



Intel® Storage System SSR316MJ2

Specification Update

May 2005

The Intel® SSR316MJ2 Storage System SSR316MJ2 may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are documented in this Specification Update.

Order Number: C78132-005



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.

Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined." Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them.

The Intel® SSR316MJ2 may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order.

Copies of documents which have an ordering number and are referenced in this document, or other Intel literature, may be obtained by calling 1-800-548-4725 or by visiting Intel's web site at <http://www.intel.com>.

Copyright © Intel Corporation 2004

AlertVIEW, i960, AnyPoint, AppChoice, BoardWatch, BunnyPeople, CablePort, Celeron, Chips, Commerce Cart, CT Connect, CT Media, Dialogic, DM3, EtherExpress, ETOX, FlashFile, GatherRound, i386, i486, iCat, iCOMP, Insight960, InstantIP, Intel, Intel logo, Intel386, Intel486, Intel740, IntelDX2, IntelDX4, IntelSX2, Intel ChatPad, Intel Create&Share, Intel Dot.Station, Intel GigaBlade, Intel InBusiness, Intel Inside, Intel Inside logo, Intel NetBurst, Intel NetStructure, Intel Play, Intel Play logo, Intel Pocket Concert, Intel SingleDriver, Intel SpeedStep, Intel StrataFlash, Intel TeamStation, Intel WebOutfitter, Intel Xeon, Intel XScale, Itanium, JobAnalyst, LANDesk, LanRover, MCS, MMX, MMX logo, NetPort, NetportExpress, Optimizer logo, OverDrive, Paragon, PC Dads, PC Parents, Pentium, Pentium II Xeon, Pentium III Xeon, Performance at Your Command, ProShare, RemoteExpress, Screamline, Shiva, SmartDie, Solutions960, Sound Mark, StorageExpress, The Computer Inside, The Journey Inside, This Way In, TokenExpress, Trillium, Vivonic, and VTune are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

*Other brands and names are the property of their respective owners.



Contents

Revision History.....	5
Preface.....	7
Summary Table of Changes.....	9
Errata	12
Specification Changes	15
Specification Clarifications	16
Documentation Changes.....	17



This page intentionally left blank.



Revision History

Date	Revision	Description
November 2004	002	Initial release for Production SSR316MJ2 .
December 2004	003	December 2004 release for Production SSR316MJ2 .
March 2005	004	March 2004 release for Production SSR316MJ2
May 2005	005	May 2005 release for Production SSR316MJ2



This page intentionally left blank.

Preface

This document is an update to the specifications contained in the Affected Documents/Related Documents table below. This document is a compilation of device and documentation errata, and specification clarifications and changes. It is intended for hardware system manufacturers and software developers of applications, operating systems, or tools.

Information types defined in Nomenclature are consolidated into the Specification Update and are no longer published in other documents.

This document may also contain information that was not previously published.

Affected Documents/Related Documents

Title	Order Number
<i>Intel® Storage System SSR316MJ2 HW Technical Product Specification</i>	C75916-001

Nomenclature

Errata are design defects or errors. These may cause the Intel® Storage System SSR316MJ2 behavior to deviate from published specifications. Hardware and software designed to be used with any given stepping must assume that all errata documented for that stepping are present on all devices.

Specification Changes are modifications to the current published specifications. These changes will be incorporated in any new release of the specification.

Specification Clarifications describe a specification in greater detail or further highlight a specification’s impact to a complex design situation. These clarifications will be incorporated in any new release of the specification.

Documentation Changes include typos, errors, or omissions from the current published specifications. These will be incorporated in any new release of the specification.

Note: Errata remain in the Specification Update throughout the product’s lifecycle, or until a particular stepping is no longer commercially available. Under these circumstances, errata removed from the Specification Update are archived and available upon request. Specification Changes, Specification Clarifications and Documentation Changes are removed from the Specification Update when the appropriate changes are made to the appropriate product specification or user documentation (datasheets, manuals, etc.).

