Advanced Communications Controller B.03.30 Release Notes

Second Edition

HP 9000 Systems

Manufacturing Part Number: Z7478-90006
E0202

U.S.A.

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1 ACC Release Notes

What's In This Version

The following information applies to version B.03.30 of the line of *Advanced Communications Controller* (ACC) products that are supported on HP-UX 11i.

Benefits

- This release of the ACC software provides support on HP-UX 11i. It includes enhancements described in the next section “Features and Enhancements”. Corrections for known problems are described in the following section “Software Requirements”.

Features and Enhancements

- Introduction of support for the Online Addition and Replacement (OLAR) of the Z7340A 8-Port PCI ACC interface card and the Z7330A 4-Port PCI interface card. Use the HP-UX System Administrator Manager (/usr/sbin/sam), to perform the OLAR functions via the "Peripheral Devices" then "Cards" menu items. If you are adding a card, refer to the X.25/ACC Installation and Configuration Guide (part # Z7481-90001) for additional information on adding hardware after installation which includes creating device files and modifying the ttgen configuration file.

Known Problems and Workarounds for ACC Products

The following lists the known problems in this version and recommended workarounds:

- *You cannot install Advanced Communication Controller (ACC) cards and PSI SDLC cards on the same system.* Coexistence of these cards will not work. You can install ACC cards supported by the ACC product or PSI SDLC cards supported by the SNAplus2 product, but both types of cards are incompatible on the same system.
- You cannot install Advanced Communication Controller (ACC) cards and J2793B (X.25/9000) cards on the same system. Coexistence of these cards on the same system are not supported.
- The Z7340A 8-port PCI card does not work with older PDC firmware on B and C-class systems. If ioscan does not recognize the Z7340A card, then you may need to upgrade the PDC firmware on your system. Check to make sure the system has the latest version of PDC firmware.

Compatibility Information and Installation Requirements

Software Requirements

- When compiling application programs that use ACC, use the cc compiler in non-ANSI mode instead of cc in ANSI mode or the ANSI c89 compiler. ACC header files and libraries currently do not support ANSI compilation and linking.

Hardware Requirements

- The Z7330A 4-channel PCI card is a limited distribution product.

OS Platform and Version Compatibility

- This release supports HP-UX 11.0 with Extension Pack, March 2000.

Patches and Fixes for this Version

In order to run ACC Version B.03.30.00 with Z7340A Serial ACC cards on HP Superdome servers, patch PHNE_24871(s700_800 11.11 3.30.00 ACC Base Software Product Patch) or its superseding patch must be installed. This patch also fixes ACC code so that "ioscan -fC acc" output displays the card number and the card description (on all supported servers).

The patch, along with additional information, can be downloaded from **http://itrc.hp.com/**. The patch is also available from **ftp://hpatlse.atl.hp.com/hp-ux_patches/s700_800/11.X/**.

Defect Fixes in Patch PHNE_24871

This patch for ACC B.03.30.00 fixes the following 2 defects for Superdome customers.

- **JAGad87791**

  Symptom: ACC card description in “ioscan -fC acc" output needs to be more informative.

  Defect/Fix: The code has been changed so that “`ioscan -fC acc`” output displays the card

number and the card description.

- **JAGad83768:**

  Symptom: `zmasterd` cold start fails on Superdome

  When running ACC Version B.03.30.00 with Z7340A PCI Serial ACC cards on Superdome, zmasterd cold start fails. The cards do not start up and zmon provides an error message stating that there is no ACC card in the slot configured.

  This problem results from an extra zero being added to the I/O path on Superdome systems. For example, if an N-class system has an I/O path of 16/4/1/0, on a Superdome system, the same path would be "16/4/1/0/0". The function `nacc1_get_interface_info()` looks at the path entries starting with the rightmost element and working left. On a superdome system, this yields a bus address of *`4:1`* and a slot address of *`0`* instead of a bus address of *`16:4`* and slot address *`1`*.

  Defect / Fix: The address parsing has been changed to start with the leftmost element and then work right for PCI bus. This should result in consistent bus and slot addresses regardless of the target system supporting PCI bus.

Defect Fixes From Release ACC B.03.30.00

- **JAGad16980**

  Symptoms: pdisplay runc on ports 2 and 7 of the 2/8-port cards does not work and outputs the following error:

  ```
  Error: Port 7 exceeds the maximum allowed for the card type.
  ```

  Defect / Fix: Whenever you try to use the runc command to configure the last port of any 2-port or 8-port ACC card, the command fails with an error. This defect was caused by a logic error in the port validation code. This defect has been corrected.

- **JAGad13781**

  Symptoms: zmasterd cold startup or x25init failure indicating insufficient HP-UX memory for the operation.

  Defect/Fix: The root cause for these failures was the code holding a spinlock when calling MALLOC with wait. If MALLOC needed to sleep in this case, it would return a NULL pointer which normally indicates no memory available. The fix is to unlock the spinlock before calling the MALLOC macro.

