

COMPANION WORKSHEET

# Chapter 7 — One-Year Ownership

Use this worksheet after completing Chapters 4–6. It is the chapter’s single primary decision tool. It compares ownership postures; it does not approve a purchase, prepare a host, prove acceleration, or report measured performance.

Work from a fresh copy. Preserve evidence paths. Use TBD for an unfilled field, Evidence missing for a load-bearing unknown, and explicit zeroes only when the inclusion scope justifies zero.

## A. Freeze inherited workload and lane evidence

Chapter 4 inventory evidence path

Chapter 5 worksheet path

Exact Chapter 5 candidate ID

Artifact filename and digest

Quantization

Target context

Simultaneous-model count

Parallel-request count

Memory topology

Chapter 6 decision record path

Primary lane tuple

Fallback lane tuple

Primary documentation status and exact qualification

Fallback documentation status and exact qualification

Primary edition-test status

Fallback edition-test status

Primary required/expected placement

---

Fallback required/expected placement

---

Primary Chapter 9 proof status

Pending / Evidence missing

---

Fallback Chapter 9 proof status

Pending / Evidence missing

---

Primary Chapter 9 observation target

---

Fallback Chapter 9 observation target

---

Primary Chapter 9 acceptance criteria

---

Fallback Chapter 9 acceptance criteria

---

Primary invalidation condition

---

Fallback invalidation condition

---

Fallback-independence evidence

---

Evidence snapshot date

---

If the completed Chapter 6 record is absent, stop and record Evidence missing. Do not select a platform from the book's teaching reference.

## **B. Set hard ownership constraints before browsing**

Currency used for every cost row

---

Upfront outlay ceiling

---

One-year ownership-cost ceiling

---

Rule for comparing a scenario range with the ceiling

---

Dated utility rate and source

---

Physical location and usable envelope

---

Known household/circuit boundary and evidence

---

Noise tolerance and quiet-time rule

Room/thermal constraint

Used-hardware policy  
Allowed / Refused / Conditional

Already-owned parts that may be reused

Operational duties that could overturn the choice

Refused costs or risks

Earliest evidence date accepted for volatile inputs

The ceiling is the reader's current limit. The estimate is what a posture appears to require. Do not move the ceiling after seeing a result. An estimate equal to a ceiling is Within with zero margin; record that zero margin explicitly.

C. Define exactly three product-neutral postures

Do not add or merge rows.

| Posture                 | Exact Chapter 5 candidate | Chapter 6 lane | Bounded purpose | Product-neutral memory/storage/power requirements | Changed assumption and recalculation path |
|-------------------------|---------------------------|----------------|-----------------|---------------------------------------------------|-------------------------------------------|
| Use what you have       |                           |                |                 |                                                   | None / exact changed record               |
| Balanced private server |                           |                |                 |                                                   | None / exact changed record               |
| High-memory enthusiast  |                           |                |                 |                                                   | None / exact changed record               |

The larger posture needs a named workload or operating-boundary reason. Prestige, unused capacity, and “future proof” are not evidence-bound purposes.

D. Close current compatibility or purchase-posture feasibility

Allowed link states are exactly Pass, Blocked, Evidence missing, or Not applicable. Not applicable requires a reason.

For Use what you have, Pass requires exact current-machine evidence. For a purchase-oriented posture, Pass means the product-neutral requirement, reader boundary, and later exact-item acceptance criterion are complete and not contradicted; it does not mean an item passed. A missing future item

identity does not create Evidence missing. A missing requirement, boundary, planning cost basis, or acceptance criterion does.

