Release notes for PA0509

Instructions for the installation of the LIF-LOAD product

The LIF-LOAD product is a subset of the Offline Diagnostics for the HP-UX 9000 systems. LIF-LOAD is intended to be installed to the boot area of the system disk. It contains the following ODE (Offline Diagnostics Environment) programs:
For 64 bit systems: MAPPER2, IOTEST2, PERFVER2
For 32 bit systems: MAPPER, IOTEST, PERFVER
After LIF-LOAD is installed, you can boot the system disk to the `ISL>` prompt, run the ODE program, and then launch the above programs from the `ODE>` prompt.

To access to the full set of Offline Diagnostics, you should use this bootable CD. You can boot this CD to the `ISL>` prompt, run the ODE program, and then the full set of ODE programs will be available from the `ODE>` prompt. The `ls` command from the `ODE>` prompt will give you the list of all the supported ODE programs.

Please follow the instructions below to install the LIF-LOAD product to the boot area of the system disk. These instructions apply to HP-UX 9000 systems only with 11.x OS installed.

1. Login as root.
2. Load the HP 9000 Offline Diagnostics Environment CD (this CD) to the CD/DVD drive.
3. Make a directory from `/` as a mount point for the CD: mkdir < CD mount point directory >
   For example:
   mkdir /Offline_CD
4. Find from the `ioscan -fnCdisk` output, the block special device file for the CD/DVD drive.
   For example: (The block special device file for the CD is `/dev/dsk/c0t0d0` in this example) ioscan -fnCdisk

```
       Class     I  H/W Path        Driver S/W State   H/W Type     Description
=========================================================================
disk       0  10/0/14/0.0.0  sdisk CLAIMED     DEVICE       TEAC    CD-532E-B
                            /dev/dsk/c0t0d0   /dev/rdsk/c0t0d0
disk       1  10/0/15/1.4.0  sdisk CLAIMED     DEVICE       SEAGATE ST39204LC
                            /dev/dsk/c3t4d0   /dev/rdsk/c3t4d0
```

5. Mount the CD using the CD's block special device file and the directory you made from step 3:
   `mount < block special device file of CD/DVD drive > < CD mount point directory >` For example:
   mount /dev/dsk/c0t0d0 /Offline_CD
6. Execute the following script from the CD: < CD mount point directory > /DOCS/install_lifload.ksh
   For example:
   /Offline_CD/DOCS/install_lifload.ksh

Release Notes for 32-bit tools

Known problems in this release

ALL ODE PROGRAMS

- All ODE programs will hang on PCX-U and PCX-U+ based workstations (C160, C180, C200, and C240) with a

graphic console if firmware is earlier than IODC 4.1. IODC 4.1 and later will fix this problem. (SR#1653-209544)
- After exit from TMMGR to ODE, running any subsequent program may hang the system. The user should use "exit all" to exit TMMGR to ISL and reload ODE to avoid this problem.

ALL 32 BIT PROGRAMS

- Offline diagnostics may not recognize some SCSI disks attached via HP-GSC and HP-HSC cards. For example, MAPPER may fail to recognize a lone AutoRAID Disk Array Model 12H. This problem will be fixed in a subsequent version of the offline diagnostics.
  Among the systems and cards that are affected:
  - D/R-Class: A4107A (HP-HSC card F/W/Diff SCSI-2)
  - K-Class: A2969A (HP-HSC card F/W/Diff SCSI-2)
  - T-Class: A3644A (HP-HSC card F/W/Diff SCSI-2)
  - A-Class: HP-HSC card F/W/Diff SCSI-2

  Temporary fix:

  1. Run the SEARCH command from the Boot Console Handler (BCH) prompt.
  2. Run MAPPER or other ODE disk tools as desired.

  For A180 and A180C Servers, the 'Temporary Fix' procedure will not work. For those servers, use the procedure below:

  1. Boot to HPUX.
  2. Reboot to ISL.
  3. Run MAPPER or other ODE disk tools as desired.

ASTRODIAG

- At least ONE PCI SCSI card must be placed under each Elroy.
- For B2000: At least ONE PCI SCSI card must be installed in the system to run ALL SECTIONS on ASTRODIAG.

CLKUTIL

This version of CLKUTIL will not work on a graphics terminal.

DINOTEST

If section 9 runs, cards on the secondary PCI bus may loose their configuration. When this happens, the user should reset the system before booting the OS.

KEYDIAG

A.00.09 - Tested on U2 (Hversion 0x580 K-Class) IOA and not on UTURN (Hversion 0x581 K-Class). Tested UTURN with Hversion 0x580 (K-Class).
Note: all UTURN IOAs tested contain Hversion 0x580 and not Hversion 0x581.

LANCONFIG

Does not support C-class workstations on this version.

