



Microsoft Windows Server 2008* (x86 & x64) Dual SCM (ALUA) Installation BKM

Intel Order Number: E37652-004

Microsoft Windows Server 2008* Dual SCM Installation – Table of Contents

- Slides 3 - 5: Upgrading from Single SCM to Dual SCM
- Slides 6 - 13: Fresh install in a Dual SCM configuration

Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of others. Copyright © 2008, Intel Corporation. All Rights Reserved.



UPGRADING FROM SINGLE SCM TO DUAL SCM

Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of others. Copyright © 2008, Intel Corporation. All Rights Reserved.



Upgrading Existing OS from Single to Dual SCM

Before installing the second SCM, perform the following:

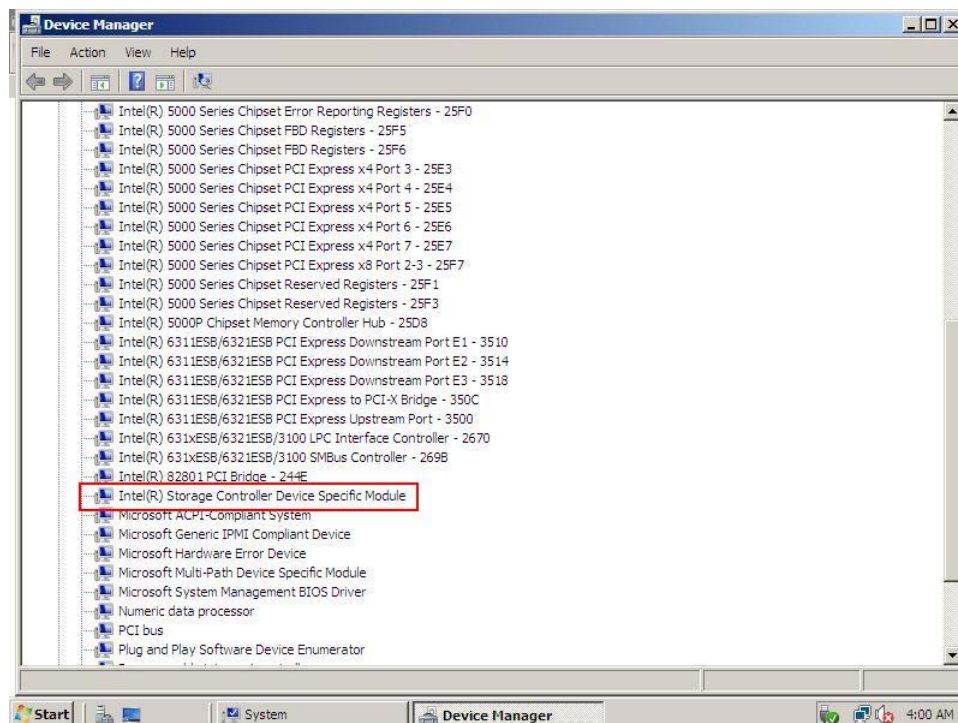
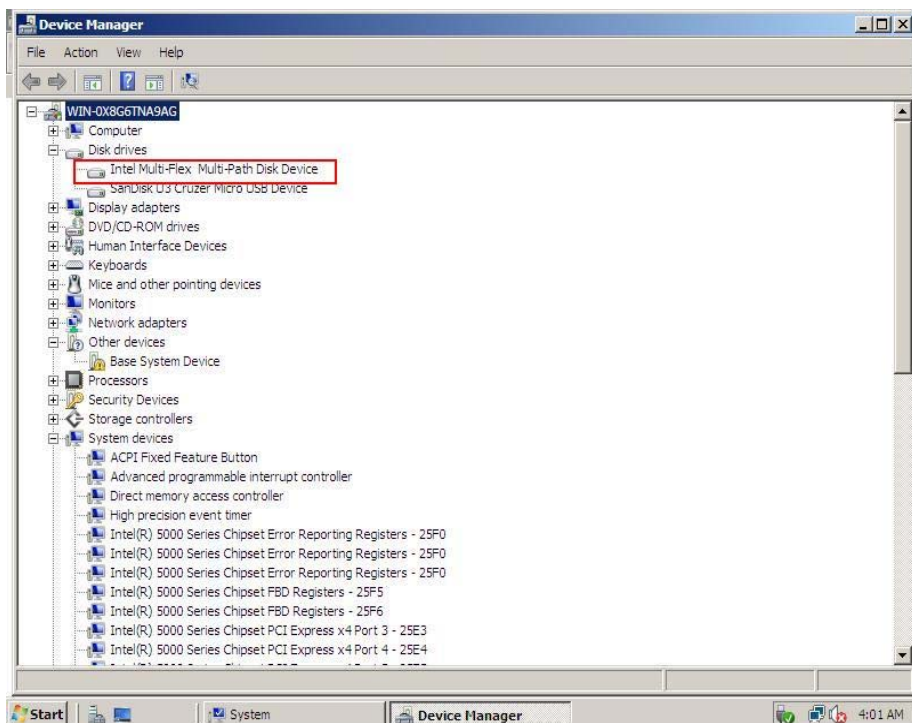
- Update the SAS driver to version 1.27.03
 - For x86, file needed is Windows2K8_x86_Installation_Disk_1.27.03.zip.
 - For x64, file needed is Windows2K8_x64_Installation_Disk_1.27.03.zip.
- Load the MPIO driver.
- Reboot the server and verify that the MPIO driver loaded correctly (see the next slide for screenshots).
 - Make sure no error messages pop-up or yellow bangs appear in the device manager.
- Shut down the compute module.
- Update the CMM to the software release that supports Dual SCM.
- Once the CMM comes back up, wait for all the updates to complete and then insert the second SCM.
- When the second SCM's firmware update completes, check the event log to ensure the SCM is operational, and then power on the compute module.



