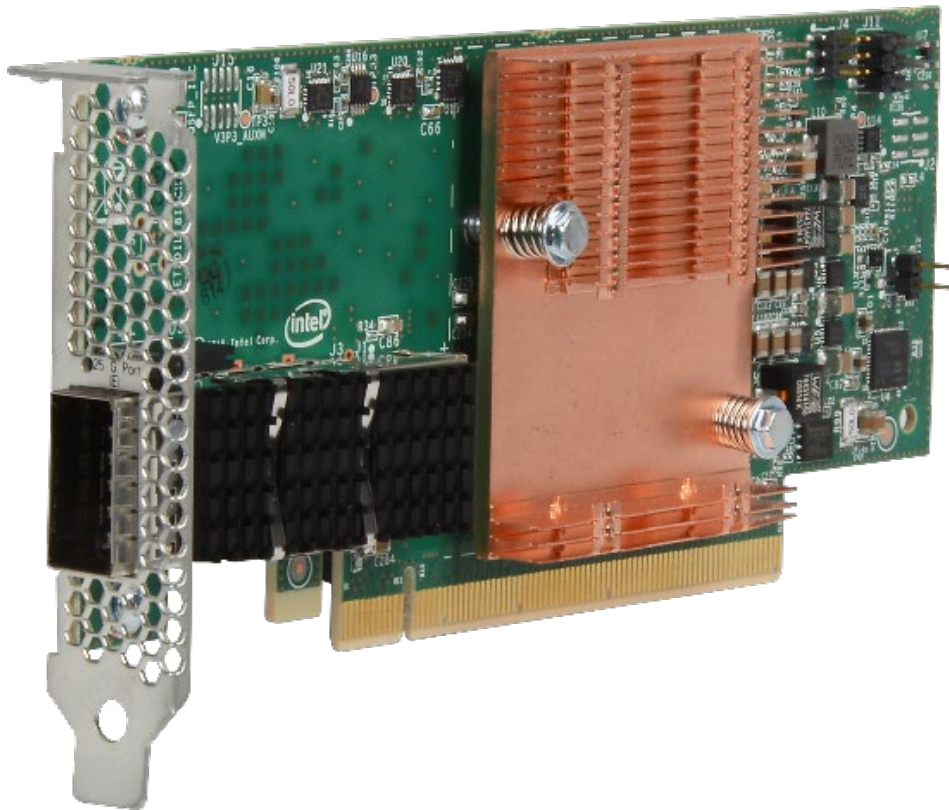


### Overview

#### HPE 100Gb Intel Omni-Path Adapter

HPE 100Gb Intel Omni-Path Adapter is designed to provide a high-performance and scalable fabric for High Performance Computing (HPC) systems built with HPE ProLiant XL and DL servers. Intel Omni-Path Adapters, an element of the Intel Omni-Path Architecture, use an advanced "on-load" design that scales fabric performance with rising server core counts, making these adapters ideal for today's increasingly demanding workloads.

Combined with Intel Omni-Path Switches, Intel Omni-Path Adapters deliver low latency and up to 100Gbps bandwidth, ideal for performance driven server and storage clustering applications in HPC data centers.



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#### Models

HPE 100Gb 1-port OP101 QSPF28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter

829335-B21

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#### Kit Contents

- HPE 100Gb 1p OP101 QSPF28 x16 OPA Adapter
  - Low profile bracket on the adapter; full height bracket in the box
  - Read Me First
-

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## Overview

### Servers supported for HPE 100Gb 1p OP101 QSFP28 x16 OPA Adapter

#### HPE ProLiant XL Servers

- HPE ProLiant XL170r Gen10 for Apollo 2000
- HPE ProLiant XL190r Gen10 for Apollo 2000
- HPE ProLiant XL270d Gen10 for Apollo 6500
- HPE ProLiant Apollo 4510 Gen10
- HPE ProLiant XL220n Gen10 Plus for Apollo 2000
- HPE ProLiant XL290n Gen10 Plus for Apollo 2000
- HPE ProLiant XL225n Gen10 Plus for Apollo 2000 (EPYC 7x3 processors only)

