

HP SIM 5.2 or later Discovery Cases for c-Class BladeSystems in HP BladeSystem Integrated Manager



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Introduction

This white paper is intended to assist a user in identifying c-Class enclosures with its contained devices discovered in HP SIM 5.2 or later.

Getting started

Target audience

It is assumed that readers of this document have an excellent understanding of the following concepts and services:

- Manual and Automatic Discovery of devices in HP SIM
- Usage of Configure general settings in SIM for device discovery

In addition, readers must be familiar with installing and administering:

- HP SIM 5.x
- HP BladeSystem Integrated Manager

HP SIM Discovery cases for c-Class BladeSystem in HP BladeSystem Integrated Manager

Pre-requisites:

This section assumes you have already configured the following:

- Source central management server (CMS) – The system where HP SIM 5.x is installed with any supported database.
- On-board Administrator (OA) – The management module of an On-board Administrator Enclosure having the latest management firmware.
- c-Class Servers – The servers sitting in the On-Board Administrator enclosure to be identified in the HP SIM to manage having the latest Integrated Lights Outs 2 (iLO 2) firmware.

For more details about HP SIM 5.x prerequisites, refer to the *HP SIM User Guide* and *HP SIM Release Notes* located on the HP Management CD.

Software Compatibility:

| | |
|---|---|
| Onboard Administrator | v1.20 or later |
| iLO2 | v1.30 or later |
| HP BladeSystem Integrated Manager in HP Systems Insight Manager | v3.5 |
| HP Systems Insight Manager | v5.3 upgraded with "HP BladeSystem Integrated Manager v3.5" |
| HP Insight Control Data Center Edition | v3.0 upgraded with "HP BladeSystem Integrated Manager v3.5" |

For information on supported Server Blade Software & Drivers, refer the *HP BladeSystem Integrated 3.5 Support Matrix*.

Discovery Scenarios

This section consists of two identification methods to identify the c-Class enclosure in HP-SIM "All Enclosures collection":

- **Discovery Scenario 1:** Onboard Administrator discovered first and then the servers, servers associated iLO2, and switches.
- **Discovery Scenario 2:** The servers, servers associated iLO2, and switches are discovered first and then the Onboard Administrator.

Discovery Scenario 1: Onboard Administrator discovered first and then the servers, servers associated iLO2, and switches.

There are two discovery cases under this scenario namely,

- Case 1: The discovery/configuration option **Discover systems in an Enclosure when Onboard Administrator is discovered** deselected.
- Case 2: The discovery/configuration option **Discover systems in an Enclosure when Onboard Administrator is discovered** selected.

Case 1: The discovery/configuration option **Discover systems in an Enclosure when Onboard Administrator is discovered** deselected.

The following steps guide you to discover the On-board Administrator for Case 1:

1. Go to **Options**→**Discovery**.
2. Click the **Configure general settings** link.

The screenshot displays the HP Systems Insight Manager (SIM) interface. The main content area is titled "Discovery" and includes the following text:

Indicate the systems you want HP Systems Insight Manager to manage.

Configure and run automatic system discovery. Be sure to configure the settings prior to executing automatic discovery for the most accurate information.

For all automatic discoveries:

- Configure general settings
- Manage hosts files
- Configure global credentials
- Configure global protocol settings

| Name | Last Run | Schedule | Comments |
|----------------------------|----------|-----------------------------|----------|
| System Automatic Discovery | Never | Task is Disabled - Periodic | |

Buttons below the table: New..., Edit..., Enable, Disable..., View Task Results..., Run Now

The left sidebar shows the "System and Event Collections" tree with the following structure:

- All Systems
- All Events
- Systems
 - Private
 - Shared
 - Systems by Type
 - All Systems
 - All Servers
 - HP BladeSystem
 - Storage Systems
 - All Racks
 - All Enclosures
 - All Clients
 - All Networking Devices
 - All Printers
 - All Management Process
 - All Virtual Connect Domain
 - Systems by Status
 - Systems by Operating System
 - Clusters by Type
 - Clusters by Status

- Under **General Settings for All Discoveries**, deselect **Discover systems in an enclosure when Onboard Administrator is discovered** as shown.