Verifying MPIO Driver Installation

Device Manager -> Disk drives

Device Manager -> System Devices



Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of others. Copyright © 2008, Intel Corporation. All Rights Reserved.



FRESH INSTALL IN DUAL SCM CONFIGURATION

Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of others. Copyright © 2008, Intel Corporation. All Rights Reserved.



Drive Creation and Assignment

- Create Storage Pool -> Virtual Drive and assign to a compute module
 - Note which SCM is assigned as the active path (see the red box in the screenshot on the next slide).
- Boot the compute module and enter the system BIOS (press F2 during POST)
 - If the active SCM for LUN 0 is SCM #1, place it first in the HDD boot order.
Typically, this will show up as ID00 LUN0 (see the screenshot on slide 9).
 - If the active SCM for LUN 0 is SCM #2, place it first in the HDD boot order.
Typically, this will show up as ID01 LUN0 (see the screenshot on slide 9).

Note: This step is critical as not correctly setting up the BIOS boot order could lead to operating systems not booting.



Virtual Drive Properties Page Showing Affinity/Active SCMs

The screenshot shows the Modular Server Control web interface in Microsoft Internet Explorer. The address bar displays `http://10.7.155.188/component_view/index.php?f-77`. The interface includes a navigation pane on the left with categories like System, Reports, Settings, and Dev. The main content area shows a server rack diagram and storage pool information. The 'pool1' section shows a total of 100.58 GB, with a 'data1' pool of 94.58 GB and a 'Boot' section of 67.98 GB. The 'Boot' section includes 'boot1' (10GB RAID0), 'boot83' (21GB RAID0), 'test2' (2GB RAID0), and 'boot8' (25GB RAID0, Server 2 Drive 0). The 'boot8' drive is highlighted in green. On the right, there are buttons for 'Assign', 'Delete', 'Rename', 'Expand', 'Wipe Boot Sector', 'Change Affinity', 'Global Actions', and 'Create Storage Pool'. Below the main content, the 'Virtual Drive Properties' table is displayed.

| Property | Value |
|-----------------|------------------|
| Status | OK |
| Name | boot8 |
| ID | 2290000155DDFC5C |
| Size | 25.00GB |
| RAID Level | RAID0 |
| Affinity/Active | SCM 1/SCM 2 |
| Assigned to | Server 2 |
| Drive Number | 0 |

©2006-2007 Intel Corporation

Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of others. Copyright © 2008, Intel Corporation. All Rights Reserved.



