

CVM and UVM Hardware Error Summary

Document ID: 10802

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Introduction

The hardware error codes discussed in this document can occur on the on the Channelized Voice Module (CVM) and Universal Voice Module (UVM) card on a Cisco IGX switch. They are displayed when you issue the `dspcderrs slot-num` command.

Prerequisites

Requirements

The readers of this document should be knowledgeable of this topic.

- Cisco IGX hardware and software.

Components Used

This document is not restricted to specific software and hardware versions.

Conventions

For more information on document conventions, refer to Cisco Technical Tips Conventions.

CVM Card Error Summary

Byte 1 - Function code

Byte 2 - Error function code

Byte 3 - Error category

01 - Download Failure

02 - Powerup Failure

03 - Selftest Failure

04 - Memory test failure

05 - Boot PROM failure

06 - Non Boot PROM (Firmware) failure

Byte 4 - Slot Number

Byte 5 - Processor

Byte 6 - a. Selftest # in case of Error Category 03

b. Failure Code in case of Error Category 06

CVM Card Failure Codes

FC 00 01 02 03 04 05 06 07	
0B 00 01 xx 01 xx xx xx xx	Download failure
0B 01 02 xx 01 xx xx xx 05	Power up failure: NOVRAM checksum failed
0B 01 02 xx 01 xx xx xx 06	Power up failure: FIFO loopback failed
0B 01 02 xx 01 xx xx xx 07	Power up failure: No state 0 message
0B 01 02 xx 01 xx xx xx 10	Power up failure: FIFO test failed
0B 01 02 xx 01 xx xx xx 11	Power up failure: No state 1 msg, EE chks fail
0B 01 02 xx 01 xx xx xx F0	Power up failure: Never rc'd slot ID command
0B 01 02 xx 01 xx xx xx 12	12 or greater: Passed boot PROM
0B 01 02 xx 01 xx xx xx 19	pident_p(ZEROES,target_ptr); * caller's id ? *
0B 01 02 xx 01 xx xx xx 1A	pcreate_p(coms_name,T_PRTY7,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 1B	pcreate_p(bcard_name,T_PRTY4,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 1C	pcreate_p(evntp_name,T_PRTY8,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 1D	pcreate_p(mktsp_name,T_PRTY5,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 1E	pcreate_p(mktrn_name,T_PRTY6,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 1F	pcreate_p(injs_name,T_PRTY5,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 20	pcreate_p(tpu_name,T_PRTY4,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 21	pcreate_p(qmgr_name,T_PRTY4,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 22	pcreate_p(dpu0_name,T_PRTY4,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 23	pcreate_p(dpu1_name,T_PRTY4,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 24	pcreate_p(dpu2_name,T_PRTY4,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 25	pcreate_p(dpu3_name,T_PRTY4,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 26	pcreate_p(iec_name,T_PRTY4,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 27	pcreate_p(idle_name,T_PRTY1,SSIZE,target_ptr);
0B 01 02 xx 01 xx xx xx 28	pcreate_q(emsg_qname, target_ptr);
0B 01 02 xx 01 xx xx xx 29	pstart_p(coms_tid,_com_srvr);
0B 01 02 xx 01 xx xx xx 2A	pstart_p(evntp_tid,_evnt_proc);
0B 01 02 xx 01 xx xx xx 2B	pstart_p(bcard_tid,_bc_task);
0B 01 02 xx 01 xx xx xx 2C	pstart_p(tpu_tid,_tpu_task);
0B 01 02 xx 01 xx xx xx 2D	pstart_p(qmgr_tid,_qmgr_task);
0B 01 02 xx 01 xx xx xx 2E	pstart_p(dpu0_tid,_dpu0_task);
0B 01 02 xx 01 xx xx xx 2F	pstart_p(dpu1_tid,_dpu1_task);
0B 01 02 xx 01 xx xx xx 30	pstart_p(dpu2_tid,_dpu2_task);
0B 01 02 xx 01 xx xx xx 31	pstart_p(dpu3_tid,_dpu3_task);
0B 01 02 xx 01 xx xx xx 32	pstart_p(mktrn_tid,_mktrn);
0B 01 02 xx 01 xx xx xx 33	pstart_p(mktsp_tid,_mktsp);
0B 01 02 xx 01 xx xx xx 34	pstart_p(injs_tid,_injs);
0B 01 02 xx 01 xx xx xx 35	pstart_p(idle_tid,_idle);
0B 01 02 xx 01 xx xx xx 36	pstart_p(iec_tid,_iec_task);
0B 00 03 xx 01 xx xx xx xx	Selftest failure
0B 00 04 xx 01 xx xx xx xx	Memory test failure
0B 00 05 xx 01 00 00 00 00	Boot PROM: Waiting for HF flag change from DSP
0B 00 05 xx 01 00 00 00 01	Boot PROM: Waiting for TXDE to go true from DSP
0B 00 05 xx 01 00 00 00 02	Boot PROM: Waiting for RXDF to go true from DSP
0B 00 05 xx 01 00 00 00 03	Boot PROM: Unable to initialize DSP
0B 00 05 xx 01 00 00 00 04	Boot PROM: Unable to internal load DSP
0B 00 05 xx 01 00 00 00 05	Boot PROM: Unable to program EEPROM
0B 00 05 xx 01 00 00 00 06	Boot PROM: Bad message from Cbus controller
0B 00 05 xx 01 00 00 00 07	Boot PROM: 9th bit msg format err from supervisor
0B 00 05 xx 01 00 00 00 08	Boot PROM: No NMICLR in response to NMI to supv
0B 00 05 xx 01 00 00 00 09	Boot PROM: Timeout awaiting space in ADMIN FIFO
0B 00 05 xx 01 00 00 00 10	Boot PROM: CPU failed testing Dual Port RAM
0B 00 05 xx 01 00 00 00 11	Boot PROM: fail searching for image
0B 00 05 xx 01 00 00 00 12	Boot PROM: fail CPU verify DSP clearing DPRAM
0B 00 05 xx 01 00 00 00 18	Boot PROM: bus error
0B 00 05 xx 01 00 00 00 19	Boot PROM: address error
0B 00 05 xx 01 00 00 00 20	Boot PROM: fail waiting for state 1 dsp bad failed dsp CPU communication unexpected interrupt couldn't execute bootstrap couldn't execute load
0B 00 05 xx 01 00 00 00 21	Boot PROM: dsp failed Dual Access RAM test