Systems Insight Manager

System Status
Updated: Mon, 11/24/2008, 3:50 PM IST
0 1 0 0 Uncleared Event Status

Tools ▾ Deploy ▾ Configure ▾ Diagnose ▾ Reports ▾ Tasks & Logs ▾ Options ▾ Help ▾

Discovery
Indicate the systems you want HP Systems Insight Manager to manage.

General Settings for All Discoveries

Automatically discover a system when an event is received from it

Automatically discover a server when its Integrated Lights Out management processor is identified

Discover systems in an enclosure when Onboard Administrator is discovered

Automatically discover VM guest(s) when the host is identified.

Automatically discover other virtual partitions within the same vPar Monitor when one of the virtual partition is identified

Automatically discover all nPars within the same complex when one of the nPars is identified

Ping exclusion ranges, templates and/or hosts files:

Enable discovery filters

Select the types of systems HP Systems Insight Manager should discover the next time automatic discovery occurs. Note that changing these settings will not delete systems that have already been discovered.

Discover the following system types:

| | | |
|--|--|---|
| <input type="checkbox"/> Application | <input type="checkbox"/> Power Distribution Unit | <input type="checkbox"/> Tape Library |
| <input type="checkbox"/> Desktop | <input type="checkbox"/> Power Supply | <input type="checkbox"/> Thin Client |
| <input type="checkbox"/> Environmental Monitor | <input checked="" type="checkbox"/> Printer | <input type="checkbox"/> UPS |
| <input type="checkbox"/> Handheld | <input type="checkbox"/> Remote Access Device | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Hub | <input type="checkbox"/> Resource Partition | <input type="checkbox"/> Unmanaged |
| <input type="checkbox"/> IO Expansion | <input type="checkbox"/> Router | <input type="checkbox"/> Virtual Connect Domain |
| <input type="checkbox"/> KVM Switch | <input checked="" type="checkbox"/> Server | <input type="checkbox"/> Workstation |
| <input checked="" type="checkbox"/> Management Processor | <input type="checkbox"/> Shared Resource Domain | |
| <input type="checkbox"/> Notebook | <input checked="" type="checkbox"/> Storage Device | |
| <input checked="" type="checkbox"/> Partition | <input checked="" type="checkbox"/> Switch | |

Limit discovery to systems which meet the following criteria:

Any system that matches the above filter

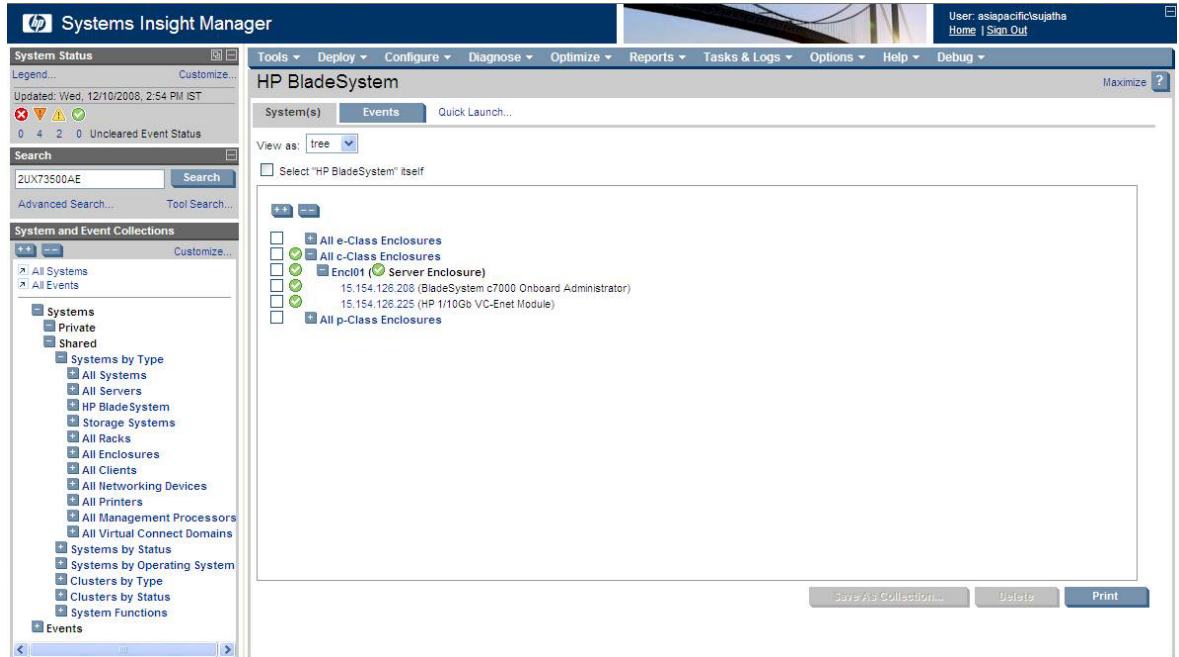
All manageable systems (WBEM, SNMP, DMI, WMI or HTTP support)

