

# Intel<sup>®</sup> Modular Server Add-In for Microsoft Windows\* Essential Business Server 2008 User Guide

This User Guide provides a feature overview and installation instructions for the Intel<sup>®</sup> Modular Server Add-In for the Microsoft Windows<sup>\*</sup> Essential Business Server 2008 Standard Edition.

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**Enterprise Platforms and Services Division - Marketing** 

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# 1. Introduction

The Intel<sup>®</sup> Modular Server Add-In for Microsoft Windows\* Essential Business Server 2008 (EBS 2008) was built specifically for the Microsoft Windows\* EBS 2008 unified Administration Console. This add-in provides basic monitoring capabilities for the Intel<sup>®</sup> Modular Server System and Intel<sup>®</sup> Compute Modules running Microsoft Windows\* EBS 2008 Management Server, Security Server, or Message Server editions from within the Administration Console. Any compute modules installed in the target modular server system that are not running one of the Microsoft Windows\* EBS 2008 installations will not be display on the Administration Console Add-in screen. This add-in is referred to as the Intel<sup>®</sup> Modular Server Add-In. The key features of the Intel<sup>®</sup> Modular Server Add-In are listed below:

Key features include:

- A single simple installer that installs and uninstalls the Intel<sup>®</sup> Modular Server Add-In
- Intel<sup>®</sup> Modular Server System discovery
- A simple and intuitive browser-based graphical user interface to monitor your Intel<sup>®</sup> Modular Server System and Intel<sup>®</sup> Compute Modules running the Management Server, Security Server, and Message Server in the Microsoft Windows\* EBS 2008 network
- See overall health status on one screen View a high-level health status of your modular server systems' health and the health status for each hardware component (management module, compute modules, storage modules, switch modules, virtual drives, fans, and power supplies) on a single screen.
- See hardware configuration information View high-level product and configuration details for the Intel<sup>®</sup> Modular Server System and the Intel<sup>®</sup> Compute Modules running Microsoft Windows\* EBS 2008 Management Server, Security Server, or Message Server editions.
- Launch the Intel<sup>®</sup> Modular Server Control UI Quickly launch the Intel<sup>®</sup> Modular Server Control UI from within the Microsoft Windows\* EBS 2008 Administration Console to view alerts and manage your Intel<sup>®</sup> Modular Server System.

## 1.1 Supported Products

The following Intel and Microsoft products are supported with the Intel<sup>®</sup> Modular Server Add-In.

- Intel<sup>®</sup> Modular Server System MFSYS25
- Intel<sup>®</sup> Modular Server System MFSYS35
- Intel<sup>®</sup> Compute Module MFS5000SI
- Intel<sup>®</sup> Compute Module MFS5520VI
- Microsoft Windows\* EBS 2008 Standard Edition (Management Server, Security Server, and Messaging Server installations).

# 2. Installation

## 2.1 Getting Started

Before installing the Intel<sup>®</sup> Modular Server Add-In, complete the following:

- Verify all modular server system components/modules are correctly installed and operational. For product installation and setup information, refer to the *Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide* and the User Guide for your Intel<sup>®</sup> Compute Module.
- Complete the Microsoft Windows\* EBS 2008 Standard Edition installation. Install Management Server, Security Server, and Messaging Server on separate Intel<sup>®</sup> Compute Modules within a single Intel<sup>®</sup> Modular Server System.
- 3. Verify SNMP Services are installed and started on the Microsoft Windows\* EBS 2008 Management Server
- Configure the Intel<sup>®</sup> Management Module SNMPv2 settings. The Intel<sup>®</sup> Modular Server System Add-In discovers and displays the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 information through SNMP.

## 2.1.1 Steps to Configure the Intel<sup>•</sup> Management Module SNMP Settings

To verify and configure SNMP v2 settings for the target Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 before installing the Intel<sup>®</sup> Modular Server Add-In, perform the following steps:

- 1. Log in to the Intel<sup>®</sup> Modular Server Control UI. For step-by-step instructions, refer to the *Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide*.
- 2. From the left navigation menu, select **Settings** > **SNMP** >**SNMP** Options.

The SNMP Options screen is used to configure the SNMP Agent and Trap Destination settings. This enables external SNMP management applications to communicate with the SNMP agent on the Management Module. The Intel<sup>®</sup> Modular Server System Add-In requires SNMPv2 to be enabled. The add-in does not support SNMPv3.

- 3. In the Agent section, configure the SNMP Agent Settings as follows:
  - a. Enable SNMP v2 support by selecting enabled from the **SNMPv2 Support** dropdown list.
  - b. Enter the **Public Community** string.

The string entered must match the community string on the remote management console. By default, this is set to Public.

- c. Enter the System Location.
- d. Enter the Administration Contact.
- e. Enter the System Description.
- 4. In the SNMP Trap Destination section, configure the SNMP Trap destination as follows:
  - a. Enter the IP address and Community string for each destination.

By default, SNMP uses port 162. To change this in the destination IP setting, append a colon to the IP address followed by the port number (for example, 10.7.155.62:162).

