intel® BIOS ENGINEERING

DATE: August 26, 2005
PRODUCT(s): D955XBK and D955XCS

Build 1959C

About This BIOS:
- August 26, 2005
- BK95510J.86A.1959.2005.0826.1723
- SATA RAID info:
    - Intel(R) RAID for SATA - v5.1.0.1022
    - Silicon Image RAID for SATA - v5.2.11
- Initializing Intel(R) Boot Agent GE v1.2.28
- Memory reference code equivalent to MRC 1.2

New Fixes/Features:
- Fixed issue where overriding VID and Ratio Multiplier would cause POST hangs with certain processors.
- Added Audio Subsystem ID for specific OEM SKU.
- Added support for ITK Data export.
- Added setup option for USB Legacy Enable/Disable.
- Added support for USB mass device emulation in BIOS SETUP boot order.
- Added support for Dynamic BIOS Setup changes based on Intel AMT.
- Fixed a problem where the system would generate multi-bit ECC errors and hang or reset if more than 2GB of memory was installed.
- Fixed numerous ASF PET msg issues & added Stop ASF WDT.
- Fixed dual display of message pop-up box in Setup.
- Corrected flow to send Start ASF Watchdog Timer and OS Boot PET msg.
- Updated to AMTBX 1.2.1 release with 16 bit legacy error code return values supported.
- Lowered FSB to Processor Multiplier Ratio in Setup.
- MRC updates.
- Added BTX form factor support for IDCC.
- Fixed APM function "Set Power State" "off" not functioning.
- Fixed EBU fail to reboot but shutdown system if FP Audio attached.
- Corrected functionality of the "USB ZIP Emulation Type" BIOS SETUP question.
- Fixed priority issue in Advance Boot Mode when Legacy Floppy is installed without a media.
- Fixed "Exit Discard Changes" functionality in Setup.
- Allow system to wake from S4 via PCI/PCIe devices when ACPI Suspend State set to S1.
- Fixed POST hang with x8 PCI Express SCSI card.
- Fixed delay at checkpoint 0x5A when certain CD drives are attached to the system as master drives.

- Fixed long delay in POST with ZIP 750 attached as a single master drive in the system.
- Fixed issue where Pioneer DVD-120 drive was not detected in BIOS SETUP.
- Fixed an issue of no Audio after S3 resume.
- Updated the ICH7 RAID option ROM to version Intel(R) RAID for SATA - v5.1.0.1022.
- Fixed Key Help & Pop-up message strings to reflect current language in Setup.
- Enhanced PCI express support.
- Fixed SMBIOS Type 10 Onboard video device status reporting.
- Fixed USB Floppy not bootable when Legacy Floppy installed without a media.
- Fixed issue where a particular USB floppy disk drive was inaccessible in DOS after ejecting floppy media.
- Fixed issue where PCI SERR and NMI are being disabled at system boot.

Known Errata:
- Recovery to CDROM drive feature has been removed because of space constraints. Still able to recover to FDD.
- Configuration Override Settings that hang the system will not gracefully recover automatically. Enter Maintenance Mode to clear "bad" settings to defaults.
- SMBIOS Slot Type 9 structure for the PCIe x4 slot will always show as "In Use" even when slot is not occupied.

Build 1784C

About This BIOS:
- July 15, 2005
- BK95510J.86A.1784.2005.0715.1529
- SATA RAID info:
    - Intel(R) RAID for SATA - v5.0.0.1032
    - Silicon Image RAID for SATA - v5.2.11
- Initializing Intel(R) Boot Agent GE v1.2.28
- Memory reference code equivalent to MRC 1.1

New Fixes/Features:
- Fixed issue where system would fail to restart from Windows when more than 4GB of system memory is installed.
- Fixed issue where FSB Speed Override was causing the system to power cycle.

Known Errata:
- Recovery to CDROM drive feature has been removed.
- SMBIOS Slot Type 9 structure for the PCIe x4 slot will always show as "In Use" even when slot is not occupied.