Manageable systems with HP agents only

OK Cancel

- Go to the bottom of the page and click **OK** to save the settings. The **Discovery** page appears.
- Click **New...**
- Select **Discover a single system** under **New Discovery**.
- Enter name and IP address and click **Save**.

- Click **Tools**→**Integrated Consoles** →**HP BladeSystem**. The following page appears as shown.



Note that there are no logical nodes created for servers and switches when OA is discovered in this case. Logical Servers and switches are not the actual servers and switches discovered. The complete discovery of servers and switches takes place with IP Address or the DNS name of the device.

- To discover the servers, ILOs & switches, run Automatic discovery with the Server, iLO2, and Switch with the DNS name or IP Address. After discovering the servers and switches, the associated servers (iLO2→Server, Server→Enclosure) and switches (switches→Enclosure) will appear under “All c-Class Enclosures” collection.

Case 2: The discovery/configuration option **Discover systems in an Enclosure when Onboard Administrator is discovered** selected.

The following steps guide you to discover the On-board Administrator for Case 2:

- Go to **Options**→**Discovery**.

- Click the **Configure general settings** hyperlink.

The screenshot shows the HP Systems Insight Manager interface. The top navigation bar includes 'Tools', 'Deploy', 'Configure', 'Diagnose', 'Reports', 'Tasks & Logs', 'Options', and 'Help'. The main content area is titled 'Discovery' and contains the following text:

Indicate the systems you want HP Systems Insight Manager to manage.

Configure and run automatic system discovery. Be sure to configure the settings prior to executing automatic discovery for the most accurate information.

For all automatic discoveries:

- Configure general settings
- Manage hosts files
- Configure global credentials
- Configure global protocol settings

| Name | Last Run | Schedule | Comments |
|----------------------------|----------|-----------------------------|----------|
| System Automatic Discovery | Never | Task is Disabled - Periodic | |

Buttons below the table: New..., Edit..., Enable, Disable..., View Task Results..., Run Now

- Under **General Settings for All Discoveries**, select **Discover systems in an enclosure when Onboard Administrator is discovered**.

The screenshot shows the 'General Settings for All Discoveries' configuration page in HP Systems Insight Manager. The page contains the following sections:

- General Settings for All Discoveries**
 - Automatically discover a system when an event is received from it
 - Automatically discover a server when its Integrated Lights Out management processor is identified
 - Discover systems in an enclosure when Onboard Administrator is discovered
 - Automatically discover VM guest(s) when the host is identified.
 - Automatically discover other virtual partitions within the same vPar Monitor when one of the virtual partition is identified
 - Automatically discover all nPars within the same complex when one of the nPars is identified
- Ping exclusion ranges, templates and/or hosts files:** (Empty text area)
- Enable discovery filters**

Select the types of systems HP Systems Insight Manager should discover the next time automatic discovery occurs. Note that changing these settings will not delete systems that have already been discovered.

