



Open-E Data Storage Server

Intel® Modular Server



Contents

About Open-E Data Storage Server*	4
Hardware Components.....	5
Installation Software	6
Open-E Data Storage Server* Installation.....	7



www.intel.com/go/esaa

The information contained in this document is provided for informational purposes only and represents the current view of Intel Corporation ("Intel") and its contributors ("Contributors") on, as of the date of publication. Intel and the Contributors make no commitment to update the information contained in this document, and Intel reserves the right to make changes at any time, without notice.

DISCLAIMER. THIS DOCUMENT, IS PROVIDED "AS IS." NEITHER INTEL, NOR THE CONTRIBUTORS MAKE ANY REPRESENTATIONS OF ANY KIND WITH RESPECT TO PRODUCTS REFERENCED HEREIN, WHETHER SUCH PRODUCTS ARE THOSE OF INTEL, THE CONTRIBUTORS, OR THIRD PARTIES. INTEL, AND ITS CONTRIBUTORS EXPRESSLY DISCLAIM ANY AND ALL WARRANTIES, IMPLIED OR EXPRESS, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, NON-INFRINGEMENT, AND ANY WARRANTY ARISING OUT OF THE INFORMATION CONTAINED HEREIN, INCLUDING WITHOUT LIMITATION, ANY PRODUCTS, SPECIFICATIONS, OR OTHER MATERIALS REFERENCED HEREIN. INTEL, AND ITS CONTRIBUTORS DO NOT WARRANT THAT THIS DOCUMENT IS FREE FROM ERRORS, OR THAT ANY PRODUCTS OR OTHER TECHNOLOGY DEVELOPED IN CONFORMANCE WITH THIS DOCUMENT WILL PERFORM IN THE INTENDED MANNER, OR WILL BE FREE FROM INFRINGEMENT OF THIRD PARTY PROPRIETARY RIGHTS, AND INTEL, AND ITS CONTRIBUTORS DISCLAIM ALL LIABILITY THEREFOR.

INTEL, AND ITS CONTRIBUTORS DO NOT WARRANT THAT ANY PRODUCT REFERENCED HEREIN OR ANY PRODUCT OR TECHNOLOGY DEVELOPED IN RELIANCE UPON THIS DOCUMENT, IN WHOLE OR IN PART, WILL BE SUFFICIENT, ACCURATE, RELIABLE, COMPLETE, FREE FROM DEFECTS OR SAFE FOR ITS INTENDED PURPOSE, AND HEREBY DISCLAIM ALL LIABILITIES THEREFOR. ANY PERSON MAKING, USING OR SELLING SUCH PRODUCT OR TECHNOLOGY DOES SO AT HIS OR HER OWN RISK.

Licenses may be required. Intel, its contributors and others may have patents or pending patent applications, trademarks, copyrights or other intellectual proprietary rights covering subject matter contained or described in this document. No license, express, implied, by estoppel or otherwise, to any intellectual property rights of Intel or any other party is granted herein. It is your responsibility to seek licenses for such intellectual property rights from Intel and others where appropriate.

Limited License Grant. Intel hereby grants you a limited copyright license to copy this document for your use and internal distribution only. You may not distribute this document externally, in whole or in part, to any other person or entity.

LIMITED LIABILITY. IN NO EVENT SHALL INTEL, OR ITS CONTRIBUTORS HAVE ANY LIABILITY TO YOU OR TO ANY OTHER THIRD PARTY, FOR ANY LOST PROFITS, LOST DATA, LOSS OF USE OR COSTS OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, OR FOR ANY DIRECT, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OF THIS DOCUMENT OR RELIANCE UPON THE INFORMATION CONTAINED HEREIN, UNDER ANY CAUSE OF ACTION OR THEORY OF LIABILITY, AND IRRESPECTIVE OF WHETHER INTEL, OR ANY CONTRIBUTOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING THE FAILURE OF THE ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

Intel, the Intel logo, 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.