0B 00 05 xx 01 00 00 00 22	Boot PROM: dsp failed Single Access RAM test
0B 00 05 xx 01 00 00 00 23	Boot PROM: dsp failed Dual Port RAM test
0B 00 05 xx 01 00 00 00 30	Boot PROM: fail waiting for state 3 dsp bad failed dsp CPU communication unixpected interrupt couldn't execute loader
0B 00 05 xx 01 00 00 00 50	Boot PROM: fail waiting for state 5 dsp bad failed dsp CPU communication unixpected interrupt couldn't execute loader
0B 00 05 xx 01 00 00 00 60	Boot PROM: Rcv'd Cbus cmd while awaiting event
0B 00 05 xx 01 00 00 00 61	Boot PROM: Received unknowm event
0B 00 05 xx 01 00 00 00 62	Boot PROM: Couldn't get ownership of global ubs
0B 00 05 xx 01 00 00 00 70	Boot PROM: RTLCA failed to program, no DONE
0B 00 05 xx 01 00 00 00 71	Boot PROM: RTLCA failed to program, RCVERR
0B 00 05 xx 01 00 00 00 72	Boot PROM: RTLCA failed to program, no DTACK
0B 00 05 xx 01 00 00 00 80	Boot PROM: RTLCA failed to program, no DONE
0B 00 05 xx 01 00 00 00 81	Boot PROM: RTLCA failed to program, PIERR
0B 00 05 xx 01 00 00 00 82	Boot PROM: RTLCA failed to program, no DTACK
0B 00 05 xx 01 00 00 00 91	Boot PROM: RTLCA failed to program, mode not clr
0B 00 05 xx 01 00 00 00 92	Boot PROM: RTLCA failed to program, no DTACK
0B xx 06 xx 01 00	Boot PROM:
0B xx 06 xx 01 01	Boot PROM:
0B xx 06 xx 01 02	Boot PROM:
0B xx 06 xx 01 03	Boot PROM:
0B xx 06 xx 01 04	Boot PROM:
0B xx 06 xx 01 05	Boot PROM:
0B xx 06 xx 01 06	Boot PROM:
0B xx 06 xx 01 07	Boot PROM:
0B xx 06 xx 01 08	8751 failed to send watchdog command
0B xx 06 xx 01 09	Backcard LCA error
0B xx 06 xx 01 0A	Backcard missing
0B xx 06 xx 01 0B	Invalid Backcard Number
0B xx 06 xx 01 0C	Invalid Backcard Type
0B xx 06 xx 01 0D	Buffer Allocation Error
0B xx 06 xx 01 0E	Backcard not configured
0B xx 06 xx 01 0F	Not defined
0B xx 06 xx 01 10	pSOS kernel error
0B xx 06 xx 01 11	Not defined
0B xx 06 xx 01 12	Command exceeds maximum length
0B xx 06 xx 01 13	Unexpected end of command
0B xx 06 xx 01 14	Command not properly terminated
0B xx 06 xx 01 15	Command expected but CBUS FIFO found empty
0B xx 06 xx 01 16	Admin BUS ERROR
0B xx 06 xx 01 17	Admin ADDRESS ERROR
0B xx 06 xx 01 18	CRFIFO Synchronization Error
0B xx 06 xx 01 19	Spurious interrupt
0B xx 06 xx 01 1A	No Multiframe Interrupts
0B xx 06 xx 01 1B	Routing Table RAM failure
0B xx 06 xx 01 20	Event Processor found illegal message source
0B xx 06 xx 01 21	Event Processor found illegal message code
0B xx 06 xx 01 23	Event Processor got unsolicited message fragment
0B xx 06 xx 01 24 00 00 00 01	Fragment timeout, Mktsp task (signaling)
0B xx 06 xx 01 24 00 00 00 02	Fragment timeout, INJS
0B xx 06 xx 01 24 00 00 00 04	Fragment timeout, QMGR task
0B xx 06 xx 01 24 00 00 00 08	Fragment timeout, IEC task
0B xx 06 xx 01 24 00 00 00 10	Fragment timeout, Backcard task
0B xx 06 xx 01 24 00 00 00 20	Fragment timeout, Comsrvr
0B xx 06 xx 01 24 00 00 00 40	Fragment timeout, Evntproc
0B xx 06 xx 01 24 00 00 00 80	Fragment timeout, TPU task
0B xx 06 xx 01 24 00 00 01 00	Fragment timeout, Idle task
0B xx 06 xx 01 24 00 00 02 00	Fragment timeout, Mktrn task (signaling)
0B xx 06 xx 01 24 00 00 04 00	Fragment timeout, DPU0 task
0B xx 06 xx 01 24 00 00 08 00	Fragment timeout, DPU1 task
0B xx 06 xx 01 24 00 00 10 00	Fragment timeout, DPU2 task
0B xx 06 xx 01 24 00 00 20 00	Fragment timeout, DPU3 task
0B xx 06 xx 01 24 00 00 80 00	Fragment timeout, TRNSFR
0B xx 06 xx 01 25	Event Transmit timeout
0B xx 06 xx 01 26 00 00 00 04	DSP timeout err, QMGR task

