



Intel[®] Entry Storage System SS4000-E

Software Release Notes

Document Revision 1.4-K

January 2007

Storage Systems Technical Marketing Engineering

Document Revision History

Date	Revision Number	Modifications
3 Mar 2006	1.0	Initial Release
31 May 2006	1.1	Updated to reflect information pertinent to the latest 1.1 release.
19 June 2006	1.2	Removed section 2.5
15 Aug 2006	1.2-01	<ol style="list-style-type: none"> 1. Added section 5 2. Section 1 was updated to include information regarding the Korean language version
19 Sep. 2006	1.3-00	Updated all sections with information pertinent to 1.2 release
15 Nov 2006	1.4	Combined all previous versions of release notes into this document for ease of tracking and document revision management. Added information specific to the improved shutdown procedure. Modified table 1, deleted section 4 (Release 1.2) & changed section headings appropriately.
5 January 2007	1.4-K	Deleted sections for releases post 1.1. Added information for new shutdown procedure and additional information, section 2 for release 1.1-b225, for the Korean version.

Disclaimers

THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION, OR SAMPLE.

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 retains the right to make changes to its test specifications at any time, without notice.

The hardware vendor remains solely responsible for the design, sale and functionality of its product, including any liability arising from product infringement or product warranty.

Copyright © Intel Corporation 2006. All rights reserved.

Intel, the Intel logo, and EtherExpress are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

*Other names or brands may be claimed as the property of others.

Table of Contents

1. Introduction	5
2. Release 1.1-b225	6
2.1 New, Modified, or Deleted Features	6
2.1.1 Modified features	6
2.2 Clarifications	7
2.2.1 Release 1.1 build 214 Clarification	7
3. Release 1.1	9
3.1 New Features, Enhancements and Changes	9
3.1.1 Fan/thermal monitoring, CPU, other system status	9
3.1.2 Improved thermal shutdown and fan/thermal alerting	9
3.1.3 PXE remote booting and PXE imaging	9
3.1.4 HDD write-cache disabled	9
3.1.5 Web UI forces secure communication	9
3.1.6 Jumbo frames	9
3.1.7 Recovery CD test mode to check for hardware support/compatibility	10
3.1.8 Expandable NAS partition, more flexible space allocation	10
3.2 Storage System and Client Operating Systems	10
3.2.1 Remotely booting from a backup on the storage system	10
3.2.2 Accessing shared folders using CIFS, NFS or FTP	10
3.2.3 Using the web management interface during backup or restore	10
3.2.4 Downgrading to previous version of software	10
3.3 Client Backup and Recovery	11
3.3.1 Previous version of software and current version of Client Backup and Recovery utility	11
3.3.2 Intelligent Management Agent installation	11
3.3.3 After installing Client Backup and Recovery version 1.1	11
3.3.4 Partitions without drive letters	11
4. Release 1.0	12
4.1 Storage System and Client Operating Systems	12
4.1.1 Cannot use the same name for User, Group and Share	12
4.1.2 FTP allows a user to copy files to a folder that appears to not exist	12
4.1.3 System status LED continues to blink green after RAID sync complete	12
4.1.4 Unsigned SSL Certificate required	12

4.1.5	DHCP does not negotiate after power on	13
4.1.6	DHCP does not capture DNS on negotiation.....	13
4.1.7	NFS Clients do not appear in the “Current Connections” display	13
4.1.8	FTP connection times out	14
4.1.9	Event log reports incorrect events after changing DNS setting	14
4.1.10	System LED continues to blink after firmware update	14
4.1.11	Changing hostname results in USB device deadlock	14
4.2	Chassis	15
4.2.1	Reset button only resets the IP address.....	15
4.3	RAID	15
4.3.1	Adding disk(s) when RAID type is “Expandable” adds capacity to backup partition only	15
4.3.2	Reconfiguring RAID setting turns off email alerts	15
4.4	Client Backup and Recovery	16
4.4.1	The partition name can't display correct without drive letter	16
4.4.2	Windows Firewall exception list shows a blank line for Client Backup and Recovery	16
4.4.3	The Intelligent Management Agent (IMA) is not removed when the Client Backup and Recovery application is uninstalled	16
4.4.4	After installing the Client Backup and Recovery application and rebooting the client system, the license screen appears but does not indicate what application is making the request	17
4.4.5	Client Backup and Recovery application does not install	17
4.4.6	Recovery CD ejects incorrect CDrom drive	17
4.4.7	Microsoft iSCSI initiator download filename does not match the web link.....	17
4.4.8	USB keyboard in KVM is non-functional.....	18