| Posture                 | Link                                     | Requirement | Evidence path or exact-item acceptance criterion | State | Blocking or missing detail |
|-------------------------|------------------------------------------|-------------|--------------------------------------------------|-------|----------------------------|
| Use what you have       | Physical form factor and clearance       |             |                                                  |       |                            |
| Use what you have       | Interface, slot, and lanes               |             |                                                  |       |                            |
| Use what you have       | Supply, connectors, and cable provenance |             |                                                  |       |                            |
| Use what you have       | System memory and storage                |             |                                                  |       |                            |
| Use what you have       | Chapter 6 host/platform support          |             |                                                  |       |                            |
| Use what you have       | Expected runtime placement               |             |                                                  |       |                            |
| Balanced private server | Physical form factor and clearance       |             |                                                  |       |                            |
| Balanced private server | Interface, slot, and lanes               |             |                                                  |       |                            |
| Balanced private server | Supply, connectors, and cable provenance |             |                                                  |       |                            |
| Balanced private server | System memory and storage                |             |                                                  |       |                            |
| Balanced private server | Chapter 6 host/platform support          |             |                                                  |       |                            |
| Balanced private server | Expected runtime placement               |             |                                                  |       |                            |
| High-memory enthusiast  | Physical form factor and clearance       |             |                                                  |       |                            |
| High-memory enthusiast  | Interface, slot, and lanes               |             |                                                  |       |                            |
| High-memory enthusiast  | Supply, connectors, and cable provenance |             |                                                  |       |                            |

| Posture                | Link                            | Requirement | Evidence path or exact-item acceptance criterion | State | Blocking or missing detail |
|------------------------|---------------------------------|-------------|--------------------------------------------------|-------|----------------------------|
| High-memory enthusiast | System memory and storage       |             |                                                  |       |                            |
| High-memory enthusiast | Chapter 6 host/platform support |             |                                                  |       |                            |
| High-memory enthusiast | Expected runtime placement      |             |                                                  |       |                            |

Stop enriching an exact candidate at the first load-bearing Blocked or Evidence missing link. Do not average a blocker with passes.

For Expected runtime placement, record both the documented expectation and the exact Chapter 9 observation target. A complete expectation plus named target may be Pass while the separate observation status is Pending; this means the Chapter 7 plan is complete, not that placement or acceleration is proven. A missing expectation or target is Evidence missing. A contradicted observation is Blocked and reopens the Chapter 6 lane.

### E. Separate capacity, operating state, ratings, measurements, and unknowns

Allowed evidence classes are exactly Rated, Estimated, Measured, or Unknown. A class describes the value; it is not a compatibility verdict.

| Posture           | Field                                 | Value and unit | Evidence class  | Exact source or method | Qualification / later proof |
|-------------------|---------------------------------------|----------------|-----------------|------------------------|-----------------------------|
| Use what you have | Installed storage capacity            |                |                 |                        |                             |
| Use what you have | Current free storage                  |                |                 |                        |                             |
| Use what you have | Required bytes plus explicit headroom |                |                 |                        |                             |
| Use what you have | Idle whole-system AC input power      |                |                 |                        |                             |
| Use what you have | Loaded whole-system AC input power    |                |                 |                        |                             |
| Use what you have | PSU/adaptor/component rating          |                | Rated / Unknown |                        | Not wall draw               |
| Use what you have | Cooling and airflow evidence          |                |                 |                        |                             |

| Posture                 | Field                                  | Value and unit | Evidence class  | Exact source or method | Qualification / later proof |
|-------------------------|----------------------------------------|----------------|-----------------|------------------------|-----------------------------|
| Use what you have       | Acoustic evidence and room requirement |                |                 |                        |                             |
| Balanced private server | Installed storage capacity             |                |                 |                        |                             |
| Balanced private server | Current free storage                   |                |                 |                        |                             |
| Balanced private server | Required bytes plus explicit headroom  |                |                 |                        |                             |
| Balanced private server | Idle whole-system AC input power       |                |                 |                        |                             |
| Balanced private server | Loaded whole-system AC input power     |                |                 |                        |                             |
| Balanced private server | PSU/adaptor/component rating           |                | Rated / Unknown |                        | Not wall draw               |
| Balanced private server | Cooling and airflow evidence           |                |                 |                        |                             |
| Balanced private server | Acoustic evidence and room requirement |                |                 |                        |                             |
| High-memory enthusiast  | Installed storage capacity             |                |                 |                        |                             |
| High-memory enthusiast  | Current free storage                   |                |                 |                        |                             |
| High-memory enthusiast  | Required bytes plus explicit headroom  |                |                 |                        |                             |
| High-memory enthusiast  | Idle whole-system AC input power       |                |                 |                        |                             |
| High-memory enthusiast  | Loaded whole-system AC input power     |                |                 |                        |                             |
| High-memory enthusiast  | PSU/adaptor/component rating           |                | Rated / Unknown |                        | Not wall draw               |
| High-memory enthusiast  | Cooling and airflow evidence           |                |                 |                        |                             |

| Posture                | Field                                  | Value and unit | Evidence class | Exact source or method | Qualification / later proof |
|------------------------|----------------------------------------|----------------|----------------|------------------------|-----------------------------|
| High-memory enthusiast | Acoustic evidence and room requirement |                |                |                        |                             |

