



BittWare
a **molex** company

TeraBox 1402B
1U FPGA Server

Extreme Density Standard-Depth FPGA Server

1U, 4 card, PCIe Gen4 x16, Intel 3rd Gen Xeon Processor

At the extreme of FPGA server density, the TeraBox 1402B gives the highest level of compute and network capability in a 1U chassis. This server provides twice the density of the typical 4U server and the power of 4 of our largest Achronix Speedster7t, Intel Stratix 10 or Xilinx UltraScale+ FPGAs.

This innovative product supports PCIe Gen4 and features an Intel 3rd Gen Xeon processor in a standard rack depth chassis.

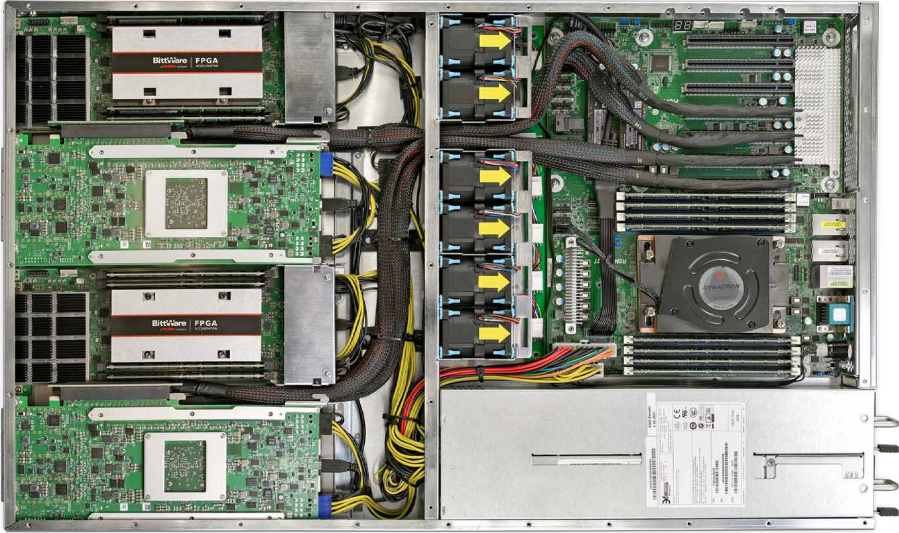


key features

Up to
16 QSFP-DDs
for 32x 100G or
128x 10/25G

1U
4 FPGAs in a
standard-depth
1U server

Standard Height
Double Slot
Support for BittWare's full
range of FPGA cards



chassis key specs

- 1U depth, 28.25 in (71.75 cm)
- Processor: (1) Intel 3rd Gen Xeon Processor
- Ethernet: 2 RJ45 (10GbE) Intel X710-AT2, 2 RJ45 (1GbE) Intel i210 and (1) RJ45 dedicated IPMI LAN
- Memory: 8x DDR4 DIMMs
- Storage: 2x M.2
- Slots: 4x front panel PCIe Gen4 x16
- Power supply: 1+1 AC 1300W, 110/220V

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BittWare FPGA Cards

The TeraBox 1402B supports up to four dual-slot BittWare PCIe FPGA cards. Choose from a variety of cards based on the Speedster 7t, Stratix 10, or UltraScale+ FPGAs. System specs will vary greatly, depending on the FPGA card you select. For example, with four BittWare UltraScale+ PCIe cards, which support up to 512 Gbytes of DDR4 per card, the chassis can support as much as 2 Terabytes of DDR4 on the FPGA cards in 16 banks. With four Agilinx cards using breakout cables, each chassis supports 48x 100GbE.

BittWare 1U Server

The TeraBox 1402B server featuring an Intel 3rd Gen Xeon Processor is exclusive to BittWare and is the ideal platform to unleash the energy-efficient acceleration of BittWare's FPGA cards. This FPGA-optimized 1U server delivers unrivaled performance density and value for a range of compute-intensive applications, including machine learning.

The server is assembled in the USA, is TAA compliant, and offers a 3-year warranty.

The TeraBox Advantage

Choosing a TeraBox FPGA server means knowing you are getting a pre-configured and tested solution. This includes setup and installation of your FPGA cards and associated hardware, your choice of operating system, and development tools. Your TeraBox arrives ready for use—giving your team more time for development and deployment.

Example System Configuration

The TeraBox 1402B supports many of BittWare's Achronix, Intel or Xilinx FPGA-based PCIe cards. The table below lists system totals when populated with four cards*:

	FPGA	Cards in Server	Memory	Front Panel System I/O	Processing
S7t-VG6	Speedster7t	4	<ul style="list-style-type: none">32 banks GDDR6 (up to 32 GBytes)	<ul style="list-style-type: none">4x QSFP-DDs, 4x QSFP28s24x 100/50/40/25/10 GbE	<ul style="list-style-type: none">2.75 million 6-input lookup tables (LUTs)750 Mbits embedded RAM
520N-MX	Stratix 10 MX	4	<ul style="list-style-type: none">8 banks DDR4 (up to 1 Terabyte)16 banks QDR11+ (up to 2.3 Gbits)	<ul style="list-style-type: none">16x QSFP28s16x 100/50/40/25/10 GbE	<ul style="list-style-type: none">8.4 million system logic elements64 GBytes HBM2
IA-840F	Agilinx AGF027	4	<ul style="list-style-type: none">16 banks DDR4 (up to 512GBytes)	<ul style="list-style-type: none">12x QSFP-DDs24x 100 GbE, or 96x 25/10 GbE	<ul style="list-style-type: none">10.5 million system logic elementsUp to 34,112 DSP blocks
XUP-VV8	UltraScale+ VU13P	4	<ul style="list-style-type: none">16 banks DDR4 (up to 2 Terabytes)32 banks QDR11+ (up to 9.2 Gbits)	<ul style="list-style-type: none">16x QSFP-DDs32x 100/50/40/25/10 GbE	<ul style="list-style-type: none">15.2 million system logic cellsUp to 49.152 DSP slices

*Subject to availability. Contact BittWare for additional FPGA card options.

Achronix

intel

XILINX

Server Configurations

Low

- (1) Intel Xeon 4309Y 2.8 GHz Processor
8 cores (16 virtual CPUs/Hyperthreads)
- 64GB DDR4
- (2) 1 TB M.2
- (1+1) 1300W Power Supplies

Medium

- (1) Intel Xeon 5318N 2.1 GHz Processor
- 24 cores (48 virtual CPUs/Hyperthreads)
- 128GB DDR4
- (2) 1TB M.2
- (1+1) 1300W Power Supplies

High

- (1) Intel Xeon 6330N 2.2 GHz Processor
28 cores (56 virtual CPUs/Hyperthreads)
- 256GB DDR4
- (2) 1TB M.2
- (1+1) 1300W Power Supplies

Premium

- (1) Intel Xeon 8351N 2.4 GHz Processor
36 cores (72 virtual CPUs/Hyperthreads)
- 512GB DDR4
- (2) 1TB M.2
- (1+1) 1300W Power Supplies

Ultra

- (1) Intel Xeon 8351N 2.4 GHz Processor
36 cores (72 virtual CPUs/Hyperthreads)
- 1TB DDR4
- (2) 1TB M.2
- (1+1) 1300W Power Supplies

Contact BittWare for additional server configuration options.

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