1. Introduction

The following Release Notes provide information about changes in each release of the Intel® SS4000-E Entry Storage System Management Software, the Client Backup and Recovery Software, the Storage System Console and the Recovery CD application. The release numbers, builds and package identifier strings are as follows:

Table 1: Release component versioning

Component	Release Version	Build	Package
English			
Intel SS4000-E Entry Storage System Firmware	1.0	207	fs-bc-1.0-20060207
Client Backup and Recovery	3.5	131	v3.5-b131p
Storage System Console	1.0	129	v1.0-b129
Recovery CD Application	3.0	351	DSRECV30b351
English			
Intel SS4000-E Entry Storage System Firmware	1.1	214	BCFv11b214
Client Backup and Recovery	3.5	523	CBRv35b523
Storage System Console	1.0	116	SSCv10b116
Recovery CD Application	3.0	365	RCDv30b365
Korean			
Intel SS4000-E Entry Storage System Firmware	1.1	224	BCFv11b224
Client Backup and Recovery	3.5	528	CBRv35b528
Storage System Console	1.0	118	SSCv10b118
Recovery CD Application	3.0	365	RCDv30b365
Korean			
Intel SS4000-E Entry Storage System Firmware	1.1	225	BCFv11b225
Client Backup and Recovery	3.5	528	CBRv35b528
Storage System Console	1.0	118	SSCv10b118
Recovery CD Application	3.0	365	RCDv30b365

2. Release 1.1-b225 (Korean version)

2.1 New, Modified, or Deleted Features

2.1.1 Modified features

The following items are new features that are additional to those in releases v1.0 and v1.1.

2.1.1.1 Improved Shutdown Procedure

Running an Intel® Entry Storage System SS4000-E with firmware earlier than version 1.1, build 225, there is a possibility that the configuration files may become damaged when the system is shut down. This can result in improper operation of the system.

If configuration files are damaged, you may encounter one of the following symptoms:

- At startup, the unit is reset to the System Initialization screen, the initial screen you would see when the system is new, prior to being configured. The IP address may also be changed to the default IP address (192.168.0.101). It is important that you **DO NOT** proceed with the configuration and initialization since that will erase your backup data.
- After a firmware upgrade, the same behavior is true as above, except that the Intel® Entry Storage System SS4000-E reports the previous firmware version.
- After startup, the system is inaccessible.

Firmware version v1.1-b225 resolves these problems.

There are two paths to upgrade your system. The normal path for upgrades is the preferred path. The alternate path erases all data from the hard disk drives and is recommended only if a customer wants to return the system to a “clean system” state.

To upgrade via the normal process (preferred) do the following:

1. Download the 1.1-b225 firmware file from <http://downloadfinder.intel.com> (search for SS4000-E in the search box).
2. Extract the files from the downloaded file and save them to your hard drive on your laptop, desktop, server, etc.
3. Login to the SS4000-E management console.
4. Select the Advanced tab at the top of the webpage.
5. In the Advanced section click to select Firmware in the left border of the webpage.
6. Click the gray Browse button to the left of the small window labeled “Firmware file”.
7. Browse to the location you extracted the firmware file to.
8. Click on the .pkg file containing the new 1.1-b225 firmware.
9. Enter the admin password in the “Administrator password” window.
10. Click the blue upgrade button in the lower right of the window.

The process will take some time to complete and the system should not be shutdown while it is upgrading. Once the upgrade is complete (**please allow 30 minutes or more**) you can

verify the firmware version is correct by navigating to the Advanced: Firmware webpage. The current installed firmware revision is shown toward the top of the page.