About Open-E Data Storage Server*

Open-E Data Storage Server* (DSS*) is a unified file and block-level storage management software application, with support for IP (GbE and 10GbE), Fibre Channel and Infiniband network interfaces. DSS offers NAS, iSCSI and Fibre Channel (both target and initiator) functionality in a single application. Open-E DSS is a cost-effective, reliable storage platform with many usage models including file sharing, backup and recovery, storage consolidation, and disaster recovery.

Open-E DSS is designed with both the simplicity and ease-of-use demanded by SMB users, and the advanced features required by Enterprise users. Cost effective solutions such as Automatic Failover for high availability clusters, Remote Replication for disaster recovery and multiple scheduled Snapshots for data protection are now available to businesses of all sizes.

Open-E DSS Key Benefits

- Easy to use, GUI based management provides performance and security
- Reliable disk based backup, along with Snapshot capability enable fast and reliable backup and restore
- IP based storage management combines NAS and iSCSI functionality for centralized storage and storage consolidation
- Easy to implement remote Replication, at block or volume level, enables cost-effective disaster recovery

Hardware Components

QTY	Item	Manufacturer	Model
1	Intel® Modular Server	Intel	MFSYS25
1	Intel® Server Compute module	Intel	MF5000SI
4 GB or more	Memory Modules	Any supported	Please refer to the Tested Memory list at http://support.intel.com/support/motherboards/server/MFS5000SI/sb/CS-028536.htm
2	Intel® Xeon® Processors	Intel	Please refer to the Supported Processor list at http://support.intel.com/support/motherboards/server/MFS5000SI/sb/CS-028534.htm
7 per Chassis	SAS hard drives	Any supported	Please refer to the Tested Hardware and Operating System list at http://www.intel.com/support/motherboards/server/MFS5000SI/sb/CS-028535.htm
2	POWER SUPPLY	Intel	AXXPSU
1	SAS Storage module	Intel	AXXSCM3S

Table 1 – Intel® Modular Server Hardware Configuration

Installation Software

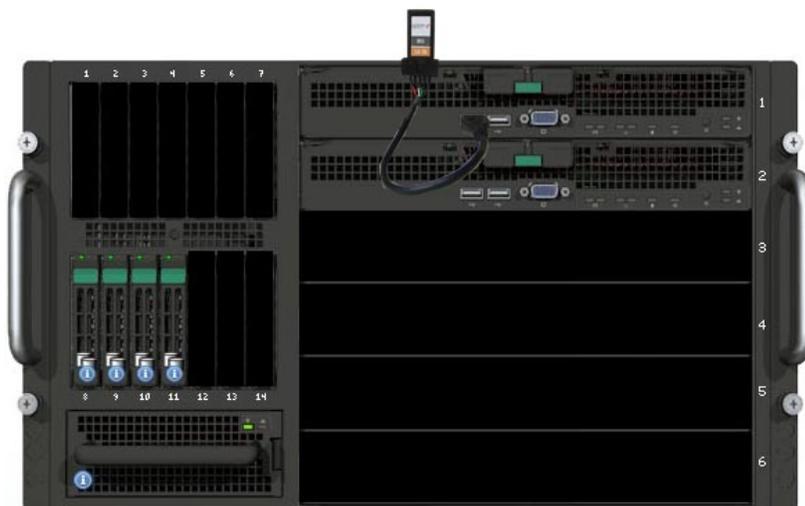
Item	Version	Manufacturer	Comment
DSS 16TB	5.0	Open-E	
DSS 8TB	5.0	Open-E	
DSS 4TB	5.0	Open-E	