0B xx 06 xx 01 26 00 00 00 80	DSP timeout err, TPU task
0B xx 06 xx 01 26 00 00 04 00	DSP timeout err, DPU0 task
0B xx 06 xx 01 26 00 00 08 00	DSP timeout err, DPU1 task
0B xx 06 xx 01 26 00 00 10 00	DSP timeout err, DPU2 task
0B xx 06 xx 01 26 00 00 20 00	DSP timeout err, DPU3 task
0B xx 06 xx 01 26 00 00 3c 84	All DSPs, likely Gbus lockup by one DSP
0B xx 06 xx 01 27	Unknown event function code from DSP
0B xx 06 xx 01 30	Internal allocation error (connection record)
0B xx 06 xx 01 31	Internal allocation error (tpu record)
0B xx 06 xx 01 32	Internal allocation error (tcn)
0B xx 06 xx 01 33	Internal allocation error (dpu lcn)
0B xx 06 xx 01 34	Internal allocation error (dpu ds0)
0B xx 06 xx 01 35	Internal allocation error (dpu application)
0B xx 06 xx 01 36	Internal allocation error (lcn)
0B xx 06 xx 01 40	Checksum error in IEC event
0B xx 06 xx 01 41	Illegal character in IEC command
0B xx 06 xx 01 42	CRC error in IEC command
0B xx 06 xx 01 43	IEC watchdogged
0B xx 06 xx 01 44	IEC maximum command retries exceeded
0B xx 06 xx 01 45	Illegal character in IEC response
0B xx 06 xx 01 46	Error in IEC response
0B xx 06 xx 01 47	Unknown response from IEC
0B xx 06 xx 01 48	IEC fails to respond
0B xx 06 xx 01 80	MISC_HWERR
0B xx 06 xx 01 81	TXERR
0B xx 06 xx 01 82	RTERR
0B xx 06 xx 01 84	QBERR
0B xx 06 xx 01 88	GBERR