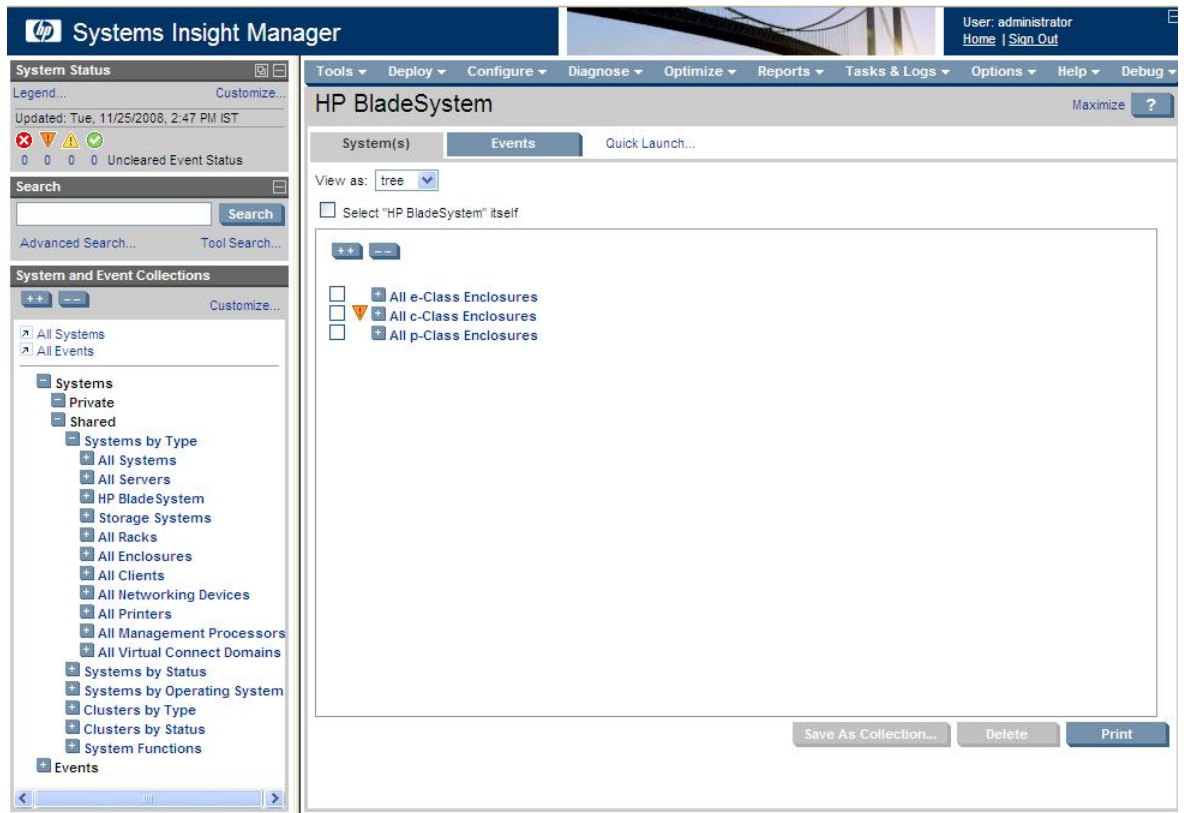
Discover the following system types:

 - Application
 - Desktop
 - Environmental Monitor
 - Handheld
 - Hub
 - IO Expansion
 - KVM Switch
 - Management Processor
 - Notebook
 - Partition
 - Power Distribution Unit
 - Power Supply
 - Printer
 - Remote Access Device
 - Resource Partition
 - Router
 - Server
 - Shared Resource Domain
 - Storage Device
 - Switch
 - Tape Library
 - Thin Client
 - UPS
 - Unknown
 - Unmanaged
 - Virtual Connect Domain
 - Workstation
- Limit discovery to systems which meet the following criteria:**
 - Any system that matches the above filter
 - All manageable systems (WBEM, SNMP, DMI, WMI or HTTP support)
 - Manageable systems with HP agents only

Buttons at the bottom: OK, Cancel

- Go to the bottom of the page and click **OK** to save the settings. The **Discovery** page appears.
- Click **New...**

6. Select **Discover a single system** under **New Discovery**.
7. Enter name and IP address and click **Save**.
8. Click **Tools→Integrated Consoles→HP BladeSystem**. The following page appears.



NOTE:

- There are Logical nodes created for Servers when OA is discovered in this case. Logical Servers are not the actual servers. The complete discovery of servers takes place with IP Address or the DNS name of the device.
 - Switches and iLOs are discovered as part of the OA discovery.
9. To discover the servers and switches, run a Manual/Automatic discovery with the Server, Server iLO2, and Switch DNS name or IP Address. After discovering the servers and switches; the associated servers (iLO2→Server, Server→Enclosure) and switches (switches→Enclosure) will appear under **All c-Class Enclosures** collection. These servers and switches get merged with the Logical nodes of respective servers and switches created during the OA discovery.

NOTE: The discovery can be executed by providing the IP address of the devices using the **Automatic or Host Files** tab available in the Discovery page. The host file should include the IP address, full DNS name, and the hostname. This option is more suitable when there are multiple devices available in the network. Prefix the (\$) dollar sign to the host file name while running the Discovery task.

