



# Monthly Specification Update

**Intel® Server Board S5500BC**

**Intel® Server System SR1630BC**

**Intel® Server System SC5650BCDP**



Revision 11.0

June, 2011

- **Enterprise Platforms and Services Division Marketing**

## Revision History

Date	Modifications
April 2009	Initial release.
May 2009	<ul style="list-style-type: none"> <li>▪ Errata 9 – Excessive Time to Enter or Exit EFI Shell When AHCI is enabled in BIOS Revision R0037.Document update 1 – Updating information for usable/accessible memory for BMC video/graphic display functions for the onboard Server Engine* LLC Pilot II* video controller.</li> </ul>
June 2009	<ul style="list-style-type: none"> <li>▪ Errata 10 – Must use software package with BIOS36/FW36/FRUSDR13 or later when using 4GB memory modules in the SR1630BC.</li> </ul>
July 2009	<ul style="list-style-type: none"> <li>▪ Errata 11 – Serial Over LAN (SOL) Will not Automatically Enable Console Redirection When Console Redirection Is Disabled In BIOS Setup.</li> </ul>
August 2009	<ul style="list-style-type: none"> <li>▪ Errata 12 – Under Red Hat* Linux 5.3 when in SATA MODE to Compatibility Mode the installation process may take over an hour.</li> <li>▪ Errata 13 – Excessive logs get reported after system reboot when running SuSE* Linux 10, with Service Pack 2 x86.</li> <li>▪ Errata 14 – System hang may occur during FRU/SDR update process with the Intel® Server System SR1630BC.</li> </ul>
September 2009	<ul style="list-style-type: none"> <li>▪ Errata 15 – System May Not Configure to CLTT Mode when using Unbuffered Memory with Thermal Sensors.</li> </ul>
November 2009	<ul style="list-style-type: none"> <li>▪ Errata 16 – Clearing BIOS CMOS in BIOS Revision R0042 May Return an Invalid Date.</li> </ul>
December 2009	No updates.
January 2010	No updates.
February 2010	No updates.
March 2010	<ul style="list-style-type: none"> <li>▪ Errata 17 – Intel® Active System Console (IASC) 3.5.1 and 3.5.2 may fail to detect status of memory voltage sensors.</li> </ul>
June 2010	<ul style="list-style-type: none"> <li>▪ Errata 18, 19, 20.</li> </ul>
December 2010	<ul style="list-style-type: none"> <li>▪ Errata 2, 4, 6, 7, 16 were fixed.</li> <li>▪ Errata 21 – System with BIOS Revision R0054 may hang when Adaptec* 5405 or 5805 RAID card installed.</li> <li>▪ Errata 22 – System may not enter LSI* 9260-4i/8i RAID card webBIOS when both LSI*9260-4i/8i and LSI* 20320-R SCSI card installed.</li> </ul>
January 2011	<ul style="list-style-type: none"> <li>▪ Errata 23 – System may go to EFI first instead of Hardware RAID configuration setup page.</li> </ul>
February 2011	<ul style="list-style-type: none"> <li>▪ Errata 20 –System fail in booting into SuSE* SLES11 32 bit Xen Kernel when memory size &gt;=4GB under SW RAID mode.</li> </ul>
March 2011	No updates.
April 2011	<ul style="list-style-type: none"> <li>▪ Errata 24 – System may get blue screen on display during the installation of Windows Server 2008* R2 under UEFI mode.</li> </ul>
May 2011	No update
June 2011	<ul style="list-style-type: none"> <li>▪ Errata 25 – PCI Express link down error on bandwidth changed message may be logged in System Event Log</li> </ul>

## Disclaimers

The Intel Products specified may contain design defects or errors known as errata that may cause the products to deviate from the published specifications. Current characterized errata are documented in this Specification Update.