UVM Card Error Summary

Byte 1 - Function code

Byte 2 - Error function code

Byte 3 - Error category

- 01 - Download Failure
- 02 - Powerup Failure
- 03 - Selftest Failure
- 04 - Memory test failure
- 05 - Boot PROM failure
- 06 - Non Boot PROM (Firmware) failure
- 07 - Admin Watchdog failure

Byte 4 - MSB = 1, Next 7 bits contain card type (UVM == 0x28)
Therefore, this byte will contain A8 always.

Byte 5 - Processor

Byte 6 - a. Selftest #in case of Error Category 03
b. Failure Code in case of Error Category 06

Byte 7-10 - Sub Category

UVM Card Failure Codes for Category 06

Error Code	0x00-0x05	Internal error - Boot Prom
/* hardware error */		
HE_DSP_DOWNLOAD	0x06	DSP download error
HE_UVI_DOWNLOAD	0x07	UVI download error
HE_DEATH	0x08	8751 watchdogged
HE_NO_BC	0x0a	missing UVI
HE_SWBUG	0x0f	software bug
HE_PSOS_ERR	0x10	unexpected PSOS return code
HE_TIMEOUT	0x11	message timeout
HE_INVALID_LEN	0x12	message length > max
HE_UNEXP_EOM	0x13	unexpected end of command
HE_SHORT_MSG	0x14	cmd not properly terminated
HE_BUS_ERR	0x16	68000 bus error occurred
HE_ADR_ERR	0x17	68000 address error occurred

```

HE_PKT_SYNC      0x18      packet in FIFO sync err
HE_UNEXP_INT     0x19      unexpected interrupt
HE_NO_MFINT      0x1a      no MF intr from backcard
HE_RTRAM         0x1b      routing Table RAM failed
HE_UVIEC_FAIL    0x1c      UVI EC failed
HE_UVIEC_ALLOC   0x1d      UVI EC allocation error - No EC available for channels add

/* command error */
CE_LBCKSM        0x0b      lbus checksum error (UVI)
CE_INVBC         0x0c      invalid uvi type (UVI)
CE_LBOVRN        0x0d      lbus overrun (UVI)
CE_CONFIG        0x0e      uvi not configured (UVI)

/* internal error codes */
HE_DSP_DEAD      0x26      DSP Watchdog Timeout
HE_ILL_DSP_EVT   0x27      illegal event got from DSP
HE_TASK_DEAD     0x28      task not responding - may be caused by excessive signaling
HE_CAS_PROC      0x29      CAS function not initialized
HE_CCS_PROC      0x2a      CCS function not initialized

/* dbus driver error */
HE_DBUS_DRVERR   0x50      dbus driver error
HE_DBUS_SM       0x51      cbus semaphore timeout
HE_DBUS_TXLEN    0x52      dbus transmit length
HE_DBUS_TXFULL   0x53      dbus transmit buffer full
HE_DBUS_RXLEN    0x54      invalid dbus rx msg length
HE_DBUS_RXT0     0x55      dbus receive timeout

/* lbus driver error */
HE_LBUS_DRVERR   0x60      lbus driver error
HE_LBUS_SM       0x61      lbus semaphore timeout
HE_LBUS_TXLEN    0x62      lbus transmit length
HE_LBUS_TXFULL   0x63      lbus transmit buffer full

/* gbus driver error */
HE_GBUS_DRVERR   0x70      bus driver error
HE_GBUS_SM       0x71      gbus semaphore timeout
HE_GBUS_TXLEN    0x72      gbus mailbox full
HE_GBUS_TXFULL   0x73      gbus transmit buffer full
HE_GBUS_REENT    0x74      gbus int reentrance
HE_GBUS_BUSY     0x75      gbus busy
HE_GBUS_FCODE    0x76      invalid gbus function code
HE_GBUS_RXLEN    0x77      invalid gbus rx mail len

Sub-category:
-----
/* lbus driver error for HE_LBUS_DRVERR */
DE_LBUS_RXERR    0x00000001    lbus rx error
DE_LBUS_RXLEN    0x00000002    lbus rx len error
DE_LBUS_RXCKSM   0x00000004    lbus rx checksum error
DE_LBUS_OVRUN    0x00000008    lbus rx overrun error

/* gbus driver error for HE_GBUS_DRVERR */
DE_GBUS_BLOCKED 0x00000001    gbus blocked
DE_GBUS_HIMB     0x00000002    dsp not reading hi pri mail caused by excessive signaling
DE_GBUS_BUFERR   0x00008000    GBUS buffer allocation error
DE_GBUS_GET_BUFERR 0x00004000    GBUS buffer allocation error
DE_GBUS_FREE_BUFERR 0x00002000    GBUS buffer allocation error
DE_GBUS_SAVE_BUFERR 0x00001000    GBUS buffer allocation error
DE_DSP0_NORSP    0x00010000    dsp 0 not reading mail
DE_DSP1_NORSP    0x00020000    dsp 1 not reading mail
DE_DSP2_NORSP    0x00040000    dsp 2 not reading mail
DE_DSP3_NORSP    0x00080000    dsp 3 not reading mail
DE_DSP4_NORSP    0x00100000    dsp 4 not reading mail
DE_DSP5_NORSP    0x00200000    dsp 5 not reading mail
DE_DSP6_NORSP    0x00400000    dsp 6 not reading mail