HDD Ordering Based on Active SCM



SCM #2 active SCM for HDD

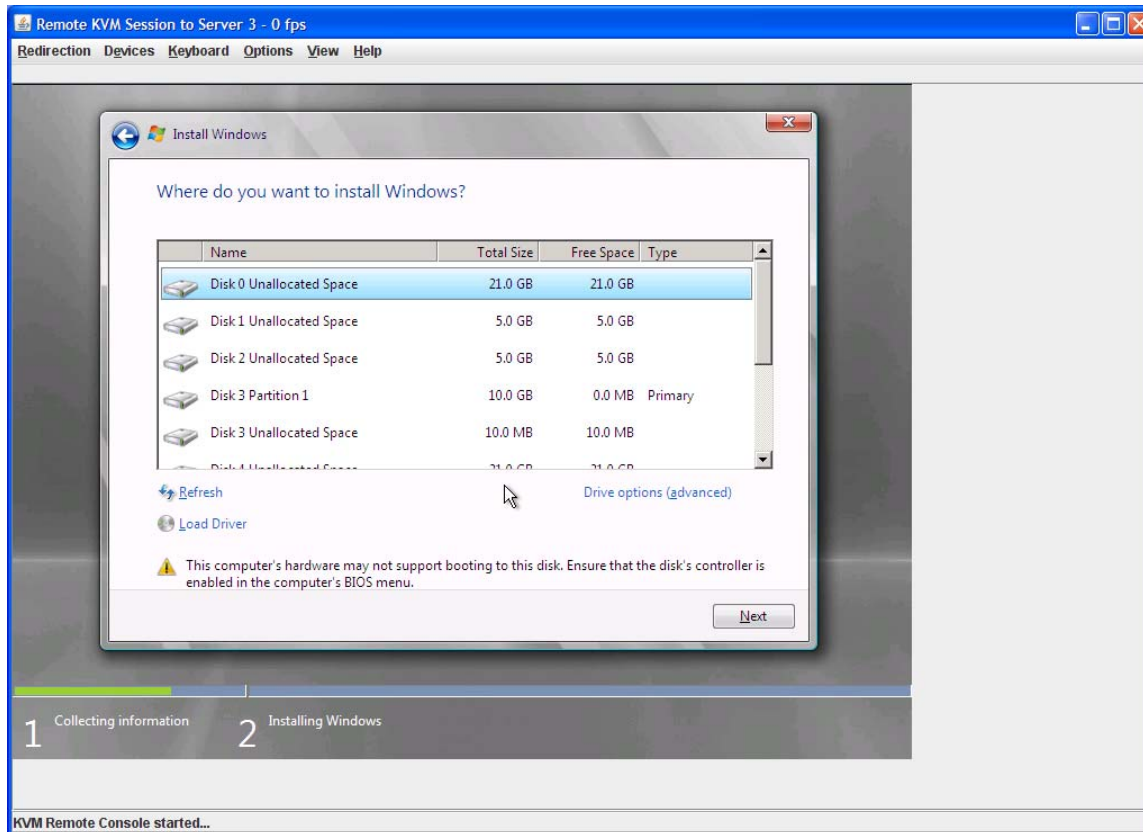
SCM #1 active SCM for HDD

Selecting Operating System Installation HDD from HDD List

- Begin the normal operating system installation process.
 - During the install, a list of HDDs where the operating system can be installed is presented. This list contains duplicate entries for all Virtual Drives assigned to the compute module (one entry for SCM #1 and one entry for SCM #2).
- Correctly select the Primary SCM's HDD that was assigned the LUN 0 position during VD creation (see the screenshot on slide 5).
 - All SCM #1 drives are listed first followed by their mirrors from SCM #2 (see the screenshot on slide 5).
 - If a secondary path is chosen by mistake, the following error message will appear at the bottom of the window, which can be corrected quickly:
"This computer's hardware may not support booting to this disk. Ensure that the disk's controller is enabled in the computer's BIOS menu."



Microsoft Windows Server 2008* HDD List



Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of others. Copyright © 2008, Intel Corporation. All Rights Reserved.



Microsoft Windows Server 2008* Installation

- Once the operating system installation completes, perform the following step:
 - Update the SAS driver to 1.27.03 version
 - For x86, file needed is Windows2K8_x86_Installation_Disk_1.27.03.zip.
 - For x64, file needed is Windows2K8_x64_Installation_Disk_1.27.03.zip.
 - Install the MPIO driver and reboot the compute module when prompted
- Complete the operating system installation by installing the following drivers in the order listed below. Reboot the compute module when prompted.
 - NIC
 - Graphics

Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

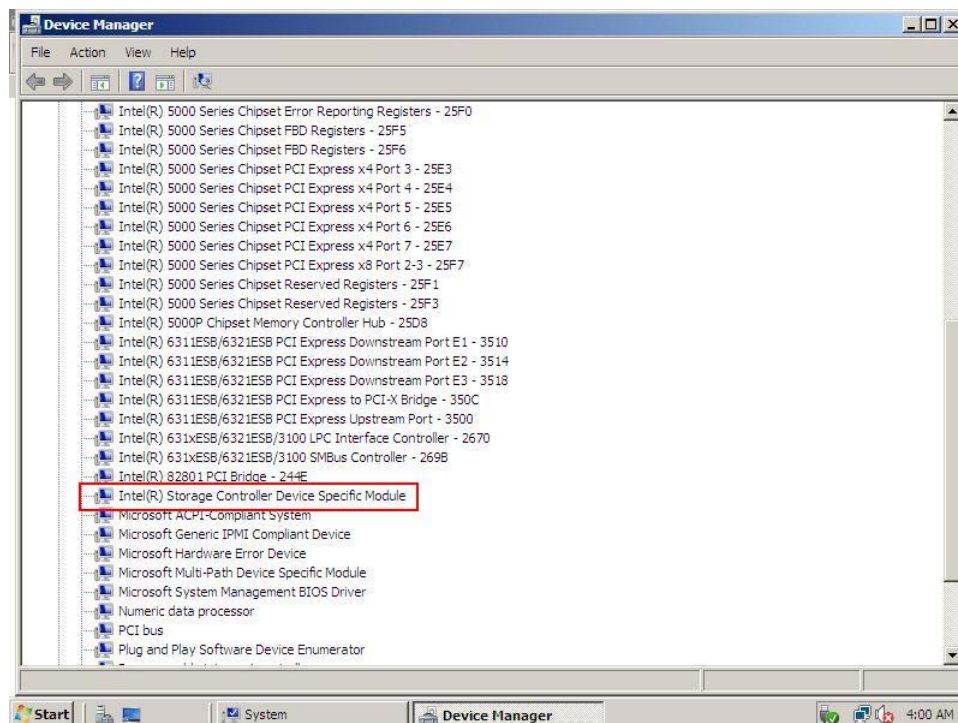
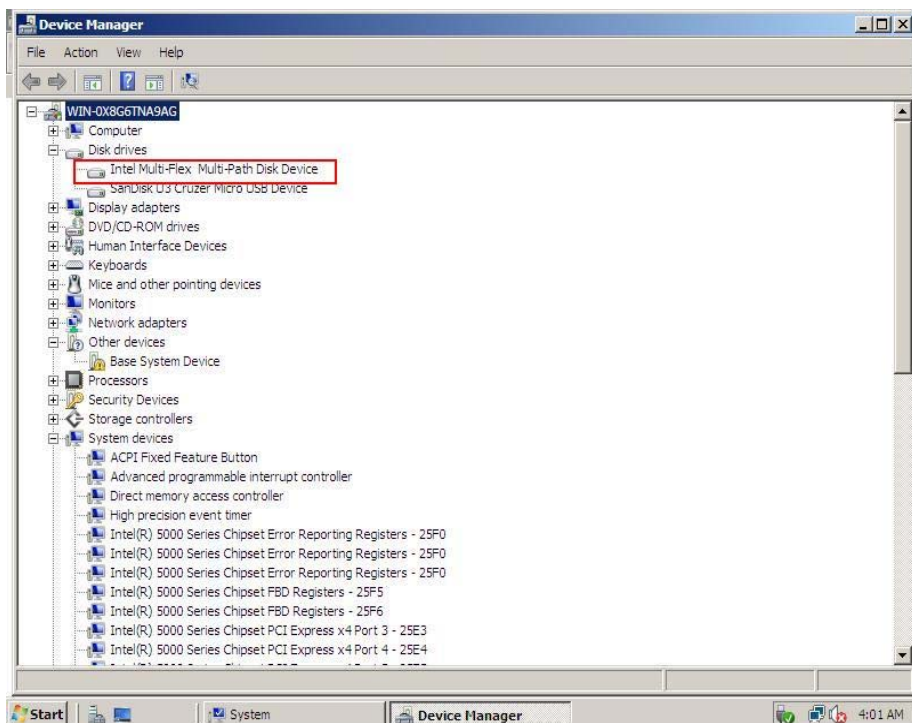
* Other names and brands may be claimed as the property of others. Copyright © 2008, Intel Corporation. All Rights Reserved.



Verifying MPIO Driver Installation

Device Manager -> Disk drives

Device Manager -> System Devices



Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of others. Copyright © 2008, Intel Corporation. All Rights Reserved.