5. Click the **Send a Test Trap** button and verify that the trap was received by the target system.

Sustem			
Servers «	SNMP		
Storage 5	Agent		
Reports 2	SNMPv2 Support:	enabled 🗹	
Storage Layout	Public Community:	public	
Dashboard Diagnostics	Sys Location:	Office	
Bettings	Admin Contact:	Admin	
Storage IP Configuration	Sys Description:	Intel Modular Server System	
SNMP	SNMP Trap Destination		
SNMP v3 Reset v3 Users	SNMP 1- IP;		SNMP Settings
Users     Event Policies	Community:	[	optionally forward Statte traps for specific communities to external
a Language	SNMP 2- IP:		agents.
Firmware	Community:		Community: public
A Restore Settings	SNMP 3- IP:		Community string may not contain spaces.
	Community:		
	SNMP 4- IP:	Γ	
	Community:	1	
		Send a Test Trap	
	Save Changes		Get Help

Figure 1. SNMP Options

# 2.2 Install Intel<sup>•</sup> Modular Server Add-In

To install the Intel<sup>®</sup> Modular Server Add-In, perform the following steps:

- 1. Log in to the Microsoft Windows\* EBS 2008 Management Server as the administrator.
- Run the ModularServerConsole.msi installer. The Welcome screen appears.
- 3. Click **Next** to continue.



Figure 2. Installer Welcome Screen

The Intel<sup>®</sup> Modular Server Add-In license agreement is displayed on the screen.

4. To continue with the installation, read and accept the license agreement before clicking **Next**. The installation is aborted if the "I do not accept the terms in this license agreement" option is selected before clicking **Next**.

License Agreement Please read the following license agree	ment carefully.		
			V
Intel(R) System Managemen Agreement	t Software	End User	License
IMPORTANT - READ BEFORE C Do not use or load this s materials (collectively, marefully read the follow coading or using the Soft this Agreement. If you do install or use the Softwa	OPYING, IN oftware an the "Softw ting terms ware, you not wish re.	STALLING C d any asso are") unti and condit agree to t to so agre	OR USING. ociated 1 you have ions. By the terms of te, do not
I accept the terms in the license agree I do not accept the terms in the license tailShield	ment agreement		Print
	< Back	Nexts	Cancel

Figure 3. License Agreement

5. Click **Install** to start the installation.



Figure 4. Install Add-in Screen

Once the installation has completed successfully, the following screen appears:



Figure 5. Installation Complete

6. Click **Finish** to complete installation.

Once the installation is complete, the "Discovery" dialog box is displayed. The modular server system can be discovered by entering the external IP address, the host name, or an IP address range to search for the Intel<sup>®</sup> Management Module. The discovery process verifies and displays the modular server system and all compute modules running Microsoft Windows\* EBS 2008 Management Server, Messaging Server, or Security Server editions. For step-by-step instructions, see Section 2.5.

# 2.3 Verify Installation Completed Successfully

To verify the installation completed successfully, perform the following steps:

- 1. Open the operating system's Control Panel.
- 2. Select Programs and Features.
- 3. Verify a new entry "Intel<sup>®</sup> Modular Server Add-In for Microsoft Windows\* Essential Business Server 2008" is added under "Programs and Features" as shown in the following image:



Figure 6. Verify Installation

# 2.4 Uninstall Intel<sup>•</sup> Modular Server Add-in

To uninstall the Intel<sup>®</sup> Modular Server Add-In, perform the following steps:

1. Run ModularServerConsole.msi to uninstall the Intel<sup>®</sup> Modular Server Add-In.



Figure 7. Uninstall Welcome Screen

- 2. Click **Next** to remove the Intel<sup>®</sup> Modular Server Add-In.
- 3. Click **Remove** to uninstall.



Figure 8. Start Uninstallation



Once the uninstall completes successfully, the following screen is displayed.

### Figure 9. Intel<sup>®</sup> Modular Server Add-In Uninstall Successful

4. Click **Finish** to complete the uninstall and exit the wizard.

To verify if the Intel<sup>®</sup> Modular Server Add-In has been removed successfully, perform the following steps:

- 1. Open "Programs and Features" from the control panel. Verify that the "Intel<sup>®</sup> Modular Server Console" is no longer listed.
- 2. Open the Microsoft Windows\* EBS 2008 Administration Console and verify that the Modular Server tab is no longer displayed under the System Applications tab.

## 2.5 Intel<sup>•</sup> Modular Server System Discovery

Once the installation is complete, the "Discovery" dialog box is displayed. The modular server system can be discovered by entering the external IP address, the host name, or an IP address range to search for the Intel<sup>®</sup> Management Module. The discovery process verifies and displays the modular server system and all compute modules running the Microsoft Windows\* EBS 2008 Management Server, Messaging Server, and Security Server editions.