General Information

Identification Information

The specific components covered by this Specification Update are as follows:

System Fab #	C67449-005
Baseboard Fab #'s	A95718-307, A95718-308
Baseboard IPMC FIRMWARE	2.17
Baseboard FRUSDR	5.6.3
Baseboard BIOS	P14
Backplane FIRMWARE	1.6
SATA HBA Fab #'s	C61794-001, C61794-002
SATA HBA (Drive Interface Cards) FIRMWARE	713L
Power Supply Fab #'s	C41625-005, C41625-006
SAN Management Software initial release	6.0.25.0014
SAN Management Software Update 1	6.0.25.0017
SAN Management Software Update 2	6.0.25.0018
SAN Management Software Update 3	60.25.0021

Summary Table of Changes

The following table indicates the Errata, Specification Changes, Specification Clarifications, or Documentation Changes that apply to the Intel® Storage System SSR316MJ2. Intel may fix some of the errata in a future stepping of the component, and account for the other outstanding issues through documentation or specification changes as noted. This table uses the following notations:

Codes Used in Summary Table

Page

(Page): Page location of item in this document.

Status

Doc:	Document change or update will be implemented.
Fix:	This erratum is intended to be fixed in a future release of the product.
Fixed:	This erratum has been previously fixed.
NoFix:	There are no plans to fix this erratum.
Shaded:	This erratum is either new or modified from the previous version of the document.

Row



Change bar to the left of table row indicates this erratum is either new or modified from the previous version of the document.



Summary Table of Changes

Errata

No.	Page	Status	ERRATA
1	12	Fix	Compact Flash card is not supported in DMA mode.
2	12	Fix	Back Panel I/O NIC Label incorrect.
3	12	Fixed	Default TUI Password incorrect.
4	12	Fix	Adding BBU slows RAID 5/50 array builds
5	13	Fixed	Fibre Channel Connections Limited to 4 Clients
6	13	Fixed	Failed active power supply does not show alerts
7	13	Fixed	BBU in Charge State may Indicate Faulty
8	13	Fix	Removing a drive in RAID 0 does not show alerts
9	14	Fixed	SSC hangs when changing power supply status monitored variables
10	14	Nofix	SSC install and EBSD host driver install fails on Microsoft* Windows* Server 2003 with Service Pack 1



Specification Changes

No.	Page	Status	SPECIFICATION CHANGES
			None for this revision of this specification update.

Specification Clarifications

No.	Page	Status	SPECIFICATION CLARIFICATIONS
			None for this revision of this specification update.

Documentation Changes

No.	Page	Status	DOCUMENTATION CHANGES
1	15	Doc	Back Panel I/O Ports and Features diagram incorrect.
2	15	Doc	EMC & Safety Information was omitted.

Errata

- 1. Compact Flash card is not supported in DMA mode**

Problem: The present implementation of the front panel Compact Flash reader will not support Compact Flash devices operated in DMA mode.

Implication: The Compact Flash card will not be readable.

Workaround: Use a Compact Flash card that operates in PIO mode only.

NOTE: Please refer to the latest Tested Hardware and OS List (THOL) available via your IBL account or at <http://support.intel.com>.

Status: Fix. Will fix in a future release of the product.

- 2. Back Panel I/O NIC Label incorrect**

Problem: The Back Panel I/O NIC Label is reversed.

Implication: The actual assignment is as follows:
NIC 2 is on the top.
NIC 1 is on the bottom.

Workaround: Re-label the NIC connectors, or reverse the Ethernet cables

Status: Fix. Will fix in a future release of the product.

- 3. Default TUI Password incorrect.**

Problem: The Text User Interface (TUI) default password is incorrect.

Implication: If the TUI password is reset to factory default, the TUI will not accept “storage” as the default password.

Workaround: Use “lefthandnetworks”.

Status: Fixed. Fixed in SAN Management Software Update 1 release.

- 4. Adding BBU Slows RAID 5/50 Array Builds**

Problem: RAID 5/50 takes more time to complete builds with BBU attached.

Implication: Building RAID 5/50 arrays takes significantly longer to complete with BBU verses without BBU.

Workaround: Complete RAID 5/50 array builds without BBU attached.

Status: Fix. Will be fixed in a future release of the product.

5. Fibre Channel Connections Limited to 4 Clients

- Problem:** There is a limit of four concurrent FC client connections.
- Implication:** Using a QLogic QL234X* Fibre Channel adapter for FC connectivity, there can be no more than four clients attached to the Storage System at one time.
- Workaround:** Typical best practice SAN topologies will allocate just 1 application server/SAN filer to act as the read/write node, removing the possibility of seeing this issue. This can be achieved through sharing out the OS partitions on the application server/SAN filer. If a shared file system is required over fibre channel, 4 contiguous clients may have read/write access, allocating volumes to further clients if necessary.
- Status:** Fixed. Fixed in SAN Management Software Update 3 release.

