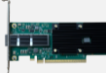


Chelsio T7 and S7 Product Selection Guide



Single DPU/Smart-NIC chip with concurrent Multi-Protocol Offload Operation

PCIe Gen5 x16						
Chelsio P/N	T71400	T72200	T72200-DPU	T72200-FH-DPU	T72200-FH	T7-Server
Ports	1x400G or 4x100G (QSFP-DD)	2x40/100/200G (QSFP56/QSFP28/QSFP+)				1 x 200G (QSFP) or 4 x 56 (SFP)
Type	SmartNIC	Storage Adapters	DPU		Storage Adapters	Server
Form Factor	Low Profile (HHHL)		Half Size (FHHL)			-
Concurrent Conn.	2K	64K		128K		
On-Adapter Memory	-	8 GB	32 GB	64 GB	16 GB	64 GB
ARM Cores	-	-	8			
Power (Typical)	31W	31W	46W	38W	39W	31W
Replaces	-	T62100-LP-CR	-	-	T62100-CR	-

PCIe Gen5 x16							
Chelsio P/N	S72200	S72200-OCP	S7450-OCP	S7450	T7450	T7450-DPU	T71200-iNIC-L
Ports	2x40/50/100/200G (QSFP56/QSFP28/QSFP+)		4x1/10/25/50G (SFP56/SFP28/SFP+)				
Type	SmartNIC				Storage Adapters	DPU	SmartNIC
Form Factor	Low Profile (HHHL)	OCP3		Low Profile (HHHL)			-
Concurrent Conn.	2K				64K		-
On-Adapter Memory	-				8 GB	32 GB	-
ARM Cores	-				8		-
Power (Typical)	30W	30W	17W	17W	22W	25W	31W
Replaces	T62100-LP-CR	T62100-SO-OCP3	T6225-OCP3	T540-LP-CR		-	-

PCIe Gen5 x8				
Chelsio P/N	S7250		S7210-BT	S7410-BT-OCP
Ports	2x1/10/25/50G (SFP56/SFP28/SFP+)		2x1/10GBase-T	4x1/10GBase-T
Type	SmartNIC			
Form Factor	Low Profile (HHHL)		OCP3	
Concurrent Conn.	2K			
On-Adapter Memory	-			
ARM Cores	-			
Power (Typical)	11W		13W	20W
Replaces	T6225-CR		T520-BT	-

- Fully RoHS Compliant
- Operating Temp: 0° to 35° C or 32° to 95° F
- Operating Humidity: 5 to 95%
- Airflow: 200 lf/m

RC: Root Complex
EP: End Point
DPU: T7ASIC + ARM + RC
FH: Full Height

Features

Low Latency L2 NIC
 TCP/IP Offload Engine (TOE)
 RDMA (iWARP and RoCEv2) Offload
 iSCSI and iSER Offload
 NVMe-oF (iWARP and RoCEv2) Offload
 NVMe/TCP Offload
 SPDK NVMe and iSCSI Targets Offload
 QUIC and CMB Offload
 NVMe Virtualization/Emulation
 ARMv8 A72 cores (1.5 GHz)
 Dual-Channel 4800MT/s DDR5
 PCIe 4.0 Switch with 2 x8 / 4 x4 / 8 x2 ports
 Concurrent RC+EP (NVMe-NVMe Bridge)
 External FPGA in data/control path
 Crypto Co-processor TLS/IPsec Offload
 Crypto Inline TLS/IPsec for all Offloads
 Erasure Code and RAID5/RAID6 offload
 Compression and Decompression
 Dedupe Offload
 QUIC Co-processor/Inline mode
 True Random Number Generator
 Inband Telemetry
 SM2, RSA, ECC, ECDH, ECDSA, DSA, DH
 Secure Boot and Firmware Update
 Hardware Root of Trust support
 SR-IOV / Virtualization / Virt-IO
 EVB, VEPA, Flex10, VNTag
 DPDK / PacketDirect / Netmap
 OVS / OpenFlow Offload
 NVGRE / VxLAN/ Geneve
 Media StreamEngine
 Traffic Management, DCB, PFC, CEE
 Packet Classification and NAT Offload
 Timestamps and PTP
 Multi / Single adapter Failover
 Windows SMB Direct, Storage Replica,
 Storage Spaces Direct, Client RDMA