#### HPE ProLiant DL Servers

- HPE ProLiant DL360 Gen10
- HPE ProLiant DL380 Gen10
- HPE ProLiant DL560 Gen10
- HPE ProLiant DL580 Gen10
- HPE ProLiant DL380 Gen10 Plus
- HPE ProLiant DL360 Gen10 Plus
- HPE ProLiant DL325 Gen10 Plus v2
- HPE ProLiant DL385 Gen10 Plus v2

**Notes:** For the HPE ProLiant XL230k Gen10 for Apollo 6000, please select the dedicated adapter mezzanine form factor (851226-B21)

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## Standard Features

### Product Features

- 100 Gbps – PCIe x16 Adapter
  - Optimized for scalable MPI message rate and latency
  - Supports MSI-X interrupt handling optimized for multi-core compute nodes
  - Operates without external memory
  - Improved thermal control with HPE iLO technology
  - Boot over Omni-Path
  - Linux server operating system support
  - Low profile PCIe Gen3 x16
  - HPE Standard warranty, support, services
- 

### Congestion Management

Medium grained adaptive routing and dispersive routing, Explicit congestion backward notification.

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### Protocol Control Libraries

HPC application focused protocol control libraries that include Performance Scale Messaging (PSM) and OFED Verbs.

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### MTU sizes

Maximum Transfer Unit (MTU) sizes can be set to 2048 bytes, 4096 bytes, 8192 bytes, or 10240 bytes.

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### MSI-X

Message Signaled Interrupt provides performance benefits for multi-core servers by load balancing interrupts between CPUs/cores.

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### Management Support

The HPE 100Gb 1p OP101 QSFP28 x16 OPA Adapter is supported by Hewlett Packard Enterprise Integrated Lights-Out (iLO).

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### Server Integration

The HPE 100Gb 1p OP101 QSFP28 x16 OPA Adapter is validated, tested, and qualified server options for the supported HPE ProLiant XL and DL servers.

This approach provides a more robust and reliable networking solution than offerings from other vendors and provides users with a single point of contact for both their servers and their network adapters.

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### Configuration Utilities

The HPE 100Gb 1p OP101 QSFP28 x16 OPA Adapter is configurable through UEFI.

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### LED Indicators

The colored LED on HPE 100Gb 1p OP101 QSFP28 x16 OPA Adapter indicates link status and link activity.

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### HPE Sea of Sensors 3D

Support for the HPE Sea of Sensors technology for improved thermal control and energy efficiency.

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### Warranty

1 year warranty, parts exchange.

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### For more information

To learn more on services for HPE Options, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit: <http://www.hpe.com/services/proliant>

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## Configuration Information

### Direct Attach Cable (Passive Copper cables)

HPE 0.5m 100Gb QSFP28 Omni-Path Architecture Copper Cable	830024-B21
HPE 1m 100Gb QSFP28 Omni-Path Architecture Copper Cable	830024-B22
HPE 1.5m 100Gb QSFP28 Omni-Path Architecture Copper Cable	830024-B23
HPE 2m 100Gb QSFP28 Omni-Path Architecture Copper Cable	830024-B24
HPE 3m 100Gb QSFP28 Omni-Path Architecture Copper Cable	830024-B25

**Notes:** Direct Attach Cable must be purchased separately for copper environments

### Active Optic Cables (AOCs)

HPE 3M 100Gb QSFP28 Omni-Path Optical Power Class 2 Cable	881204-B21
HPE 5M 100Gb QSFP28 Omni-Path Optical Power Class 2 Cable	881204-B22
HPE 7M 100Gb QSFP28 Omni-Path Optical Power Class 2 Cable	881204-B23
HPE 10M 100Gb QSFP28 Omni-Path Optical Power Class 2 Cable	881204-B24
HPE 15M 100Gb QSFP28 Omni-Path Optical Power Class 2 Cable	881204-B26
HPE 20M 100Gb QSFP28 Omni-Path Optical Power Class 2 Cable	881204-B27
HPE 30M 100Gb QSFP28 Omni-Path Optical Power Class 2 Cable	881204-B28