- **JAGad09926**

  Symptoms: x25init fails with the following message:

  ```
  [x25stop] X.25 interface zx25m0p2 has been stopped
  ixetune: IXE_SNREG ioctl failed: Invalid argument
  Too many IXE lines configured in /etc/netconf
  ```

  Defect/Fix: The fix is in the application using X.25. If an application is using the X.25 subsystem with ACC, and if the "zmasterd stop" or "zmasterd kill" command is issued, a "x25stop -K" command must be issued. The "x25stop -K" command should be issued after doing the zmasterd stop/kill command. This is necessary because the zmasterd stop/kill command deallocates the ZCOM data structures and there is no way the X.25 subsystem would know that the data structures have been deleted. If the "x25stop" command is not given, then all successive "x25init" commands may give error messages stating that the "x25tune" command failed.

- **JAGad13782**

  Symptoms: Multiple connections over ACC/X25 are made. After 5 days of intensive stress on the machine it needs to be rebooted because of a memory leak in the 512 bucket. The problem can be reproduced on all possible hw systems running HPUX 11.00.

  Defect/Fix: A code segment does an exit before freeing a buffer. The fix is to assign the buffer to the free buffer area before exiting.

- **JAGad14557**

  Symptoms: The defect occurs when the system is under extreme load and there is large amounts of queued data that has not yet been transferred to the card.

  Defect/Fix: Under these conditions, if a call is cleared and then immediately reestablished, the data for the prior call can be transmitted on the new call. In other words, the data for the previously established VC can be sent on the newly established VC on the same ZLU. The changes are to flush the physical driver's high and low priority transmit queues for the VC whenever a inbound or outbound clear request is received.

- **JAGad16213**

  Symptoms: Data page fault with PVCs in streams_put on inbound reset indication.

  Stack trace is:

```
streams_put+0x2c
N2Z_F_reset_ind+0x90
N2z_iev_reset_ind+0x138
N2z_ReadEvent_Recvd+0x1d94
Zc_putq+0x60
Zc_addq+0x1b8
zksend+0x264
Zx_Send_appl_status+0x2ec
Zx_proc_VC_event+0x1498
Zx_proc_unsol_event+0x2390
zx25_event_handler+0x4b4
Zc_putq+0x60
nacc0_receive_data+0x194
nacc0_pass_rxdata+0x88
nacc0_complete_req+0x480c
nacc0_end_io+0x280
nacc0_isr+0x898
```

  Defect/Fix: After a PVC detach occurred (which causes the stream to be closed), an inbound request queued on the read side server was then running and passing the request upwards on a now invalid stream. This resulted in the panic. The fix is to clear the read size "q_ptr" field during the PVC detach processing which prevents any request pending on the read side from being passed upwards.

- **JAGab66302**

  Symptoms: This is an enhancement to zmasterd to accept .answ file on cold start.

  Defect/Fix: zmasterd now accepts a .answ file on cold start and runs ttgen itself, as well as being able to cold start from a .tmem file. This involves making changes in zmon such that it can accept a .answ file for cold start, and run ttgen internally.

- **JAGad00600**

  Symptoms: "zmasterd deact znode" does not kill the znode daemon.

  Defect/Fix: "zmasterd deact znode" left znode still running, whereas "zmasterd deact zmlog" removes zmlog from the run state.

  The problem was occurring because the znode daemon was ignoring the SIGTERM signal. Code has been modified so that the znode daemon no longer ignores the SIGTERM signal.

- **JAGad02457**

  Symptoms: The interface tunable tsize parameter for the E1/T1 cards and Z7340A 8-port PCI has inadequate editing in ttgen and checking in the firmware, and an incorrect value such as 1 can cause a firmware failure.

  Defect/Fix: The minimum allowable value is 8 bytes. This would allow the header only, with no timers. The actual value must be a multiple of 8 bytes. Each timer entry occupies 8 bytes, in addition to the header. Interface tunable "tsize" has been fixed to be multiple of 8; and minimum 8.

- **JAGad04280**

  Symptoms: DSC card control (startup/disable) does not work.

  Defect/Fix: While doing DSC card-config tests (zconfig), it was found that the system shuts down a card even when a DSC card-startup or card-disable request is issued.

  The reason for the above problem is that some "break" statements were missing in the switch statement in dsc_card() function of LDM code. It also misses out the setting of "irr.reason" to indicate different reasons for card disable or halt.

- **JAGad21743**

  Symptoms: During high load activity on the Z7200A OR Z7400A ACC cards, such as X.25 call establishment and clearing on all port, the port may be unable to accept further transmit requests. The affected port is not usable until the ACC card is restarted.

  In the case of X.25 call establishment, the user application may encounter the error return ENOSPC.

  Defect/Fix: The transmit processing for the affected port was stalled, because the firmware was in an inconsistent state. Two problems in the low level state processing of the frame protocol have been identified and removed. A workaround has been implemented for an inconsistent state where the transmit timer was not running, but the transmitter was active. Additional protection has also been added to interrupt critical state processing.

- **JAGad25064**

  Symptoms: ACC 8 port PCI was sending 1 byte data packet.

  Defect/Fix: The default SAM values for N2Z_OUTB_BUFFER_SZ and N2Z_MAX_ZSTRBUF_PGS were incorrect and have been modified.