C H A P T E R 7

BIOS Messages

This chapter provides information about the BIOS messages that are present in the Cisco version of the BIOS:

POST Error Messages and Handling

The BIOS outputs the current boot progress codes to the System Event Log (SEL) and to the UCS Manager. Progress codes are 32 bit quantities plus optional data. The 32 bits include class, subclass, and operation information. The class and subclass fields point to the type of hardware that is being initialized. The operation field represents the specific initialization activity.

Based on the data bit availability to display progress codes, a progress code can be customized to fit the data width. The higher the data bit, the higher the granularity of information that can be sent on the progress port. The progress codes can be reported by the system BIOS or optional ROMs.

BIOS Message Severities

BIOS messages have these severities:

- Minor—The system continues booting in a degraded state. The user might want to replace the unit. The POST Error Pause option setting in the BIOS setup does not have any effect on this error.
- Major—The POST Error Pause option setting in the BIOS setup determines whether the error manager pauses the system to allow the user to take immediate corrective action or the system continues the booting process.

Note For the **0048 Password check failed** message, the system halts, and after the next reset or reboot, displays the error code on the screen.

- Fatal—The system halts during post at a blank screen with the text `Unrecoverable fatal error found. System will not boot until the error is resolved,`" and `Press <F2> to enter setup.` The POST Error Pause option setting in the BIOS setup does not have any effect with this class of error.

  When the F2 key is pressed on the keyboard, the error message is displayed on the screen, and an error is logged to the SEL with the error code. The system cannot boot unless the error is resolved. The faulty part must be replaced, and the system must be restarted.

BIOS Message Format

Table 7-1 describes the format used in BIOS messages.

Table 7-1   Error Message Format

Generator ID	Sensor Type Code	Sensor number	Type code	Event Data1	Event Data2	Event Data3
33h (BIOS POST)	0Fh (System Firmware Progress)	0Fh (System Firmware Progress)	6Fh (Sensor Specific Offset)	A0h (OEM Codes in Data2 and Data3)	xxh (Low Byte of POST Error Code)	xxh (High Byte of POST Error Code)

BIOS Messages and Codes

Table 7-2 lists messages that are from the baseline Intel BIOS and are present in the Cisco version of the BIOS.

Table 7-2   List of BIOS messages and codes

Error Code	Severity	Error Message	Possible Needed Response
9687	Fatal	DXE core component encountered a illegal software state error.	Replace faulty part and restart.
8565	Major	DIMM_C2 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_C2.
8567	Major	DIMM_D2 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_D2.
85A2	Major	DIMM_B1 uncorrectable ECC error encountered.	Replace DIMM_B1.
85AB	Major	DIMM_F2 uncorrectable ECC error encountered.	Replace DIMM_F2.
9000	Major	Unspecified processor component has encountered a non-specific error.	Restart. If failure, replace.
0xB6A3	Major	DXE boot services driver unrecognized.	Restart. If failure, replace.
8604	Minor	Chipset reclaim of noncritical variables complete.	Restart. If failure, replace.
9223	Minor	Keyboard component was not detected.	Restart. If failure, replace.
9266	Minor	Local console component encountered a controller error.	Restart. If failure, replace.

Table 7-2   *List of BIOS messages and codes (continued)*

Error Code	Severity	Error Message	Possible Needed Response
9286	Minor	Remote console component encountered a controller error.	Restart. If failure, replace.
94C6	Minor	LPC component encountered a controller error.	Restart. If failure, replace.
95A7	Minor	PCI component encountered a read error.	Restart. If failure, replace.
9609	Minor	Unspecified software component encountered a start error.	Restart. If failure, replace.
0xA028	Minor	Processor component encountered a high-voltage error.	Restart. If failure, replace.
0xA501	Minor	ATA/ATPI ATA SMART is disabled.	Enable.
0192	Fatal	Processor 0x cache size mismatch detected.	Replace faulty part and restart.
0194	Fatal	Processor 0x family mismatch detected.	Replace faulty part and restart.
0196	Fatal	Processor 0x model mismatch.	Replace faulty part and restart.
0197	Fatal	Processor 0x speeds mismatched.	Replace faulty part and restart.
0198	Fatal	Processor 0x family is not supported.	Replace faulty part and restart.
9667	Fatal	PEI module component encountered an illegal software state error.	Replace faulty part and restart.
96A7	Fatal	DXE boot services driver component encountered an illegal software state error.	Replace faulty part and restart.
96E7	Fatal	SMM driver component encountered an illegal software state error.	Replace faulty part and restart.
0xA421	Fatal	PCI component encountered a SERR error.	Replace faulty part and restart.
0xA5A1	Fatal	PCI Express component encountered a SERR error.	Replace faulty part and restart.
0012	Major	CMOS date / time not set.	Set the time and date.
0048	Major	Password check failed.	Verify user password. Restart. If failure, apply admin password. Replace if necessary.
0113	Major	Fixed media SAS RAID firmware cannot run properly.	Reflash firmware. Restart. If failure, replace.
0140	Major	PCI component encountered a PERR error.	Restart. If failure, replace.
0141	Major	PCI resource conflict.	Restart. If failure, replace.
0146	Major	PCI out of resources error.	Review resource allocation. Remove unneeded resources. Restart. If failure, replace.
0195	Major	Processor 0x Intel QPI speed mismatch.	Restart. If failure, replace.
019F	Major	Processor and chipset stepping configuration is unsupported.	Restart. If failure, replace.
5220	Major	CMOS/NVRAM configuration cleared	Reset configurations. Restart. If failure, replace.

