

Hitachi Compute Blade 2000, Hitachi Adaptable Modular Storage 2500, and Microsoft® Exchange 2010 Management Packs Integration with Microsoft System Center Operations Manager 2007 R2

Lab Validation Report

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Feedback

Hitachi Data Systems welcomes your feedback. Please share your thoughts by sending an email message to SolutionLab@hds.com. Be sure to include the title of this white paper in your email message.

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Lab Validation Report

As more companies deploy Exchange 2010 on different types of hardware, they face many challenges in monitoring the servers, storage, hypervisors, network devices, and applications effectively. Having the right monitoring solution helps to eliminate these issues.

IT organizations can discover and monitor the following hardware and software applications from a single centralized console using Microsoft System Center Operations Manager 2007 R2 (SCOM):

- Hitachi Compute Blade 2000
- Hitachi Adaptable Modular Storage 2500
- Microsoft Windows Server 2008
- Exchange 2010

This validates how these hardware and software components integrate and work seamlessly with System Center Operations Manager 2007.

This is written for systems administrators charged with monitoring large, dynamic environments. It assumes familiarity with Microsoft Windows 2008 R2, Microsoft Exchange 2010, and Microsoft Systems Center Operations Manager 2007 R2.

Software Overview

The following are the software applications used with System Center Operations Manager in this paper.

Hitachi Compute Blade 2000 Management Pack

The Hitachi Compute Blade 2000 management pack installs and integrates with Microsoft System Center Operations Manager 2007 R2 to discover and monitor the Hitachi Compute Blade 2000 chassis, blades and components.

After importing and configuring the management packs, System Center Operations Manager automatically monitors these components on the Monitoring pane of the SCOM Operations Console.

- Blade
- Chassis
- Fan
- Management Module
- Memory
- PCI Riser
- Power Supply
- Sensor
- Switch
- Windows Server

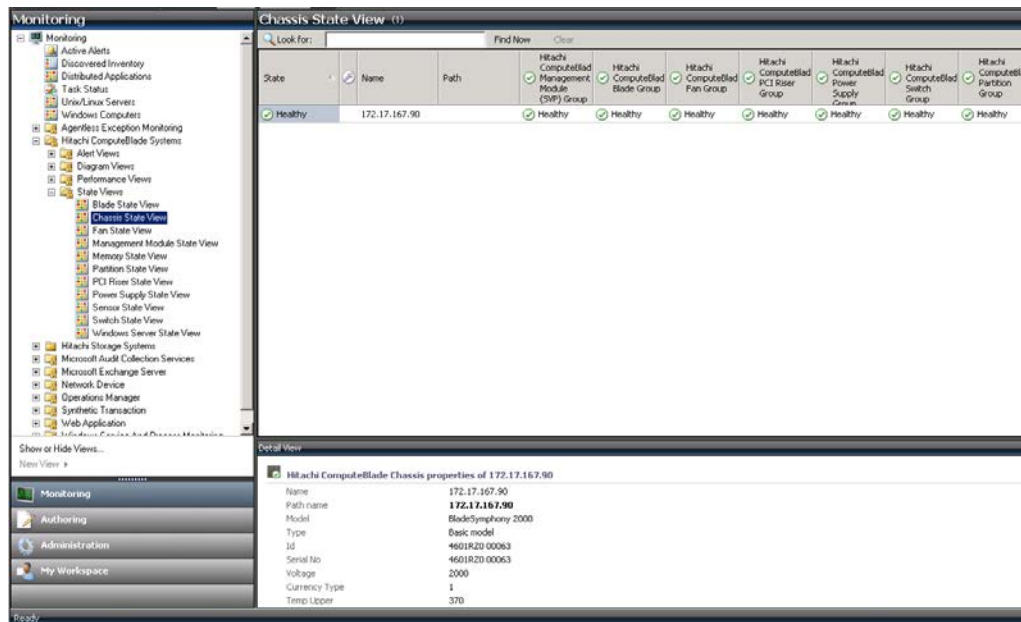


Figure 1

Figure 1 shows the Chassis State View of System Center Operations Manager.

Hitachi Storage Management Pack

Hitachi storage management pack is installed using Microsoft Windows Installer. Hitachi storage management pack connects and integrates with Microsoft System Center Operations Manager 2007 R2 to discover and monitor Hitachi Adaptable Modular Storage 2000.