The alternative upgrade option is described here, for those customers who have adequate capacity in another storage system to backup the data on the SS4000-E system.

To upgrade via this process do the following:

Before you upgrade, be sure to **BACKUP your data to another location**. Then, please follow the steps below.

Note: This operation will completely erase the shared folders and backup data, i.e., THIS PROCEDURE WILL REMOVE ALL DATA ON THE DRIVES.

1. Download the 1.1-b225 firmware file from <http://downloadfinder.intel.com> (search for SS4000-E in the search box).
2. Extract the files from the downloaded file and save them to your hard drive on your laptop, desktop, server, etc.
3. Backup the data on the SS4000-E to another system.
4. Shutdown the Intel® Entry Storage System SS4000-E system
5. Unplug all hard disks installed in the Intel® Entry Storage System SS4000-E system.
6. Boot up the Intel® Entry Storage System SS4000-E system
7. Login to the system by browsing the main web page:
 - a. `http://<Intel Entry Storage System SS4000-E system's IP Address>/`
 - b. NOTE: this will display the system initialization screen, not the login screen. DO NOT insert the hard drives.
8. Enter the following url to display the firmware upgrade page:
 - a. `https://<Intel Entry Storage System SS4000-E system's IP Address>/system_init_vendorF.cgi`
9. Select the v1.1-b225 software package file (fs-bc-v1.1-b525.pkg) to update the flash firmware.
10. After the previous step completes, the system should be rebooted but without the disks inserted. After the system completes the boot sequence, the disks can be inserted and scanned for and the firmware reinstalled. If the firmware package is installed and the disks are reinserted prior to rebooting the system, the system will boot off the drives and not properly complete a clean install.

2.2 Clarifications

2.2.1 Release 1.1 build 214 Clarification

The following item is a clarification of how the disk write cache behaves.

2.2.1.1 HDD Write Cache

Section 3.1.4 indicates that the HDD write cache feature was turned off in release 1.1. It has since been determined that the HDD write cache is not turned off. In the event of a sudden power

loss it is possible that data corruption could occur if a write operation was in process at the time of the power loss.

Fixed in a future release

2.2.1.2 Unassigned NAS shares

If a NAS share is unassigned to a client while a client is currently connected, the client will still be able to access the share. However, if the client disconnects and tries to reconnect to the share, they will be denied access to the share.

3. Release 1.1

3.1 New Features, Enhancements and Changes

3.1.1 Fan/thermal monitoring, CPU, other system status

The fan and thermal monitoring of the CPU and the disk drives has been improved. The web management interface has been modified to show system status which will show information such as the fan speed, the temperature of the three sensors in the system, one for the CPU temperature and two for the disk drives temperature. Other information is available in this window as well.

3.1.2 Improved thermal shutdown and fan/thermal alerting

The system will now send an email alert to notify an administrator if this condition has occurred and logs the event in the system log. The software now sends an email alert if the fan speed is not within the normal operating range as documented in the Intel SS4000-E Entry Storage System Technical Product Specification, revision 1.2.

3.1.3 PXE remote booting and PXE imaging

If the Client Backup and Recovery application is used to create a backup of a disk image, this image can be recovered by booting the client system using PXE (Pre-boot Execution Environment) and restoring the image. This capability is not supported in older systems. If your system does not support this capability, an error will be displayed.

3.1.4 HDD write-cache disabled

Hard Disk Drives (HDD) have a cache in the disk drive to temporarily store data prior to writing it to the disk platters. This can lead to data loss if a power loss is experienced while the write is occurring because there may have been data in the write cache of the HDD. This write-caching option has been turned off due to the potential for loss of data if a power loss is experienced. This causes no loss in performance.

3.1.5 Web UI forces secure communication

In the previous version of the web management user interface, the ability to login via a secure connection (https) was enabled but not the default. In this release accessing the storage system via the web management user interface is now done using a secure connection (https) to create a secure link for secure transmission of data over the network.