Build 1767C

About This BIOS:
- July 13, 2005

- BK95510J.86A.1767.2005.0713.1337
- SATA RAID info:
    - Intel(R) RAID for SATA - v5.0.0.1032
    - Silicon Image RAID for SATA - v5.2.11
- Initializing Intel(R) Boot Agent GE v1.2.28 (Tekoa)
- Memory reference code equivalent to MRC 1.1

New Fixes/Features:
- Added feature to Enable/Disable Maximum CPUID Value Limit.
- Fixed dependency of ASF setup option on AMT BX Setup entry option.
- Fixed no video when PCIe x4 slot Video and PCI Video present together.
- Fixed some BIOS Setup Popup boxes displaying strings with incorrect colors.
- Fixed the problem where F9 key Load Setup defaults loads existing Setup values instead of BIOS defaults in Configuration mode.
- Fixed USB boot issue to match "Boot to USB" setup question.
- Fixed a problem where certain DDR667 memory failed on some of boards.
- Fixed issue where system would not boot with certain processors installed.
- Fixed USB Floppy not bootable when Legacy Floppy installed without a media.
- Fixed hang with certain hardware configurations when performing specific types of Resets.
- Fixed POST hang with x8 PCI Express SCSI card.
- Mask Completion timeout errors on the PCI express ports off the ICH.
- Added support for issuing ATA Security Freeze Lock to IDE devices on resume from S3.
- Fixed an issue of no Audio after S3 resume.
- Modified the TRP, and TRCD values used when a bad or errant SPD value is found in one or more of the DIMMs.
- Fixed SOL display when booting DOS.
- Fixed Spurious Interrupt Test failure with the Intel RAID Option ROM Integration Test Suite.
- Added S3 support for TPM.
- Fixed flash issue with BMP logo where badges would disappear.
- Fixed convert and restore flash process.
- Added support for writing SMBIOS data securely via EFI variables.
- Fixed a problem where the system would hang during execution of the IDCC application or any software calling the INT15 subfunction 0xEF.
- Corrected functionality of the "USB ZIP Emulation Type" BIOS SETUP question.
- Clear ICH7 SPI Access Request bit on S3 Resume.
- Fixed issue where 16-bit PCMCIA cards were not detected correctly in Windows.
- Fixed several second delay in POST while performing PS/2 port swapping.
- Fixed issue where Masterview+ CS114A KVM switch would reset just before system boot.
- Added workaround where system unable to boot to OS with 1066FSB and Atmel FWH.

- Fixed intermittent system hang or long delay just before boot to USB device.
- Fixed AmtBx setup entry and added FRU and ASF Push msgs for OS boot.
- Updated to AMT BX 1.2 release.
- Updated the iAMT Firmware Image to version 1.1.33.
- Removed unused ICH7 PATA timing code and 40-80 pin cable code.
- Fixed issues with Intel AMT SOL and SATA boot hang.

Build 1615C

About This BIOS:
- June 17, 2005
- BK95510J.86A.1615.2005.0617.1657
- SATA RAID info:
    - Intel(R) RAID for SATA - v5.0.0.1032
    - Silicon Image RAID for SATA - v5.2.11
- Initializing Intel(R) Boot Agent GE v1.2.28 (Tekoa)
- Memory reference code equivalent to MRC 1.00

New Fixes/Features:
- Corrected PCI Slot 4 clock enabling issue for D955XCS.
- Made CPU override options available for all unlocked CPUs in Burn-in-mode.
- Fixed EIST setup question based on processor capability.
- Corrected string listed for CAS latency in the aggressive settings.
- Fixed issue where some CD-ROM drives are not detected in BIOS SETUP.
- Fixed issue where some drives supporting the Security Feature set were not issued the Security Freeze Lock command during POST.
- Fixed issue where some CD-ROMs/DVD-ROMs attached as master with no slave were causing long delays in POST.
- Fixed issue where Sony CDU76E CD-ROM is not detected and not bootable by the BIOS.
- Fixed the issue PSC T1 is not running at rated frequency.
- Implemented a default Intel inside logo display method in case the target CPU badge doesn't exist in Flash.
- New smaller standard Logo.
- Added Master Boot Record (MBR) measurement support for TPM.
- Fixed several second delay in POST while performing PS/2 port swapping.
- Fixed the issue - "System hangs with PSL-2.8GHz CPU".
- Fixed a problem where the BIOS would consume too much system memory for BIOS usage.
- Fixed issue where the specific 3rd party SCSI card was not able to boot.

