BittWare
a molex company

TeraBox 1000S
1U FPGA Server

Low-cost 1U Server for FPGA Boards Including Front Panel Access

Looking for an economical 1U server for a single FPGA board? BittWare's **TeraBox 1000S** is an excellent solution that doesn't limit your board options—any of our Xilinx- or Intel-FPGA equipped PCIe boards are compatible! Front panel PCIe access gives you the best access to QSFPs, with up to 8x 100G or 32x 10/25G in a single rack space!

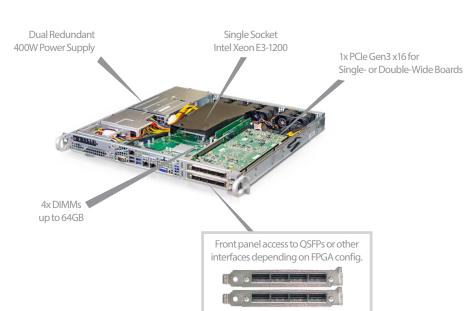The host includes up to a Xeon E3-1200, 64GB (4x DIMMS), and dual redundant 400W power supply.

Single- or double-wide boards featuring Intel or Xilinx FPGAs

key features

Up to
8 QSFPs
for 8x 100G or
32x 10/25G

1U
Our lowest-cost
FPGA server

Single Slot | Standard Height Double Slot

Fits and BittWare PCIe Board using Xilinx or Intel FPGAs

Dual Redundant
400W Power Supply

Single Socket
Intel Xeon E3-1200

1x PCIe Gen3 x16 for
Single- or Double-Wide Boards

4x DIMMs
up to 64GB

Front panel access to QSFPs or other interfaces depending on FPGA config.

chassis key specs

1U, depth 16.9 in (429mm)

Processor: Xeon E3-1200 v6/v5

Chipset: Intel C236

Memory: 4x ECC DDR4 DIMMs

Slots: 1x PCIe Gen3 x16 with front panel access

Storage: 6x SATA 6 Gb/s, Intel C236 RAID

Power supply: Dual Platinum 400W

FPGA Boards

The TeraBox 1000S supports a single- or dual-wide BittWare PCIe FPGA board. Choose from a variety of boards based on Xilinx UltraScale+, or Intel Stratix 10/ Arria 10 FPGAs.

System specs vary depending on the FPGA board you select. For example, some boards support up to 512 GBytes of DDR4. Our latest UltraScale+ boards feature SEP or SlimSAS connectors, which you can use with an adapter for an additional 4x 100Gb interfaces.

Development Support

For system management, BittWare's FPGA boards are equipped with a Board Management Controller (BMC), which accepts IPMI 2.0 commands. Use it along with BittWare's BittWorks II Toolkit to program the FPGA over USB, monitor board power and temperature, and re-program the onboard clocks. You'll also be able to set points to shut down the board when it gets too hot, access JTAG, or access the software tools remotely.

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 boards 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.

FPGA Resources Chart

Each row is a separate configuration option and is intended to show total FPGA resouces in the server populated using that particular board type.

Maximum number varies based on several factors—contact Sky Blue or Zerif for specific configuration details.

Board Name	Qty.	FPGA Family	PCIe Gen3 Slots: Lanes	100/40G QSFPs	25/10G Breakouts [1]	FPGAs	FPGA Logic	DSP Slices	DDR4	HBM2	Total	QDR [4]	
XUPPL4		Xilinx Virtex UltraScale+	1: x16	2	8	1x VU3P	862 KLC	2,280	2x 16 GB		32 GB		XUPPL4
XUPSVH				2 or 4 [2]	8 or 16 [2]	1x VU35P	1,907 KLC	5,952		1x 8 GB	8 GB		XUPSVH
XUSP3S		Virtex UltraScale	1: x8x8 [5]	4	16	1x VU095	1,176 KLC	768	4x 16 GB		64 GB	4x 288 Mb	XUSP3S
XUPP3R		Xilinx Virtex UltraScale+	1: x16	4 or 8 [3]	16 or 32 [3]	1x VU9P	2,586 KLC	6,840	4x 128 GB		512 GB	8x 288 Mb	XUPP3R
XUPVV4				4	16	1x VU13P	3,780 KLC	12,288					XUPVV4
XUPVVH	1					1x VU37P	2,852 KLC	9,024	2x 128 GB	1x 8 GB	264 GB	4x 288 Mb	XUPVVH
A10PL4		Intel Arria 10 GX	1: x8	2 (40G)	8 (10G)	1x A10 GX 1150	1,150 KLE	1,518	2x 16 GB		32 GB		A10PL4
A10SA4				1 (40G)	4 (10G)				2x 8 GB		16 GB		A10SA4
A10P3S			1: x8x8 [5]	4 (40G)	16 (10G)	1x A10 GX 1150			2x 16GB 1x 8GB		40 GB		A10P3S
A10PED					4 (10G)	2x A10 GX 660	1,320 KLE	3,376	4x 8 GB	(6)	32 GB		A10PED
S10VM4		Stratix 10 MX	1: x16	4	16	1x S10 MX 210	2,073 KLE	3,960	2x 8 GB	1x 16 GB	32 GB	2x 576 Mb	S10VM4

[1] May require QSFP breakout cables   [2] Using full-height option and 2x QSFP-DD on 7 slots, remaining slot is low profile for 1x QSFP-DD   [3] Using SEP-to-QSFP accessory   [4] Some boards share DDR4/QDR available slots
[5] Using bifurcated PCIe   [6] A10PED has 2GB Hybrid Memory Cube (HMC)

Server Specifications

SuperMicro SuperChassis 515-R407
- 1U rackmount chassis, depth 16.9 in (429mm)
- 400W Redundant Power Supply Platinum with PMBUS
- Supports 1 double-wide Gen3 x16 board
- Storage: 6x SATA 6 Gb/s, Intel C236 RAID

SuperMicro X11SSW-4TF motherboard
- CPU with up to Intel® Xeon® processor E3-1200 v6/v5 product family
- Chipset: Intel C236
- DDR4 DIMMs at up to 2400MT/s; 4 DIMM slots: 4GB/8GB/16GB (up to 64 GBytes)

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