3.1.6 Jumbo frames

Ethernet packets are typically 1500 bytes in size. Jumbo frames support enables the packet size to be much larger (on the order of 9000 bytes) for improved network performance and some reduction in the amount of CPU cycles required to process the TCP/IP requests. You can enable jumbo frame support via the web management user interface.

3.1.7 Recovery CD test mode to check for hardware support/compatibility

If you need to use the Recovery CD to recover an image that has been backed up to the Intel SS4000-E Entry Storage Server using the Client Backup and Recovery application, the recovery CD now incorporates a test mode to check the various components in the client system being restored. It will run this test to validate your system can be restored using the drivers on the Recovery CD. If your system contains components that are not supported a report will be displayed to assist customer support in resolving the issue. This report can be saved to the client system to send to customer support for assistance in issue resolution.

3.1.8 Expandable NAS partition, more flexible space allocation

In the previous version of the product, during the initialization process the software gave the administrator the opportunity to adjust the capacity for shared folders and for image backups. Once the partitioning had completed this could not be changed without reconfiguring the system which would destroy any data on the system. The web management user interface has added a new capability to expand these partitions after the initialization process has completed. If share folder storage needs to be increased and the backup partition has available capacity, the administrator can increase the shared space which will reduce the capacity of the backup space.

3.2 Storage System and Client Operating Systems

3.2.1 Remotely booting from a backup on the storage system

If you need to remotely boot from a backup on the storage system, it is recommended that you select the IP address of the first Ethernet port. If the DHCP server option is enabled on your storage system, you can remotely boot only from the first port. If this option is disabled and you're using a separate DHCP server in your network, you can remotely boot from either port.

3.2.2 Accessing shared folders using CIFS, NFS or FTP

If you are currently accessing shared folders via CIFS, NFS or FTP and attempt to expand the NAS volume at the same time, the NAS expansion will not complete. The following message will be displayed: "The storage system is currently busy. When the system is ready, you will be automatically redirected to the appropriate page." Therefore, it is recommended that you stop access to the NAS shared folder and expand the NAS volume. Once the NAS volume has been expanded, you can proceed to access the NAS shared folder.

3.2.3 Using the web management interface during backup or restore

Performance issues could occur for backup and/or restore jobs if the Web management interface for the Intel SS4000-E Entry Storage System is accessed while backup and/or restore jobs are running.

3.2.4 Downgrading to previous version of software

If the Intel Entry Storage System SS4000-E is running firmware version 1.1, you cannot downgrade the system to run firmware version 1.0.

3.3 Client Backup and Recovery

3.3.1 Previous version of software and current version of Client Backup and Recovery utility

The Intel Entry Storage System SS4000-E firmware v1.0 does not support Client Backup Recovery v1.1.

3.3.2 Intelligent Management Agent installation

Client Backup and Recovery requires the Intelligent Management Agent (IMA) to be installed, and it is installed automatically during the installation of the Client Backup and Recovery utility. IMA requires that a C: partition exists on the machine where Client Backup and Recovery will be installed.

3.3.3 After installing Client Backup and Recovery version 1.1

After you upgrade to Client Backup and Recovery version 3.5-b523 from version 3.5-b131, you may not see the backups previously done under the earlier version by selecting "Protect A Disk". To correct this you must repair the connection, using **Repair Connection**, from disks/partitions that were protected using Client Backup and Recovery version 3.5-b131.

3.3.4 Partitions without drive letters

If you create a partition without assigning a drive letter to it, the name of the partition will not display correctly when viewing the available disk list. For example, if the third partition on a disk (Disk 0, Partition 3) has the volume label "Production" but does not have a drive letter associated with it, the Client Backup Recovery user interface will only display the partition's location on the disk (Disk 0, Partition 3).

4. Release 1.0

4.1 Storage System and Client Operating Systems

4.1.1 Cannot use the same name for User, Group and Share

Issue

If the administrator creates a user, group and share that have the same name the Intel Entry Storage System SS4000-E will generate a user conflict error.