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# Contents

<b>Preface</b> .....	<b>1</b>
<b>Summary Tables of Changes</b> .....	<b>2</b>
<b>Errata</b> .....	<b>4</b>
1. Errors are reported during the installation of SuSE SLES 10 EM64T .....	4
2. Hyper Threading cannot be disabled in BIOS setup .....	4
3. A critical interrupt is logged in the System Event Log (SEL) when installing SuSE SLES 10 32 bit.....	4
4. Serial Console mode may display extra text or intermingled text.....	4
5. The PXE boot option is missing in BIOS Setup .....	5
6. Fans may boost temporarily when BMC is under load.....	5
7. Extra events may be seen in the SEL during system reset.....	5
8. BIOS setup may report an incorrect firmware version .....	6
9. Excessive Time to Enter or Exit EFI Shell When AHCI is Enabled in BIOS Revision R0037 .....	6
10. Must use software package with BIOS36/FW36/FRUSDR13 or later when using 4GB memory modules in the SR1630BC.....	6
11. Serial Over LAN (SOL) Will not Automatically Enable Console Redirection When Console Redirection Is Disabled In BIOS Setup .....	7
12. Under Red Hat* Linux 5.3 when in SATA MODE to Compatibility Mode the installation process may take over an hour .....	7
13. Excessive logs get reported after system reboot when running SuSE* Linux 10, with Service Pack 2 x86.....	8
14. System hang may occur during FRU/SDR update process with the Intel® Server System SR1630BC.....	8
15. System May Not Configure to CLTT Mode when using Unbuffered Memory with Thermal Sensors .....	8
16. Clearing BIOS CMOS in BIOS Revision R0042 May Return an Invalid Date.....	8
17. Intel® Active System Console (IASC) 3.5.1 and 3.5.2 may fail to detect status of memory voltage sensors.....	9
18. SuSE* SLES11 kernel may halt for 60~150seconds during installation with default BIOS setting .....	9
19. BIOS setup may report inaccurate HSC FW revision .....	10
20. System fail in booting into SuSE* SLES11 32 bit Xen Kernel when memory size >=4GB under SW RAID mode.....	10
21. System with BIOS Revision R0054 may hang when Adaptec* 5405 or 5805 RAID card installed. ....	10

22. System may not enter LSI\* 9260-4i/8i RAID card webBIOS when both LSI\*9260-4i/8i and LSI\* 20320-R SCSI card installed..... 11

23. System may go to EFi first instead of Hardware Raid configuration setup page... 11

24. System may get blue screen on display during the installation of Windows Server 2008\* R2 under UEFI mode..... 11

25. PCI Express link down error or bandwidth changed message may be logged in System Event Log..... 11

**Documentation Changes ..... 13**

1. Updating information for usable/accessible memory for BMC video/graphic display functions for the onboard Server Engine\* LLC Pilot II\* video controller..... 13

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## Preface

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This document communicates product Errata and Documentation Changes and Corrections for the following Intel Server Products:

- Intel® Server Board S5500BC
- Intel® Server System SR1630BC
- Intel® Server System SC5650BCDP

Refer to the *Intel® Xeon® Processor 5500 Series and Intel® Processor 5600 Series Specification Updates* for specification updates concerning the Intel® Xeon® Process 5500 series and 5600 series processors. Items contained in the *Intel® Xeon® Processor 5500 series and 5600 series Specification Update* that either do not apply to the Monthly Specification Update or have been worked around are noted in this document. Otherwise, it should be assumed that any processor errata for a given stepping are applicable to the Printed Board Assembly (PBA) revisions(s) associated with that stepping.

This documentation communicates the following types of changes:

**Specification Changes** are modifications to the current published specifications for a given product. These include typos, errors, or omissions. Specified changes will be incorporated in the next release of the document.

**Specification Clarifications** describe a supported feature or function in greater detail or further highlight their impact to a complex design requirement. These clarifications will be incorporated in the next release of the document.

**Errata** are design defects or deviations from current published specifications for a given product. Published errata may or may not be corrected. Hardware and software designed to be used with any given processor stepping must assume that all errata documented for that processor stepping are present on all devices.