Discovery Scenario 2: The servers, servers associated iLO2, and switches are discovered first and then the Onboard Administrator.

In this case all the servers, iLO2 associated with the servers, and switches are discovered first & then the Onboard Administrator is discovered.

To discover the physical servers & switches; run a Manual/Automatic discovery with the Server, Servers associated iLO2, and Switch DNS name or IP Address. At present these discovered server, switches will not appear under the **All Enclosures** collection since the Onboard Administrator is not discovered yet.

Again there are two discovery cases under this scenario namely,

- Case 1: The discovery/configuration option **Discover systems in an enclosure when Onboard Administrator is discovered** deselected.
- Case 2: The discovery/configuration option is **Discover systems in an enclosure when Onboard Administrator is discovered** selected.

Case 1: The discovery/configuration option **Discover systems in an Enclosure when Onboard Administrator is discovered** deselected.

The following steps guide you to discover the On-board Administrator for Case 1:

1. Go to **Options→Discovery**.
2. Click the **Configure general settings** link.

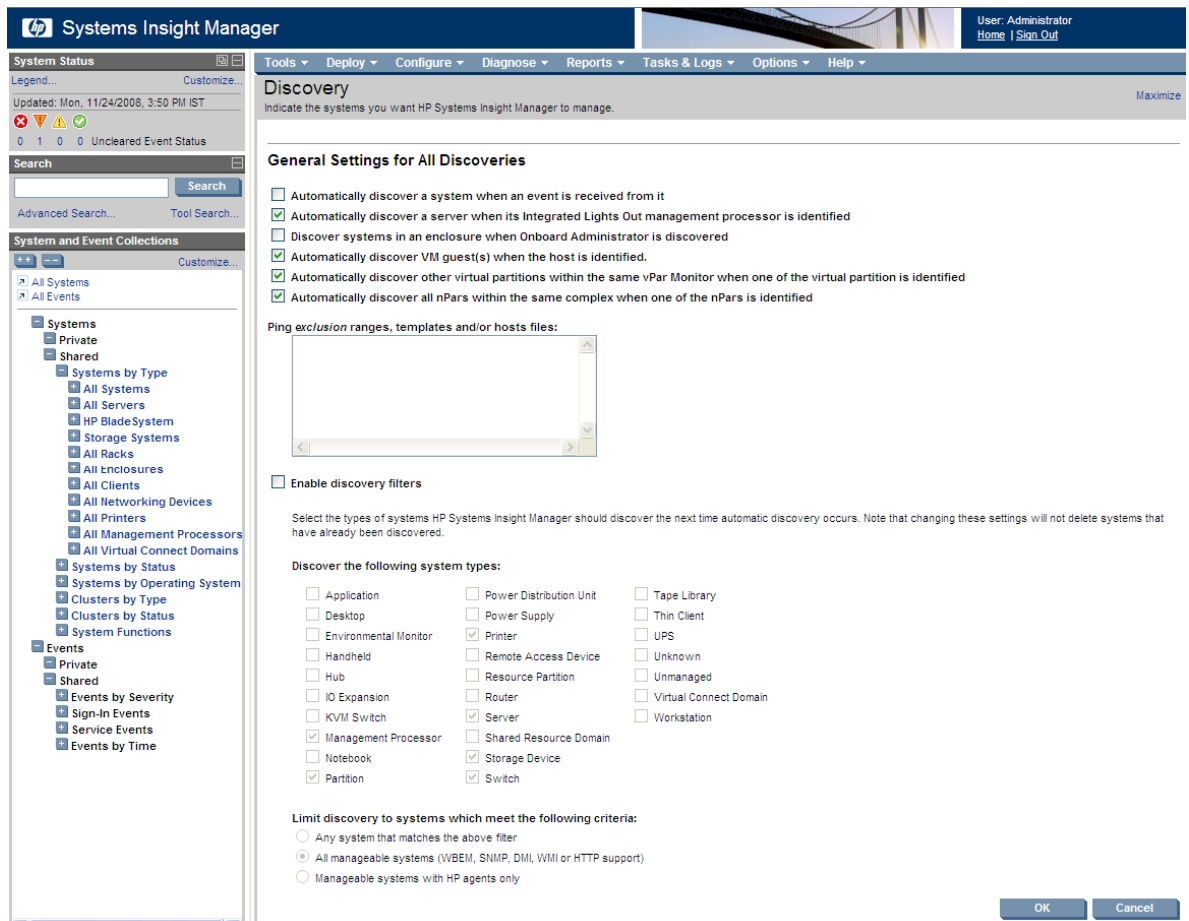
The screenshot displays the HP Systems Insight Manager (SIM) interface. The main window is titled 'Discovery' and contains the following elements:

- System Status:** Legend, Updated: Mon, 11/24/2008, 3:49 PM IST, 0 1 0 0 Uncleared Event Status.
- Search:** Search bar, Advanced Search..., Tool Search...
- System and Event Collections:** Tree view showing 'All Systems', 'All Events', and various system types like 'All Servers', 'All Enclosures', etc.
- Discovery Configuration:** Instructions to indicate systems to manage. A table shows the 'System Automatic Discovery' task is currently disabled.

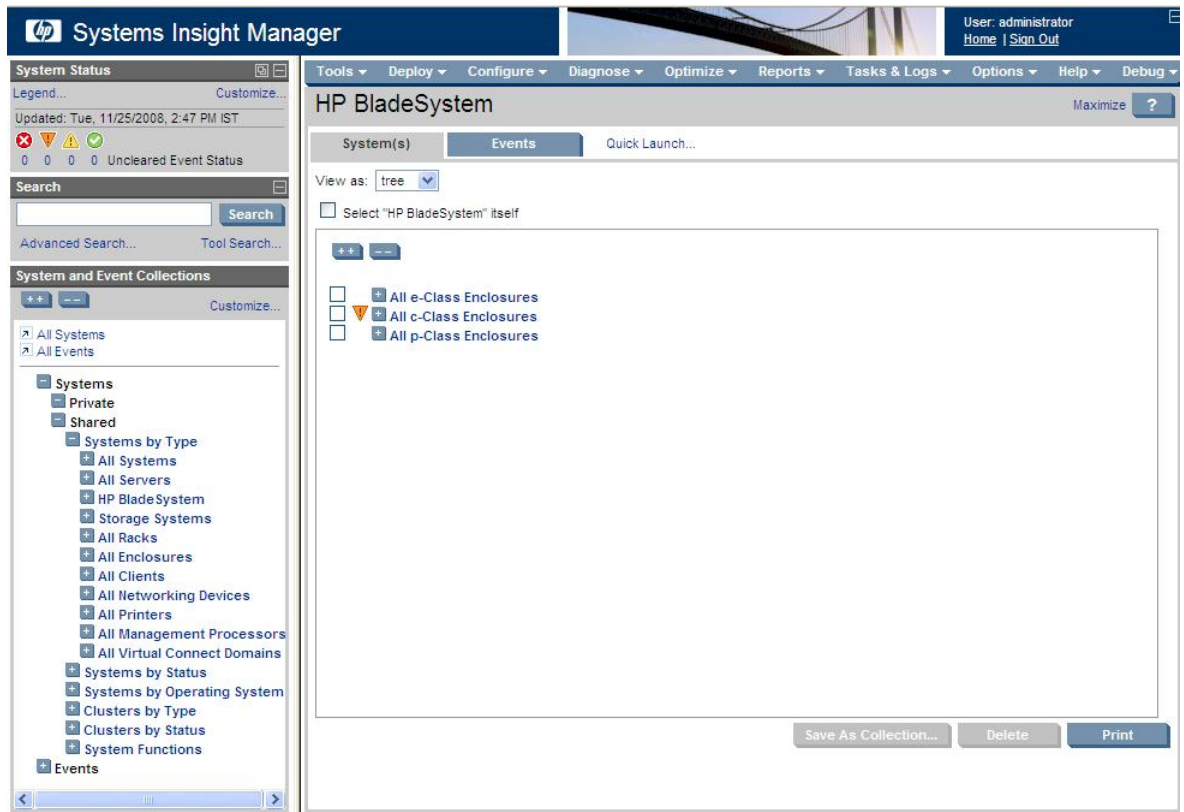
| Name | Last Run | Schedule | Comments |
|----------------------------|----------|-----------------------------|----------|
| System Automatic Discovery | Never | Task is Disabled - Periodic | |

Buttons below the table: New..., Edit..., Enable, Update..., View Task Results..., Run Now.