- Fully RoHS Compliant
- Operating Temp: 0° to 35° C or 32° to 95° F
- Operating Humidity: 5 to 95%
- Airflow: 200 lf/m

RC: Root Complex
EP: End Point
DPU: T7ASIC + ARM + RC
FH: Full Height

Chelsio ASIC, Software and Support Guide



Data Processing Unit ASICs

T7 is a highly integrated, hyper-virtualized 1/10/25/40/50/100/200/400GbE Data Processing Unit (DPU) ASIC with full offload support of a complete Unified Wire solution.

Ordering Information:

T7ASIC: 4x1/10/25/50/100G or 2x40/100/200G or 1x400G DPU, Base Offloads (TOE, RDMA, Crypto, iSCSI) using host/card memory, 8 ARM A72 cores, iNIC, eMMC, NVMe, USB, PCIe Switch, NVMe/TCP PDU, Compression, Dedupe, OVS, RAID, Erasure Code, RSA/SM2 offloads, Gen4 and 4x1/10/25 or 2x100 only with no dedupe/compression/RAID/RSA/iNIC/OVS.

N7ASIC: 4x1/10/25/50/100G or 2x40/100/200G or 1x400G DPU, Base Offloads (TOE, RDMA, Crypto, iSCSI) using host/card memory, NVMe/TCP PDU offload.

S74ASIC: 4x1/10/25/50/100G or 2x40/100/200G DPU, Base Offloads (TOE, RDMA, Crypto, iSCSI) using host memory, 2K cached connections.

S72ASIC: 2x1/10/25/40/50/100G DPU, Base Offloads (TOE, RDMA, Crypto, iSCSI) using host memory, 2K cached connections.

Accessories

Passive Twinaxial Cables

TAPCABLE-3M (3M 10G SFP+)	OCTTAPCABLE-3M (3M 40G to 4x10G)
TAPCABLE28-3M (3M 25G SFP28)	OCTTAPCABLE56-3M (3M 200G to 4x50G)
TAPCABLE56-3M (3M 50G SFP56)	OCTTAPCABLEDD-3M (3M 400G to 4x100G)
QTAPCABLE-3M (3M 40G QSFP+)	
QTAPCABLE28-2M (2M 100G QSFP28)	
QTAPCABLE56-3M (3M 200G QSFP56)	
QTAPCABLEDD-3M (3M 400G QSFP-DD)	

Optical Transceivers and Cables

SM1G-SR-BT (1000BASE-T RJ45 SFP+)	SM100G-SR (100G Short Reach QSFP28)
SM10G-SR-BT (1/10GBASE-T RJ45 SFP+)	SM100G-LR (100G Long Reach QSFP28)
SM10G-SR (10G Short Reach SFP+)	SM200G-SR (200G Short Reach QSFP56)
SM10G-LR (10G Long Reach SFP+)	SM200G-LR (200G Long Reach QSFP56)
SM25G-SR (25G Short Reach SFP28)	SM400G-SR (400G Short Reach QSFP-DD)
SM25G-LR (25G Long Reach SFP28)	
SM40G-SR (40G Short Reach QSFP+)	AOC-SFP56-CABLE-3M (3M 50G Active Optical Cable)
SM40G-LR (40G Long Reach QSFP+)	AOC-QDD-200-CABLE-3M (3M 200G Active Optical Cable)
SM50G-SR (50G Short Reach SFP56)	AOC-QDD-400-CABLE-3M (3M 400G Active Optical Cable)
SM50G-LR (50G Long Reach SFP56)	

Support

The standard warranty period for Chelsio hardware products is three years from date of purchase. To contact support, call Chelsio at 408-962-3600, submit a support request via www.chelsio.com or email support at support@chelsio.com. Drivers for Chelsio adapters are available at service.chelsio.com.