Build 1554C

About This BIOS:
- May 31, 2005
- BK95510J.86A.1554.2005.0531.1407

- SATA RAID info:
    - Intel(R) RAID for SATA - v5.0.0.1032
    - Silicon Image RAID for SATA - v5.2.11
- Initializing Intel(R) Boot Agent GE v1.2.28
- Memory reference code equivalent to MRC 1.00

New Fixes/Features:
- Fixed slow POST when certain CD-ROMs are attached to the system.
- Fixed issue where Windows was unable to enable DMA on SATA drives attached to the system.
- Fixed long delay in POST when some CD-ROMs are attached as an IDE master device.
- Added Flex Logo & Optional Module support.
- Fixed TPM enable/disable setup question.
- Fixed issue with incorrect SMBIOS PCI/PCIe slot information.
- Added support for sending Security Freeze Lock command during POST to drives that support the security feature set.
- Fixed slow POST when certain CD-ROMs are attached to the system.
- Fixed Intel AMT Serial Over LAN due to definition changes.
- Fixed issue with Type 17 SMBIOS information.
- Added missing Message Translations.
- Added Capsule Flex Module List generation utility.
- Adding Setup warning message for "Exit without Changes".
- Enhanced BoardID usage to allow proper SKU'ing of features.
- Save Board ID as variable so that others driver can use it.
- Fixed a problem where the setup option for XD (Execute Disable) bit did not work correct.
- Added setup option for SW Single Processor Mode.
- Fixed a hang in 3D Mark with specific set of x16 graphics cards.
- Fixed a problem where video devices that contains bridges do not work as the primary video device.
- Added non-shared SPI AMT implementation.
- SMBios Type 4 CPU Information Family type detection fixes.
- SMBios Type 4 CPU Information instance generation.
- Added support for an unreleased processor.
- Fixed EIST issue with mobile fused SMF CPUs.
- Fixed issue where fifth BIOS drive (84h) is not accessible via INT13h in certain system configurations.
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Known Errata:
- Recovery to CDROM drive feature has been removed.
- SMBIOS Slot Type 9 structure for the PCIe x4 slot will always show as "In Use" even when slot is not occupied.

Build 1513C

About This BIOS:
- May 11, 2005
- BK95510J.86A.1513.2005.0511.1146
- SATA RAID info:
    - Intel(R) RAID for SATA - v5.1.0.1013

- Silicon Image RAID for SATA – v5.2.11
- Initializing Intel(R) Boot Agent GE v1.2.28
- Memory reference code equivalent to MRC 1.00

New Fixes/Features:
- Hide/show the SATA configuration option under Advanced/Drive Configuration menu according to the ICH features capability.
- Added non-shared SPI AMT implementation.
- Added Silicon Image 3114 SATA Controller Option ROM Version 5.2.11.
- Fixed issue where system unable to go into S5 when "Wake on LAN from S5" option is set to "Power on".
- Fixed WHQL failure surrounding Sub-system Vendor ID for onboard Silicon Image SATA Controller.
- Hide TPM Setup Option when Intel AMT SOL operational.
- Added display of "System in Manufacturing Mode".
- Updated to ICH7 register programming according to ICH7 BIOs spec update rev 1.2.
- Updated the UNDI for LAN to version 1.2.28.
- Updated programming of PCI express register on the MCH to be restored correct after S3.
- Fixed a problem where the system would hang loading the OS, because the E820 did not report any available memory below 1MB.
- Fixed errors with some memory stress tests when USB keyboard is plugged in the system.
- ASF support updates.
- Solve Hardware Monitoring menu thermal sensor reading freeze up issue on Remote thermal sensor location.
- Added handlers for logo screen items position customization.
- Added handlers for logo screen color customization.
- Fixed a problem where a CD-ROM drive would not work after S3 if the IDE controllers were set to operate in legacy mode.
- Fixed the issue of high definition front panel audio and legacy front panel audio being programmed incorrectly.
- Added Convert (CVT) / Restore (RST) support.
- Fix SATA drive boot issue.