Table 2 – Installation Software BOM

Open-E Data Storage Server* Installation

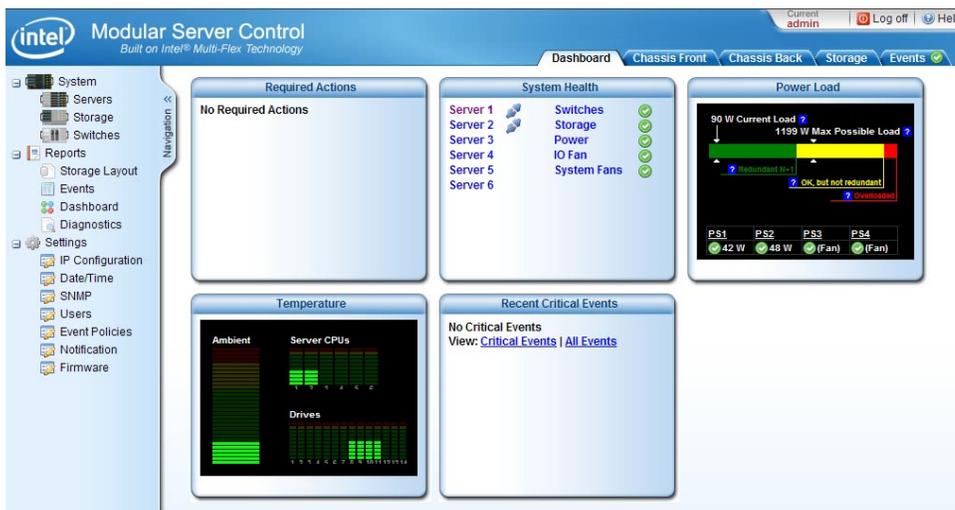
Install the Open-E Data Storage Server* USB flash module

- 1) Insert the Open-E USB flash module into the USB port connector on the chassis front Intel® Modular Server (e.g. server 1), such as on figure:

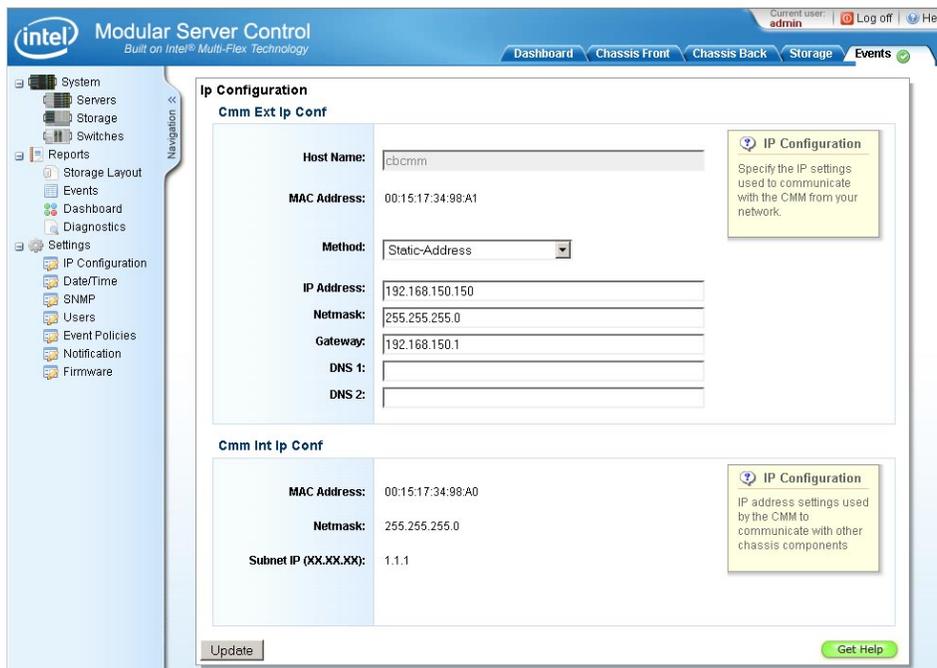


Logging into Intel® Modular Server

- 1) Connect to Intel® Modular Server via network using any standard browser by typing the IP address into the URL entry line `https://192.168.150.150`. Log into Intel Modular Server using the standard login and password = "admin".



This setting can be changed in settings by click on “IP configuration” on left page such as on figure below:



- 2) After logging in to the Modular Server, select the Storage Tab at the top.
- 3) Create a storage Pool.
- 4) Select the storage pool and choose “Create Virtual Drive” option under Actions
- 5) Enter a Name for the Virtual Disk.

