Memory & Allocation Shield | Public Evidence Brief

Public, IP-safe, evidence-bound brief | 08 Nov 2026 | Not a product certification.

Problem and scope

Cgroup-v2 advisory timing and bounded memory admission under isolated Linux workloads.

Historical measured evidence (scope-limited)

- 18 scoped Linux observation runs: five stable, five recoverable bursts, eight forced OOM.
- First advisory lead on forced OOM: median approximately 446 ms; observation only.
- Separate admission comparison: no guard 9/30 completed and 21 OOM; passive PSI 9/30 and 21 OOM.
- Reservation-only 30/30 completed, zero OOM; reservation plus native advisory 30/30, zero OOM.
- Incremental native OOM-prevention benefit over reservation-only was NOT demonstrated.
- Local C++20 advisory median 54.99 ns (Mac2, scoped); not end-to-end or production.

Additional independent Linux reference qualification

120/120 synthetic reference cases for this module (steady, burst, fault, recovery; 30 each).
Six-module suite: 720/720, 24 groups of 30. This is NOT a proprietary-engine benchmark.

Competition and industrial acceptance

Reservation-only, PSI, optimized memory.high/oomd or VPA when supported; no active oomd or VPA proven.
Industrial gates G0-G7 remain scope-limited: engine-level fault injection, optimized competitor, production tails, and verified customer ROI require separately authorized measurements.

Proposed fixed-scope diagnostic

EUR 3,900. One de-identified trace up to 2 GiB or 1,000,000 records, four scenarios, one isolated environment. Written baseline, correctness oracle, failure tests, cost and performance deltas; GO, NO-GO or INCONCLUSIVE conclusion.

IP and confidentiality

No private C++ source, bitstreams, thresholds, customer data, credentials, hardware layouts or proprietary implementation is included. Raw public records cover independent synthetic references only.

Source: public Proof Lab evidence summaries. Further claims require measured paired validation; no guaranteed savings or certification.