```

```

DE_DSP7_NORSP    0x00800000    dsp 7 not reading mail
DE_DSP8_NORSP    0x01000000    dsp 8 not reading mail
DE_DSP9_NORSP    0x02000000    dsp 9 not reading mail
DE_DSPA_NORSP    0x04000000    dsp 10 not reading mail
DE_DSPB_NORSP    0x08000000    dsp 11 not reading mail
DE_DSPC_NORSP    0x10000000    dsp 12 not reading mail
DE_DSPD_NORSP    0x20000000    dsp 13 not reading mail
DE_DSPE_NORSP    0x40000000    dsp 14 not reading mail
DE_DSPF_NORSP    0x80000000    dsp 15 not reading mail
DE_ALL_NORSP     0xffff0000    all dsps not reading mail

```

/*-----*/

List of 0xB errors Reported by DSP

Core image

```

-----
MEM_WRITE_ERROR      0xBC    Memory Read Write Test Failed
CHECKSUM_ERROR       0xBD    Checksum does not match

```

HDLC & FAX IMAGE

```

-----
FIFO_FULL            0xFF    Could not write to TX FIFO
FIFO_ALMOST_FULL    0xAF    Could not write to TX FIFO
INVALID_LENGTH_CMD   0xCD    Invalid length Command from CP

```

VOICE, G729, G729A IMAGE

```

-----
FIFO_FULL            0xFF    Could not write to TX FIFO
FIFO_ALMOST_FULL    0xAF    Could not write to TX FIFO
INVALID_LENGTH_CMD   0xCD    Invalid length Command from CP
TNI_EXCEPTION_ERROR  0xE0    Exception message from codec
TNI_FATAL_FUNC       0xE1    Exception message from MXP

```

Example of the dspcderr Command Output

UVM in Slot 21 : 440659 Rev EPH

```

-----
Failure Type: Hardware Error
Failure Time: March 12 2003 16:04:31 GMT

```

```

Hardware Error Event:
Hardware Error Event:
0B 00 06 A8 01 26 0D
|_____|_____|____| DSP watchdog error

```

```

Error Fcode: Unknown
Failure Type: Internal
Processor Number: 01

```

UVM in Slot 21 : 440659 Rev EPH

```

-----
Failure Type: Hardware Error
Failure Time: March 12 2003 16:16:31 GMT

```

```

Hardware Error Event:
0B 00 06 A8 01 07
|_____|_____|____| UVI download failure

```

```

Error Fcode: Unknown
Failure Type: Internal
Processor Number: 01

```

Related Information

- [Cisco WAN Switching Solutions – Cisco Documentation](#)
 - [Guide to New Names and Colors for WAN Switching Products](#)
 - [Downloads – WAN Switching Software \(registered customers only\)](#)
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Updated: Oct 04, 2005

Document ID: 10802