To discover an Intel<sup>®</sup> Modular Server System running Microsoft Windows\* EBS 2008, perform the following steps:

- 1. Start the Intel<sup>®</sup> Modular Server Add-In Discovery task using one of the following methods:
  - a. The Intel<sup>®</sup> Modular Server Add-In Discovery task automatically starts once the installation completes. The Discovery Task dialog box shown in Figure 10 should be displayed. Discovery can be completed before launching the Microsoft Windows\* EBS 2008 Administration Console.

- b. The Discovery task can be started from the Modular Server tab within the Microsoft Windows\* EBS 2008 Administration Console. To manually start the Discovery Task, perform the following steps:
  - i. Open the Microsoft Windows\* EBS 2008 Administration Console.
  - ii. **Click** the System Applications tab.
  - iii. Click the Modular Server tab.
  - iv. **Click** the Discovery task located under Modular Server Tasks on the right side of the screen.

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IP
IP IP
IP
IP
community
community

Figure 10. Modular Server Discovery Dialog Box

The discovery task searches the network for the IP address or hostname of the target modular server system running Microsoft Windows\* EBS 2008. The IP address or hostname used in the search is the external IP Address assigned to the Intel<sup>®</sup> Management Module. This is the same IP address or hostname used to launch the Intel<sup>®</sup> Server Control UI for the target modular server.

- 2. In the Discovery dialog box, enter values for one of the following fields to discover the modular server system:
  - Enter the external static IP address for the modular server system running Microsoft Windows\* EBS 2008.
  - Enter the hostname of the target modular server system running Microsoft Windows\* EBS 2008.
  - If the IP Address and hostname are not known, an IP Address range within which the user expects the modular server system IP Address to exist can be entered. The Discovery task scans the network IP addresses within the range provided for the modular server system IP Address.
- 3. Enter the public SNMP community string.

This must match the SNMP community string entered within the Intel<sup>®</sup> Modular Server Control UI for the target modular server system. To verify the SNMP community string entered within the Intel<sup>®</sup> Modular Server Control UI, see Section 2.1.1.

4. Click Run Discovery to start the discovery task.

If the entered IP Address, hostname or IP Address range is a valid modular server system and the SNMP community string matches, and Microsoft Windows\* EBS 2008 Management Server, Messaging Server, or Security Server editions are running on one or more compute modules within the Modular Server System, the discovery task runs successfully.

**Note:** Only a Modular Server System with Microsoft Windows\* EBS 2008 Management Server, Messaging Server, or Security Server editions installed and running on at least one compute module will be detected and displayed on the Add-In screen.

A "Discovery success" message appears if the discovery process completes successfully.



Figure 11. Intel<sup>®</sup> Modular Server Discovery Successful

- 5. To view the discovered Intel<sup>®</sup> Modular Server System information, perform the following steps:
  - a. Open the Microsoft Windows\* EBS 2008 Administrator console.
  - b. Click the System Applications tab.
  - c. Click the **Modular Server** tab under System Applications to view discovered system information.

# 3. Navigation and Views

This section provides information on the general layout of the Intel<sup>®</sup> Modular Server Add-In tab and detailed information on each of the system component views.

## 3.1 General Layout

The Intel<sup>®</sup> Modular Server Add-In tab consists of three sections:

### Main section / pane:

The main section or pane is located in the middle of the screen and displays the health status for all discovered components. By default, the main pane displays the discovered modular server system components by subsystem or category. The user can modify the display by clicking on the SubSystem column heading or by clicking on View menu.

The components are grouped into five categories or subsystems:

- Chassis Management
- Chassis Power and Cooling
- Chassis Storage Modules and Ethernet Switches
- Compute Modules
- Storage

Under each subsystem the discovered component name, icon, and current health information is displayed. Each subsystem can be expanded or collapsed by clicking on [+] or [-] on the right of the main pane.

#### Detail section / pane:

The detail pane, located at the bottom of the screen, displays the health status, high-level configuration information, and general product information for a selected/highlighted modular server component in the main section/pane. To view additional component information, launch the Intel<sup>®</sup> Modular Server Control UI.

#### Tasks section / pane

The Tasks pane located on the right of the screen displays all available tasks for the selected component. If a modular server system has not been discovered, the only available task displayed is "Discover Module Server". Once a modular server system has been discovered, the available tasks displayed are:

- Discover Module Server This task opens the discovery dialog box and starts the modular server system discovery.
- Launch Modular Server Control UI This task opens a new browser window using the discovered modular server IP Address to display the login screen for the Intel<sup>®</sup> Modular Server Control UI.

The below figure identifies the three sections of the Intel<sup>®</sup> Modular Server Add-In and provides a description of the modular server component icons used.

