RetailDA

HARDWARE CTO SPECIFICATION · SPEC-WF-TOLSTEK-2026-V1

TolsTek Host — the server under your shop

Server specification for heads of technology, OEM enterprise account managers and procurement officers — the machine that runs the local WeBFooT® ERP mesh, the MariaDB/MySQL engine and the local Tolstoy AI / *DA daemons.

AUDIENCE

Dell / HPE / Lenovo B2B account managers · system integrators · client procurement

SCOPE

On-premise ERP mesh · local DB engine · local AI daemons

MANDATORY ARCHITECTURAL RULES — NON-NEGOTIABLE

Power-loss-protected storage

Primary arrays must run enterprise U.2/U.3 PCIe NVMe SSDs with onboard Power Loss Protection — Samsung PM9A3, Micron 7450 PRO or OEM equivalent. Consumer M.2, SATA SSDs and HDDs are prohibited for primary database storage.

Registered ECC DDR5

System RAM must be ECC Registered (RDIMM) — silent bit-flips must not be able to corrupt the database buffer pool or transaction ledgers.

Dual 1+1 hot-plug PSUs

Tier 2–4 hosts require dual hot-plug redundant power supplies on independent feeds, behind an online double-conversion UPS.

Hardware RAID only

Dedicated NVMe/SAS RAID controllers — Dell PERC H755/H755N, HPE Smart Array MR series, Lenovo RAID 5350/9350. Software RAID (e.g. Dell S160) is unsupported.

Consumer or desktop components will cause database locks under concurrent write loads — and are explicitly unsupported.

PROVEN AT

97
concurrent terminals on one deployment

5+ yrs
production on the original build

Air-gap
proven at defence sites

₹20L
lost in 48h — none since

Sized on real concurrency — a live network bills ~40 cashiers daily on hardware engineered for 100+.

Four tiers, sized by real concurrency

Specify to the tier your peak concurrent cashiers demand — engineered headroom, not average load.

	01 · Tier 1	02 · Tier 2	03 · Tier 3	04 · Tier 4
Concurrency	10 – 30 cashiers	30 – 75 cashiers	75 – 125 cashiers	125 – 200+ cashiers
Chassis	Dell Precision 3660 · HPE ML30 Gen11 · Lenovo ST250 V3	Dell PowerEdge T360 · HPE ML110 Gen11 · Lenovo ST550	Dell PowerEdge R660 · HPE DL360 Gen11 · Lenovo SR630 V3	Dell PowerEdge R760 · HPE DL380 Gen11 · Lenovo SR650 V3
CPU	Xeon E-2488 or Core i7 — high clock speed	Xeon E-2488 — 8C/16T, high IPC	Xeon Gold 5418Y or AMD EPYC 9124	Dual AMD EPYC 9354 or dual Xeon Gold 6430
RAM	32–64 GB DDR5 (ECC supported)	64 GB DDR5 ECC Registered	128 GB DDR5 ECC Registered	256 GB DDR5 ECC Registered
Storage	2× 1.92TB enterprise NVMe + PLP — RAID 1	2× 1.92TB U.2/U.3 NVMe + PLP — hardware RAID 1	4× 1.92TB U.3 NVMe — RAID 10 (PERC H755N / MR416i)	4× or 8× 3.84TB high-IOPS U.3 NVMe — hardware RAID 10
Power & net	500W PSU + dual 1GbE Intel NIC	Dual hot-plug 1+1 PSUs + dual Intel i350 NIC	Dual 800W 1+1 PSUs + dual 10GbE SFP+	Dual 1100/1400W 1+1 PSUs + quad 10GbE (LACP)

Approved Vendor List. The chassis on this matrix are the approved platforms RetailDA™ field deployments run — Dell PowerEdge & Precision, HPE ProLiant, Lenovo ThinkSystem. This is a platform standard, not a recommendation: non-AVL substitutions require written engineering approval from TolsTek before PO — no exceptions at quote stage. When in doubt, spec up one tier: the ledger survives the traffic; the hardware should never be the constraint.

Hand this to your OEM representative

The exact parts breakdown for generating a Proforma Invoice — Dell and HPE.

For Dell Technologies sales engineers

- **Chassis:** PowerEdge T360 (tower) or R660/R760 (rackmount) with NVMe backplane
- **RAID controller:** PERC H755 or PERC H755N front-NVMe — include 8GB NV cache
- **Drives:** 1.92TB / 3.84TB enterprise NVMe, read-intensive or mixed-use U.2/U.3 with PLP
- **Network:** Broadcom 5720 or Intel X550 dual-port 10GbE server adapter
- **Remote mgmt:** iDRAC9 Enterprise — out-of-band power cycling & virtual console

For HPE sales engineers

- **Chassis:** ProLiant ML110 Gen11 (tower) or DL360/DL380 Gen11 (rack)
- **RAID controller:** HPE MR416i-p or MR216i-p Gen11 tri-mode controller
- **Drives:** HPE 1.92TB / 3.84TB NVMe read-intensive SFF U.3 system-management SSD
- **Remote mgmt:** HPE iLO 6 Advanced licence

LOCAL NETWORK & POWER INFRASTRUCTURE

VLAN isolation

The TolsTek host and all billing terminals run on a dedicated POS VLAN — isolated from guest Wi-Fi, CCTV and office traffic on a managed L2/L3 switch (Aruba Instant On 1930, Cisco Catalyst 1000/9200).

