

## Frequently Asked Questions

### Oracle Dual Port 25 Gb Ethernet Adapter

#### Overview

High-performance enterprise clouds place unique requirements on the network infrastructure. To efficiently utilize the cloud's physical resources, the infrastructure must support the network and storage needs of high-density, virtualized servers and also be capable of virtualizing the L2 network infrastructure to enable virtual servers to be interconnected with secure virtual networks. To address these demands, leading cloud deployments are embracing 25 Gb Ethernet, scaling virtualization capabilities, and leveraging overlay network technologies.

#### Oracle Dual Port 25 Gb Ethernet Adapter

Oracle Dual Port 25 Gb Ethernet Adapter brings the essential features for deploying network infrastructure in next-generation clouds to Oracle servers and storage systems. The adapter supports network and storage convergence, dramatically expands resources for server virtualization, offloads network virtualization from the CPU, and enables Remote Direct Memory Access (RDMA) for acceleration of clustered applications.

#### Customer Benefits

##### Virtualization for the Cloud

Oracle Dual Port 25 Gb Ethernet Adapter provides the server virtualization, I/O convergence, and network virtualization features required for high-performance cloud deployments. The adapter has the network resources to deploy up to 128 virtual machines on a single server. With two 25 Gb Ethernet ports, the adapter delivers 2.5x the bandwidth of 10 Gb adapters to support the network and storage needs of more virtual machines.

To achieve full virtualization of both the server and network infrastructure, the adapter provides support for overlay networks allowing virtual machines to connect to isolated virtual networks that share the Ethernet physical infrastructure.

##### RDMA for Application Performance

Oracle Dual Port 25 Gb Ethernet Adapter supports RDMA over Converged Ethernet (RoCE). RDMA eliminates the need for OS intervention in network and storage communication. This frees server memory bandwidth and CPU cycles for application processing. The ultra-low latency and near-zero CPU utilization for remote data transfers make RoCE ideal for deploying high-performance clustered applications.

#### Frequently Asked Questions

**Q:** What is Oracle Dual Port 25 Gb Ethernet Adapter?

**A:** Oracle Dual Port 25 Gb Ethernet Adapter is a high-performance Ethernet adapter that delivers the virtualization and performance-enhancing capabilities necessary to deploy high-performance enterprise applications in cloud environments.

**Q:** What server and storage systems support Oracle Dual Port 25 Gb Ethernet Adapter?

**A:** Oracle Dual Port 25 Gb Ethernet Adapter is supported by a number of Oracle platforms. For the current list of supported systems, see [community.oracle.com/community/server & storage systems/systems-io](https://community.oracle.com/community/server_and_storage_systems/systems-io).

**Q:** What operating systems and hypervisors are supported with Oracle Dual Port 25 Gb Ethernet Adapter?

**A:** Oracle's Ethernet adapters are components of the Oracle server or storage system in which they are installed. See the list of supported option cards for the applicable server or storage system to determine the relevant operating system support for the system and adapter combination. For the current list of supported systems, see [community.oracle.com/community/server & storage systems/systems-io](https://community.oracle.com/community/server_and_storage_systems/systems-io).

**Q:** What types of cabling are supported with the adapter?

**A:** The adapter supports cables and transceivers that align to the SFP28 and SFP+ MSAs. These include Direct Attach Copper (DAC) cables for shorter lengths as well as discrete transceivers and fiber cables for longer lengths.

**Q:** Does the adapter support connections to switches with RJ-45 ports supporting Base-T standards?

**A:** No, the adapter does not support connections using twisted-pair copper cabling.

**Q:** What transceivers and cables are supported when connecting the Oracle Dual Port 25 Gb Ethernet Adapter to a 25 Gb, 10 Gb, or 1 Gb port on a switch with SFP+/SFP28 type connectors?

**A:** Oracle supports passive cables for distances up to 10 km. The table below identifies the combination of cable and transceiver needed to connect the adapter to the 10 Gb or 25 Gb switch.