6. Failed active power supply does not show alerts

- Problem:** No alerts are received in the console or log files if an active power supply is removed.
- Implication:** User will not receive any notification if an active power supply fails or is removed.
- Workaround:** The Power Supply Health LED (located on the power supply cage at the rear of the chassis) must be visually monitored to determine power supply health status, per section 2.2.2.2 (Power Supply LED Indicator) of the Intel® Storage System SSR316MJ2 Technical Product Specification (TPS).
- Status:** Fixed. Fixed in SAN Management Software Update 3 release.

7. BBU in Charge State may Indicate Inaccurate Faulty Status

- Problem:** BBU in charge state may show a status of Faulty.
- Implication:** User may not know if a BBU is failed or not.
- Workaround:** There is no known workaround at this time.
- Status:** Fixed. Fixed in SAN Management Software Update 2 release.

8. Removing a drive in RAID 0 does not show alerts

- Problem:** If disk drive is physically separated from the backplane in a RAID 0 environment, no alerts are sent to the console or system logs
- Implication:** User will not receive any notification if a drive is removed from the chassis. Alerts and system logging is received if a disk drive fails or is powered off normally via the Storage Console.
- Workaround:** There is no known workaround at this time. However, for fault tolerance, RAID 0 implementations with the Intel® Storage System SSR316MJ2 product should only be used in clustered environments with volume replication.
- Status:** Fix. Will be fixed in a future release of the product

Errata

9. Storage Console hangs when changing power supply monitored variables

- Problem:** Changing the status of a monitored variable for the power supply may cause the Storage Console to hang.
- Implication:** A user will not be able to set the monitoring frequency, toggle GUI alerts, SNMP traps, or set email addresses for this variable.
- Workaround:** There is no known workaround at this time.
- Status:** Fixed. Fixed in SAN Management Software Update 3 release.

10. Storage Server Console and EBSD driver install fails on Microsoft* Windows* Server 2003 with Service Pack 1

- Problem:** After Microsoft's Service Pack 1 is installed on Windows 2003 Server, some Java* base installation programs will not work. This affects Storage Server Console and EBSD client side driver installations.
- Implication:** User will not be able to install Storage Server Console and/or EBSD client driver on Windows Server 2003 with Service Pack 1.
- Workaround:**
1. As the Server Administrator, go to Start, Control Panel and select System.
 2. Navigate to Advanced>Performance Settings>Data Execution Prevention Tab.
 3. Select the "Turn on DEP for all programs and sevicees except those I select:"
 4. Add the Storage Server Console and/or EBSD Installers as an acceptable programs.
- Alternate Workaround:**
1. As the Server Administrator, go to Start, Control Panel and select System.
 2. In System Properties, select the Advanced tab.
 3. Go to System Startup & Recovery and select Settings. This displays the Startup and Recovery Window.
 4. Go to System Startup and select Edit. This displays the file boot.ini in Notepad.
 5. Search for the line that ends with the phrase "/NOExecute=OptOut" and REMOVE that phrase.
 6. Save the file and exit from Notepad.
 7. Select OK to close out the Startup and Recovery Window.
 8. Select OK to close out the System Properties Window.
 9. Reboot the server for this to take effect.
- NOTE: In a Production environment or with a server exposed to the Internet, it is recommended that this setting be restored immediately after the Java based installation program is complete.
- Status:** Nofix. There are no plans to fix this erratum.



Specification Changes

None for this revision of this specification update.



Documentation Changes

Specification Clarifications

None for this revision of this specification update.



Documentation Changes

1. Back Panel I/O Ports and Features diagram incorrect

Problem: Revision 1.0 of the Intel® Storage System SSR316MJ2 Hardware Technical Product Specification, section 1.10, page 16, incorrectly shows the Back Panel I/O NIC assignment as:

B. RJ45 NIC 1 connector.

C. RJ45 NIC 2 connector.

Implication: The actual assignment is as follows:

B. RJ45 NIC 2 connector.

C. RJ45 NIC 1 connector.

Status: Doc. Will correct in the next revision in the Intel® Storage System SSR316MJ2 Hardware Technical Product Specification.

2. EMC & Safety Information was omitted

Problem: Critical product EMC & Safety information was omitted from the 1.0 revision of the Intel® Storage System SSR316MJ2 Hardware Technical Product Specification, as listed below:

1.1 Electromagnetic Compatibility Notices

1.1.1 FCC Verification Statement (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Intel Corporation
5200 N.E. Elam Young Parkway



Documentation Changes

Hillsboro, OR 97124-6497
Phone: 1-800-628-8686

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. The customer is responsible for ensuring compliance of the modified product.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class A or B limits may be attached to this computer product. Operation with noncompliant peripherals is likely to result in interference to radio and TV reception.