Support Plan:

SUPPORT-GOLD: 80 hours or 1-year extended technical support (whichever occurs first): 24-hr response/replacement.

SUPPORT-SILVER: 16 hours extended technical support: 72-hr response.

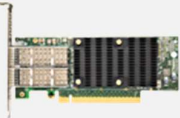
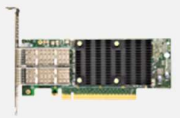
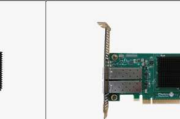
Supported Platforms, Operating Systems and Hypervisors



Chelsio Unified Wire T6 and T5 Product Selection Guide



Single Adapter with concurrent Multi-Protocol Operation

T6 ASIC based Ethernet Adapters / USS 4.0						
	Chelsio P/N	T62100-CR	T62100-LP-CR	T62100-SO-CR	T62100-SO-OCP3	
	Ports	2x40/50/100G				
	Connector Type	QSFP28				
	Host Interface	PCIe Gen3 x16				
	Form Factor	Half Size	Low Profile		OCP3-SFF	
	Concurr. Conn.	32k		-		
	Power (Typical)	22W	19W	16W	16W	
	Airflow	200 LFM (Linear Feet Per minute)				
	Adapter Type	Unified Wire		Server Offload		
T6/T5 ASIC based Ethernet Adapters						
	Chelsio P/N	T6225-CR	T6225-SO-CR	T540-LP-CR	T520-CR	T520-SO-CR
	Ports	2x10/25G		4x1/10G	2x1/10G	2x1/10G
	Connector Type	SFP28		SFP+	SFP+ Cage	
	Host Interface	PCIe Gen3 x8				
	Form Factor	Low Profile				
	Concurr. Conn.	32K	256	32K		
	Power (Typical)	13W	10W	11W	12W	9W
	Airflow	200 LFM (Linear Feet Per minute)				
	Adapter Type	Unified Wire	CNA	Unified Wire		Server Offload
Adapter Types and Supported Functions:						
Server Offload	L2 NIC, Filtering, PXE Boot, Crypto Offload (Co-processor) ¹					
CNA	Server Offload Functions, iSCSI Init HW Offload, iSER Init HW Offload, NVMe-oF/iWARP Init HW Offload NVMe/TCP Init HW Offload, FCoE Init, S2D iWARP HW Offload, iWARP RDMA Offload					
Unified Wire (UWire)	Server Offload & CNA functions, Storage Targets Offload, FCoE Init HW Offload, Media Streaming Offload, TCP & UDP Offloads, Traffic Management, Hash Filtering, Unified Boot, Crypto Offload ¹					

Features

Windows Server 2016 / 2019 / 2022
 Windows Storage Spaces Direct (S2D)
 Windows Azure Stack Private Cloud
 Windows Network Direct
 Windows SMB Direct, Client RDMA
 Windows Storage Replica (SR)
 Windows d.VMMQ
 Low Latency L2 NIC
 TCP/IP Offload Engine (TOE)
 iWARP RDMA Offload
 Inline TLS/SSL, DTLS, IPsec Offload^{1 2}
 NGINX Offload^{1 2}
 Co-processor TLS/SSL, IPsec Offload¹
 NFS/iWARP & NFS/TCP Offload
 iSCSI Offload (Initiator and Target)
 iSER Offload (Initiator and Target)
 FCoE HW Offload (Initiator)
 NVMe-oF/iWARP (Initiator and Target)
 NVMe/TCP Offload (Initiator and Target)
 NVMe JBOF (Just a Bunch of Flash)
 SPDK NVMe/TCP Offload Target
 Wire Direct Low Latency Suite
 SR-IOV / Virtualization
 DPDK / PacketDirect / Netmap
 OVS / OpenFlow Offload
 NVGRE / VXLAN/ Geneve
 Media StreamEngine²
 Traffic Management / DCB
 Packet Classification, Sniffer & Tracer
 Multi / Single adapter Failover

