<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supported Document Versions</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Supported Hardware</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Intel® OPA Compatibility Matrix</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Issues Resolved in this Release</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Open Issues</td>
<td>13</td>
</tr>
</tbody>
</table>
1.0 Overview of the Release

These Release Notes are intended for Intel® Omni-Path Fabric software provided inbox with the OS release. This document provides a brief overview of the changes introduced into the Intel® Omni-Path Software by this release. References to more detailed information are provided where necessary. The information contained in this document is intended as supplemental information only; it should be used in conjunction with the documentation provided for each component.

These Release Notes list the features supported in this software release, open issues, and issues that were resolved during release development.

1.1 Audience

The information provided in this document is intended for installers, software support engineers, service personnel, and system administrators.

1.2 Document Versions

Intel® Omni-Path publications are available at the following URLs. For documents compatible with this release, refer to the V10.9.0 documents listed in the table below.

- Intel® Omni-Path Switches Installation, User, Reference Guides, and Release Notes
  http://www.intel.com/omnipath/SwitchPublications
- Intel® Omni-Path Software Installation, User, Reference Guides, and Release Notes
  (includes HFI documents)
  http://www.intel.com/omnipath/FabricSoftwarePublications

The following table lists the end user document versions supported by this release.

Table 1. Supported Document Versions

<table>
<thead>
<tr>
<th>Title</th>
<th>Doc. Number</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Omni-Path Fabric Quick Start Guide</td>
<td>J57479</td>
<td>6.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Fabric Setup Guide</td>
<td>J27600</td>
<td>10.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Fabric Switches Hardware Install Guide</td>
<td>H76456</td>
<td>7.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Host Fabric Interface Install Guide</td>
<td>H76466</td>
<td>5.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Fabric Software Install Guide</td>
<td>H76467</td>
<td>11.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Fabric Switches GUI User Guide</td>
<td>H76457</td>
<td>10.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Fabric Switches Command Line Interface Reference Guide</td>
<td>H76458</td>
<td>10.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Fabric Suite FastFabric User Guide</td>
<td>H76469</td>
<td>11.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Fabric Suite Fabric Manager User Guide</td>
<td>H76468</td>
<td>11.0</td>
</tr>
<tr>
<td>Intel® Omni-Path Fabric Suite Fabric Manager GUI User Guide</td>
<td>H76471</td>
<td>11.0</td>
</tr>
</tbody>
</table>

continued...
1.3 Software License Agreement

This software is provided under license agreements and may contain third-party software under separate third-party licensing. Please refer to the license files provided with the software for specific details.

1.4 If You Need Help

Technical support for Intel® Omni-Path products is available 24 hours a day, 365 days a year. Please contact Intel Customer Support or visit http://www.intel.com/omnipath/support for additional detail.

1.5 Packages in This Release

<table>
<thead>
<tr>
<th>Intel® Omni-Path Software Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packages created by Intel</td>
</tr>
<tr>
<td>opa-address-resolution-10.9.0.0.204-1.el7.x86_64</td>
</tr>
<tr>
<td>opa-basic-tools-10.9.0.0.204-1.el7.x86_64</td>
</tr>
<tr>
<td>opa-fastfabric-10.9.0.0.204-1.el7.x86_64</td>
</tr>
<tr>
<td>opa-fm-10.9.0.0.204-1.el7.x86_64</td>
</tr>
<tr>
<td>opa-libopamgt-10.9.0.0.204-1.el7.x86_64</td>
</tr>
<tr>
<td>libfabric-1.7.0-1.el7.x86_64</td>
</tr>
<tr>
<td>libpsm2-11.2.78-1.el7.x86_64</td>
</tr>
</tbody>
</table>

