

Maniflood Hybrid Compute Lab

Refurbished GPU + FPGA + ARM — BOM, pricing & assembly guide

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Executive summary

Three build tiers for a self-optimizing FPGA/GPU micro-server line. All supplier links in this PDF use **Maniflood tracked redirects** (/go/...) so you can see which vendors get traffic from your site in [SEO Lab](#) → [Supplier analytics](#). Clicks are logged; purchase confirmation requires affiliate programs (eBay Partner Network, etc.).

Your starting links (tracked)

Item	Price	Notes	Tracked link
NVIDIA A10 24GB (refurb)	\$1,997	Network Outlet — 3yr warranty, passive cooling	NVIDIA A10 @ Network Outlet
Xilinx FPGA (eBay)	Verify live	Listing 168249566698 — confirm Alveo model	eBay FPGA listing
Ampere ARM (eBay)	Verify live	Listing 167942671588 — confirm CPU board	eBay Ampere listing

Best prices found (refurb / secondary market)

Component	Best price	Source	Tracked link
NVIDIA A10 24GB PCIe	\$1,997	Network Outlet	Network Outlet
NVIDIA Tesla T4 16GB	\$775	Network Outlet	Network Outlet GPUs
Xilinx Alveo U50 8GB	\$500–900	eBay	eBay U50 FPGA
Xilinx Alveo U250 64GB	\$4,399 OBO	eBay	Search eBay FPGA
ASRock Rack ALTRAD8UD-1L	\$869	Newegg / Walmart	Newegg
Ampere Q64-22 + board bundle	\$1,449	Newegg	Newegg Ampere
Ampere M128-26 + board bundle	\$2,089	Newegg	Newegg Ampere
DDR4 RDIMM 256GB (8x32GB)	\$600–900	eBay	eBay RAM
2U GPU chassis + 1600W PSU	\$350–650	eBay / Supermicro	eBay chassis

Recommended build tiers

Tier A — Budget GPU Lab (no FPGA yet) — ~\$2,800–4,200

- GPU: Tesla T4 \$775 OR A10 \$1,997 — tracked Network Outlet links above
- Host: used 1U/2U Xeon or Epyc with PCIe 4.0 x16 slot
- RAM: 128GB DDR4 ECC, NVMe boot
- Manifold Spot Edge SKU — marketplace arbitrage only

Tier B★ — Optimized Edge (Manifold SKU — recommended) — ~\$3,500–5,500

- GPU: Tesla T4 \$775 (Network Outlet tracked link)
- FPGA: Alveo U50 ~\$500–900 OR Kria KV260 ~\$400
- Host: used 1U/2U Epyc/Xeon, 128GB ECC, 2U passive airflow
- Self-optimizer routes FPGA triage + GPU batch — ~90% of hybrid at ~45% capex
- Maps to Manifold Optimized Edge SKU on compute-store.html

Tier B — Full Hybrid (A10 + U250 FPGA) — ~\$8,500–10,500

- GPU: A10 via tracked Network Outlet link
- FPGA: Alveo U250 ~\$4,399 on eBay (use tracked eBay link)
- Chassis: 2U–4U passive airflow; PSU 1200–1600W
- Maps to Manifold Hybrid Micro Server SKU

Tier C — ARM orchestrator + GPU + FPGA — ~\$14,000–18,500

- ARM: ASRock Rack Q64-22 bundle via Newegg tracked link
- Memory: 256GB DDR4 RDIMM (~\$800)
- GPU + FPGA: tracked Network Outlet + eBay links
- Network: onboard 10GbE; WiFi 7 AP separate

WiFi 7 — how to do it right

Server boards ship with Ethernet, not WiFi 7. Wire 10GbE from the ARM host; add a WiFi 7 AP on the same VLAN for laptops. Do not expect one board with WiFi 7 + U250 + A10.

Where to send it for assembly (tracked)

Vendor	What they do	Tracked link
Puget Systems	Custom US server integration	Puget Systems
Silicon Mechanics	GPU/AI server integration	Silicon Mechanics
Whizz Systems	EMS / NPI (Fremont CA)	Whizz Systems
Microway	HPC / GPU clusters	Microway
Network Outlet	Refurb GPUs — ask about builds	Network Outlet

Critical compatibility checklist

- A10 and U250 are passive — chassis MUST have fans blowing through cards
- PCIe: A10 Gen 4 x16; U250 Gen 3/4 x16 — confirm slot spacing
- Power: 150W (A10) + ~225W (U250) + 200W (CPU) + 20% headroom
- Verify eBay listings: PN photo, power-on test, return policy

Manifold Compute Store

Your business SKUs on manifold.com/compute-store.html map to this hardware: **Spot Edge** = Tier A. **FPGA Lab Sandbox** = cloud FPGA R&D.; **Optimized Edge** = Tier B★ (T4 + U50/Kria). **Hybrid Micro Server** = Tier B/C full stack

(A10 + U250). The self-optimizer runs on the host; FPGA accelerates triage; GPU runs batch ML.

Disclaimer: Prices indicative June 2026. Verify before purchase. Tracked links log outbound clicks only — not purchases. Contact info@topologixlabs.com for provisioning quotes.