¹ Supported only on T6 family of adapters

² Not supported by SO (Server Offload) adapters

LP: Low Profile **SO:** Server Offload

Chelsio ASIC, Software and Support Guide



Unified Storage Server (USS)

Unified Storage Server is a powerful software platform for building high-performance storage systems. Key features include support for SMB, NFSv3, SFTP, iSCSI Offload, NVMe/TCP Offload, and NVMe-oF over iWARP. It also supports Remote Mirroring, Backup, iSCSI Scaling, Nested RAID, Easy Management features, Bandwidth Management, Extensive Self-test, Stress test, and Remote Test capabilities. It is optimized for 10/25/40/50/100GbE clients with High throughput, High IOPs, and Low latency requirements. Unified Storage Server integrates with the USS storage stack, providing Dynamic Storage Provisioning with thin-provisioned volumes, snapshots, and volume cloning. Free 30-day USS trial available from www.chelsio.com.



Ordering Information:

USS-4.0: SAN, NAS, iSCSI, NVMe-oF, Storage Management, Nested RAID. Max Capacity: Unlimited.

Unified Wire & Server Offload Controller ASICs

T6 is a highly integrated, hyper-virtualized 1/10/25/40/50/100GbE controller ASIC with full offload support of a complete Unified Wire solution comprising L2 NIC, TOE, iWARP RDMA, iSCSI, FCoE, NVGRE, VxLAN, Filtering, Traffic Analytics, Management, OVS Offload, DCB, NVMe-oF, NVMe/TCP, NVMe/TOE and TLS/SSL, DTLS, IPsec, SMB 3.X crypto Offload.

Ordering Information:

T6ASIC2100: T6 Unified Wire Engine, 2x1/10/25/40/50/100G ports, full featured.

T5ASIC40G: T5 Unified Wire Engine, 2x40G or 4x10G ports, full featured.

Chelsio Terminator Core IP

Chelsio's Terminator Core IP is a configurable, high performance Ethernet packet processing engine with a full suite of software, suitable for a wide range of SoC network connectivity solutions. Contact sales@chelsio.com for more information.

Accessories

Twinaxial Cables

TAPCABLE3M (3M 10G Passive)
TAPCABLE28-3M (3M 25G Passive)

QTAPCABLE3M (3M 40G QSFP+ Passive, 30 AWG)
OCTTAPCABLE3M (3M QSFP+ to 4xSFP+ Passive)

QTAPCABLE28-2M (2M 100G QSFP28 Passive)

Optical Cables

QSRCABLE10M (10M Short Reach for 40G and 100G)

Optical Transceivers

SM10G-SR (10G Short Reach SFP+)
SM10G-LR (10G Long Reach SFP+)
SM25G-SR (25G Short Reach SFP28)
SM25G-LR (25G Long Reach SFP28)
SM40G-SR (40G Short Reach QSFP+)
SM40G-LR (40G Long Reach QSFP+)
SM100G-SR (100G Short Reach QSFP28)
SM100G-LR (100G Long Reach QSFP28)

SM10G-SR-BT (1/10GBASE-T RJ45 SFP+)
SM1G-SR-BT (1000BASE-T RJ45 SFP+)

Support

The standard warranty period for Chelsio hardware products is three years from date of purchase. To contact support, call Chelsio at 408-962-3600, submit a support request via www.chelsio.com or email support at support@chelsio.com. Drivers for Chelsio adapters are available at service.chelsio.com

Support Plan:

SUPPORT-GOLD: 40 hours extended technical support: 24-hr response/replacement.

SUPPORT-SILVER: 4 hours extended technical support: 24-hr response.

Supported Platforms, Operating Systems and Hypervisors



Chelsio Communications

www.chelsio.com

sales@chelsio.com

+1-408-962-3600