3. Under **General Settings for All Discoveries**, deselect **Discover systems in an enclosure when Onboard Administrator is discovered**.



4. Go to the bottom of the page and click **OK** to save the settings. The **Discovery** page appears.
5. Click **New...**
6. Select **Discover a single system** under **New Discovery**.
7. Enter name and IP address and click **Save**.
8. Click **Tools**→**Integrated Consoles**→**HP BladeSystem**. The following page appears.



Note that the previously discovered servers, switches appear now under the collection upon discovering the Onboard Administrator.

9. To discover the **more** servers & switches, run a Manual/Automatic discovery with the Server, Server iLO2, and Switch DNS name or IP Address. After discovering the servers and switches; the associated servers (iLO2→Server, Server→Enclosure) and switches (switches→Enclosure) will appear under **All c-Class Enclosures** collection.

Case 2: The discovery/configuration option **Discover systems in an Enclosure when Onboard Administrator is discovered** selected.

The following steps guide you to discover the On-board Administrator for Case 2:

1. Go to **Options→Discovery**.
2. Click the **Configure general settings** link.

Discovery
Indicate the systems you want HP Systems Insight Manager to manage.

Configure and run automatic system discovery. Be sure to configure the settings prior to executing automatic discovery for the most accurate information.

For all automatic discoveries:
 Configure general settings
 Manage hosts files
 Configure global credentials
 Configure global protocol settings

| Name | Last Run | Schedule | Comments |
|----------------------------|----------|-----------------------------|----------|
| System Automatic Discovery | Never | Task is Disabled - Periodic | |

Buttons: New..., Edit..., Enable, Delete..., View Task Results..., Run Now

- Under **General Settings for All Discoveries**, select **Discover systems in an enclosure when Onboard Administrator is discovered**.

General Settings for All Discoveries

Automatically discover a system when an event is received from it

Automatically discover a server when its Integrated Lights Out management processor is identified

Discover systems in an enclosure when Onboard Administrator is discovered

Automatically discover VM guest(s) when the host is identified

Automatically discover other virtual partitions within the same vPar Monitor when one of the virtual partition is identified

Automatically discover all nPars within the same complex when one of the nPars is identified

Ping exclusion ranges, templates and/or hosts files:

Enable discovery filters

Select the types of systems HP Systems Insight Manager should discover the next time automatic discovery occurs. Note that changing these settings will not delete systems that have already been discovered.

Discover the following system types:

| | | |
|--|--|---|
| <input type="checkbox"/> Application | <input type="checkbox"/> Power Distribution Unit | <input type="checkbox"/> Tape Library |
| <input type="checkbox"/> Desktop | <input type="checkbox"/> Power Supply | <input type="checkbox"/> Thin Client |
| <input type="checkbox"/> Environmental Monitor | <input checked="" type="checkbox"/> Printer | <input type="checkbox"/> UPS |
| <input type="checkbox"/> Handheld | <input type="checkbox"/> Remote Access Device | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> Hub | <input type="checkbox"/> Resource Partition | <input type="checkbox"/> Unmanaged |
| <input type="checkbox"/> IO Expansion | <input type="checkbox"/> Router | <input type="checkbox"/> Virtual Connect Domain |
| <input type="checkbox"/> KVM Switch | <input checked="" type="checkbox"/> Server | <input type="checkbox"/> Workstation |
| <input checked="" type="checkbox"/> Management Processor | <input type="checkbox"/> Shared Resource Domain | |
| <input type="checkbox"/> Notebook | <input checked="" type="checkbox"/> Storage Device | |
| <input checked="" type="checkbox"/> Partition | <input checked="" type="checkbox"/> Switch | |

Limit discovery to systems which meet the following criteria:

Any system that matches the above filter

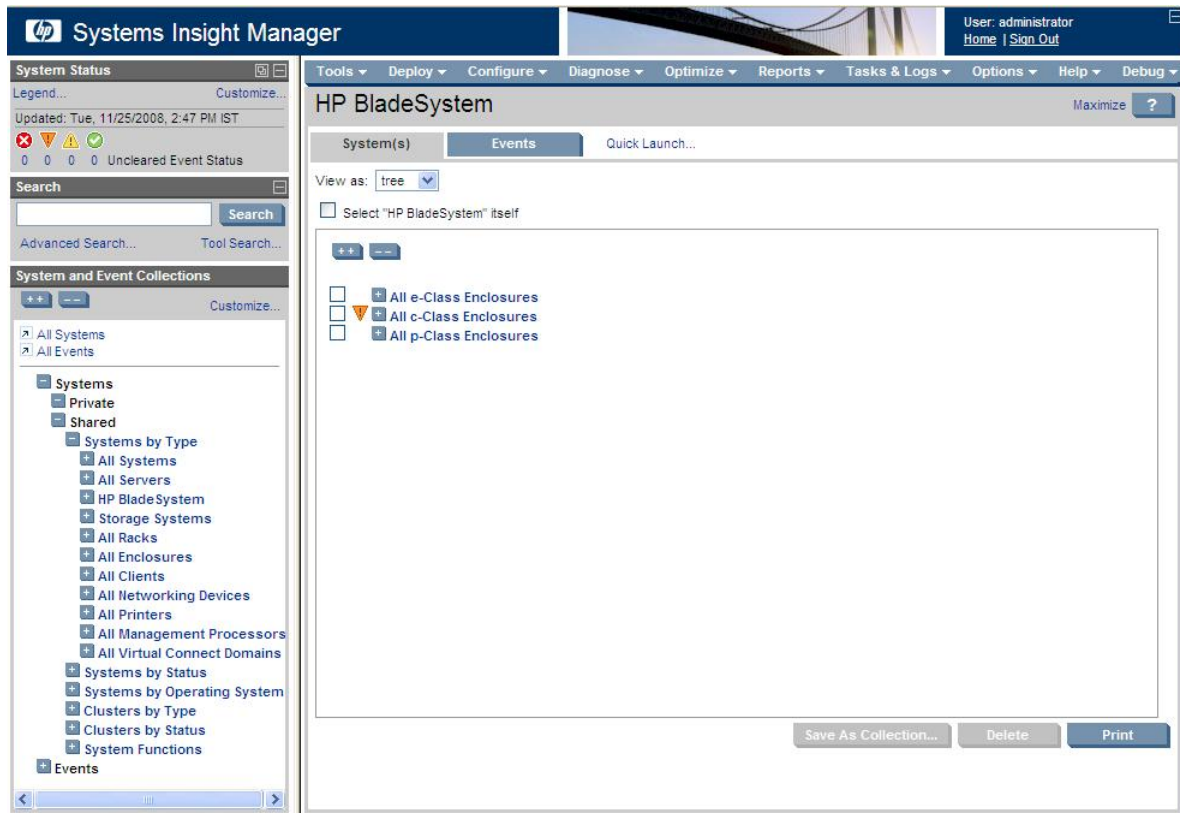
All manageable systems (WBEM, SNMP, DMI, WMI or HTTP support)

Manageable systems with HP agents only

Buttons: OK, Cancel

- Go to the bottom of the page and click **OK** to save the settings. The **Discovery** page appears.
- Click **New...**
- Select **Discover a single system** under **New Discovery**.
- Enter name and IP address and click **Save**.

8. Click **Tools**→**Integrated Consoles** →**HP BladeSystem**. The following page appears.



Note that the previously discovered servers, switches appear now under the collection upon discovering the Onboard Administrator along with the logical nodes. Some of the logical nodes are merged automatically with the previously discovered servers and switches.

9. To discover the **more** servers & switches, run a Manual/Automatic discovery with the Server, Server iLO2, and Switch DNS name or IP Address. After discovering the servers and switches; the associated servers (iLO2→Server, Server→Enclosure) and switches (switches→Enclosure) will appear under **All c-Class Enclosures** collection. These servers and switches get merged with the Logical nodes created during the OA discovery.

NOTE: The discovery can be executed by providing the IP address of the devices using the **Automatic or Host Files** tab available in the Discovery page. The host file should contain the IP address, full DNS name and hostname. This option is more suitable when there are multiple devices available in the network. Prefix (\$) dollar sign to the host file name while running the Discovery task.

For more information

Refer to the following for more information regarding the topics referenced in this paper.

HP BladeSystem Integrated Manager

<http://h18004.www1.hp.com/products/servers/management/bsme/index.html>

HP BladeSystems

<http://www.hp.com/go/bladesystemupdates/>

HP Systems Insight Manager

<http://www.hp.com/go/hpsim>

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