continued...
**Intel® Omni-Path Software Packages**

<table>
<thead>
<tr>
<th>Firmware binaries delivered by Intel</th>
</tr>
</thead>
<tbody>
<tr>
<td>8051 firmware version 1.27.0</td>
</tr>
<tr>
<td>SBus Master firmware version 0x10130001</td>
</tr>
<tr>
<td>PCIe SerDes firmware version 0x4755</td>
</tr>
<tr>
<td>Fabric SerDes firmware version 0x1055</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Packages used by Intel</th>
</tr>
</thead>
<tbody>
<tr>
<td>rdma-core-22.1-3.el7.x86_64 (libhfi)</td>
</tr>
<tr>
<td>openmpi-1.10.7-5.el7.x86_64</td>
</tr>
<tr>
<td>openmpi3-3.1.3-2.el7.x86_64</td>
</tr>
<tr>
<td>mpitests-openmpi-5.4.2-1.el7.x86_64</td>
</tr>
<tr>
<td>mpitests-openmpi3-5.4.2-1.el7.x86_64</td>
</tr>
<tr>
<td>mpitests-mvapich222-5.4.2-1.el7.x86_64</td>
</tr>
<tr>
<td>mpitests-mvapich23-5.4.2-1.el7.x86_64</td>
</tr>
<tr>
<td>mvapich2-2.2-psm2-2.2-4.el7.x86_64</td>
</tr>
<tr>
<td>mvapich23-psm2-2.3-4.el7.x86_64</td>
</tr>
<tr>
<td>mpitests-mvapich222-psm2-5.4.2-1.el7.x86_64</td>
</tr>
<tr>
<td>mpitests-mvapich23-psm2-5.4.2-1.el7.x86_64</td>
</tr>
</tbody>
</table>

**HFI Programmable Firmware**

To download Intel programmable firmware for HFIs, refer to the following:
- Unified Extensible Firmware Interface (UEFI)
- Thermal Management Module (TMM)
- Firmware Tools

**NOTE**

Refer to the Intel® OPA Compatibility Matrix on page 9 for the firmware versions compatible with this release.

### 1.6 Supported Features

- The list of supported hardware is in Table 2 on page 8.
- Product constraints are described in Product Constraints on page 11.
- New cable data collection tool (AOC Health Monitoring via PM).
- Intel® OPA support for cgroups.
- Support for multiple virtual fabric security.
— Support for active optical cables (AOC) on server platforms using integrated HFI for OPA (commonly known as “-F”).
— Support for Power Class 2 active optical cables (AOC). See Product Constraints on page 11 for more information.
- Legacy BIOS Boot Mode Enhancements to support boot over fabric, custom board descriptions, and pre-boot platform configuration data for AOC support.
- Support for OpenFabrics Interfaces (OFI), a framework that includes libraries (including libfabric) and applications used to export fabric communication services to applications.
- Support for NVMe over Fabric Protocol
- Virtual Fabric creation has been enhanced to better support advanced topologies, including the ability to place multicast traffic on a separate SL from unicast traffic. For details, see the Intel® Omni-Path Fabric Suite Fabric Manager User Guide, section 2.

1.7 Supported MPI Libraries

The list below shows the different MPI libraries tested with RHEL* 7.7 for Intel® Omni-Path Fabric Software.
- Open MPI3
- MVAPICH23

1.8 Intel Hardware

The following table lists the Intel hardware supported in this release.

**NOTE**
The Intel® PSM2 implementation has a limit of four (4) HFIs.

<table>
<thead>
<tr>
<th>Table 2. Supported Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
</tr>
<tr>
<td>Intel® Xeon® Processor E5-2600 v3 product family</td>
</tr>
<tr>
<td>Intel® Xeon® Processor E5-2600 v4 product family</td>
</tr>
<tr>
<td>Intel® Xeon® Scalable Processors</td>
</tr>
<tr>
<td>2nd Generation Intel® Xeon® Scalable Processors</td>
</tr>
<tr>
<td>Intel® Xeon Phi™ x200 Product Family</td>
</tr>
<tr>
<td>Intel® Xeon Phi™ 72x5 Processor Family</td>
</tr>
<tr>
<td>Intel® Omni-Path Host Fabric Interface 100HFA016 (x16)</td>
</tr>
<tr>
<td>Intel® Omni-Path Host Fabric Interface 100HFA018 (x8)</td>
</tr>
<tr>
<td>Intel® Omni-Path Switch 100SWE48Q</td>
</tr>
<tr>
<td>Intel® Omni-Path Switch 100SWE48U</td>
</tr>
</tbody>
</table>