Workaround

Do not use the same name for the user, group or share.

4.1.2 FTP allows a user to copy files to a folder that appears to not exist

Issue

A user can FTP files to the Intel Entry Storage System SS4000-E that does not appear in the web console interface. A FTP user can copy files to the storage system and list the files while connected to the storage system. The administrator will not be able to see the folder(s) in the web console interface and hence cannot manage the storage used by these folders.

Workaround

This is working as designed and is documented as information for system administration purposes.

To reclaim the space the administrator can delete the user's account which will delete the user's home folder. This deletes the folder used for ftp files as well. Prior to deleting the account the administrator should confirm the user has backed up files and other data on the storage system.

4.1.3 System status LED continues to blink green after RAID sync complete

Issue

In some instances when the system is powered on and completes the boot process, the system status LED may continue to blink green rather than solid green. If the web interface console shows "normal" for RAID status the system can be shutdown and rebooted.

Workaround

Check the web interface console for "normal" RAID status, if RAID status is "normal" shutdown the system. After shutdown, the system can be restarted (powered on).

Fixed in subsequent release

4.1.4 Unsigned SSL Certificate required

Issue

During the process of connecting to the Intel Entry Storage System SS4000-E using the web interface console a warning message may appear related to a SSL certificate. This results from the certificate being from a non-public Certificate Authority such as Verisign and not being a “signed” certificate.

Workaround

This is working as designed. It is safe to accept the certificate since it is for a secure communication channel to be established and not for authentication.

4.1.5 DHCP does not negotiate after power on

Issue

There are two Gigabit Ethernet ports on the Intel Entry Storage System SS4000-E. DHCP is enabled on the first Ethernet port and will only negotiate an IP address for the second Ethernet port at boot time. If the system has already booted and the second port is not connected to a network at boot time, it will not be assigned an IP address from a DHCP server in the network. If an Ethernet cable is plugged into the port it will not negotiate a new address.

Workaround

Plug a cable into the second port at boot time to ensure an IP address is properly assigned via the DHCP negotiation process. If the port is not used it will not impact the network.

Fixed in subsequent release

4.1.6 DHCP does not capture DNS on negotiation

Issue

When configuring the second NIC for DHCP the BC unit does not capture the DNS (Domain Name Server) address from the DHCP server. This forces the user to enter the DNS server manually.

Workaround

This is working as designed and is documented as information for system administration purposes.

Enter the DNS address manually.

4.1.7 NFS Clients do not appear in the “Current Connections” display

Issue

After establishing to connections to the BC unit (one CIFS and one NFS) the current connections page only shows the CIFS client as connected.

Workaround

None

This is working as designed and is documented as information for system administration purposes.

4.1.8 FTP connection times out

Issue

Connecting to the Intel Entry Storage System SS4000-E via FTP will timeout under Windows if there are 8 FTP clients already connected. Under Linux the connections will not timeout but will take a very long time to complete.

Workaround

If another client needs to connect to the system to transfer files via FTP first disconnect 1 or more clients that are connected. Currently the limit is 8 clients in Windows.

4.1.9 Event log reports incorrect events after changing DNS setting

Issue

After changing the Domain Name Server (DNS) address the event may be incorrectly logged in the system log. It may show the old address after the first address.

Workaround

None

4.1.10 System LED continues to blink after firmware update

Issue

After updating to fs-bc-1.0-20060207 the system LED may continue to blink green.

Workaround

After sufficient time for the system to complete the boot process after the upgrade, the system can be rebooted. This will clear the LED to solid green.

Fixed in subsequent release

4.1.11 Changing hostname results in USB device deadlock

Issue

If the hostname is changed any USB device attached to the storage system may go into a deadlock situation. Web pages may fail to display as a result.

Workaround

Disconnect the USB device either prior to changing the hostname. If the USB device is attached and a deadlock condition occurs disconnect the USB device to clear the deadlock condition.

4.2 Chassis

4.2.1 Reset button only resets the IP address

Issue

Pressing the reset button on the rear of the Intel® Entry Storage System SS4000-E does not reset the system to factory defaults.

