p4-cache

Cut Perforce storage costs by 60–80%.

Without changing a single developer workflow.

What it is

p4-cache is a userspace daemon plus a per-call `+X` archive trigger binary that transparently tiers cold Perforce depot files to Azure Blob, AWS S3, Google Cloud Storage, or NFS — and rehydrates them on demand, fast. Hot data lives on commodity NVMe you already have or can buy for a fraction of array prices. No `p4d` patches. No protocol changes. No client software. Your developers don't notice. Your storage bill drops.

The numbers

Customer	Depot	Current cost/yr	Savings/yr	Payback
Cloud studio	80 TB on Azure Premium	$192,000	**$152,000**	2 months
Mid enterprise	200 TB on NetApp	$900,000	**$718,000**	< 1 month
Large enterprise	1 PB on NetApp	$4,500,000	**$3,665,000**	< 1 month
Multi-PB	2 PB on NetApp	$9,000,000	**$7,430,000**	< 1 month

Plus avoided refresh CapEx for enterprise customers — typically $2–3M every 4–5 years.

Why this works now

- 5–15% of any Perforce depot is read in any 30-day window. The other 85–95% pays enterprise-storage prices for no operational reason.
- Commodity NVMe at $40–80/TB acquisition is now fast enough to replace enterprise SAN for Perforce workloads.
- Object storage runs $24–$150/TB/year — 15–100× cheaper than enterprise arrays.
- p4-cache is the Perforce-aware glue: transparent to `p4d`, streaming-MD5-verified against `db.storage.digest`, forensic-watermarked, audit-logged, production-hardened.

> ***Production-grade. Audited. Real.***
>
> *~40K-line Rust workspace, six crates (daemon, trigger, shared, license, license-tool, integrity-stamp), shipping four release binaries (`p4-cache` daemon, `p4cache-trigger`, `p4-cache-verify`, `p4-cache-manifest-summary`). Three independent code audits, all engineering findings closed. Zero open HIGH or CRITICAL findings. Workspace-wide compile-time defenses against entire classes of bugs (Rust edition 2024). Restore-time MD5 verification against p4d's own `db.storage.digest`. Forensic watermark on every cold-tier write so a leaked blob is traceable. `SO_PEERCRED`-gated trigger socket with UID allowlist. Tamper-evident license audit log with cross-restart anchor. Fuzz harnesses on the trigger request handler and the Perforce checkpoint parser. CI gates on `cargo audit` and `cargo deny`.*

Calculate your savings · Request an evaluation · Book a technical call

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