## Summary Tables of Changes

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The following tables provide an overview of known errata and known document changes that apply to the specified Intel Server Products. The tables use the following notations:

**Doc** Intel intends to update the appropriate documentation in a future revision.

**Fix** Intel intends to correct this erratum.

**Fixed** This erratum has been corrected.

**NoFix** There are no plans to correct this erratum.

**Shaded** This item is new or has been modified from the previous specification update.

**Table 1. Errata Summary**

No.	Plans	Description of Errata
1.	Fix	Errors are reported during the installation of SuSE SLES 10 EM64T.
2.	Fixed	Hyper Threading cannot be disabled in BIOS setup.
3.	NoFix	A critical interrupt is logged in the System Event Log (SEL) when installing SuSE SLES 10 32 bit.
4.	Fixed	Serial Console mode may display extra text or intermingled text.
5.	Fix	The PXE boot option is missing in BIOS Setup.
6.	Fixed	Fans may boost temporarily when BMC is under load.
7.	Fixed	Extra events may be seen in the SEL during system reset.
8.	Fixed	BIOS setup may report an incorrect firmware version.
9.	Fixed	Excessive Time to Enter or Exit EFI Shell When AHCI is Enabled in BIOS Revision R0037.
10.	Fixed	Must use software package with BIOS36/FW36/FRUSDR13 or later when using 4GB memory modules in the SR1630BC.
11.	Fix	Serial Over LAN (SOL) Will not Automatically Enable Console Redirection When Console Redirection Is Disabled In BIOS Setup.
12.	Fix	Under Red Hat* Linux 5.3 when in SATA MODE to Compatibility Mode the installation process may take over an hour.
13.	Fix	Excessive logs get reported after system reboot when running SuSE* Linux 10, with Service Pack 2 x86.
14.	Fixed	System hang may occur during FRU/SDR update process with the Intel® Server System SR1630BC.
15.	Fixed	System May Not Configure to CLTT Mode when using Unbuffered Memory with Thermal Sensors.
16.	Fixed	Clearing BIOS CMOS in BIOS Revision R0042 May Return an Invalid Date.
17.	Fix	Intel® Active System Console (IASC) 3.5.1 and 3.5.2 may fail to detect status of memory voltage sensors.
18.	NoFix	SuSE* SLES11 kernel may halt for 60 ~ 150 seconds during installation with default BIOS setting.
19.	Fix	BIOS setup may report inaccurate HSC FW revision.
20.	NoFix	System fail in booting into SuSE* SLES11 32 bit Xen Kernel when memory size >=4GB under SW RAID mode.



No.	Plans	Description of Errata
21.	Fix	System with BIOS Revision R0054 may hang when Adaptec* 5405 or 5805 RAID card installed.
22.	Fix	System may not enter LSI* 9260-4i/8i RAID card web BIOS when both LSI*9260-4i/8i RAID card and LSI* 20320-R SCSI card are installed.
23.	NoFix	System may go to EFI first instead of Hardware RAID configuration setup page.
24.	Fixed	System may get blue screen on display during the installation of Windows Server 2008* R2 under UEFI mode.
25.	Fixed	PCI Express link down error or bandwidth changed message may be logged in System Event Log

**Table 2. Documentation Changes**

No.	Plans	Document Name	Description of Documentation Change
1.	Doc	<i>Intel® Server Board S5500BC Technical Product Specification</i>	Updating information for usable/accessible memory for BMC video/graphic display functions for the onboard Server Engine* LLC Pilot II* video controller.

The following sections provide in-depth descriptions of each erratum/documentation change indicated in the tables above. The errata and documentation change numbers referenced in the following sections correspond to the numbers in the tables above.

# Errata

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## 1. Errors are reported during the installation of SuSE SLES 10 EM64T

Problem	When installing SuSE* SLES 10 EM64T with Advanced Error Reporting (AER) capabilities enabled, an AER error is logged in the operating system event log.
Implication	AER uses an optional ACPI requirement, -OCS, that is not available in the S5500 BIOS revisions. There is no functional impact.
Status	This issue may be fixed in a future BIOS revision.
Workaround	None.

## 2. Hyper Threading cannot be disabled in BIOS setup

Problem	In the BIOS Setup Menu: \Advanced\Processor, setting the Hyper Threading option to disabled will initially indicate the option is disabled. However, when the user re-enters BIOS Setup, the option will be enabled.
Implication	Users that desire to disable Hyper Threading will not be able to do so.
Status	This issue was fixed in BIOS release R0034.
Workaround	None

## 3. A critical interrupt is logged in the System Event Log (SEL) when installing SuSE SLES 10 32 bit

Problem	A critical interrupt, PCIe Fat Sensor –[severity] event: Critical Interrupt, is logged during the installation of SuSE SLES 10 32 bit.
Implication	The user will see a PCIe critical event logged. There is no functional impact.
Status	No Fix.
Workaround	Ad “noisapnp” to the command line option to prevent scanning of a ISA plug and play devices.