Workaround

This is the intended behavior. The reset process only resets the IP setting of NIC 1, administrator name, and password to default value. The web console can then be used to complete configuration, such as hostname or other values not affected by a reset.

4.3 RAID

4.3.1 Adding disk(s) when RAID type is “Expandable” adds capacity to backup partition only

Issue

If the system is not fully populated with disk drives and the RAID type is set to “Expandable”, adding 1 or more disks will add their capacity to the backup space only. No additional capacity will be added to the space reserved for share folders.

Workaround

Populate all disk drive spaces prior to configuring the RAID type. Alternatively, data can be backed up if the system has data on it. Once the data is backed up the disks can be added and reconfigured. The data that was backed up can be restored to the storage system after reconfiguration.

Fixed in subsequent release

4.3.2 Reconfiguring RAID setting turns off email alerts

Issue

If RAID is reconfigured after it has been established and configured, this will disable email alerts if email alerts have been enabled.

Workaround

1. Don't reconfigure RAID
2. If RAID must be reconfigured, reset and reconfigure email alerts.

Fix

Fixed in next release.

4.4 Client Backup and Recovery

4.4.1 The partition name can't display correct without drive letter

Issue

If a disk partition is not labeled with a drive letter the partition name will not display properly.

Workaround

Ensure all hard disk drive partitions are assigned a drive letter.

Fix

Fixed in next release.

4.4.2 Windows Firewall exception list shows a blank line for Client Backup and Recovery

Issue

In the Exemption tab in the Windows Firewall service the Client Backup and Recovery application should be listed but is missing.

Workaround

None

Fix

To be fixed in next release.

4.4.3 The Intelligent Management Agent (IMA) is not removed when the Client Backup and Recovery application is uninstalled

Issue

During installation of the Client Backup and Recovery application the Intelligent Management Agent (IMA) is automatically installed if it is not already installed. If the Client Backup and Recovery application is later uninstalled the IMA is not uninstalled.

Workaround

The Intelligent Management Agent may be used by some other application. If it is to be uninstalled it can be done using the standard operating system tools for adding and removing applications.

Fix

To be fixed in next release.

4.4.4 After installing the Client Backup and Recovery application and rebooting the client system, the license screen appears but does not indicate what application is making the request

Issue

The Client Backup and Recovery application requires a license key to be entered to license the application. After installing the CBR the client system will require a reboot to run correctly. After rebooting the client system and starting the CBR, the license window appears but does not indicate what application or tool is requesting the license or key to be entered. It may not be apparent that it's the CBR.

Workaround

None. Continue by entering the requested information.

Fix

To be fixed in next release.

4.4.5 Client Backup and Recovery application does not install

Issue

When installing the Client Backup and Recovery application it may fail to install. This may be due to the drive letter for the CD being the letter "I" or higher. The application will install if the drive letter assigned is lower than or equal to "I".

Workaround

Temporarily reassign the drive letter to "I" or lower.

4.4.6 Recovery CD ejects incorrect CDrom drive

Issue

In a system with 2 or more CDrom drives, if the Recovery CD is in a drive other than the first one, it will still eject the first drive when ejected via the operating system.

Workaround

Eject the Recovery CD using the eject button on the CDrom drive.

4.4.7 Microsoft iSCSI initiator download filename does not match the web link

Issue

Installing the Microsoft iSCSI Initiator -> file name to download does not match what is on web link. The Microsoft website may show the new filename and may change in the future. (old) iSCSI-2.0-x86fre.exe -> file name has been changed to (new) Initiator-2.01-QFE-908935-x86fre.exe

Workaround

There is a direct link referenced in the user guide for downloading the correct Microsoft iSCSI initiator.

4.4.8 USB keyboard in KVM is non-functional*Issue*

When booting from the Recovery CD a USB keyboard connected through a KVM may not function. This is due to the driver for this setup not being resident on the Recovery CD.

Workaround

Use a keyboard that can directly connect to the system booting from the Recovery CD.

Fix

To be fixed in next release.