All cables used to connect to peripherals must be shielded and grounded. Operation with cables, connected to peripherals that are not shielded and grounded may result in interference to radio and TV reception.

1.2.1 ICES-003 (Canada)

Cet appareil numérique respecte les limites bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", NMB-003 édictée par le Ministre Canadian des Communications.

English translation of the notice above:

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Canadian Department of Communications.



Documentation Changes

1.3.1 Europe (CE Declaration of Conformity)

This product has been tested in accordance too, and complies with the Low Voltage Directive (73/23/EEC) and EMC Directive (89/336/EEC). The product has been marked with the CE Mark to illustrate its compliance.

1.4.1 VCCI (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

English translation of the notice above:

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI) from Information Technology Equipment. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

1.5.1 BSMI (Taiwan)

The BSMI Certification Marking and EMC warning is located on the outside rear area of the product.

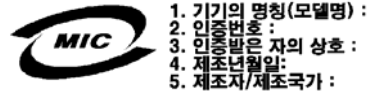
警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，
可能會造成射頻干擾，在這種情況下，使用者會
被要求採取某些適當的對策

1.6.1 RRL

(Korea)



Following is the RRL certification information for Korea.



English translation of the notice above:

1. Type of Equipment (Model Name): On License and Product
2. Certification No.: On RRL certificate. Obtain certificate from local Intel representative
3. Name of Certification Recipient: Intel Corporation
4. Date of Manufacturer: Refer to date code on product
5. Manufacturer/Nation: Intel Corporation/Refer to country of origin marked on product



Safety Cautions

Read all caution and safety statements in this document before performing any of the instructions. See also *Intel Server Boards and Server Chassis Safety Information* on the Resource CD and/or at <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.

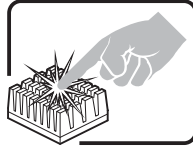


SAFETY STEPS: Whenever you remove the chassis covers to access the inside of the system, follow these steps:

1. Turn off all peripheral devices connected to the system.
2. Turn off the system by pressing the power button.
3. Unplug all AC power cords from the system or from wall outlets.
4. Label and disconnect all cables connected to I/O connectors or ports on the back of the system.
5. Provide some electrostatic discharge (ESD) protection by wearing an antistatic wrist strap attached to chassis ground of the system—any unpainted metal surface—

when handling components.

6. Do not operate the system with the chassis covers removed.



A microprocessor and heat sink may be hot if the system has been running. Also, there may be sharp pins and edges on some board and chassis parts. Contact should be made with care. Consider wearing protective gloves.

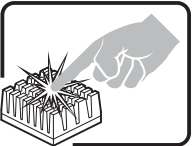
Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warn- und Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und -Servergehäusen auf der Ressourcen-CD oder unter <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.



SICHERHEISSMASSNAHMEN: Immer wenn Sie die Gehäuseabdeckung abnehmen um an das Systeminnere zu gelangen, sollten Sie folgende Schritte beachten:

1. Schalten Sie alle an Ihr System angeschlossenen Peripheriegeräte aus.
2. Schalten Sie das System mit dem Hauptschalter aus.
3. Ziehen Sie den Stromanschlußstecker Ihres Systems aus der Steckdose.
4. Auf der Rückseite des Systems beschrifteten und ziehen Sie alle Anschlußkabel von den I/O Anschlüssen oder Ports ab.
5. Tragen Sie ein geerdetes Antistatik Gelenkband, um elektrostatische Ladungen (ESD) über blanke Metallstellen bei der Handhabung der Komponenten zu vermeiden.
6. Schalten Sie das System niemals ohne ordnungsgemäß montiertes Gehäuse ein.



Der Mikroprozessor und der Kühler sind möglicherweise erhitzt, wenn das System in Betrieb ist. Außerdem können einige Platinen und Gehäuseteile scharfe Spitzen und Kanten aufweisen. Arbeiten an Platinen und Gehäuse sollten vorsichtig ausgeführt werden. Sie sollten Schutzhandschuhe tragen.