**Notes:** Active Optical Cable must be purchased separately for fiber-optic environments.

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## Technical Specifications

<b>General Specifications</b>		
<b>Network Processor</b>	Intel OPA HFI ASIC	
<b>Data Rate</b>	100Gbps – PCIe x16	
<b>Bus Type</b>	PCIe Gen3 x16	
<b>Form Factor</b>	Low profile adapter compliant with the PCIe Gen3 standard	
<b>Power and Environmental Specifications</b>		
<b>Operating</b>	Temperature	32° to 131° F (0° to 55° C)
	Humidity	10% to 85% non-condensing
<b>Power</b>	PCIe x16 adapter: 7.4W (typical), 11.7W (max) with passive copper cable. 10.6W (typical), 14.9W (max) with Active Optical Cable (3 Watts Max)	
<b>EMC (Emissions)</b>	<p><b>US/Canada</b></p> <ul style="list-style-type: none"> <li>FCC Part 15, Subpart B, Class A</li> <li>CAN ICES-3 (A)/NMB-3(A)</li> </ul> <p><b>Europe/International</b></p> <ul style="list-style-type: none"> <li>CISPR22</li> <li>CISPR32/EN55032</li> <li>EN55024</li> <li>EN61000-3-2</li> <li>EN61000-3-3</li> </ul> <p><b>Japan</b></p> <ul style="list-style-type: none"> <li>VCCI, Class A</li> </ul> <p><b>Australia/New Zealand</b></p> <ul style="list-style-type: none"> <li>AS/NZS CISPR 22, Class A</li> </ul> <p><b>Korea</b></p> <ul style="list-style-type: none"> <li>RRA/KC (KN32, KN35), Class A</li> </ul> <p><b>Taiwan</b></p> <ul style="list-style-type: none"> <li>BSMI (CNS 13438), Class A</li> </ul> <p><b>Customs Union: Russian Federation, Belarus and Kazakhstan</b></p> <ul style="list-style-type: none"> <li>TR CU 020/2011 "Electromagnetic compatibility of technical equipment"</li> </ul>	
<b>RoHS/REACH</b>	<ul style="list-style-type: none"> <li>Complies with RoHS II Directive 2011/65/EU of the European Parliament</li> <li>Complies with REACH Regulation (EC) No 1907/2006</li> </ul>	
<b>Safety</b>	<p><b>US/Canada</b></p> <ul style="list-style-type: none"> <li>TUV NRTL: UL 60950-1, CSA 22.1.No. 60950-1</li> </ul> <p><b>Europe</b></p> <ul style="list-style-type: none"> <li>TUV: EN60950-1</li> </ul> <p><b>International</b></p> <ul style="list-style-type: none"> <li>CB Scheme: IEC 60950-1</li> </ul> <p><b>Customs Union: Russian Federation, Belarus and Kazakhstan</b></p> <ul style="list-style-type: none"> <li>TR CU 004/2011 "On Safety of Low-Voltage Equipment"</li> </ul>	
<b>Operating System Support</b>	<p>The HPE 100Gb 1p OP101 QSFP28 x16 OPA Adapter is supported on the following 64-bit Linux operating systems:</p> <ul style="list-style-type: none"> <li>RHEL: 7.4</li> <li>SLES: 12 SP3</li> <li>CentOS: 7.4</li> </ul> <p>Please refer to the firmware/software download page of the device for the latest update.</p>	



## Technical Specifications

### Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life **product return, trade-in, and recycling programs** in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the **[Hewlett Packard Enterprise web site](#)**. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

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## Summary of Changes

<b>Date</b>	<b>Version History</b>	<b>Action</b>	<b>Description of Change</b>
04-Oct-2021	Version 7	Changed	Add XL225n, DL385, DL325 compatibility Overview section was updated.
06-Jul-2021	Version 6	Changed	Overview and Related Options sections were updated. Gen10 Plus servers added, first generation of optical cables removed
03-Dec-2018	Version 5	Changed	Overview was section was updated,
07-May-2018	Version 4	Changed	829334-B21 removed, Supported OS updated, Supported platforms updated
04-Dec-2017	Version 3	Updated	Add SKUs to the related Options section
26-Sep-2016	Version 2	Changed	Add HPE 100Gb 1p OP101 QSFP28 x8 OPA Adapter
06-Jun-2016	Version 1	New	New QuickSpecs



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