## 4. Serial Console mode may display extra text or intermingled text

Problem	When operating in serial console mode, during POST the user may notice 1 of 2 conditions.
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1. The user may see the numeral 10 displayed at the top right corner of the screen or,
2. The RAID controller information may be intermingled with the platform information displayed by BIOS.

Implication There is no functional impact associated with this erratum.

Status This issue was fixed in BIOS release R0038.

Workaround None.

## 5. The PXE boot option is missing in BIOS Setup

Problem If a user disables the primary (onboard) video in BIOS Setup, the PXE boot option will disappear from the BIOS Boot Manager.

Implication Users that desire to utilize the PXE boot option must leave the primary (onboard) video enabled.

Status This issue may be fixed in a future BIOS revision.

Workaround None.

## 6. Fans may boost temporarily when BMC is under load

Problem The system fans may boost when the BMC is operating under a heavy load. This can include large sequential BMC tasks such as viewing the system event log, configuring the BMC or resetting the system. The fans return to normal automatically after the BMC operations complete.

Implication The systems fans will run at a higher state temporarily, increasing acoustics.

Status This issue was fixed with BMC 00.36.

Workaround NONE.

## 7. Extra events may be seen in the SEL during system reset

Problem The BMC may log periodic, spurious SEL events during a system reset. These events may appear as fan errors or double appearances of normal events. The spurious fan readings will only happen during reset and are not an indication of an actual fan failure. Fan failure events that occur during a reboot should be ignored.

Implication The SEL log may indicate fan errors or double instances of normal events intermittently.

Status This issue was fixed with BMC 00.36.

Workaround None

## 8. BIOS setup may report an incorrect firmware version

Problem The BIOS setup screens to display the versions of SDR and ME firmware version may report an incorrect version. The version displayed may be of the previously installed versions.

Implication After firmware update, the BIOS screens may not show the correct version until the system is AC cycled.

Status This issue may be fixed in a future BMC release.

Workaround None.

## 9. Excessive Time to Enter or Exit EFI Shell When AHCI is Enabled in BIOS Revision R0037

Problem If AHCI is enabled in BIOS setup, it will take the user approximately 3 or more minutes to enter the EFI shell from BIOS Setup and approximately 3 or more minutes to exit the EFI shell.

Implication Users should expect long delays when entering the EFI shell from BIOS setup if AHCI is also enabled.

Status This issue may be fixed in a future BIOS revision.

Workaround None

## 10. Must use software package with BIOS36/FW36/FRUSDR13 or later when using 4GB memory modules in the SR1630BC

Problem The system fans in the SR1630BC do not adequately cool the system when populated with 4GB memory modules

Implication Users can experience the system to blue screen

Status This issue can be fixed by installing FRUSDR 13 or later.

Workaround None

## 11. Serial Over LAN (SOL) Will not Automatically Enable Console Redirection When Console Redirection Is Disabled In BIOS Setup

Problem	If console redirection is disabled in BIOS setup SOL will no longer automatically detect this condition and then enable console redirection.
Implication	Console redirection must be enabled in BIOS setup prior to utilizing SOL. Furthermore, the IPMI command <i>SetSystemBootOption</i> to enable console redirection is not supported.
Status	This issue may be fixed in a future BIOS revision or with the optional IPMI command support.
Workaround	None

## 12. Under Red Hat\* Linux 5.3 when in SATA MODE to Compatibility Mode the installation process may take over an hour

Problem	While trying to change from SATA Mode to Compatibility Mode the installation process may take up to 80 minutes or more to complete.
Implication	Users should expect a long delay when installing Red Hat* Linux under SATA Mode to Compatibility Mode.
Status	This issue may be fixed in a future OS release.
Workaround	Connect the hard drive cables to SATA ports 4 and 5 which run off the second SATA controller which will run as native mode regardless of compatibility mode.

