Server Options Comparison for CMMC Compliance

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CMMC Compliance Overview

The Cybersecurity Maturity Model Certification (CMMC) Level 2 requires that all systems handling Controlled Unclassified Information (CUI) be fully supported and patchable. Once hardware or software reaches End of Life (EOL) or End of Service Life (EOSL), vendors stop issuing security updates. This creates an automatic compliance gap, as you can no longer remediate vulnerabilities. To remain compliant, servers must be kept within active vendor support lifecycles, with patching, encryption, and logging enabled.

End of Life (EOL) Obligations

• Begin refresh planning 12–18 months before EOL.
• Document lifecycle policies and refresh schedules for auditors.
• At EOL, unsupported servers cannot remain in production handling CUI.
• Workloads (AD, PDM, SQL, File, Web) must be migrated to supported hardware.
• Decommission old servers with proper drive sanitization and disposal logs.
• If temporarily unavoidable, isolate legacy systems (VLAN, restricted access) until replaced.

Specification Justification for SolidWorks + IT Infrastructure

CPU Cores (16–20 per server):
- Required to handle 6–7 VMs (AD/DC, File, DHCP/DNS, PDM, SQL, Web/App).
- Dual Xeons ensure stability during SQL + PDM spikes.

RAM (128–192 GB per server):
- SQL + PDM benefit from large memory cache.
- Infrastructure VMs modest, but total usage demands 128+ GB.
- 192 GB provides headroom for growth.

Storage (2–3 TB SSD + 2–4 TB HDD):
- SSD tier for SQL + PDM vault (fast IOPS).
- HDD tier for file server and large assemblies.

- RAID recommended for redundancy.

Dell Server Options

Option	Model	Specs (Cores/RAM/Storage)	Lifecycle	Price (Each)	Compliance Strength	Pros	Cons
D1	Dell PowerEdge R760 (2U)	16–20 cores, 192 GB RAM, 2–3 TB SSD + 2–4 TB HDD	Active to ~2030	$8K–11K	Highest	Long runway, easy audits, Dell ecosystem	Most expensive
D2	Dell PowerEdge R660xs (1U)	16–20 cores, 128–192 GB RAM, fewer bays	Active to ~2030	$6K–9K	High	Cheaper entry to new-gen Dell, smaller footprint	Limited expansion
D3	Dell PowerEdge R740 (Refurb)	16–20 cores, 128–192 GB RAM, SSD/HDD	Support until ~2026–27	$3.5K–4K	Medium	Low cost, still patchable today	Shorter runway, refresh before 2030
D4	Mixed Pair (R740 strong + lite)	A: 192 GB, B: 128 GB, SSD/HDD	Support until ~2026–27	$7K–8K (pair)	Medium	Two nodes under budget, redundancy	Will need refresh before 2030

Lenovo Server Options

Option	Model	Specs (Cores/RAM/Storage)	Lifecycle	Price (Each)	Compliance Strength	Pros	Cons
L1	Lenovo	16–20 cores, 192	Active	$7K–	Highest	Current-	Less U.S.

	SR650 V3 (2U)	GB RAM, SSD/HDD	to ~2030	10K		gen, strong price leverage, EOS lookup	field support
L2	Lenovo SR650 V2 (Refurb)	16–20 cores, 128–192 GB RAM, SSD/HDD	Support until ~2026–27	$3K–3.8K	Medium	Cheaper than R740, still patchable	Shorter runway
L3	Lenovo SR630 V2 (1U, refurb)	8–12 cores, 128 GB RAM, SSD-heavy	Support until ~2026–27	$2.5K–3.5K	Medium	Cheapest Lenovo entry, small footprint	Limited expansion
L4	Mixed Pair (SR650 V2 + SR630 V2)	A: 192 GB, B: 128 GB, SSD/HDD	Support until ~2026–27	$6K–7.5K (pair)	Medium	Lowest spend for two nodes, compliant today	Refresh before 2030

Recommendations

Tier 1 (Cheapest today): Refurb Dell R740s or Lenovo SR650 V2/SR630 V2 pair. Total under ~$8K. ✅ Compliant now, ⚠️ will need refresh by 2026–27.

Tier 2 (Best long-term value): Dell R760 or Lenovo SR650 V3 pair. Higher upfront ($16K–20K total), but ✅ compliant through 2030, fewer refreshes, and smoother audits.

Compromise: Mix one strong new-gen server (R760 or SR650 V3) with one lighter refurb server (R740 or SR630 V2). Balances compliance longevity with budget awareness.

Note: Cheapest does not mean safest. A failed CMMC audit can risk contracts worth millions. Investing in supportable hardware ensures compliance, security, and reliability for SolidWorks operations.