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REFERENCE ARCHITECTURE

Infrastructure sourcing after the comparison: multi-vendor allocation, supplier risk, lead time, certified engineers

CAPABILITY	DOCUMENT	VERSION	DATE
Strategic Resourcing	SRA-RES-001	1.2	Oct 10, 2026

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Document control

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CONVENTIONS

Source tags. [S] read Sep 24, 2026, or on the date stated (§9.1), from the body that owns the text, URL in §9; for ISO and IEC standards the catalog entry (edition, date, scope) was read, not the paid text · [A] typical-buyer assumption, to be confirmed by the signing engineer. No figure comes from any prior engagement, client or order. A row with more than one tag is counted once: as a published figure if any tag is [S] or [S*], otherwise as an assumption if any tag is [A], otherwise as a design target.

Table 1. Revision history

Date	Version	Change
Sep 27, 2026	1.0	First issue.
Oct 7, 2026	1.1	One rule removed from the §9.1 table of industry rules.
Oct 10, 2026	1.2	Approval line now reads: approved by the Founder, issued by Symbeeo. Avinash Dhinakaran remains the author.

1 · Scope

Who it is for. The head of infrastructure with a signed comparison in hand who now has to get every part delivered, genuine, supported for its service life and installed by people the manufacturer recognizes — in a year when server CPU and PCB lead times run close to one year [S] TrendForce, Apr 15, 2026.

What this capability is. The comparison decides what to buy. Strategic Resourcing decides from whom, in what split, by when, and who installs it, and keeps those answers true until acceptance.

Typical buyer [A]. The organization of SRA-NET-001 and SRA-DC-001: head office, three branches, two data centers 40 km apart, an important entity under NIS2. Its refresh yields up to 600 bill-of-materials lines from up to 10 manufacturers through up to 4 distributors, delivered over 12 months.

What is in. BOM baseline · criticality classes · source register · allocation · lead-time and price control · lifecycle dates · supplier risk and continuity · provenance at receipt · the register of certified engineers. **What is out.** Choosing the product (the published comparison); the technical designs (SRA-NET-001, SRA-DC-001, SRA-SEC-001, SRA-AI-001); the client's procurement policy, which this plugs into. **Assumption.** The client's ERP or procurement suite is the system of record [A].

2 · Requirements register

Each row is written to pass the ISO/IEC/IEEE 29148 test — verifiable, unambiguous, singular, naming no product. The last column is the verification element STP-RES-001 reports against.

Table 2. Requirements register

#	Requirement	Value	Source	Verified by
R1	Lines under management	≤ 600 lines · ≤ 10 manufacturers · ≤ 4 distributors	[A]	input — not tested
R2	Every BOM line carries a criticality class before its first order	100 % of lines	[S] CSF 2.0 GV.SC-04	inspection · pre-order

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#	Requirement	Value	Source	Verified by
R3	Every class-A line has qualified, independent sources (§4.3)	≥ 2 per line	[A]; [S] ISO/TS 22318	inspection · pre-order
R4	Every unit is bought from its manufacturer or a distributor that manufacturer authorizes	100 % of units	[S] ISO/IEC 27036-3	inspection · receipt
R5	Quoted lead time and quote expiry are recorded for every line at order	100 % of lines	[A]	inspection · order
R6	Planned float on every class-A line: need-by date minus (order date + quoted lead time)	≥ 4 weeks	[A]; [S] TrendForce, Apr 15, 2026	analysis · order
R7	A supplier's change to a promised date appears in the register	≤ 1 business day after acknowledgment	[A]	test · order
R8	A unit-price change above threshold between comparison and order is re-approved by the buyer before ordering	threshold 5 %	[A]; [S] TrendForce, Jul 9, 2026	test · order
R9	Manufacturer's published end-of-support date, counted from planned delivery	≥ 5 years	[A]; [S] IEC 62402	inspection · pre-order
R10	Interval between risk reviews of each class-A supplier	≤ 92 days	[A]; [S] GV.SC-07; CIR (EU) 2024/2690	inspection · operations
R11	Lines ordered from a supplier designated high-risk for the client's sector under law in force on the order date	0	[S] NIS2; CSA recast proposal	inspection · order
R12	A provenance record (§4.7) exists for every serialized unit at receipt	100 % of units	[S] CycloneDX 1.7 / ECMA-424	inspection · receipt
R13	Every deployment task is done by an engineer holding the manufacturer-required certification, valid on the task date	100 % of tasks	[S] ISO/IEC 17024:2026	inspection · deployment
R14	Each certification is confirmed against the issuer's own record before first assignment	≤ 30 days before	[A]; [S] Open Badges 3.0	inspection · staffing
R15	Named, certified backup engineer per deployment role	≥ 1 per role	[A]	inspection · staffing
R16	Continuity plan exercised per class-A supplier	≥ 1 per 12 months	[A]; [S] ISO 22301; ISO/TS 22318	demonstration · operations
R17	Class-A supplier agreements contain exit provisions (§4.6)	100 %	[S] CSF 2.0 GV.SC-10	inspection · contract

