Emulex® Drivers for VMware ESXi for LightPulse® Adapters Release Notes

Versions: ESXi 5.5 FC driver: 11.2.156.14
ESXi 6.0 FC driver: 11.2.266.0
ESXi 6.5 FC driver: 11.2.266.0

Date: May 8, 2017

Purpose and Contact Information

These release notes describe the new features, resolved issues, known issues, and technical tips associated with these Emulex drivers for VMware releases.

For the latest product documentation, go to www.broadcom.com. If you have questions or require additional information, contact an authorized Broadcom® technical support representative at ecd-tech.support@broadcom.com or request assistance online at https://oemsupportportal.emulex.com/web2tech/ecd.html.

New Features (11.2 Initial Release)

1. **Beginning with software release 11.2, LightPulse adapters and OneConnect® adapters have independent software kits. Special instructions and considerations for using the driver kits for LightPulse and OneConnect adapters are provided in the *Emulex Software Kit Migration User Guide*, which is available at http://www.broadcom.com. Refer to that document before updating existing drivers and applications to the drivers and applications in release 11.2.**
2. **This release supports Virtual Machine Identifier (VMID) on Brocade switches, for ESXi 6.0 and ESXi 6.5. VMID provides the ability to identify traffic flows from a specific virtual machine (VM) in the fabric. This information can be used in gathering diagnostic data.**
3. **The following operating system does not support new features in this release:**
   - VMware ESXi 5.5
4. **The following operating system is no longer supported:**
   - VMware ESXi 5.1

Resolved Issues (11.2.266.0 Release)

1. **After a port has been enabled and disabled multiple times, VMIDs are now visible.**
2. **Enabling ExpressLane™ on a logical unit number (LUN) no longer causes the LUN to be inaccessible.**

Resolved Issues (11.2 Initial Release)

1. **An issue in which the *MBrd* value in `iostats` displayed `0` when traffic flow was available has been resolved.**
2. **A port on which `setportEnabled` was set to `0` is no longer reported as operational.**

Known Issues, All Versions

All Versions, Known Issues

1. **The adapter model name and description do not match the vendor brand name field.**

   The VMware vSphere client only shows adapter family model names with a single port. For example, it shows the LightPulse LPe32002 host bus adapter (HBA) as the `Emulex LightPulse LPe32000 PCIe Fibre Channel Adapter`. This issue occurs with the native tool `lspci` as well. The vSphere client gets the adapter model name and description from the Extensible Markup Language (XML) package files installed with the operating system or with an out-of-box kit rather than from the adapter vital product data (VPD). Other native tools work in a similar manner.

   Workaround

   To show all available key/value (KV) instances, use the following command:

   ```
   /usr/lib/vmware/vmkmgmt_keyval/vmkmgmt_keyval -d
   ```

   For storage adapters, look for `vmhbaX/Emulex`.

2. **Issues exist with boot from storage area network (SAN) support on Emulex LPe12000-series adapters.**

   Boot from SAN can experience issues on Emulex LPe12000-series adapters. Issues include not finding the boot LUN or not successfully booting from the boot LUN.

   Workaround

   Boot from SAN support on Emulex LPe12000-series adapters requires the Emulex Universal Boot Code 5.12a2 or later and firmware version 2.01a4 or later.

3. **Concurrent firmware upgrades performed on the same ESXi host might not be fully copied.**

   If a firmware upgrade is attempted using the Hypertext Transfer Protocol (HTTP), the firmware file is copied to the `/filesystem` of the ESXi system. This file is deleted after the firmware upgrade is complete. Therefore, if concurrent firmware upgrades are performed on the same ESXi host, due to space constraints, the firmware file may not be copied fully, and the firmware upgrades might fail with an error.

   Workaround

   None.

4. **Certain inbox drivers do not support LPe31000-series and LPe32000-series adapters, as described in the following table.**

Table 1 Operating System and Support for LPe31000-Series and LPe32000-Series Adapters

Operating System	Support for LPe31000-Series and LPe32000-Series Adapters
ESXi 5.5	No; use Input/Output Vendor Program (IOVP)
ESXi 6.0	No; use IOVP
ESXi 6.5	Yes

Workaround

Follow the guidelines in the table.

5. **On an LPe12002 system, loop-only topology does not work with an 8-Gb Brocade switch.**

Workaround

None.