Pie     Vertow     Pie       System     Security     Computers     Users and Groups     Licenses       Modular Server     Sub System *     Health       Chassis Management     Management       Management Module     OK       Management Module     OK       Price Supplies     OK		Modular Server Tasks Discover Modular Server Launch Modular Server Control UI
System Security Computers Users and Licenses System Applications Modular Server Sub System A Health Chassis Management Chassis Management Chassis Power and Cooling Fans OK Power Supplies OK OK OK Chassis Power Supplies OK OK Chassis Power Supplies OK C		Modular Server Tasks Discover Modular Serve Launch Modular Server Control UI
System     Security     Computers     Users and Groups     Licenses     System Applications       Modular Server		Modular Server Tasks Discover Modular Serve Launch Modular Server Control UI
Modular Server Sub System A Health Chassis Management Management Module Chassis Power and Cooling Fans Power Supplies OK OK		Modular Server Tasks Discover Modular Server Launch Modular Server Control UI
Sub System A     Health       Chassis Management     Image: Chassis Management Addule       Management Module     Image: Chassis Power and Cooling       Image: Chassis Power and Cooling     Image: Chassis Power and Cooling       Image: Power Supplies     Image: Chassis Power and Cooling       Image: Power Supplies     Image: Chassis Power and Cooling		Modular Server Tasks Discover Modular Serve Launch Modular Server Control UI
Chassis Management  Management Module  OK  Chassis Power and Cooling  Fans  Power Supplies  OK		<ul> <li>Discover Modular Server</li> <li>Launch Modular Server</li> <li>Control UI</li> </ul>
Managment Module OK Chassis Power and Cooling Fans Fans OK OK OK OK		Launch Modular Server Control UI
Chassis Power and Cooling     A       D Fans     OK	B	Control OI
D Fans OK Power Supplies OK		
Pans OK Power Supplies OK		
–g Power Supplies 💿 OK		
Chassis storage Module and Ethernet Switches		
Ethernet Switch Modules 🛛 🕲 OK		
Storage Controller Modules 💿 OK		
Compute Modules	Ξ	
- Server 1 💿 OK		
- Server 2 OK		
- Server 3 OK		
Storage	Ξ	
🔟 Virtual Drive 💿 OK		
No item is selected.		
к		Nindows

### Figure 12. General Layout

	lcon	Description
А		Main Pane
В	N)	Icon used to identify the Chassis Management Subsystem, Intel <sup>®</sup> Management Module, Chassis Storage Module and Ethernet Switches, and Storage Subsystem
С	H	Icon to identify the Chassis Power and Cooling Category
D	9	Icon for fans
E	1	Icon for Power Supplies
F		Icon to identify the Intel <sup>®</sup> Storage Controller Modules and the Intel <sup>®</sup> Ethernet Switch Modules
G		Icon used to identify the Compute Modules Category
Н	-	Compute Module icon
I	1	Virtual Drives
J	0	Health icon - Ok
J		Health icon - Warning
J	8	Health icon - Critical
К		Detail pane displays general information for the selected component
L		Modular Server Tasks

# 3.2 Chassis Management View

The Chassis Management subsystem in the main pane includes health information for the discovered Intel<sup>®</sup> Management Module. The health is displayed with an icon and text (OK, Critical, or Warning).

System Security Computers Users and Li Health	icenses Applications		
Adular Server			
ub System A Health Chassis Management		8	Modular Server Tasks
		_	Discover Modular Server
Managment Module			Launch Modular Server
Chassis Power and Cooling		æ	
Chassis Storage Module and Ethernet Switches		Œ	
Compute Modules		Ħ	
Storage		⊞	
	3130		
Managment Module			
Managment Module Management Module			
<ul> <li>Managment Module</li> <li>Management Module</li> <li>Health Status:</li> </ul>	Normal		
Managment Module Management Module Health Status: Host Name:	Normal cbcmm		
Management Module Management Module Health Status Health Status P Address: Firmmare Version:	Nermal cbcmm 192168.150.155 2.7.100.20081215.15250		
Managment Module Management Module fealth Status for Name P Address: immane Version:	Normal obcrem 192/161.190.155 2.7100.2009121515250		~

Figure 13. Management Module View

## 3.2.1 Management Module General Information

To view the health and general information for the Intel<sup>®</sup> Management Module, expand the Chassis Management subsystem in the main pane and select **Management Module**. When an individual component is selected, the title of the detail pane changes to identify the selected component.

When the Management Module component is selected, the following information is displayed in the detail pane at the bottom of the screen.

- Health Status The overall health status is displayed in text (Normal, Critical, or Warning). To view detailed health information and the system event log, select the Launch Modular Server Control UI task from the Tasks pane and log into the Intel<sup>®</sup> Modular Server Control UI. For more information about using the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.
- Host Name Displays the hostname for the Intel<sup>®</sup> Management Module. This setting is configured in the Intel<sup>®</sup> Modular Server Control UI.
- IP Address Displays the external IP Address for the Intel<sup>®</sup> Management Module. This
  is the IP address used to discover the Intel<sup>®</sup> Modular Server System and launch the
  Intel<sup>®</sup> Modular Server Control UI. The IP Address is configurable through the Intel<sup>®</sup>
  Modular Server Control UI.
- Firmware Version Displays the current Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 Unified Firmware Update package installed.

Figure 13 displays the detail pane when the Management Module is selected.

## 3.3 Chassis Power and Cooling View

The Chassis Power and Cooling subsystem in the main pane includes health information on all system fans and power supplies. The discovered component labeled Fans displays the overall health status for all system fans. The discovered component labeled Power Supplies displays the overall health status for all system power supplies. The health is displayed for both items with an icon and text.