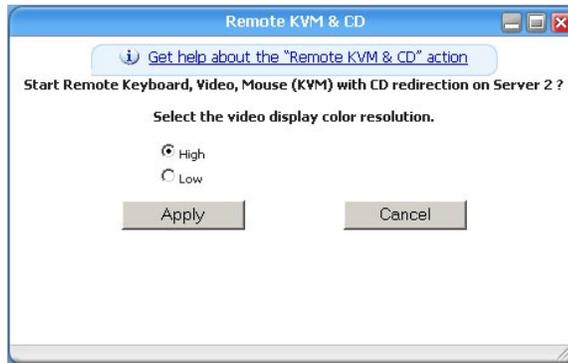


- 6) Select a Raid Level appropriate for the application. The Raid levels that are available will be dependent on the number of drives used to create the storage pool.
- 7) Enter the size in GB for the virtual disk.
- 8) Select the Server that the virtual disk will be assigned
- 9) Select the Drive number for the virtual disk.

- 10) Confirm all the settings then select “Apply”. Choose “OK” when the confirmation dialog is displayed.
- 11) With the mouse, select the Chassis Front Tab.
- 12) Click on Server 1 on the Chassis picture with the Mouse.

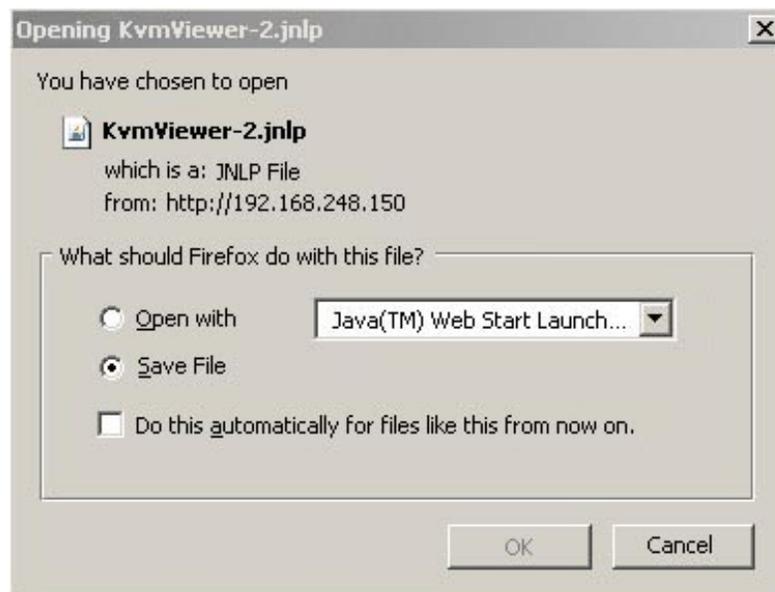
Property	Value
Status	OK, OFF
Remote KVM	No session is active
Remote Serial Console	No session is active
Product Name	Server Compute Module
Manufacturer	Intel Corporation
Manufacture Date	2007-10-12 01:29:47 PM
Part Number	D70726-403
Serial Number	B2S174000327
Asset Tag	
Management Firmware Version	1.27.1
Management FW Boot Version	0.9

13) Click on the Remote KVM & CD option under Server 1 Actions.