Seventeen rows, each with a number; thirteen carry a primary-source anchor, four are typical-buyer values only. Every [A] value is replaced by the client's at the design workshop.

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3 · Architecture overview

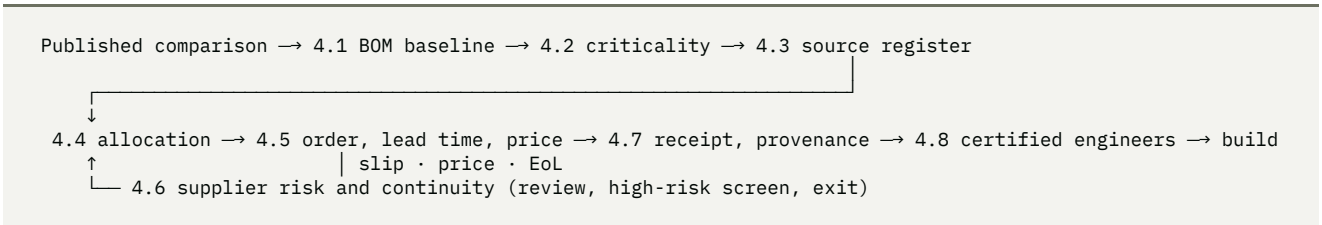


Figure 1. Sourcing architecture overview

Eight blocks, one register. The comparison is the only input and the build the only output, so any line's state is read from one place.

4 · Component design

4.1 BOM baseline.

One line per manufacturer part number: quantity, need-by date, site, and the conforming alternates the comparison found. Frozen when the buyer approves the comparison; later changes carry a reason and the buyer's approval.

4.2 Criticality.

Class A: on the critical path, quoted over 12 weeks, or without a conforming alternate. Class B: alternate exists, 12 weeks or less. Class C: interchangeable commodity [A] thresholds. The classes are CSF 2.0 GV.SC-04 — "suppliers are known and prioritized by criticality" — applied per line [S].

4.3 Source register.

A source is one manufacturer through one authorized channel. It is qualified with four items on file: authorization from the manufacturer's partner locator or letter; conformance from the comparison; a current risk rating (§4.6); a dated quote. Two sources are independent when they differ in manufacturer or, where the comparison fixes the manufacturer, in distributor. The register holds the supplier-register fields of CIR (EU) 2024/2690 [S]. Partner status is recorded under the program's current name and checked again at each review: Cisco's designations, for one, changed at the Cisco 360 launch on Jan 26, 2026 [S].

4.4 Allocation.

Per class-A line, with its reason: interchangeable alternates → split between two manufacturers; manufacturer fixed by the comparison → two authorized distributors; neither → an R3 waiver signed by the buyer, compensated by early order or reservation against confirmed allocation, float recorded. Class B is single-sourced with the alternate pre-qualified; class C is bought on price.