Table 7-2   List of BIOS messages and codes (continued)

Error Code	Severity	Error Message	Possible Needed Response
5221	Major	Passwords cleared by jumper.	Reset passwords. Restart. If failure, replace.
5224	Major	Password clear jumper is set.	Restart. If failure, replace.
8160	Major	Processor 01 unable to apply microcode update.	Restart. If failure, replace.
8161	Major	Processor 02 unable to apply microcode update.	Restart. If failure, replace.
8190	Major	Watchdog timer failed on last boot.	Restart. If failure, replace.
8198	Major	OS boot watchdog timer failure.	Reset timer. If failure, replace.
8300	Major	Baseboard management controller failed self test.	Restart. If failure, replace.
84F2	Major	Baseboard management controller failed to respond.	Restart. If failure, replace.
84F3	Major	Baseboard management controller in update mode.	Complete update, then restart.
84F4	Major	Sensor data record empty.	Review files. If none, restart.
8500	Major	Memory component could not be configured in the selected RAS mode.	Restart. If failure, replace.
8501	Major	DIMM population error.	Restart. If failure, replace.
8502	Major	CLTT configuration failure error.	Restart. If failure, replace.
8520	Major	DIMM_A1 failed self test (BIST).	Replace DIMM_A1.
8521	Major	DIMM_A2 failed self test (BIST).	Replace DIMM_A2.
8522	Major	DIMM_B1 failed self test (BIST).	Replace DIMM_B1.
8523	Major	DIMM_B2 failed self test (BIST).	Replace DIMM_B2.
8524	Major	DIMM_C1 failed self test (BIST).	Replace DIMM_C1.
8525	Major	DIMM_C2 failed self test (BIST).	Replace DIMM_C2.
8526	Major	DIMM_D1 failed self test (BIST).	Replace DIMM_D1.
8527	Major	DIMM_D2 failed self test (BIST).	Replace DIMM_D2.
8528	Major	DIMM_E1 failed self test (BIST).	Replace DIMM_E1
8562	Major	DIMM_B1 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_B1
8563	Major	DIMM_B2 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_B2.
8564	Major	DIMM_C1 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_C1.
8566	Major	DIMM_D1 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_D1.
8568	Major	DIMM_E1 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_E1.
8569	Major	DIMM_E2 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_E2.