### 3.3.1 Fans

To view the health and general information for all system fans, expand the Chassis Power and Cooling subsystem in the main pane and select **Fans**. When an individual component is selected, the title of the detail pane changes to identify the selected component.

The following figure displays the detail pane when Fans is selected.

- Mar (2)	1.9 50				
System Health Security	Computers Users and and Devices Groups	Licenses Applications			
fodular Server					
ub System 🔺	Health				Modular Server Tasks
Chassis Management	t			Œ	Discover Modular Server
Chassis Power and Co	ooling			8	Launch Modular Server Control UI
Fans Rower Supplies	C OK				
Chassis Storage Mod	lule and Ethernet Switches			æ	
Compute Modules				Æ	
Compute Modules				Ħ	
Compute Modules				⊞	
Compute Modules Storage Fans				ŧ	
Compute Modules Storage		 Power Supply Blank 4		8	
Compute Modules Storage B Fans I/O Fan Health Status:	Normal		Normal		
Compute Modules Storage B Fans VO Fan Health Status: Intel Temperature:	Normal 21 Degree Celsius	Power Supply Black 4 Health Statu: Iniet Temperature:	Normal 31 Degree Cetsius		
Compute Modules Storage Storage Fans V/O Fan Health Status: Iniet Temperature: Main Fan 1	Normal 21 Degree Celsius	Power Supply Black 4 Health Statur Inlet Temperature	Normal 31 Degree Cetrius		
Compute Modules Storage Fans VO Fan Health Status: Inlet Temperature: Main Fan 1 Health Status:	Normal 21 Degree Cetsius Normal	Power Supply Black 4 Health Statu: Jolet Temperature	Normal 33 Degree Celsius		
Compute Modules Storage Pans VO Fan Health Status: Intel Temperature: Main Fan 1 Health Status: Intel Temperature:	Normal 21 Degree Celsius Normal 27 Degree Celsius	Power Supply Black 4 Health Statur Joint Temperature	Normal 33 Degree Celsius	#	
Compute Modules Storage Storage VO Fan Health Statuur: Iniet Temperature: Main Fan 1 Health Statuur: Iniet Temperature: Main Fan 2	Normal 21 Degree Celsius Normal 27 Degree Celsius	Power Supply Black 4 Health Statur: Inlet Temperature	Normal 31 Degree Cebius		
Compute Modules Storage UD Fans UD Fan Health Status: Inici Temperature Main Fan 1 Health Status: Inici Temperature Main Fan 2 Health Status:	Normal 21 Degree Celsius Normal 27 Degree Celsius Normal	Power Supply Black 4 Health Statu: Inlet Temperature	Normal 33 Degree Celsius	Ð	

Figure 14. Fans View

### 3.3.1.1 Fans General Information

In the detail view, the Fans subsystem consists of subsections for each installed fan. The first column displays the health status and temperature for the required system fans: I/O Fan (chassis front), Main Cooling Fan 1 (chassis rear), and Main Cooling Fan2 (chassis rear). The second column displays the health status and temperature information for all installed Blank Power Supply Fans.

- Health Status The overall health status is displayed in text (Normal, Critical, or Warning) in the detail pane. To view detailed health information and the system event log, select the Launch Modular Server Control UI task from the Tasks pane and log in to the Intel<sup>®</sup> Modular Server Control UI. For more information about using the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.
- Temperature Displays the current fan temperature.

## 3.3.2 Power Supplies

To view health and general information for all power supplies, expand the Chassis Power and Cooling subsystem in the main pane and select **Power Supplies**. When an individual component is selected, the title of the detail pane will change to identify the selected component.

The following figure displays the detail pane title when Power Supplies is selected.

File View Window Help	-19
System Security Computers Users and And Devices Groups Licenses Applications	
Modular Server	
ub System A Health Chassis Management	Modular Server Tasks     Discover Modular Server
Chassis Power and Cooling	Launch Modular Server
Fans OK	
Chassis Storage Module and Ethernet Switches	æ
Compute Modules	Ħ
Storage	œ
n Power Supplier	
Power Supply 3	
Health Status: powerSupplyOn, powerOK Health Status: powerSup	applyOn, powerOK
ower Supply 2	
Health Status: powerSupplyOn,powerOK	

Figure 15. Power Supply View

### 3.3.2.1 Power Supplies General Information

In the detail view, the Power Supplies subsystem consists of subsections for each installed power supply. Overall health status and power state are displayed for all installed power supplies. Information for all installed Blank Power Supply Fan Modules is displayed under the Fans component.

- Health Status The overall health status is displayed in text (Normal, Critical, or Warning) in the detail pane. To view detailed health information and the system event log, select the Launch Modular Server Control UI task from the Tasks pane and log in to the Intel<sup>®</sup> Modular Server Control UI. For more information about using the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.
- Power State The power state information is included under the health status for each installed power supply.