Online UPS — mandatory

An online double-conversion UPS, minimum 2–3 KVA (APC Smart-UPS On-Line class), isolating the host from voltage spikes, brownouts and frequency drift.

Micro-outages at the checkout counter are a network-and-power problem before they are a software problem — this section exists to prevent physical network saturation.

Secure the B2B channel price

Do not buy this hardware on consumer retail carts — public stores list MSRP without channel discount.

Reject at quote stage

- Software RAID substitutions (Dell S160 class) — unsupported
- Consumer M.2, SATA SSD or HDD swapped into the primary array
- Non-ECC UDIMM offered "to save cost"
- Single-PSU builds on Tier 2 and above
- Quotes missing the 3-yr Next Business Day on-site line
- Billing outside your corporate GSTIN
- Any "equivalent" substitution without written confirmation it carries PLP + hardware-RAID support

01 **Submit this document**
To an authorised OEM enterprise partner — Redington, Ingram Micro, or Dell/HPE B2B direct sales.

02 **Request deal registration**
A formal B2B deal-registration quote matching the exact specs in Section 2 typically secures 20–40% off MSRP.

03 **Verify the warranty line**
The quote must carry 3-Year Next Business Day on-site support (ProSupport class), registered under your corporate GSTIN.

SHOWING THIS SHEET TO ANOTHER VENDOR'S REP? — GET THEIR NUMBERS IN WRITING

01 **Published minimums at your concurrency**
Ask the representative to state — in writing — their product's published minimum CPU, RAM and storage for your peak concurrent registers, not a demo workload.

02 **Whether self-hosting is even permitted**
Some platforms are subscription-cloud only (no on-premise SKU exists). Confirm the deployment model before comparing hardware.

03 **Database-layer certification**
Whether the platform demands vendor-certified hardware for its database layer (e.g., in-memory DB appliances) — and what that certification costs.

REFERENCE ARCHITECTURE — EDGE + UPSTREAM REPLICA

Production deployments run hybrid: the TolsTek host on-premises bills offline at line speed, while an encrypted upstream replica (DigitalOcean-class) carries consolidation, remote access and patching — managed across both the online and offline sides. A heritage research trust runs exactly this shape today: a Dell Precision edge node on the desk plus a cloud replica upstream.

Tier-1 reference bill of materials

The most common purchase — 10–30 cashiers, single site. Spec this line-for-line on the proforma invoice.

Line item	Required per this document	Dell build	HPE build
Chassis	Tower, NVMe-capable backplane	Precision 3660 Tower / PowerEdge T360	ProLiant ML30 Gen11
CPU	Intel Xeon E-2488 or Core i7 — high clock	Xeon E-2488	Xeon E-2488
Memory	32–64 GB DDR5 ECC	ECC UDIMM (Dell-validated)	HPE ECC UDIMM
Primary array	2× 1.92 TB Enterprise NVMe w/ PLP — RAID 1	Enterprise NVMe RI U.2 on PERC	HPE 1.92TB NVMe RI SFF U.3
RAID controller	Hardware RAID — no software RAID	PERC H755-class	MR216i-p Gen11
Networking	Dual 1GbE Intel NIC	Intel i350 dual-port	HPE dual 1GbE
Remote mgmt	Out-of-band console	iDRAC9	iLO 6
Power	Single/dual 500 W PSU	500 W PSU	HPE PSU · RPS option
UPS	Online double-conversion, min 2 KVA	APC Smart-UPS On-Line	APC Smart-UPS On-Line
Warranty	3-yr NBD on-site, corporate GSTIN	ProSupport NBD	Foundation Care NBD

Part numbers rotate quarterly — do not pin SKUs on the PO. The deal-registration quote should echo this spec line-for-line; any deviation requires written confirmation under the page-1 rules.

Benchmark against any competing quote

This document specifies certified hardware for RetailDA™ / WeBFooT® deployments at the stated concurrency. Use it as the benchmark when evaluating competing platforms for the same floor.

WHERE THIS SHEET STANDS — PUBLISHED MINIMUMS, VERIFIED OCTOBER 2026

Stack	Official minimum	Source
SAP Business One	Xeon E3 · **24 GB RAM min / 32 GB+ rec.** · +1 GB per concurrent user · 1 core per 5–8 users	SAP HW Requirements Guide
SAP B1 on HANA	**64 GB RAM absolute minimum** + HANA-certified hardware only	SAP Note 2382775
Business Central on-prem	**16 GB app-only / 32–64 GB w/ extensions** + Windows Server + SQL Server + IIS	Microsoft Learn
Oracle NetSuite	**No on-premise exists** — SaaS only; no hardware path to buy	Oracle docs
Oracle Xstore	i5 4-core · 8–16 GB per ~5 registers + central Xcenter on OCI/Oracle DB	Oracle docs
TolsTek Host (this doc)	**2-core/2 GB → EPYC/4 GB managed tiers** · self-host matrix 10–30 → 125–200+ cashiers on ECC + PLP-NVMe	SPEC-WF-TOLSTEK-2026-V1

If their rep confirms a heavier minimum for the same concurrency, the difference isn't capacity — it's architecture. That is the conversation this sheet is designed to start.

Spec review with an engineer

E-MAIL: hello@retailda.com
CALL: +91 - 87778 40671
WHATSAPP: +91 - 94751 16711