continued...
1.9 **Intel® OPA Compatibility Matrix**

The following component versions are compatible with Intel® Omni-Path software in RHEL* 7.7. The bold text below represents the base component versions for this release.

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Omni-Path Switch 100SWE48UFH</td>
<td>Externally-managed 48-port Edge Switch, hot-swap power and fans</td>
</tr>
<tr>
<td>Intel® Omni-Path Switch 100SWE48QFH</td>
<td>Managed 48-port Edge Switch, hot-swap power and fans</td>
</tr>
<tr>
<td>Intel® Omni-Path Switch 100SWE24Q</td>
<td>Managed 24-port Edge Switch</td>
</tr>
<tr>
<td>Intel® Omni-Path Switch 100SWE24U</td>
<td>Externally-managed 24-port Edge Switch</td>
</tr>
<tr>
<td>Intel® Omni-Path Director Class Switch 100SWD24</td>
<td>Director Class Switch 100 Series, up to 768 ports</td>
</tr>
<tr>
<td>Intel® Omni-Path Director Class Switch 100SWD06</td>
<td>Director Class Switch 100 Series, up to 192 ports</td>
</tr>
</tbody>
</table>

1.10 **Installation Requirements**

This section provides instructions and information on installing the software.

1.10.1 **Best Practices**

- Intel recommends that users update to the latest versions of Intel® Omni-Path firmware and software to obtain the most recent functional and security updates.
- To improve security, the administrator should log out users and disable multi-user logins prior to performing provisioning and similar tasks.
- To improve security, Intel recommends configuring the MgmtAllowed setting and consider limiting access to port configuration changes by limiting access to Userspace Management Datagrams (UMADs). Refer to the Intel® Omni-Path Fabric Software Installation Guide, About User Queries Settings for more information.

1.10.2 **Installation Instructions**

Perform the steps in this section to install the default Intel® Omni-Path Software configuration.
Assumptions
- You are logged in as root or with root privileges.
- You have a list of IPv4 addresses and netmasks for each IPoIB interface you are going to set up.
- RHEL* packages are available in a yum repository.

References
- Refer to the Intel® Omni-Path Fabric Software Installation Guide for related software requirements and next steps.
- Refer to the Intel® Omni-Path Fabric Switches Hardware Installation Guide for related firmware requirements.

Procedures
Perform the following steps to install the default Intel® Omni-Path Software configuration using RHEL* OS:

<table>
<thead>
<tr>
<th>Step</th>
<th>Task/Prompt</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Install OPA-Basic Software</strong></td>
<td>At the command prompt, enter the installation command for opa-basic-tools.</td>
<td>Type <code>yum install -y opa-basic-tools</code> and press Enter.</td>
</tr>
<tr>
<td><strong>Install OPA-Basic Software</strong></td>
<td>At the command prompt, reboot the server.</td>
<td>Type <code>reboot</code> and press Enter.</td>
</tr>
<tr>
<td><strong>Install OPA-Basic Software</strong></td>
<td>Check your link using opainfo.</td>
<td>Type <code>opainfo</code> and press Enter.</td>
</tr>
<tr>
<td><strong>Install OPA-Basic Software</strong></td>
<td>Example output:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>hfi1_0:1 PortGID: 0xe800000000000000:001175010163f931 PortState: Active</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LinkSpeed Act: 25Gb En: 25Gb</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LinkWidth Act: 4 Rx: 4 En: 3,4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LinkWidthDnGrd Act:Dx: 4 Rx: 4 En: 3,4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>48-bit Nxt: True</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LCRC Act: 14-bit En: 14-bit,16-bit, 48-bit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LID: 0x00000010-0x00000010 SM LID: 0x0000000c</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QSFP: AOC, 5m FINISAR CORP P/N FCBN425QB1C05 Rev A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Xmit Data: 0 MB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pkts: 251</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recv Data: 0 MB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pkts: 251</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Link Quality: 5 (Excellent)</td>
<td></td>
</tr>
<tr>
<td><strong>Install OPA-Basic Software</strong></td>
<td>Install the rdma-core rpm.</td>
<td>Type <code>yum install -y rdma-core</code> and press Enter.</td>
</tr>
<tr>
<td><strong>Install OPA-Basic Software</strong></td>
<td>On all compute nodes: install the PSM2 library.</td>
<td>Type <code>yum install -y libpsm2</code> and press Enter.</td>
</tr>
<tr>
<td><strong>Install Intel® Omni-Path Fabric Suite Components on the Management Node</strong></td>
<td>Install FastFabric.</td>
<td>Type <code>yum install -y opa-fastfabric</code> and press Enter.</td>
</tr>
<tr>
<td><strong>Install Intel® Omni-Path Fabric Suite Components on the Management Node</strong></td>
<td>Install the opa-address-resolution rpm on all nodes.</td>
<td>Type <code>yum install -y opa-address-resolution</code> and press Enter.</td>
</tr>
<tr>
<td><strong>Install Intel® Omni-Path Fabric Suite Components on the Management Node</strong></td>
<td>Install Fabric Manager.</td>
<td>Type <code>yum install -y opa-fm</code> and press Enter.</td>
</tr>
<tr>
<td><strong>Install Intel® Omni-Path Fabric Suite Components on the Management Node</strong></td>
<td>Start the Fabric Manager.</td>
<td>Type <code>systemctl start opafm</code> and press Enter.</td>
</tr>
</tbody>
</table>

Set up IPoIB IPV4 Configuration

*continued...*
10. Manually edit or create the ifcfg-ibX file.

   Note: Use the OS distribution-supplied instructions for setting up network interfaces.
   Type `cat /etc/network-scripts/ifcfg-ib0` and press Enter.
   Example output:

   ```
   DEVICE=ib0
   TYPE=ib_OPCODE=static
   IPADDR=10.228.200.173
   BROADCAST=10.228.203.255
   NETWORK=10.228.200.0
   NETMASK=255.255.252.0
   ONBOOT=yes
   CONNECTED_MODE=yes
   MTU=65520
   ```

   **NOTE:** To configure datagram mode for AIP, change `CONNECTED_MODE=no` and remove (comment out) `MTU=` of the ifcfg-ib0 file. Further details can be found in the Intel® Omni-Path Fabric Performance Tuning User Guide.

11. Bring up the ib0 interface.

   Type `ifup ib0` and press Enter.

12. Perform a test ping.

   Type `ping <remote IPoIB address>` and press Enter.
   For example:

   ```
   ping 10.228.200.161
   PING 10.228.200.161 (10.228.200.161) 56(84) bytes of data.
   64 bytes from 10.228.200.161: icmp_seq=1 ttl=64
   time=0.863 ms
   ```

**End Task**

### 1.11 Product Constraints

- Power class 2 AOC are supported. You must use UEFI version 1.5 or newer for proper operation. Servers using integrated HFI (-F) requires a specific BIOS level to support power class 2 AOC; contact your BIOS vendor for more information.

### 1.12 Product Limitations

This release has the following product limitations:

- Performance Administration (PA) Failover should not be enabled with FMs running on differing software versions.
  To disable PA failover, edit the `/etc/opa-fm/opafm.xml` file and in the `<Pm>` section, change `<ImageUpdateInterval>` to `0`.