Switch Port	Transceiver Description	Oracle Part Number		Cable Description	Fiber Type	Length	Max Distance Supported
		x-option	ATO				
10 Gb	N/A	X2130A-1M-N	N/A	Twinax passive copper cable: 1 meter		1m	
		7105148	N/A	Twinax passive copper cable: 2 meters		2m	
		X2130A-3M-N	N/A	Twinax passive copper cable: 3 meters		3m	
		X2130A-5M-N	N/A	Twinax passive copper cable: 5 meters		5m	
	SFP+ 10GBase-SR	7120053	7120050	Duplex LC Terminated Multi-mode Fiber	OM3		300 m
	SFP+ 10GBase-SR	X2129A-N	2129a	Duplex LC Terminated Multi-mode Fiber	OM3		300 m
	SFP+ 10GBase-LR	X5562A-Z	5562a-z	Duplex LC Terminated Single-mode Fiber	OS1		10 km
25 Gb	N/A	7118367	N/A	SFP28 Twinax passive copper cable: 1 meter		1m	
		7118368	N/A	SFP28 Twinax passive copper cable: 2 meters		2m	
		7118369	N/A	SFP28 Twinax passive copper cable: 3 meters		3m	
		7118370	N/A	SFP28 Twinax passive copper cable: 5 meters		5m	
	SFP28 25GBase-SR	7118019	7118017	Duplex LC Terminated Multi-mode Fiber	OM3		70 m
					OM4		100 m
	SFP28 25GBase-LR	7118021	7118020	Duplex LC Terminated Single-mode Fiber	OS1		10 km

**Q:** What transceivers and cables are supported when connecting the Oracle Dual Port 25 Gb Ethernet Adapter to a 40 Gb or 100 Gb port on a switch with QSFP+/QSFP28 type connectors?

**A:** Oracle supports passive cables for distances of 1 to 50 meters. The table below identifies the combination of cable and transceiver needed to connect the adapter to the 40 Gb or 100 Gb switch. When making optical connections to a switch, the QSFP+/QSFP28-SR4 transceiver installed in the switch should be recommended by the switch manufacturer.

Switch Port	Transceiver Description	Oracle Transceiver Part Number		Cable Description	Oracle Cable Part Number		Fiber Type	
		x-option	ATO		x-option	ATO		
40 GbE	N/A			Copper splitter cable assembly: 1 meter, QSFP+ to 4 SFP+	X2125A-1M-N	7110600		
				Copper splitter cable assembly: 3 meters, QSFP+ to 4 SFP+	X2125A-3M-N	7110601		
				Copper splitter cable assembly: 5 meters, QSFP+ to 4 SFP+	X2125A-5M-N	7110602		
	SFP+ 10GBase-SR	X2129A-N	2129a	QSFP to 4 LC Optical Splitter Cable 10M	X2127A-10M	7110603		OM3
				QSFP to 4 LC Optical Splitter Cable 20M	X2127A-20M	7110604		
				QSFP to 4 LC Optical Splitter Cable 50M	X2127A-50M	7110605		
100 GbE	N/A			Copper splitter cable assembly: 1 meter, QSFP28 to 4 SFP28	7118363	7118355		
				Copper splitter cable assembly: 2 meters, QSFP28 to 4 SFP28	7118364	7118356		
				Copper splitter cable assembly: 3 meters, QSFP28 to 4 SFP28	7118365	7118357		
				Copper splitter cable assembly: 5 meters, QSFP28 to 4 SFP28	7118366	7118358		
	SFP28 25GBase-SR	7118019	7118017	QSFP to 4 LC Optical Splitter Cable 10M	X2127A-10M	7110603		OM3
				QSFP to 4 LC Optical Splitter Cable 20M	X2127A-20M	7110604		
				QSFP to 4 LC Optical Splitter Cable 50M	X2127A-50M	7110605		



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Integrated Cloud Applications & Platform Services

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