Table 7-2 ***List of BIOS messages and codes (continued)***

Error Code	Severity	Error Message	Possible Needed Response
856A	Major	DIMM_F1 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_F1.
856B	Major	DIMM_F2 component encountered a Serial Presence Detection (SPD) fail error.	Replace DIMM_F2.
85A0	Major	DIMM_A1 uncorrectable ECC error encountered.	Replace DIMM_A1.
85A1	Major	DIMM_A2 uncorrectable ECC error encountered.	Replace DIMM_A2.
85A3	Major	DIMM_B2 uncorrectable ECC error encountered.	Replace DIMM_B2.
85A4	Major	DIMM_C1 uncorrectable ECC error encountered.	Replace DIMM_C1.
85A5	Major	DIMM_C2 uncorrectable ECC error encountered.	Replace DIMM_C2.
85A6	Major	DIMM_D1 uncorrectable ECC error encountered.	Replace DIMM_D1.
85A7	Major	DIMM_D2 uncorrectable ECC error encountered.	Replace DIMM_D2.
85A8	Major	DIMM_E1 uncorrectable ECC error encountered.	Replace DIMM_E1.
85A9	Major	DIMM_E2 uncorrectable ECC error encountered.	Replace DIMM_E2.
85AA	Major	DIMM_F1 uncorrectable ECC error encountered.	Replace DIMM_F1.
92A3	Major	Serial port component was not detected.	Restart if component exists. If failure, replace. If no component, add.
92A9	Major	Serial port component encountered a resource conflict error.	Restart. If failure, replace.
94C9	Major	LPC component encountered a resource conflict error.	Restart. If failure, replace.
0xA022	Major	Processor component encountered a mismatch error.	Restart. If failure, replace.
0xA5A4	Major	PCI Express IBIST error.	Restart. If failure, replace.
0108	Minor	Keyboard component encountered a locked error.	Unlock the keyboard.
0109	Minor	Keyboard component encountered a stuck key error.	Restart. If failure, replace.
0193	Minor	Processor 0x stepping mismatch.	Restart. If failure, replace.
8180	Minor	Processor 0x microcode update not found.	Restart. If failure, replace.
84FF	Minor	System event log full.	Export event log and delete files.
9226	Minor	Keyboard component encountered a controller error.	Restart. If failure, replace.
9243	Minor	Mouse component was not detected.	Restart.
9246	Minor	Mouse component encountered a controller error.	Restart.
9268	Minor	Local uonsole component encountered an output error.	Restart.
9269	Minor	Local uonsole component encountered a resource conflict error.	Restart.
9287	Minor	Remote uonsole component encountered an input error.	Restart.

Table 7-2   List of BIOS messages and codes (continued)

Error Code	Severity	Error Message	Possible Needed Response
9288	Minor	Remote uonsole component encountered an output error.	Restart.
92C6	Minor	Serial port controller error.	Restart. If failure, replace.
92C7	Minor	Serial port component encountered an input error.	Restart. If failure, replace.
92C8	Minor	Serial port component encountered an output error.	Restart. If failure, replace.
9506	Minor	ATA/ATPI component encountered a controller error.	Restart. If failure, replace.
95A6	Minor	PCI component encountered a controller error.	Restart. If failure, replace.
95A8	Minor	PCI component encountered a write error.	Restart. If failure, replace.
9641	Minor	PEI Core component encountered a load error.	Restart. If failure, replace.
96AB	Minor	DXE boot services driver component encountered invalid configuration.	Restart. If failure, replace.
0xA000	Minor	TPM device not detected.	Add TPM device, otherwise replace.
0xA001	Minor	TPM device missing or not responding.	Add TPM device if needed, otherwise replace.
0xA002	Minor	TPM device failure.	Replace TMP device.
0xA003	Minor	TPM device failed self test.	Replace TPM device.
0xA027	Minor	Processor component encountered a low-voltage error.	Proceed but monitor. If other errors appear, replace.
0xA500	Minor	ATA/ATPI ATA bus SMART not supported.	Add, then restart. If fails again, replace.
0xA5A0	Minor	PCI Express component encountered a PERR error.	Restart. If fails again, replace.
0xA6A0	Minor	DXE boot services driver Not enough memory available to shadow a legacy option ROM.	Proceed if shadow memory is not required. Otherwise, remove unnecessary options to free memory.

Cisco BIOS Messages and Codes

Table 7-3 describes additional messages unique to the Cisco BIOS.

Table 7-3   Additional messages unique to Cisco BIOS.

Code	Severity	Message	Added/Changed	Action
E000	Major	Memory RAS mirror fail.	Added.	Replace failed DIMMs.
E001	Major	Memory RAS spare fail.	Added.	Replace failed DIMMs.
E00A	Major	Memory BMC SPD read fail.	Added.	Replace failed DIMMs.
E1xx	Major	DIMM xx disabled.	Changed from 854x.	Replace any failed DIMMs and verify DIMMs in valid configuration

Code	Severity	Message	Added/Changed	Action
E2xx	Major	DIMM xx component encountered a Serial Presence Detection (SPD) fail error.	Changed from 856x.	Replace failed DIMM.
E3xx	Major	DIMM xx encountered a mismatch error.	Added.	Replace mismatched DIMM.
E4xx	Major	DIMM xx failed self test (BIST).	Changed from 852x.	Replace failed DIMM.
E500	Major	Memory-other DIMM failed.	Added.	Replace failed DIMM.
E600	Major	Memory-invalid population.	Added.	Replace failed DIMM.
E700	Major	Memory-mismatch population.	Added.	Replace failed DIMM.
E800	Major	Memory-SPD error.	Added.	Replace failed DIMM.
E900	Major	Memory-platform specific.	Added.	Replace failed DIMM.
D000	Fatal (blade will not boot)	Unsupported SPI flash.	Added.	Blade manufactured with wrong SPI flash part. Return materials authorization (RMA) the blade.