

# Future Proof HPE Server I/O

## Low-cost 10GBASE-T adapters provide 1GbE compatibility and room to growth with network infrastructure

Protect customers HPE ProLiant servers investment by using 10GBASE-T connectivity options from HPE

- Eliminate expensive Optics
- Eliminate costly cabling
- Backward compatible with 1GbE

### Elevator pitch

Many customers using HPE ProLiant DL Gen10 servers are connecting them to legacy 1Gb Ethernet (1GbE) networks. Eventually, these networks will get upgraded to 10Gb Ethernet (10GbE). Configuring HPE ProLiant Gen10 and Gen10 Plus servers with 10GBASE-T adapters which are backward compatible to 1GbE, the customers server investment is protected when the network upgrade occurs.

### The 10GBASE-T opportunity

A significant number of the HPE ProLiant servers today go out the door with only 1GbE connectivity. That's 100's of thousands of servers that should be future-proofed with 10GBASE-T adapters. HPE makes it very economical to future-proof the HPE ProLiant with a variety of 2-port 10GBASE-T adapter options and the industry's only 4-port 10GBASE-T adapter, the HPE FlexFabric 10Gb 4-port 536FLR-T adapter.

### Marvell HPE value proposition/differentiation

Not all customers can upgrade servers and networks at the same time. IT upgrades are commonly done in stages. HPE's portfolio of high performance 10GBASE-T adapters are backward compatible with 1GbE networks, making them ideal for use in HPE ProLiant servers where customers are upgrading servers, but connecting to legacy 1GbE networks. These HPE 10GBASE-T adapters are available in dual-port and quad-port models and each can auto negotiate between 1GbE and 10GbE without a reboot. They are available in FlexibleLOM Rack (FLR) and PCIe standup form factors.

When operating in both 1GbE or 10GbE modes adapters like the HPE Ethernet 521T, 530T and the HPE FlexFabric 533FLR-T and 536FLR-T adapters also have added intelligence including:

- Network Partitioning (NPAR),
- Stateless and Tunnel Offloads
- SR-IOV
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These advanced features reduce CPU utilization and optimize server I/O connectivity in virtual servers. This results in faster applications and more VM scalability for the HPE ProLiant

Gen10 customer. Select HPE 10GBASE-T adapters, including the 521-T and QL41132 adapters also support RDMA for low latency I/O.

### Solution positioning in HPE portfolio

When working with customers to upgrade their servers, have a conversation about the network environment. If the customer is connecting to a 1GbE network, then recommend they use 10GBASE-T adapters in their new servers. This will allow them to run at 1GbE speeds today and seamlessly transition to 10GbE performance when they upgrade their network. This eliminates the need to reconfigure their servers. This will apply especially to customers deploying HPE ProLiant servers in the SMB or remote office environments.

## Quick reference card

For HPE and Channel Partner

## Resources

[www.hpe.com/servers/proliantnics](http://www.hpe.com/servers/proliantnics)

[www.marvell.com/hpe](http://www.marvell.com/hpe)

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What do I sell?

### **HPE Ethernet and FlexFabric 10GBASE-T Adapters**

- HPE Ethernet **521T** (867707-B21)  
10GBASE -T 2-port Flexible LOM with RDMA for ProLiant/Apollo Gen10 servers
- HPE FlexFabric **533FLR-T** (700759-B21)  
10GBASE-T 2-port Flexible LOM for ProLiant/Apollo Gen10 servers
- HPE FlexFabric **536FLR-T** (764302-B21)  
10GBASE-T 4-port Flexible LOM for ProLiant/Apollo Gen10 servers
- HPE Ethernet **530T** (656596-B21)  
10GBASE-T 2-port PCIe Adapter for ProLiant/Apollo Gen10 servers
- HPE **CN1200R-T** CNA (Q0F26A)  
10GBASE-T 2-port PCIe CNA with RDMA for ProLiant/Apollo Gen10 servers
- HPE **QL41132HLRJ** (P08437-B21)  
10GBASE-T 2-port PCIe Adapter with RDMA for ProLiant/Apollo Gen10 Plus servers
- HPE **QL41132HQRJ** (P10103-B21)  
10GBASE-T 2-port OCP3 Adapter with RDMA for ProLiant/Apollo Gen10 Plus servers

## Qualifying/discovery questions

Q1: What type of network are you planning to connect your server to?

Q2: What issues are you having with network connectivity, capacity or management today?

Q3: What type of application performance benefits would you expect to see if you had more bandwidth from your server to the network?

Q4: What are your plans relating to network upgrades in the future?

Q5: What kind of network cabling infrastructure do you use today (fiber optic with SFP+, DAC or CAT 5/6 copper cabling)?

## Customer pain points and solution benefits

**10GbE Networking is too costly**  
10GBASE-T I/O connectivity utilizes low-cost CAT6 copper cabling and reduces per-port deployment cost by 400% compared to adapters with SFP+ optical transceivers.

### **Limited ability to achieve performance goals**

Future-proofing with 10GBASE-T I/O in servers today will provide automatic performance gains when network infrastructure is upgraded from 1GbE to 10GbE in the future.

### **Need for improved TCO**

Using 10GBASE-T adapters that support NPAR enable one adapter to take the place of eight individual network connections. This greatly reduces cabling complexity.

## Best Opportunities

- ProLiant refresh – the best time to install I/O is at refresh time.
- All Windows and Linux installations –leverage stateless and tunnel offloads to lower CPU utilization and RDMA to lower latency.
- Microsoft Hyper-V virtualization – leverage SR-IOV to lower CPU utilization.
- All applications supported by Windows 2019, Linux and VMware – leverage NPAR to assign appropriate bandwidth to each application or across virtual machines.