4.5 Order, lead time and price.

At order: quoted lead time, quote expiry and promised date (R5). Acknowledgments and ship notices arrive electronically where the distributor offers it (X12 855/856, EDIFACT ORDRSP/DESADV, or its API), by hand otherwise. Float is recomputed on each acknowledgment: under 2 weeks escalates; under zero switches allocation or re-plans the build [A]. Memory-bearing lines move fastest: server DRAM contract prices rise 13–18 % quarter on quarter in 3Q26, the increases falling on buyers without long-term agreements [S] TrendForce, Jul 9, 2026 — hence R8.

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4.6 Supplier risk and continuity.

Class-A suppliers are rated on delivery, financial standing, cybersecurity practice, regulatory exposure and manufacturing concentration [A]; reviewed at R10's interval and on a trigger — allocation notice, end-of-life notice, acquisition, security incident, regulatory designation. R11 reads the law in force; the Commission's recast Cybersecurity Act, proposed Jan 20, 2026 and in negotiation, would add an EU framework for high-risk ICT suppliers [S]. Continuity plans follow ISO/TS 22318: alternate, buffer, time to switch [S]. Exit provisions: data return, spares, transfer of support contracts [S] GV.SC-10.

4.7 Receipt and provenance.

Per serialized unit: serial, channel evidence, ship-notice match, seal condition, manufacturer entitlement check, firmware version, and the manufacturer's hardware or software bill of materials where published — CycloneDX 1.7, adopted as ECMA-424 2nd edition, covers both [S]. Since Sep 11, 2026 manufacturers must report actively exploited vulnerabilities under the Cyber Resilience Act [S]; the record maps each serial to that manufacturer's advisories.

4.8 Certified engineering resources.

A resource register: engineer, role, SFIA 9 skill and level (HSIN systems installation and removal, NTAS network support, SUPP supplier management) [S], each certification with issuer, expiry and date checked against the issuer (R14). Open Badges 3.0 credentials are W3C verifiable credentials and check by signature [S]; others on the issuer's portal. Where a choice exists, certifying bodies accredited to ISO/IEC 17024 — third edition, 2026 — are preferred [S].

5 · Options and platform choices

One row per decision. Every option weighed is listed, rejected ones included, with its §2 result and cost band. Strategic Resourcing decides sourcing, not products: which manufacturer wins is fixed by the published comparison before this document applies, so no row here chooses a product for the build.

Table 3. Options and platform choices

ID	Decision	Requirement	Alternatives considered	Decision taken	Rationale
D1	Source depth per BOM line	R2, R3, R6	per-line allocation by class, §4.4 (meets §2; mid cost) · single source for every line (fails R3; lowest cost) · dual source for every line (meets §2; highest cost)	**per-line allocation by class**	dual-sourcing effort only where float is at risk [A]; a single source lets one allocation notice stop the build; qualifying class C buys nothing
D2	Class-A line with no independent second source	R3, R6	early order or reservation against confirmed allocation (meets §2 with a buyer-signed R3 waiver; carrying cost) · accept the single channel with standard ordering (fails R6 wherever the quoted lead time leaves under 4 weeks of float; no carrying cost)	**per line**, waiver and float recorded (§4.4)	the only protection where the comparison leaves one channel; lead times near one year in 2026 [S] TrendForce, Apr 15, 2026
D3	Capture of acknowledgments and ship notices	R7	electronic, EDI or distributor API (meets §2; set-up per distributor) · manual entry (meets §2 at low volume; labor)	**electronic where offered; manual as fallback**	one-day slip visibility (R7) at up to 4 distributors (R1) [A]