Rated power is not measured draw. A precise calculation with estimated inputs remains estimated. If a load-bearing power, thermal, acoustic, or storage input has no defensible value, preserve Unknown and propagate Evidence missing.

F. Calculate low/base/high annual energy

Use one dated reader-supplied rate unless a documented tariff structure requires otherwise.

annual kWh = input W ÷ 1000 × operating hours/day × operating days/year

annual electricity cost = annual kWh × dated rate per kWh

| Posture                 | Scenario | Input power W and class | Hours/day and source | Days/year and source | Annual kWh | Rate/currency/date/source | Electricity cost | Arithmetic check |
|-------------------------|----------|-------------------------|----------------------|----------------------|------------|---------------------------|------------------|------------------|
| Use what you have       | Low      |                         |                      |                      |            |                           |                  |                  |
| Use what you have       | Base     |                         |                      |                      |            |                           |                  |                  |
| Use what you have       | High     |                         |                      |                      |            |                           |                  |                  |
| Balanced private server | Low      |                         |                      |                      |            |                           |                  |                  |
| Balanced private server | Base     |                         |                      |                      |            |                           |                  |                  |
| Balanced private server | High     |                         |                      |                      |            |                           |                  |                  |
| High-memory enthusiast  | Low      |                         |                      |                      |            |                           |                  |                  |
| High-memory enthusiast  | Base     |                         |                      |                      |            |                           |                  |                  |
| High-memory enthusiast  | High     |                         |                      |                      |            |                           |                  |                  |

Scenario bounds need evidence or explicit planning assumptions. If a defensible bound is absent, record Evidence missing instead of inventing a

total.

G. Calculate one-year ownership scenarios

one-year ownership = required upfront outlay + annual electricity + explicit allowance – documented credits

Accounting basis: forward-looking costs the reader elects to include from the decision date. This is incremental planning, not depreciation, existing-asset valuation, or a complete total-cost-of-ownership model. A purchase posture may use a conservative dated planning range; refresh it during later exact-item evaluation.

Required upfront outlay includes every item required to make the posture real: supporting items, storage, cooling, supply/adaptor changes, taxes, shipping, and currency conversion when applicable. An allowance is a reader-chosen boundary, not a failure probability. A blank is not zero.

| Posture                 | Scenario | Required upfront outlay | Annual electricity | Explicit allowance and scope | Documented credits and evidence | One-year total | Upfront ceiling result | One-year ceiling result | Missing required costs |
|-------------------------|----------|-------------------------|--------------------|------------------------------|---------------------------------|----------------|------------------------|-------------------------|------------------------|
| Use what you have       | Low      |                         |                    |                              |                                 |                |                        |                         |                        |
| Use what you have       | Base     |                         |                    |                              |                                 |                |                        |                         |                        |
| Use what you have       | High     |                         |                    |                              |                                 |                |                        |                         |                        |
| Balanced private server | Low      |                         |                    |                              |                                 |                |                        |                         |                        |
| Balanced private server | Base     |                         |                    |                              |                                 |                |                        |                         |                        |
| Balanced private server | High     |                         |                    |                              |                                 |                |                        |                         |                        |
| High-memory enthusiast  | Low      |                         |                    |                              |                                 |                |                        |                         |                        |
| High-memory enthusiast  | Base     |                         |                    |                              |                                 |                |                        |                         |                        |
| High-memory enthusiast  | High     |                         |                    |                              |                                 |                |                        |                         |                        |

Use only Within, Exceeds, or Evidence missing for each ceiling result. Within means estimate ≤ ceiling: record positive margin when lower and zero margin when equal. Exceeds means estimate > ceiling.

H. Define the used-item gate for later exact-item evaluation

Complete this gate only if used hardware is Allowed or Conditional; otherwise record the refusal as the posture's rule. Do not select or approve a listing here.