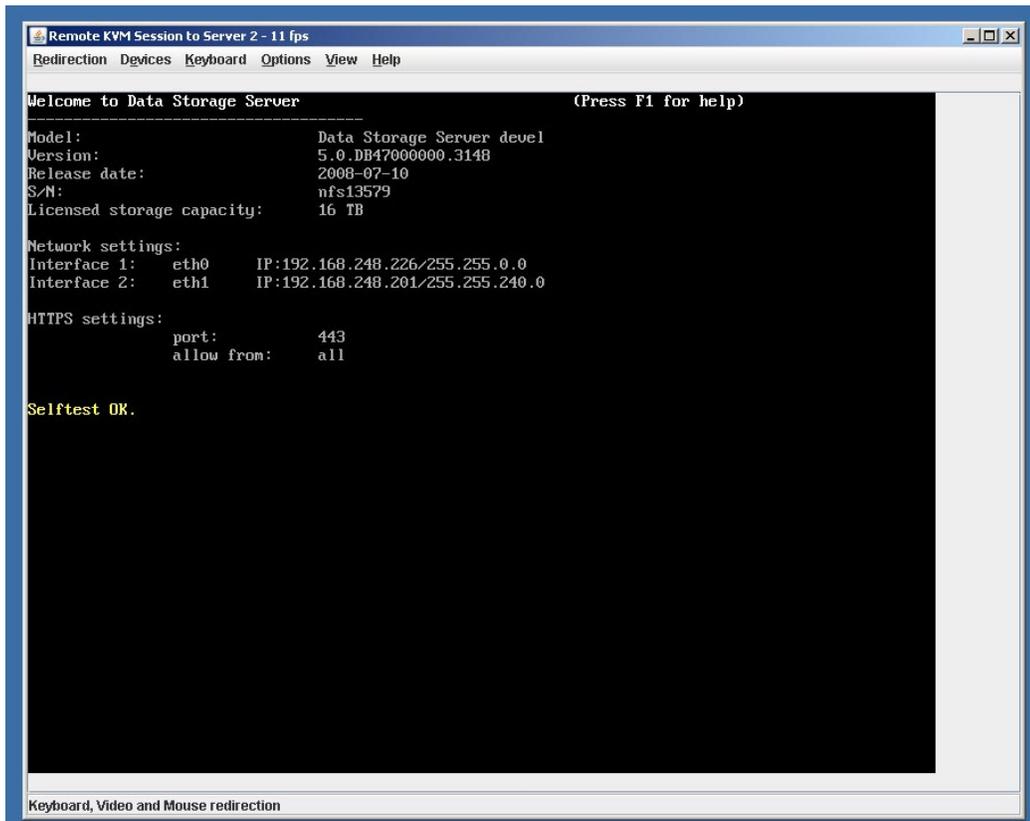


14) Select the video display color resolution and click “apply” button.

15) Next, accept download “KvmViewer-2.jnlp” file, and run KVM java scripts.



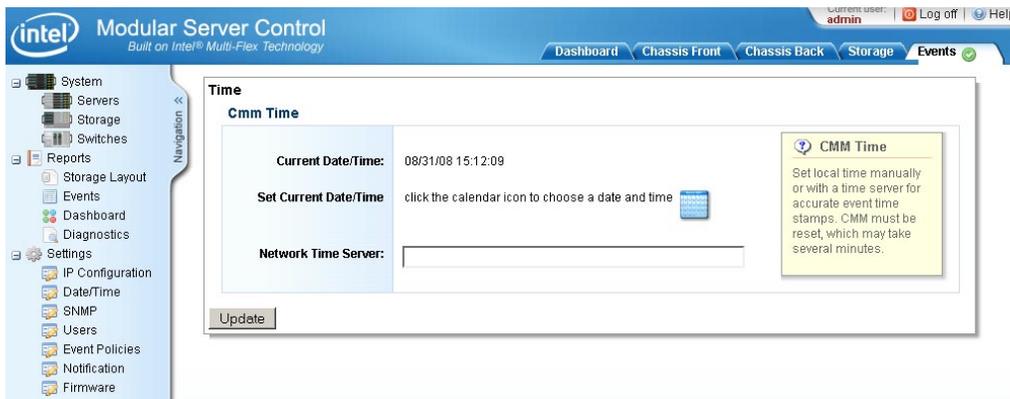
16) When running the “KvmViewer-2.jnlp” file the console of DSS will appear.



Time setting

Make sure you have proper date and time settings. The settings can be checked and changed by doing the following:

- • Click on Date/Time on the left page as on picture below.



Note: Wrong time or time zone settings will cause malfunction of the system!