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ID	Decision	Requirement	Alternatives considered	Decision taken	Rationale
D4	System of record for the register	R2–R17	the client's suite — options: Oracle Fusion Cloud Procurement with Supplier Qualification Management · SAP Ariba Supplier Risk · the ERP's purchasing module (each meets §2 if it holds the §4.3 fields; client-owned) · a register held by Symbeeo (meets §2; lower set-up)	**the client's suite, per client**; Symbeeo-held rejected	the client keeps the record after handover [S] vendor datasheets, §9; a Symbeeo-held register leaves with Symbeeo at exit
D5	Supplier-risk data	R10	a supplier-risk data subscription (supports R10; subscription) · review from the rating dimensions of §4.6 without a subscription	**per client**	a subscription is worth it above R1's scale [A]

6 · Failure conditions

Table 4. Failure conditions

#	Condition	What the buyer sees	Recovers by itself	Needs a hand	Time
F1	Allocation cut on a class-A line	promised date moves	no	switch source (§4.4)	days [A]
F2	Distributor cannot ship	acknowledgment rejected	no	re-order via second channel	days
F3	Quote expires; price rises	re-approval request (R8)	no	buyer decides	≤ 2 business days [A]
F4	End-of-sale notice on an ordered part	lifecycle flag	no	comparison alternate or last-time buy	weeks
F5	Supplier designated high-risk after order	screen flag (R11)	no	legal review; replace per the law	per law
F6	Unit fails provenance at receipt	quarantine	no	return; replacement ordered	days
F7	Engineer's certification lapses before a task	task blocked	no	backup engineer (R15)	same day
F8	Channel's partner status withdrawn	source disqualified	no	second qualified source	days
F9	Security advisory on delivered units	advisory mapped to serials	no	patch before install, or hold	≤ 1 business day [A]
F10	Logistics or customs hold	shipment late	often	broker; re-route	days

7 · Validation

None yet. The first build's acceptance test — source switch under a simulated allocation cut, slip propagation within R7, provenance on a full delivery, certification checked at the issuer — is planned in STP-RES-001 and, once run, makes this document a validated architecture.

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8 · Operations and lessons learned

Weekly: float report, class A. Monthly: price against the comparison; lifecycle notices. Quarterly: supplier risk review (R10); partner status rechecked; certifications expiring within 120 days. Yearly: continuity exercise (R16). Lessons: written by the signing engineer after the first build under this document.

9 · Appendix

Glossary. BOM bill of materials · class A/B/C (§4.2) · float: need-by date minus expected delivery · HBOM/SBOM hardware/software bill of materials · CIR Commission Implementing Regulation · CSA Cybersecurity Act · EoL end of life.

References, read Sep 24, 2026. NIST CSF 2.0, CSWP 29, Feb 26, 2024 — https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.29.pdf · NIST SP 800-161 Rev. 1 Update 1, Nov 1, 2024 — https://csrc.nist.gov/pubs/sp/800/161/r1/upd1/final · ISO/IEC 27036-2:2022 — https://www.iso.org/standard/82060.html · ISO/IEC 27036-3:2023 — https://www.iso.org/standard/82890.html · ISO 22301:2019/Amd 1:2024 — https://www.iso.org/standard/88412.html · ISO/TS 22318:2021 — https://www.iso.org/standard/79001.html · ISO 28000:2022 — https://www.iso.org/standard/79612.html · IEC 62402:2019 — https://webstore.iec.ch/en/publication/59531 · ISO/IEC 17024:2026 — https://webstore.iec.ch/en/publication/112952 · SFIA 9 — https://sfia-online.org/en/sfia-9/skills/all-skills-a-z · Open Badges 3.0 — https://www.imsglobal.org/spec/ob/v3p0 · CycloneDX 1.7 — https://cyclonedx.org/news/cyclonedx-v1.7-released/ · ECMA-424 — https://ecma-international.org/publications-and-standards/standards/ecma-424/ · CIR (EU) 2024/2690 — https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ%3AL_202402690 · CRA reporting — https://digital-strategy.ec.europa.eu/en/policies/cra-reporting · Cybersecurity package Q&A, Jan 20, 2026 — https://digital-strategy.ec.europa.eu/en/faqs/cybersecurity-package-questions-answers · Cisco 360 launch, Jan 26, 2026 — https://newsroom.cisco.com/c/r/newsroom/en/us/a/y2026/m01/cisco-launches-new-cisco-360-partner-program-built-with-partners-for-the-ai-era.html · TrendForce, Apr 15, 2026 — https://www.trendforce.com/presscenter/news/20260415-13013.html · TrendForce, Jul 9, 2026 — https://www.trendforce.com/presscenter/news/20260709-13140.html · Oracle Supplier Qualification Management datasheet — https://www.oracle.com/a/ocom/docs/applications/erp/oracle-supplier-qualification-management-cloud-ds.pdf · SAP Ariba Supplier Risk — https://www.sap.com/products/spend-management/supplier-risk.html.