6. **When the VMID feature is used in an ESX environment with ESX mobility (vMotion), the VMID strings may not be available from the operating system on the backup server (the server to which vMotion moved) for 10–20 minutes. During this time, the VMID strings are not available for registration on the fabric switch.**

Workaround

After the vMotion action, wait until the operating system settles and the VMID strings are available.

7. **If a VMID parameter (`lpfc_max_vmid` or `lpfc_vmid_activity_timeout`) is enabled on a system that includes an LPe12000-series adapter, an unrecoverable operating system fault occurs.**

Workaround

Do not enable VMID in a system that includes LPe12000-series adapters.

ESXi 5.5 Known Issues

1. **Disabling MultiQueue (MQ) might adversely affect performance of the Fibre Channel (FC) driver.**

Workaround

Do not disable MQ.

2. **Virtual port (VPort) NDLP state does not transition to `unused` after receiving an unsolicited port login (PLOGI) from an initiator.**

Workaround

None.

3. **An errant `NULL` print string write to console log might occur.**

   Workaround

   None.

4. **A system hang might occur on servers with more than eight central processing unit (CPU) sockets.**

   Workaround

   None. The driver and adapter must be installed on servers with eight CPU sockets or less.

5. **Direct-attached configurations in a point-to-point topology do not connect.**

   Workaround

   Use the driver default topology (loop).

6. **With N_Port ID Virtualization (NPIV) enabled, the server hangs during reboot after executing bus, LUN, and target reset on vPorts.**

   Workaround

   Shut down all guests, power off all virtual machines (VMs), and then reboot. This action allows the reboot to work cleanly.

7. **I/O does not resume on vPorts after the vPort is disabled and then re-enabled.**

   When virtual ports on a single physical port are set to round robin, and they are disabled and re-enabled one at a time, I/O does not resume properly on the re-enabled vports. I/O continues on the physical port.

   Workaround

   None.

ESXi 6.0 Known Issues

1. **If multiple VMs with attached virtual fabrics (VFs) are powered on for a second time, the power-on fails.**

   Workaround

   None.

ESXi 6.5 Known Issues

No issues reported.

Technical Tips

1. **ESXi servers can appear to have the same VMID Application ID. The VMID is the combination of the Application ID appended to the end of the N_Port ID, which provides uniqueness within the fabric.**
2. **To see VMID information on all VMs in a multipathing configuration, set the path policy to `Round Robin`.**
3. **A `max_multiq` parameter has been added to the ESXi 5.5 and ESXi 6.0 native mode FC drivers. This parameter determines how many I/O channels (message signaled**

interrupt-extended [MSI-X] vector, Event Queue, and Completion Queue tuples) are used in parallel to Fibre Channel Protocol (FCP) 10. The `disable_mq` and `fcp_io_channels` driver parameters have been removed from the ESXi 5.5 and ESXi 6.0 native mode FC drivers. For more information, refer to the *Emulex Drivers for VMware ESXi for LightPulse Adapters User Guide.*

4. **The server must be in ESXi maintenance mode to safely change the firmware in flash memory.**

   For operations such as firmware download, bring the server into ESXi maintenance mode prior to flashing the firmware.

5. **Install an offline bundle locally on an ESXi server using the `esxcli` command.**

   Install an offline bundle on a VMware ESXi 5.5, 6.0, or 6.5 server locally using the `esxcli` command.

   ```
   [root@testmachine ~]# esxcli software vib install --maintenance-mode -d
   <offline-bundle.zip>
   ```

   Where <*offline-bundle.zip*> is the file name of the offline bundle to be installed.

6. **Throughput performance degrades on block sizes greater than 64 kilobytes (KB) on Emulex adapters.**

   This issue is fixed in this driver release, but you must set this fix and reboot the system as an administrator. There is one prerequisite: the ESXi operating system release must be ESXi 5.1 general availability (GA) build 799733 or higher.

   To engage this fix, enter the follow commands:

   ```
   esxcli system module parameter set -p “lpfc_dma_boundary” -m lpfc820
   reboot
   ```

7. **For ESXi hosts, use the Emulex OneCapture™ utility to retrieve dumps instead of the Emulex OneCommand® Manager application remote dump.**

   For more information on the OneCapture utility, refer to the *Emulex OneCapture for LightPulse Adapters User Guide*.