- Enabling UEFI Optimized Boot on some platforms can prevent the HFI UEFI driver from loading during boot. To prevent this, do not enable UEFI Optimized Boot.
2.0 Issues

This section lists the resolved and open issues in the Intel® Omni-Path Software.

2.1 Resolved Issues

The following table lists issues that are resolved in this release.

Table 4. Issues Resolved in this Release

<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Resolved in Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>132207</td>
<td>Kernel crash caused by the ib_srpt module.</td>
<td>RHEL* 7.7</td>
</tr>
<tr>
<td>139743</td>
<td>Under a very heavy load through the IPoIB interface, the kernel warning NETDEV WATCHDOG: ib0 (hfi1): transmit queue 0 timed out, followed by the messages queue stopped 1, tx_head xxx, tx_tail xxx and transmit timeout: latency xxxx msecs may be seen.</td>
<td>RHEL* 7.7</td>
</tr>
<tr>
<td>140311</td>
<td>Use of a static buffer could produce an incorrect device name (hfi1_x) in dmesg logging.</td>
<td>RHEL* 7.7</td>
</tr>
<tr>
<td>141793</td>
<td>PM will scroll LQI=0 and Integrity Exceeded Threshold logs when an additional VF with QoS enabled and a device group that is not &quot;All&quot;. Note: This issue does not occur when running against the default opafm.xml configuration file.</td>
<td>RHEL* 7.7</td>
</tr>
<tr>
<td>144165</td>
<td>Nodes unable to ping on IPoIB. Note: This issue occurs when a host port disappears and reappears from the PM's topology (usually due discovery timeout or major fabric disruption), while the port remains ACTIVE the entire time. This results in the host port not being a member of the IP multicast groups. The primary symptom is the inability to resolve IP addresses via ARP.</td>
<td>RHEL* 7.7</td>
</tr>
<tr>
<td>144996</td>
<td>Running workloads with more than 78 ranks with the Open MPI OFI MTL over OFI Verbs;OFI_RXM provider may result in a hang with message sizes larger than 65 KB.</td>
<td>RHEL* 7.7</td>
</tr>
<tr>
<td>145474</td>
<td>OFI Verbs mpi_stress may cause verbs/MSG provider completion queue overrun that results in dropped completions. They show up as sequence errors in the test.</td>
<td>RHEL* 7.7</td>
</tr>
<tr>
<td>145855</td>
<td>If the Admin VF is not running on VL0, the HSM may get into a state where it is unable to talk to the fabric. The sweep will log the following errors: opamgt ERROR: [pid=] omgt_send_mad2: send failed; Invalid argument, agent id 2 MClass 0x81 method 0x1 attrId 0x11 attrM 0x0 WARN [topology]: SN: sm_send_stl_request_impl: Error Sending to Path: [1] Lid:[0xffffffff] [Can't find node in topology]. AID:[NODEINFO] TID:[0x00000000000000031] Status:[OK (0x00000000)] WARN [topology]: SN: topology_main: TT: too many errors during sweep, will re-sweep in a few seconds rc: '108': unrecoverable error</td>
<td>RHEL* 7.7</td>
</tr>
<tr>
<td>146456</td>
<td>In a fabric with only one Edge switch using the fat tree routing algorithm, a port can get stuck in the Init (LinkUp) state after the port is bounced.</td>
<td>RHEL* 7.7</td>
</tr>
</tbody>
</table>

continued...
### Open Issues

The following table lists the open issues for this release.