## 3.4 Chassis Ethernet Switches and Storage Modules

The Chassis Ethernet Switches and Storage Modules subsystem in the main pane includes health information for all discovered Intel<sup>®</sup> Ethernet Switch Modules and Intel<sup>®</sup> Storage Controller Modules. The discovered component labeled Ethernet Switch Module displays the overall health status for all installed Ethernet Switch Modules. The discovered component

labeled Storage Controller Modules displays the overall health status for all installed Intel<sup>®</sup> Storage Controller Modules. The health is displayed for both items with an icon and text.

### 3.4.1 Ethernet Switch Modules

To view health information for the Intel<sup>®</sup> Ethernet Switch Modules, expand the Chassis Storage Modules and Ethernet Switches subsystem in the main pane and select **Ethernet Switch Modules**. When an individual component is selected, the title of the detail pane changes to identify the selected component.

The following figure displays the detail pane when Ethernet Switch Modules is selected.

File View Window Help	Console	
System Security Computers Users and Devices Groups	Licenses System Applications	
Modular Server		
Sub System A Health		Modular Server Tasks
Chassis Management		Discover Modular Server
14 Chassis Power and Cooling		Launch Modular Server Control UI
Chassis Storage Module and Ethernet Switches		B
Ethernet Switch Modules OK		
Storage Controller Modules OK		
Compute Modules		
Storage		Ħ
Ethernet Switch Modules		
Ethernet Switch Module 1	Ethernet Switch Module 2	
Health Status: Normal	Health Status: NOT PRES	INT
		Windows Essential Business Server
9 Items		
🎝 Start 🛛 🏯 📃 🗍 連 Windows® Essential	B 🦉 Power Supples - Paint	😡 🕲 🕁 9:49 PM

Figure 16. Ethernet Switch Modules View

### 3.4.1.1 Ethernet Switch Modules General Information

In the detail view, the Ethernet Switch Modules subsystem consists of two sections: Ethernet Switch Module 1 and Ethernet Switch Module 2. A maximum of two Ethernet switch modules can be installed in the modular server system. The overall health status is displayed for each module.

Health Status – The overall health status is displayed in text (Normal, Critical, Warning, or Not Present) in the detail pane. To view detailed health information and the system event log, select the Launch Modular Server Control UI task from the Tasks pane and log in to the Intel<sup>®</sup> Modular Server Control UI. For more information about using the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.

### 3.4.2 Storage Controller Modules

To view health information for the Intel<sup>®</sup> Storage Controller Modules, expand the Chassis Storage Modules and Ethernet Switches subsystem in the main pane and select **Storage** 

**Controller Modules**. When an individual component is selected, the title of the detail pane changes to identify the selected component.

The following figure displays the detail pane when Storage Controller Modules is selected.

Windows® Essential B	usiness Server Adn	ninistration C	onsole						
File View Window	Help	_	_		_				
System Security	Computers and Devices	Users and Groups	Licenses	System Applications					
Modular Server									
Sub System +	Health							Mo	dular Server Tasks
Chassis Manageme	ent						Œ		Discover Modular Server
Chassis Power and Cooling							⊞		Launch Modular Server Control UI
Chassis Storage Mi	odule and Ethernet S	witches					8		
-									
Ethernet Switch Modul Storage Controller Mo	es 😳 OK dules 📀 OK								
Compute Modules							F		
-									
Storage							E		
-									
Storage Controller M	odules								
Storage Controller Mod	ule 1			Storage Controller	Module 2				
Health Status:	OK			Health Status:		OK			
Scm Role:	primary			Scm Role:		secondary			
								-	Windows Essential Business Serve
Items									
7Start 📄 📠 🔳	Windows:	Essential B.	👔 ESM - PA	aint					🧓 💰 🏠 9:50 Pi

Figure 17. Storage Controller Modules View

### 3.4.2.1 Storage Controller Modules General Information

In the detail view, the Storage Controller Modules subsystem consists of two sections: Storage Controller Module 1 and Storage Controller Module 2. A maximum of two storage controller modules can be installed in the modular server system. The overall health status and role is displayed for each module.

- Health Status The overall health status is displayed in text (Normal, Critical, Warning, or Not Present) in the detail pane. To view detailed health information and the system event log, select the Launch Modular Server Control UI task from the Tasks pane and log into the Intel<sup>®</sup> Modular Server Control UI. For more information about using the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.
- Role Displays the current role (primary or secondary) for each installed storage controller module.

## 3.5 Compute Module View

The Compute Modules subsystem displays all compute modules running the Microsoft Windows\* EBS 2008 Standard Edition. The Microsoft Windows\* EBS 2008 Standard Edition installs and configures the Management Server, Security Server, and Messaging Server editions. Each OS edition is installed and configured on a separate server or compute module. The Microsoft Windows\* EBS 2008 Premium Edition includes the Management Server, Security Server, Messaging Server installation and configuration, and the optional SQL Server installation and configuration. The plug-in will discover any SQL Server installed in any of the Compute modules and display it. The Compute Modules subsystem in the main pane includes health information for all installed compute modules running Microsoft Windows\* EBS 2008 Standard Edition. The discovered component labeled Serverx displays the overall health status for the compute module installed in the modular server system compute module bay x (x represents a system slot/bay #1-6).

