_Quality_Metric	2 spradministrator@msuclab	0.83	2.14			
Calendar	Hide Chart					
Chart Detail	and the second se					
Heat Chart		Details for	Top 10 Calling Party			
Most Changed	2.000		4	Combined Element Name		
Top N	1.800			+ sip:administrator@msuclab.bto.co		
Top N Chart	§ 1.600			Anonymous		
Gateway Statistics	8 1.400 E 1.200	1				
Report History	Pu 1.000	1.				
Time Control	9 0.600 W 0.400		·			
Hour / Day Filters	0.200					
Topology Filters	anon anon anon	BILOT BILOT BILOT	BIRD'S BIRDS BIRDS BIRDS			
BI Server		1976) Berlin (1976)	1950) - 1960) - 6961, - 6960			
Dashboard Reportlets	Generated at : 5:01:15 PM (Server	Time)				
Cross Launching						
Done	1					

7 Select the Traffic Analysis worksspace > Traffic Reporting Nodes to display the top applications

A Incident Management	¥	Traffic Reporting Nodes							
.1. Topology Maps	¥	0 🖻 0 🖷 💎 🖺		61	1-10f1		o al l		
Monitoring	¥	Node Name Traffic Type	6						
1 Troubleshooting	¥	NFM-UC-Applicatn-SWITCH SFlowV5							
1 Inventory	¥								
Management Mode	¥								
A Incident Browsing	¥								
Cisco IP Telephony	¥								
St Nortel IP Telephony	¥								
Avaya IP Telephony	¥								
St Traffic Analysis	*	Updated: 4/12/11 04:47:26 PM IST	Total 1	Selected: 1	Filter: OFF	Auto	refresh: 3 n	nin	
		Analysis							
Traffic Reporting Nodes	-	Traffic Reporting Node Summary S	4 Top Apps-In O	Top Apps-Out G	Top ToS-In O	Top ToS-Out O	Top # >	Ŧ	
Traffic Reporting Interfaces		Current Time Ture Apr 12 16047:26 IST 2011 Analysis Period for Last 1 Hour Node						1	
			SP(2424MBytes)						
Microsoft IP Telephony	¥								
A Integration Module Configuration	¥								
/ Configuration	¥		•					-	
Done						[[-	