<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
</table>
| 129563| Memory allocation errors with MVAPICH2-2.1/Verbs.                                                                                               | Note: To avoid this issue, use MPIs over PSM. If you are using MPIs over verbs (not recommended), the following workaround is required:  
  • When running MVAPICH2 jobs with a large number of ranks (for example, > 36 ranks but ≤ 72 ranks), you must set the following parameters in /etc/security/limits.conf:  
    — hard memlock unlimited  
    — soft memlock unlimited  
  • Also, you must increase the lkey_table_size:LKEY table size in bits ($2^n$, where $1 ≤ n ≤ 23$) from its default of 16 to 17. For instructions on setting module parameters, refer to the Intel® Omni-Path Fabric Performance Tuning User Guide, HFI1 Driver Module Parameters chapter. |
| 135830| On Intel® Xeon Phi™ systems, failure observed during software upgrade when rebuilding the boot image. Error message contains:  
  Rebuilding boot image with "/usr/bin/dracut -f"                                                                 | Due to the extended processing time of the dracut command on the Intel® Xeon Phi™ platform, Intel recommends the following:  
  • Install and configure Intel® Xeon Phi™ systems separately.  
  • Change the FF_TIMEOUT_MULT value in opafastfabric.conf from 2 to 6 for Intel® Xeon Phi™ systems. |
| 139368| Some applications compiled with older compilers may use a personality bit that signifies that READ should imply EXECUTE permissions.  
  To improve system security, the hfi1 driver does not allow execute permissions on PSM memory maps. Therefore, applications that use READ implies EXECUTE will fail to run. | As root, run the execstack tool to clear the executable bit on the binary:  
  ```bash  
  execstack -c <binary>  
  ```  
  Alternatively, recompile the binary to not set this personality bit. |

---

*Note: The issue will resolve after the FM’s next successful sweep.*

---

*Note: The issue will resolve after the FM’s next successful sweep.*
<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>139613</td>
<td>The Subsystem Vendor and Subsystem Device ID in the PCI configuration space of Intel® Omni-Path discrete HFI cards may not indicate the correct OEM vendor and device. As a result, the <code>lspci</code> command may show incorrect Subsystem Vendor and Device ID information. This issue affects Intel server boards for Intel® Xeon® Processor v3 and v4 Product Family configured in Legacy OS boot mode.</td>
<td>Reconfigure the system from Legacy OS boot mode to UEFI boot mode.</td>
</tr>
<tr>
<td>141273</td>
<td>The in-distro version of perftests has bugs.</td>
<td>Use the upstream version of perftest from <a href="https://github.com/linux-rdma/perftest">https://github.com/linux-rdma/perftest</a>.</td>
</tr>
<tr>
<td>142330</td>
<td>MPI applications that leverage the PSM2 library's access to the HFI ASICs Memory Mapped IO and that access the MMIO directly (not via PSM2) can potentially cause an &quot;unsupported opcode&quot; error which some servers handle as a critical error.</td>
<td>Disable upstream error reporting using the AER mask register.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• For discrete HFI ASICs (e.g., CHF PCIe card), use</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>setpci -d 8086:24f0 ECAP_AER</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>+8.l=00100000:00100000</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• For integrated HFIs (e.g., KNL-F and SKX-F), use</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>setpci -d 8086:24f1 ECAP_AER</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>+8.l=00100000:00100000</code></td>
</tr>
<tr>
<td>STL-47571</td>
<td>Since libfabric 1.6, the psm2 provider maps OFI endpoints directly to HFI contexts instead of multiplexing multiple OFI endpoints to a single HFI context. This relies on the multi-EP feature of the PSM2 library and thus the provider automatically sets PSM2_MULTI_EP=1 if it has not been set. However, enabling the multi-EP feature also disables context sharing. As the result, applications may experience the following runtime error when trying to oversubscribe CPU cores (which is usually the same as available HFI contexts).</td>
<td>Set PSM2_MULTI_EP=0.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> This only works for applications that open only one OFI endpoint per process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hfi_userinit: assign context</td>
</tr>
<tr>
<td></td>
<td></td>
<td>command failed: Device or resource busy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PSM2 can't open hfi unit:</td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>-1 (err=23)</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> Applications that don't use libfabric are not affected.</td>
</tr>
</tbody>
</table>