LASIDIAG

When executing "sect 32 10;run" (floppy format test), ODE returns HARDWARE ERROR, though no errors were found. Users should ignore this error message.

SIODIAG

- The message `Test section completed successfully` means that the test section code is complete and has been tested.
- The message `Test section not yet implemented` means that the test section is either not code complete or not completely tested.

TIMIDIAG

- If the system console path is set to the TIMI serial port, execution of TIMIDIAG SECTION 004 (Timi UART test internal and external loopback) will crash the system.
- If the system is booted from either of the Backplane Networking, Backplane ROM or PCMCIA boot devices, execution of TIMIDIAG will crash the system.

TMMGR

TMMGR is currently only supported when ODE has been booted from the support CD-ROM. If ODE has been booted from tape, diagnostics can be run from the ODE prompt rather than from TMMGR.

Release Notes for 64-bit tools

Known problems in this release

ALL ODE PROGRAMS

- All ODE programs will hang on PCX-U and PCX-U+ based workstations (C160, C180, C200, and C240) with a graphic console if firmware is earlier than IODC 4.1. IODC 4.1 and later will fix this problem. (SR#1653-209544)

ALL 64 BIT PROGRAMS

The class license may not work for some rp8400 systems (HVersion 5E4 and 5E6). The work around is to install the class license from the online diagnostic tools.

DISKEXPT2 DISKUTIL2

READLOG on a Quantum FIREBALL1050S disk will return a `Device wants to Transfer More Data then Allocated.` error message. This is a bug in the disk driver firmware.

ASTRODIAG2

- AReturn values for each test section are inconsistent. They can cause the diag to return TM_STATUS_FAILED under the wrong circumstances.
  IMPORTANT: PCI-TO-PCI devices are not supported on Shared Slots.
- Interrupt tests (Section 6) are not executed.
- PIO transactions (Section8) are not executed.

CIODIAG

IMPORTANT: There is no USB Coverage implemented for this release and there are no plans to test the RS232 users port. Only the UPS or Aux port in rp8400 (Keystone) is tested on an external loopback test.

IKEDIAG2

- On rp5470 servers, section 3, subtest 1 and 2 are disabled.
- ON rp5470 servers with 875MHz CPUs, Section 8: Subtest 004 DMA Ext. Interrupt Test fails.

IOTEST2

IOTEST2 runs very slowly on c8000 machines when USB devices are connected.

MAKODIAG

- Sec 81 fails after several loops when run with other ODE Tools.
  Workaround : Type `resume` on the prompt to continue with remaining tests.
- Sec 24 hangs on c8000 machines when run with other ODE tools in a loop.
- On some HP 9000 systems that has less memory, section 24 for MAKODIAG generates a High Priority Machine Check (HPMC). To avoid HPMC, MAKODIAG requires the following:
  - Atleast 512MB memory on rp3410, rp3440, rp4410, rp4440 servers and c8000 workstations.
  - 2GB to 4GB memory on rp7420, rp8420, and Orca, depending on number of processors. The 128-way ORCA systems require 8 GB of memory.
    Workaround : Increase memory to suggested value and then run MAKODIAG.

MAPPER2

- Runs very slowly on c8000 machines when USB devices are connected
- Does not list MSA1500 devices when connected to A6795A Fibre Channel HBA.

MEM2

- Due to a firmware bug in zx1 based systems, MEM2 currently will detect SBE and pause; however it does not report the correct location of the faulty DIMM.
- Due to a firmware bug in zx1 based systems, MEM2 currently only works when run from disk. If booted from LAN, it will work for the first run as long as the user does not exit back to ISL. If exited, the user needs to reset the server before running MEM2 again.

REODIAG

- Two CPUs end up deconfigured in rp7410 after running section 8. Further investigation in section 8 is needed. Therefore, we temporarily skip the forwarding of interrupt 0 to the processor in section 8.
- Section 11 is not implemented because the PCI Exerciser card HP E2928A is no longer supported.

TOGODIAG

TOGODIAG takes variable amount of time to load on rp8420 systems. Delay caused by one of PDC calls in getting system information.

New features

ALL 64 BIT PROGRAMS

Added support for MSA1500 device.

DISKEXPT2

Fix for JAGaf51201: MODESENSE cmd (opts 0x5 and 0xB) fails on disks.

MAPPER2

Added support for HP AB345A PCI-X 2-port Fabric HBA.

PCIUTIL

Added support to AB378A and AB379A 4Gb Fibre Channel HBAs.

Fixes

DISKEXPT2

Fix for JAGaf51201: MODESENSE cmd (opts 0x5 and 0xB) fails on disks.

PCIUTIL

JAGaf65376: Added support AB378A and AB379A 4Gb FC HBAs.

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