Build 1452C

About This BIOS:
- April 30, 2005
- BK95510J.86A.1452.2005.0430.1606
- SATA RAID info:
  - Intel(R) RAID for SATA – v5.1.0.1013
  - Silicon Image RAID for SATA – v5.2.00
- Intel(R) Boot Agent GE v0.0.05

New Fixes/Features:
- Fixed issues with calling INT15 sub function 0xEF.
- Enhanced Board ID usage to allow proper SKU'ing of features.
- Clear Peer Write bit.
- Fixed a problem where the system would hang on S3 resume path at POST code 25h if 4GB or more memory was present in the system.

- Fixed a problem where the system would power on, even if the setup option for power state after AC loss was set to power off.
- Updated the Audio Verb table for Sigmatel codec.
- Updated programming of PCI express register on the MCH to be restored correct after S3.
- Fixed a problem where some of the buffer strength registers for SATA was not restored correct after S3.
- Fixed power cycling hang at postcode 34h with TPM.
- Fixed issue where Processor related BIOS updates were not being loaded in certain scenarios.
- Fixed a problem where the BIOS update would report an error trying to flash update the microcode.
- Fixed issue where system rebooted after exiting setup using menus in Configuration Mode.
- Fixed a problem where the system could hang during execution of the iDCC application or any software calling the INT15 subfunction 0xEF.
- Updated ICH7 registers for USB according to ICH7 BIOS spec update rev 1.0.
- Fixed incorrect length reported in legacy multiprocessor tables.
- Fixed TPM enable/disable setup question.
- Fixed "Incorrect Password" & password length popup message not getting displayed.
- Fixed issue where ASF tables were only showing up with ASF disabled in setup.
- Updated Audio SSID's to correspond to 5-jack/3-jack Audio solution based on Board ID.
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Known Errata:
- Recovery to CDROM drive feature has been removed because of space constraints in PEI.
- Configuration Override Settings that hang the system will not gracefully recover automatically. Enter Maintenance Mode to clear "bad" settings to defaults.

Build 1290C

About This BIOS:
- April 15, 2005
- BK95510J.86A.1290.2005.0415.1529
- SATA RAID info:
    - Intel(R) RAID for SATA - v5.1.0.1013
    - Silicon Image RAID for SATA - v5.2.00

New Fixes/Features:
- Added feature to fill in Socket Designation field within SMBIOS Type 4 structure.
- Fixed issue where certain settings are unable to be hidden in Integrator Toolkit (ITK).
- Fixed issue with intermittent Audio Driver reloading.
- Updated programming of SATA control registers to comply with the ICH7 Spec Update 1.1.

- Updated Memory code to equivalent to MRC 1.00.
- Added support for reporting greater than 4GB of memory to the E820.
- Fixed issue with enabling HW single processor mode.
- Fix the undetectable USB thumb drive issue.

Build 1234

About This BIOS:
- April 11, 2005
- BK95510J.86A.1234.2005.0411.1858
- SATA RAID info:
  - Intel(R) RAID for SATA - v5.1.0.1013
  - Silicon Image RAID for SATA - v5.2.00

About This BIOS:
- Initial public release.

Known Errata:
- The recovery to CDROM drive feature has been removed.
- Configuration Override Settings that hang the system will not gracefully recover automatically. Enter Maintenance Mode to clear settings to defaults.
- Memory support for greater than 4GB of Memory is not implemented.