重要安全指导

在执行任何指令之前，请阅读本文档中的所有注意事项及安全声明。参见 Resource CD（资源光盘）和/或<http://support.intel.com/support/motherboards/server/sb/cs-010770.htm> 上的 *Intel Server Boards and Server Chassis Safety Information*（《Intel 服务器主板与服务器机箱安全信息》）。

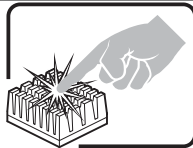
Consignes de sécurité

Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez *Intel Server Boards and Server Chassis Safety Information* sur le CD Resource CD ou bien rendez-vous sur le site <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.



CONSIGNES DE SÉCURITÉ -Lorsque vous ouvrez le boîtier pour accéder à l'intérieur du système, suivez les consignes suivantes:

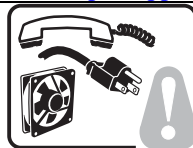
1. Mettez hors tension tous les périphériques connectés au système.
2. Mettez le système hors tension en mettant l'interrupteur général en position OFF (bouton-poussoir).
3. Débranchez tous les cordons d'alimentation c.a. du système et des prises murales.
4. Identifiez et débranchez tous les câbles reliés aux connecteurs d'E-S ou aux accès derrière le système.
5. Pour prévenir les décharges électrostatiques lorsque vous touchez aux composants, portez une bande antistatique pour poignet et reliez-la à la masse du système (toute surface métallique non peinte du boîtier).
6. Ne faites pas fonctionner le système tandis que le boîtier est ouvert.



Le microprocesseur et le dissipateur de chaleur peuvent être chauds si le système a été sous tension. Faites également attention aux broches aiguës des cartes et aux bords tranchants du capot. Nous vous recommandons l'usage de gants de protection.

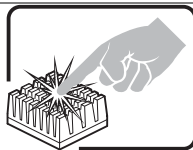
Instrucciones de seguridad importantes

Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea *Intel Server Boards and Server Chassis Safety Information* en el CD Resource y/o en <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm>.



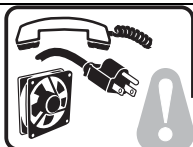
INSTRUCCIONES DE SEGURIDAD: Cuando extraiga la tapa del chasis para acceder al interior del sistema, siga las siguientes instrucciones:

1. Apague todos los dispositivos periféricos conectados al sistema.
2. Apague el sistema presionando el interruptor encendido/apagado.
3. Desconecte todos los cables de alimentación CA del sistema o de las tomas de corriente alterna.
4. Identifique y desconecte todos los cables enchufados a los conectores E/S o a los puertos situados en la parte posterior del sistema.
5. Cuando manipule los componentes, es importante protegerse contra la descarga electrostática (ESD). Puede hacerlo si utiliza una muñequera antiestática sujeta a la toma de tierra del chasis — o a cualquier tipo de superficie de metal sin pintar.
6. No ponga en marcha el sistema si se han extraído las tapas del chasis.



Si el sistema ha estado en funcionamiento, el microprocesador y el disipador de calor pueden estar aún calientes. También conviene tener en cuenta que en el chasis o en el tablero puede haber piezas cortantes o punzantes. Por ello, se recomienda precaución y el uso de guantes protectores.

AVVERTENZA: Italiano



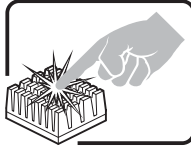
PASSI DI SICUREZZA: Qualora si rimuovano le coperture del telaio per accedere all'interno del sistema, seguire i seguenti passi:

1. Spegner tutti i dispositivi periferici collegati al sistema.
2. Spegner il sistema, usando il pulsante spento/acceso dell'interruttore del sistema.
3. Togliere tutte le spine dei cavi del sistema dalle prese elettriche.
4. Identificare e sconnettere tutti i cavi attaccati ai collegamenti I/O od alle prese installate sul retro del sistema.
5. Qualora si tocchino i componenti, proteggersi dallo scarico elettrostatico (SES), portando un cinghia anti-statica da polso che è attaccata alla presa a terra del telaio

Documentation Changes

del sistema – qualsiasi superficie non dipinta – .

6. Non far operare il sistema quando il telaio è senza le coperture.



Se il sistema è stato a lungo in funzione, il microprocessore e il dissipatore di calore potrebbero essere surriscaldati. Fare attenzione alla presenza di piedini appuntiti e parti taglienti sulle schede e sul telaio. È consigliabile l'uso di guanti di protezione.

Implication: All users of Intel® Storage System SSR316MJ2 should be familiar with the above safety guidelines to ensure proper safety practices before operating or servicing this equipment.

Status: Doc. Will correct in the next revision in the Intel® Storage System SSR316MJ2 Hardware Technical Product Specification.