Red Hat\* Linux workaround installation instructions:

1. Type "linux ide0=noprobe ide1=noprobe" as boot option.
2. Continue with installation, after files are copied and at first prompts to reboot, press "Ctrl+Alt+F2" switch to text console.
3. vi /mnt/sysimage/boot/grub/grub.conf, to add ide0=noprobe ide1=noprobe at end of each line of "kernel /vmlinuz- ..." definition.
4. Save grub configuration, then continue reboot and then complete the rest of the installation.

If the operating system has already been installed, then add ide0=noprobe ide1=noprobe at end of each line of "kernel /vmlinuz- ..." definition in grub.conf will work after reboot.

### 13. Excessive logs get reported after system reboot when running SuSE\* Linux 10, with Service Pack 2 x86

Problem	During system reboot excessive logs are getting reported in the system SEL.
Implication	During a system reboot the user will see excessive logs being reported into the system SEL.
Status	This issue may be fixed in a future OS release.
Workaround	These errors occur during the ISA PNP scan. A workaround is to add "noisapnp" to the command line options during operating system installation or modify grub after installation.

### 14. System hang may occur during FRU/SDR update process with the Intel® Server System SR1630BC

Problem	During system reboot excessive logs are getting reported in the system SEL
Implication	User may experience a system hang during the FRU/SDR update process.
Status	This issue has been fixed by installing FRUSDR 16 or later.
Workaround	None

### 15. System May Not Configure to CLTT Mode when using Unbuffered Memory with Thermal Sensors

Problem	When user goes to "CLTT" mode under "System Acoustics and Performance Configuration" --> "Set Throttling Mode" in BIOS version 38. After changing the "Set throttling" mode from default "AUTO" to "CLTT" and saving it by pressing F10 key. In next reboot and entering into BIOS settings, CLTT mode is changes to "OLTT" mode.
Implication	CLTT Mode is the preferred operating mode but when using UDIMM's with thermal sensors the system changes to OLTT mode.
Status	This issue will be fixed in BIOS 41.
Workaround	None

### 16. Clearing BIOS CMOS in BIOS Revision R0042 May Return an Invalid Date

Problem	If the user clears the BIOS CMOS settings via jumper or using the Sysconfig /bldfs switch, the date in BIOS setup may be corrupted and read 09XX.
Implication	An invalid date stamp, 09XX, may be displayed in BIOS setup after clearing BIOS CMOS settings using the jumper or the Syscfg utility resulting in the user having to perform an extra reboot of the system to recover the date in the proper format.
Status	This issue was fixed in BIOS release R0045.
Workaround	An additional reboot will reset the date format in BIOS setup. However, the user will have to set the date and time to the current local settings.

## 17. Intel® Active System Console (IASC) 3.5.1 and 3.5.2 may fail to detect status of memory voltage sensors

Problem	When using low voltage memory DIMM's the FRUSDR enables the corresponding memory voltage sensor for the type of memory installed and leaves the other memory sensor disabled. The current version of the IASC cannot judge that status of memory voltage sensor that have been disabled and marks the sensor as "0". The "0" reading is lower than the threshold should be. This causes it to show in the IASC monitor as a critical warning.
Implication	IASC fails to judge the status of disabled sensors and still considers those sensors to server health algorithm.
Status	We will fix this issue on IASC next release.
Workaround	None

## 18. SuSE\* SLES11 kernel may halt for 60~150seconds during installation with default BIOS setting

Problem	Customer may find SuSE* SLES11 kernel halts for 60~150 seconds during installation with default BIOS setting.
Implication	When boots to SLES installation media, after clicking "installation" at the prompt screen will go black and freeze for 60~150seconds until USB keyboard "enter" key is pressed.
Status	This issue is caused by a kernel bug.
Workaround	Customer can wait 60~150 seconds or press "enter" key after screen freezes to continue with the installation.