After installing and configuring the Hitachi storage connector, System Center Operations Manager monitors the following components on the Monitoring pane on the SCOM Operations Console

- Controller
- Controller Port
- Drive
- HDP Pool
- Logical Unit
- RAID Group
- Subsystem

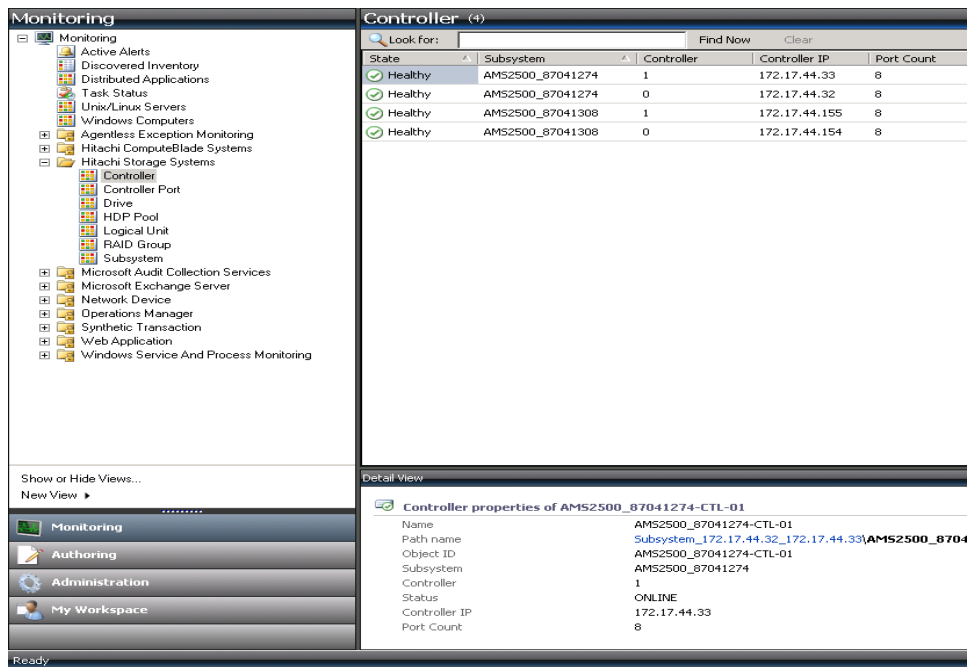


Figure 2

Figure 2 shows the Controller view of an Adaptable Modular Storage 2500.

Microsoft Exchange 2010 Management Pack

The Microsoft Exchange 2010 Management Pack works with Microsoft System Center Operations Manager 2007 R2 for monitoring the state, health, and performance of Exchange 2010. This allows you to proactively manage Exchange servers and identify issues before they become critical.

After the management pack is imported and configured, the roles listed below automatically populate within the monitoring pane in the SCOM Operations Console.

- Exchange 2010
- Client Access
- Common
- Edge Transport
- Hub Transport
- Mailbox
- Unified Messaging

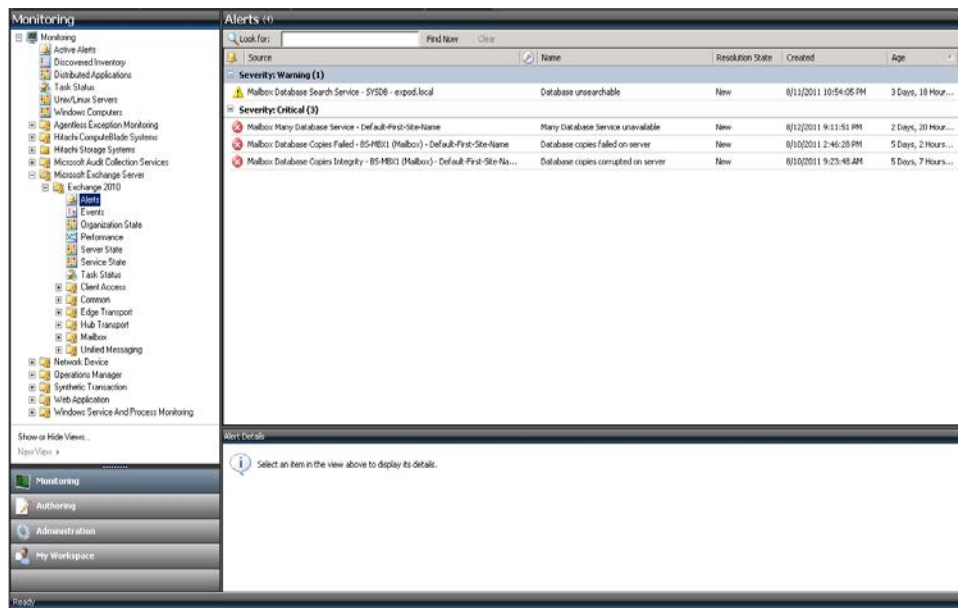


Figure 3

Figure 3 shows the monitoring of Exchange 2010.

Microsoft System Center Operations Manager 2007 R2

Microsoft System Center Operations Manager 2007 R2 is an end-to-end datacenter monitoring application for server operating systems, hypervisors, storage devices, and network devices. The application stores its data in a SQL database and manages this system using an agent or by SNMP. The monitor displays information about the hardware, software, health, and system performance following management pack rules.

The SCOM Operations Console displays information in the following panes:

- **Monitoring**—Management pack details, alerts, discovered inventory, distributed applications, and task status
- **Authoring**—Options to set the attributes, monitors, object discoveries, overrides, rules service level tracking, tasks, and views for the management pack objects
- **Reporting**—Options to run various reports on applications
- **Administration**—Options to discovering computers and devices, install agents, and setup accounts, and notifications
- **My Workspace**—Options to customize how you view the SCOM Operations Console and to save common views and searches

Engineering Validation

The goal of these tests was to validate that Hitachi Compute Blade 2000 (CB2000), Hitachi Adaptable Modular Storage 2500 (AMS 2500), and Exchange 2010 management packs integrate and work seamlessly with SCOM. The test process consists of device discovery, management pack install, and monitoring of components.