	19 Ga		- 10			
- · · ·	- <b>- - - - - - - - - -</b>	<b>.</b>	10			
System Security	Computers Users and and Devices Groups	Licenses	System Applications			
Modular Server						
ub System 🔺	Health				•	Modular Server Tasks
Compute Modules					8	Discover Modular Server
-						Launch Modular Server
Server 1	OK OK					Control of
Server 3	OK					
Storage					۵ 🗉	
Server 1		_			_	
Server Compute Module			Virtual Drive : Not Available			
Health Status:	Normal		Virtual Drive Name:	Not Available		
Name:	MGT.ADVENTURE-WORKS		Health Status:	OK		
IP Address:	192.168.150.62		RAID Level:	RAID 1E		
Power State:	ON		Drive Number:	0		
Operating System:	Windows Server (R) 2008 Standard		Virtual Drive : Server1			
OS EditionID:	Windows Essential Business Server Management Server		Virtual Drive Name:	Server1		
Version:	6.0		Health Status:	OK		
Memory:	4GB		RAID Level:	RAID 10		
Processor 1:	Intel(R) Xeon(R) CPU 3.00GHz	E5450 @	Drive Number:	1		
Processor 1 Status:	CPU Enabled		Virtual Drive : test1			
Processor 2:	Intel(R) Xeon(R) CPU	E5450 @	Virtual Drive Name:	test1		
	3.00GHz		Health Status:	OK		
Processor 2 Status:	CPU Enabled		RAID Level:	RAID 0		
			Drive Number:	2		Windows Essential Business Se

Figure 18. Compute Modules View

### 3.5.1 Compute Modules General Information

To view health and additional information for the Intel<sup>®</sup> Compute Modules running Microsoft Windows\* EBS 2008 Standard Edition, expand the Compute Modules subsystem in the main pane and select a compute module: Server1, Server2, Serverx (where x represents a chassis compute module bay 1 - 6). In the main pane, the overall health for each server is displayed with an icon and text. Since Microsoft Windows\* EBS 2008 requires the Management Server, Security Server, and Messaging Server to be running at all times, if one of the compute modules is powered off, the health will be displayed as critical. The context of the add-in tab is to display the status of the Microsoft Windows\* EBS 2008 servers. When a server is selected, the title of the detail pane changes to identify the selected server. Figure 18 displays the detail pane when Server1 is selected.

Detailed information for the selected compute module is displayed at the bottom of the screen in two columns.

- The first column displays detailed information about the compute module.
- The second column displays information about all virtual drives assigned to the selected server/compute module.

#### Server Compute Module Detail Column

The following information is displayed for each discovered compute module in the first column.

 Health Status – The overall health status is displayed in text (Normal, Critical, or Warning) in the detail pane. To view detailed health information and the system event log, select the Launch Modular Server Control UI task from the Tasks pane and log in to the Intel<sup>®</sup> Modular Server Control UI. For more information about using the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.

- Name Displays the operating system computer name set during the Microsoft Windows\* EBS 2008 installation for the selected compute module.
- IP Address Displays the external IP Address for the selected Intel<sup>®</sup> Compute Module. The IP Address is configurable through the operating system.
- Power States Displays the current power state (ON, OFF) for the selected Intel<sup>®</sup> Compute Module.
- Operating System Displays the installed operating system version.
- OS Edition Displays the full name of the installed OS edition. Supported editions include Microsoft Windows\* EBS 2008 Management Server, Security Server, and Messaging Server.
- Version Displays the operating system version.
- Memory Displays installed memory size.
- Processor 1 Displays the installed processor product information.
- Processor 1 Status Displays the current status for processor 1 (CPU Enabled / CPU Disabled).
- Processor 2 Displays the installed processor product information.
- Processor 2 Status Displays the current status for processor 2 (CPU Enabled / CPU Disabled).

#### Virtual Drive Detail Column

The second column displays information for each assigned virtual drive. The following information is displayed for each virtual drive:

- Virtual Drive 1: <Name> The virtual drive column is broken into subsections for each virtual drive assigned to the selected server. The heading for each virtual drive includes the virtual drive name.
- Virtual Drive Name Displays the name of the assigned virtual drive. The virtual drive name is configurable in the Intel<sup>®</sup> Modular Server Control UI. For more information about creating and modifying virtual drives within the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.
- Health Status The overall health status is displayed in text (Normal/OK, Critical, or Warning) in the detail pane. To view detailed health information and the system event log, select the Launch Modular Server Control UI task from the Tasks pane and log in to the Intel<sup>®</sup> Modular Server Control UI. For more information about using the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.
- RAID Level Displays the RAID level for the virtual drive.
- Drive Number Displays the drive number or LUN position for each virtual drive.