Purchase-oriented posture row this gate applies to

Required later listing/source evidence and freshness rule

Evidence date/time and currency rule

Required exact identity evidence without unnecessary serial-number retention

Acceptable physical-condition evidence

Disqualifying condition omissions

Minimum seller-test identity/workload/duration/date evidence

Minimum return window, exclusions, and retained terms

Required written-warranty and transferability evidence

Required accessories that must be included or exact-match verified

Treatment of missing accessories

Treatment of unknown prior workload/repair/modification history

Maximum unresolved uncertainty accepted

Later disposition

Continue / Block / Obtain evidence

Do not invent remaining lifespan or failure probability. A seller or reader stress test can describe observed behavior at that time; it cannot guarantee future reliability.

I. Assign one finite verdict per posture

Allowed verdicts are exactly Use current hardware, Candidate for later purchase, Blocked, or Evidence missing.

| Posture           | Finite verdict | Binding reason | Next proof | Invalidation condition |
|-------------------|----------------|----------------|------------|------------------------|
| Use what you have |                |                |            |                        |

| Posture                 | Finite verdict | Binding reason | Next proof | Invalidation condition |
|-------------------------|----------------|----------------|------------|------------------------|
| Balanced private server |                |                |            |                        |
| High-memory enthusiast  |                |                |            |                        |

Rules:

Apply this precedence exactly once to each posture:

1. Blocked if any binding requirement is contradicted or any hard ceiling is exceeded. Record the first blocker. This verdict wins even if other fields are still unknown.
2. Evidence missing only if no blocker exists and at least one load-bearing field is unresolved. Record the missing evidence and next proof.
3. Use current hardware only for the use-what-you-have posture after all load-bearing gates pass.
4. Candidate for later purchase only when a purchase-oriented posture's product-neutral requirements, feasibility gates, cost basis, risk policy, and exact-item acceptance criteria pass. A future product identity is not required. It is not purchase approval.

J. Select one posture and define the stop

Selected posture or No purchase-oriented posture selected

Why this posture won

Why each other posture lost

Exact Chapter 5 candidate and Chapter 6 lane bound to the selection

Low/base/high one-year range and evidence classes

One no-buy reason or bounded later-purchase condition

Selected lane's Chapter 9 proof status, observation target, and acceptance criteria

Selected lane's invalidation condition

Decision date and evidence snapshot

Deterministic self-check

- ☐ Exactly three posture rows exist and use the required names.
- ☐ Every posture binds an exact Chapter 5 candidate and completed Chapter 6 lane, or records Evidence missing.
- ☐ Every required compatibility link uses one allowed state and has exact evidence or a named gap.

- ☐ A purchase-oriented Pass proves posture feasibility and records later exact-item acceptance criteria; it does not claim a product passed.
- ☐ Missing future item identity has not been mislabeled Evidence missing when all posture requirements and acceptance criteria are complete.
- ☐ A Pending Chapter 9 observation is not mistaken for a missing expected-placement basis or target, and no planning Pass is called observed placement.
- ☐ Capacity, current free space, ratings, estimated values, measurements, and unknowns remain distinct.
- ☐ Low/base/high energy arithmetic preserves W, kW, h/day, days/year, kWh, rate, and currency units.
- ☐ Required supporting costs, taxes, shipping, and conversion are included or explicitly not applicable.
- ☐ The one-year total uses the declared forward-looking incremental accounting basis rather than implying full TCO.
- ☐ No blank has silently become zero.
- ☐ Every ceiling comparison defines equality as Within with zero margin.
- ☐ Used-item evidence does not invent remaining lifespan, failure probability, or resale value.
- ☐ Every posture has exactly one allowed finite verdict.
- ☐ Verdict precedence is Blocked, then Evidence missing, then the posture-specific positive verdict.
- ☐ Candidate for later purchase has not become purchase approval.
- ☐ The selection binds one posture, one inherited candidate/lane, that lane's Chapter 9 proof target/acceptance criteria, and that lane's invalidation condition.
- ☐ Volatile evidence has a date and source.

Chapter 7 stops here. Exact-item acquisition, public or private outreach, spending, host preparation, and runtime proof occur only under their own later evidence and approval gates.