Test Results

Table 1 lists the test results.

Table 1. Test Cases

Test Case	Test Description	Objectives	Test Result
TC-1	Validate that CB 2000, AMS 2500, Windows 2008 R2 and Exchange 2010 can be discovered	Discovery Wizard	Passed
TC-2	Validate CB 2000, AMS 2000 family and Exchange 2010 management packs can be installed without errors	Install Management Pack	Passed
TC-3	Validate SCOM can monitor the AMS storage system controller	Ability to monitor the storage system controller	Passed
TC-4	Validate SCOM can monitor the AMS storage system controller port	Ability to monitor the storage system controller port	Passed
TC-5	Validate SCOM can monitor the AMS drive	Ability to monitor the drive	Passed
TC-6	Validate SCOM can monitor the AMS HDP pool	Ability to monitor the HDP pool	Passed

Test Case	Test Description	Objectives	Test Result
TC-7	Validate SCOM can monitor the AMS Logical Unit	Ability to monitor the Logical Unit	Passed
TC-8	Validate SCOM can monitor the AMS RAID Group	Ability to monitor the RAID Group	Passed
TC-9	Validate SCOM can monitor the AMS subsystem	Ability to monitor the subsystem	Passed
TC-10	Validate SCOM can monitor the server chassis	Ability to monitor the server chassis	Passed
TC-11	Validate SCOM can monitor the server blade	Ability to monitor the server blade	Passed
TC-12	Validate SCOM can monitor the chassis fan	Ability to monitor the fan	Passed
TC-13	Validate SCOM can monitor the chassis power supply	Ability to monitor the power supply	Passed
TC-14	Validate SCOM can monitor the chassis module	Ability to monitor the module	Passed
TC-15	Validate SCOM can monitor the memory	Ability to monitor the memory	Passed
TC-16	Validate SCOM can monitor the PCI riser card	Ability to monitor the PCI riser card	Passed
TC-17	Validate SCOM can monitor Windows Server 2008 R2	Ability to monitor Windows Server 2008	Passed
TC-18	Validate SCOM can monitor Exchange mailbox server	Ability to monitor Exchange mailbox server	Passed
TC-19	Validate SCOM can monitor Exchange DAG	Ability to monitor Exchange DAG	Passed
TC-20	Validate SCOM can monitor Exchange database	Ability to monitor Exchange active database	Passed
TC-21	Validate SCOM can monitor Exchange DAG	Ability to monitor Exchange DAG	Passed
TC-22	Validate SCOM can monitor Exchange services	Ability to monitor Exchange services	Passed
TC-23	Validate SCOM can monitor Exchange client access server	Ability to monitor Exchange client access server	Passed
TC-24	Validate SCOM can monitor Exchange hub transport server	Ability to monitor Exchange hub transport server	Passed

Test Environment

The environment for these tests is shown in Table 2 and Table 3.

Table 2. Hardware Component

Vendor	Hardware	Detail Description	Version	Quantity
Hitachi Data Systems	Hitachi Adaptable Modular Storage 2500	Dual Controller 16 x 8Gb/sec Fibre Channel ports 16GB cache memory 248 x 2TB, 7200 RPM, SAS disks	08B5/B-Z	1
Brocade	SAN Switch	Brocade SAN switch 5300 with 8Gb/sec Fibre Channel ports	FOS 6.4.0E	2
Hitachi Data Systems	Hitachi Compute Blade 2000 Chassis	Holds 8 server blades 16 x 8Gb/sec HBAs 8 x 1Gb/sec network ports 2 x management modules 8 x cooling fan modules 4 x power supply modules	A0154-E-5234	1
Hitachi Data Systems	Server Blade	Model X55A2 blade 2 x 6-Core Intel Xeon X5670 2.93GHz 16 x 4GB DIMM 2 x 8GB DIMM	58.22	6

Table 3. Software Components

Software	Version
Hitachi Storage Navigator	11.5
Hitachi ComputeBlade base management pack	1.0.0.0
Hitachi ComputeBlade standard management pack	1.5.1.0
Hitachi ComputeBlade Windows Server standard management pack	1.5.1.0
Hitachi Compute Blade SNMP library management pack	1.0.0.1
Hitachi Storage Systems management pack	1.1.10.0
Hitachi Storage Connector Configuration	01.1.10
Microsoft Windows Server	2008 R2
Microsoft Windows Server OS discovery management pack	2008 6.0.6794.0
Microsoft Windows Server OS monitoring management pack	2008 6.0.6794.0
Microsoft Exchange Server	2010 SP1
Microsoft Exchange 2010 management pack	14.2.71.0
Microsoft Operations Manager	2007 R2
Microsoft SQL	2008

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