17) Continue with Open-E DSS setup following the directions for the operating installation

Preparing for the remote administration of Open-E Data Storage Server

After the boot process has finished, Open-E Data Storage Server (see step 16 in the preceding section) will show you information on its network settings. The standard IP setting of the Open-E Data Storage Server is: IP address 192.168.0.220 and Netmask 255.255.255.0.

- 1) This setting can be changed manually by using the following key sequence: left “Ctrl” + left “Alt” + “N”.

Logging into Open-E Data Storage Server

- 1) Connect to Open-E Data Storage Server via network using any standard browser by typing the IP address into the URL entry line:
 - <https://192.168.0.220> or,
 - <https://dss>
- 2) Log into Open-E Data Storage Server using the standard password: "admin".
- 3) Now all server parameters can be set to get started.

Note: Password checking is case-sensitive.

Create software RAID (optional)

- For creating a RAID array, please go to menu “SETUP” - “S/W RAID”,
- Here all available units are listed. A unit can be a single hard disk or a disk array (if using a hardware RAID controller),
- Software RAID can be created over a single hard disk or hardware disk arrays,
- To create a software RAID, please select units, choose the RAID level and click on “create” button.

Preparing disks

- 1) In the menu, please select the “CONFIGURATION” - ”volume manager” and “Unit manager” function. A list of available drives/arrays (units) will appear that can be used,
 - a) While creating the “new volume group”, the system adds selected units only. Either use the default volume group name or change it. After creating, the page is reloaded and the “Status” field should show the drives/arrays as "in use",
 - b) It is possible to combine two (or more) units into one Volume Group,
- 2) Next, click on the right-hand side of the tree diagram on volume group name e.g. “vg00” and use function “Volume Manager” to create new NAS volume and/or new iSCSI volumes.
 - α) If you want to use snapshot feature create a snapshot volume.

Preparing shares

- 1) In the menu, please select "CONFIGURATION" -"NAS settings" and choose Authentication method.
- 2) Next, in the menu “NAS resources”, select “Shares”. Configure at least one user and group and grant the user access to the share or change access to share to “Guest”.

Exploring shares

Explore shares using “network neighborhood” or typing “\\192.168.0.220” or “\\dss” in a browser. Please change defaults accordingly.

The workgroup name configured in Open-E Data Storage Server must match the network settings. Otherwise configured share won't be visible in network neighborhood

Defining targets

- 1) After creating iSCSI volume (in the “Preparing Shares” section) , please choose “CONFIGURATION” - ”iSCSI target manager”, in “Create new target” function click “apply” button to create a new iSCSI target,
- 18) Next, in the diagram “Targets”, click on the previously created target name e.g. “target0” and in “Target volume manager” function click “+” button by the desired logical volume,
 - a) To restrict access to the target please refer to the manual.

Please create as many logical volumes, as many separate iSCSI volumes (LUNs) are required (in the “Preparing Shares” section).

If 5 logical volumes are created, to create one target with 5 LUNs, or 5 targets with 1 LUN, or 2 targets (where i.e. 3 LUNs belongs to first target and rest 2 LUNs belongs to the second one).

Exploring Targets

Connect with the iSCSI initiator and use the targets. Example (Microsoft Windows environment). Please download Microsoft iSCSI Initiator and follow instructions:

- ▪ Start the software and add targets in menu Discovery and enter IP Address of Open-E Data Storage System and Port (default 3260),
- ▪ In the Targets menu, please “Log On” into the target,
- ▪ Go to the Computer Management, and start Disk Manager and partition and format the new iSCSI drives to the operating system.

Please register your copy of Open-E Data Storage Server

<http://www.open-e.com/register/>

About Intel® ESAA

When you choose a validated server solution available through the Intel® Enabled Server Acceleration Alliance, you choose a solution that delivers the highest standards for quality and interoperability. Through this collaborative alliance, Intel Corporation has teamed with other industry leaders to provide you with server solutions that meet a range of business needs. Intel® ESAA provides a process to streamline deployment and implementation so you can focus on growing your business. For more information on the Intel® ESAA program, visit <http://www.intel.com/go/esaa>.



Collaborative Validation. Reliable Solutions. Complete Confidence.