9.1 · Industry rules this architecture helps a buyer meet.

From Symbeeo's industry research of September 2026. Only rules that research links to this document's requirements are listed; rules it found this document does not address are left out.

Table 5. Industry rules this architecture helps a buyer meet

Rule	Jurisdiction	What it asks of infrastructure	Requirements here	Coverage
NDAA FY2019 §889 (FAR 52.204-24 and 52.204-25, Nov 2021)	US · federal contractors	no covered telecommunications or video-surveillance equipment as a substantial or essential component	R11	full
FCC Covered List (47 CFR 1.50002; latest action found DA 26-957, Sep 9, 2026)	US · FCC equipment authorization	equipment on the list cannot be authorized; each network line checked against the list before order	R11	full
Interagency Guidance on Third-Party Relationships: Risk Management (FRB, FDIC, OCC, Jun 6, 2023)	US · banks	risk-based due diligence, contract terms including termination and exit, ongoing monitoring of third parties	R10, R17	full

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Rule	Jurisdiction	What it asks of infrastructure	Requirements here	Coverage
NERC CIP-013-2 (enforceable; CIP-013-3 effective in the US Jul 1, 2028)	US and Canada · Bulk Electric System entities	a supply-chain cyber-risk plan covering procurement, vendor risk, software integrity and vendor remote access	R2, R4, R10, R12	full

Naming a rule here is not a claim of compliance or certification: the buyer's assessor decides compliance, and Symbeeo holds no certification or authorization.

Sources for §9.1, read Sep 25, 2026: NDAA §889 / FAR 52.204-25 [S] `https://www.acquisition.gov/far/52.204-25` · FCC Covered List, DA 26-957 [S] `https://docs.fcc.gov/public/attachments/DA-26-957A1.pdf` (the list page's own "last updated" date not read) · Interagency third-party guidance, SR 23-4 [S] `https://www.federalreserve.gov/supervisionreg/srletters/SR2304.htm` · NERC CIP-013-2 [S] `https://www.nerc.com/standards/reliability-standards/cip/cip-013-2`.

CIP-013-3 effective date, read Sep 27, 2026: effective in the US on Jul 1, 2028; CIP-013-2 inactive after Jun 30, 2028; adopted by the NERC Board May 9, 2024, approved by FERC Order No. 919 (Docket RM24-8-000) issued Mar 19, 2026 and effective May 26, 2026 [S] NERC, CIP-013-3 page `https://www.nerc.com/standards/reliability-standards/cip/cip-013-3` and US Effective Date Status workbook `https://www.nerc.com/globalassets/align-reports/us-effective-date-status---functional-applicability.xlsx` · the date follows the Project 2016-02 implementation plan (April 2024): the later of Apr 1, 2026 or the first day of the first calendar quarter 24 months after the approving order's effective date [S] `https://www.nerc.com/globalassets/standards/reliability-standards/cip/2016-02-virtualization-implementation-plan_clean_04032024.pdf` · Order No. 919 published Mar 24, 2026, effective May 26, 2026 [S] Federal Register `https://www.federalregister.gov/api/v1/documents/2026-05716.json`.

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SYMBEEO

Each vendor's tool shows you their option. We show you all of them against one requirement.

Compared. Then Delivered.

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Figures are as published by their sources on the dates given in this document; figures marked [A] are assumptions.

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