## 19. BIOS setup may report inaccurate HSC FW revision

Problem	With Baseboard BIOS version R0050 and BMC version 53, the HSC FW revision may be inaccurately shown as 123.415 instead of 0.00 if there is no backplane connected to the board or system. HSC FW revision is located at the BIOS setup Server Information page (Server Management – Server Information –HSC Firmware revision)
Implication	There is no functional impact associated with this erratum.
Status	This erratum will be fixed in a future BIOS release.
Workaround	None

## 20. System fail in booting into SuSE\* SLES11 32 bit Xen Kernel when memory size >=4GB under SW RAID mode

Problem	System fail in booting into SLES11 32 bit Xen Kernel when memory size >=4GB under SW RAID mode.
Implication	When memory size >=4GB, megasr.ko cannot be mounted by SLES 11 32bit XEN mode, due to OS limitation.
Status	This erratum is due to architecture limitation in the configuration of SLES 11 32bit XEN mode and ESRT2 SW RAID. There is no plan for a fix now.
Workaround	Use 64bit version of SLES 11 XEN mode.

## 21. System with BIOS Revision R0054 may hang when Adaptec\* 5405 or 5805 RAID card installed.

Problem	On a system with the Adaptec* 5405 or 5805 RAID card installed, the system may hang during POST.
Implication	User may experience system hangs during POST with the above system configuration.
Status	This issue may be fixed in a future BIOS revision.
Workaround	Use BIOS revision R0050



## 22. System may not enter LSI\* 9260-4i/8i RAID card webBIOS when both LSI\*9260-4i/8i and LSI\* 20320-R SCSI card installed

Problem	System may not enter LSI* 9260-4i/8i RAID card webBIOS with both LSI* 9260-4i/8i card and LSI* 20320-R SCSI card installed
Implication	User may find not able to go into LSI* 9260-4i/8i RAID card webBIOS even Ctrl+H was pressed.
Status	This issue may be fixed in a future BIOS revision.
Workaround	Press CTRL key again when see blinking cursor, the blinking cursor will be on the top left corner when Ctrl+H was pressed.

## 23. System may go to EFi first instead of Hardware Raid configuration setup page

Problem	System may go to EFI first instead of Hardware Raid configuration setup page when using Hardware RAID and setting EFI as the first boot device
Implication	There is no function impact associated with this erratum
Status	Will not fix.
Workaround	Do the following: <ol style="list-style-type: none"><li>1. Change EFI booting order instead of first boot device.</li><li>2. Type "EXIT" in Internal EFI shell, then users can enter Raid configuration setup page.</li></ol>

## 24. System may get blue screen on display during the installation of Windows Server 2008\* R2 under UEFI mode

Problem	When installing Windows Server 2008* R2 under UEFI mode, system may hang with BSOD (blue screen of death).
Implication	User will not be able to install Windows 2008 R2* under UEFI mode. The BSOD happens at the "Installing Windows" page.
Status	This issue is fixed in BIOS 57.
Workaround	None.

## 25. PCI Express link down error or bandwidth changed message may be logged in System Event Log.

Problem	<p>With Intel network card E1G44ET or E1G44ET2 installed, below message may be logged in System Event Log(SEL):</p> <p>Critical Interrupt /PCIe Fat Sensor (#0x04) CRITICAL event:</p> <p>PCIe Fat Sensor reports a fatal PCI Express Surprise Link Down error. SMI Handler (Channel #00h)</p> <p>Critical Interrupt /PCIe Cor Sensor Informational event:</p> <p>PCIe Cor Sensor reports a correctable PCI Express Link Bandwidth Changed error. SMI Handler (Channel #00h)</p>
Implication	<p>The network card will stop service.</p>
Status	<p>This issue was fixed on BIOS 55 by disabling the BIOS setting PCIe AER Support (under Advanced &gt; PCI Configuration)</p>
Workaround	<p>None</p>

## Documentation Changes

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### 1. Updating information for usable/accessible memory for BMC video/graphic display functions for the onboard Server Engine\* LLC Pilot II\* video controller

Problem	Current description does not provide information for usable and accessible memory for the controller
Status	Will be fixed in next revision of the Technical Product Specification
Workaround	Intel® S5500BC Server Board support Server Engine* LLC Pilot II* Controller with 64 MB DDR2 memory. 8MB is usable/accessible memory for iBMC video/graphic display functions. The graphics controller internally has access to larger memory for the internal operations. The 32MB memory reported by the new driver (WDM20080228.19663_R2.zip) is the <u>attached memory</u> . Attached memory can be 32MB or greater but only 8MB is accessible for display functions. With 8MB, the iBMC/G200e can only support max resolution of 1600x1000@16bit.