# 3.6 Storage View

The Storage category contains information for all Virtual Drives assigned to one of the compute modules running Microsoft Windows\* EBS 2008 Standard Edition. The overall health for the virtual drives is displayed with an icon and text in the main pane.

N 🛛	- <b></b>	<u>- 92</u>	16				
System	Computers	Users and	System				
Health Secur	ity and Devices	Groups Licenses	Applications				
Modular Server							
ub System 🔺	Health					-	Modular Server Tasks
Storage						8	Discover Modular Server
						1.1	The second black day from a
Virtual Drive	😔 OK					-	Control UI
Virtual Drive						_	
Virtual Drive : Not Available Virtual Drive : Server		1	Virtual Drive : test1		-		
Health Status:	OK	Health Status:	OK	Health Status:	ок		
Virtual Drive Name:	Not Available	Virtual Drive Name:	Server1	Virtual Drive Name:	test1		
Assigned Server:	Server 1	Assigned Server:	Server1	Assigned Server:	Server 1		
Assigned Server name:	MGT.ADVENTURE- WORKS	Assigned Server name:	MGT.ADVENTURE- WORKS	Assigned Server name:	MGT.ADVENTURE- WORKS		
RAID Level:	RAID 1E	RAID Level:	RAID 10	RAID Level:	RAID 0		
Drive Number:	0	Drive Number:	1	Drive Number	2		
Virtual Drive : SEC -		Virtual Drive : new2		Virtual Drive : new2		- 11	
Health Status:	OK	Health Status:	OK	Health Status:	OK		
Virtual Drive Name:	SEC	Virtual Drive Name:	new2	Virtual Drive Name:	new2		
Assigned Server:	Server 2	Assigned Serven	Server 2	Assigned Server:	Server 2		
Assigned Server name	SEC.ADVENTURE- WORKS	Assigned Server names	SEC.ADVENTURE- WORKS	Assigned Server name:	SEC.ADVENTURE- WORKS		
RAID Level:	RAID 1E	RAID Level:	RAID 0	RAID Level:	RAID 1		
Drive Number:	0	Drive Number:	1	Drive Number:	2		
Virtual Drive : MESS		Virtual Drive : MESS D	ATA				
Health Status:	OK	Health Status:	OK				
Virtual Drive Name:	MESS	Virtual Drive Name:	MESS DATA				-
Assigned Server:	Server 3	Assigned Server:	Server 3				Vindows
Assigned Server name:	MESS.ADVENTURE-	Assigned Server name:	MESS.ADVENTURE-			-	Essential Business S

Figure 19. Virtual Drive View

## 3.6.1 Virtual Drive General Information

To view health and general information for all virtual drives assigned to one of the compute modules running Microsoft Windows\* EBS 2008 Standard Edition, expand the Storage subsystem in the main pane and select **Virtual Drive**. When an individual component is selected, the title of the detail pane changes to identify the selected component. Figure 19 displays the detail pane when Virtual Drive is selected.

The Virtual Drive detail pane is divided into three columns with a separate section for each virtual drive. When the Virtual Drive Storage component is selected in the main pane, the following information is displayed for each virtual drive:

- Virtual Drive: <Name> The section heading for each Virtual Drive is "Virtual Drive:
   <Name>" where name equals the virtual drive name. Section headings are in bold.
- Health Status The overall health status is displayed in text (Normal/OK, Critical, or Warning) in the detail pane. To view detailed health information and the system event log, select the Launch Modular Server Control UI task from the Tasks pane and log in to the Intel<sup>®</sup> Modular Server Control UI. For more information about using the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.
- Virtual Drive Name Displays the name of the assigned virtual drive. The virtual drive name is configurable in the Intel<sup>®</sup> Modular Server Control UI. For more information about creating and modifying virtual drives within the Intel<sup>®</sup> Modular Server Control UI, refer to the Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide.

- Assigned Server Displays the assigned physical compute module location in the modular server system chassis (Server 1 / Server 2 / Server 3 / Server 4 / Server 5 / Server 6). For example, Server 1 is the compute module installed in compute module bay 1.
- Assigned Server Name Displays the operating system computer name. The computer name is configured during the Microsoft Windows\* EBS 2008 installation for the selected compute module.
- RAID Level Displays the RAID level for the virtual drive.
- Drive Number Displays the drive number or LUN position for each virtual drive.

# Glossary

This appendix contains important terms used in the preceding chapters.

Word / Acronym	Definition
EBS	Essential Business Server
LUN	Logical Unit Number or LUN is the drive number or position assigned to a virtual drive.
OS	Operating System
SNMP	Simple Network Management Protocol

# **Reference Documents**

For additional information, refer to the following documents:

- Intel<sup>®</sup> Modular Server System MFSYS25/MFSYS35 User Guide, Intel Corporation.
- Intel<sup>®</sup> Compute Module MFS5000SI User Guide, Intel Corporation
- Intel<sup>®</sup> Compute Module MFS5520VI User Guide, Intel Corporation
- Intel<sup>®</sup> Modular Server Add-In for Microsoft Windows\* Essential Business Server 2008 Release Notes, Intel Corporation