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DESIGN STUDY

One FOCUS cost model for a live-service game on two clouds, shared clusters split by rule

Complete design on current platforms

CAPABILITY	INDUSTRY	SETTING
IT Spend Optimization	Media & Gaming	Games studio
DOCUMENT	**VERSION**	**DATE**
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WRITTEN BY

Avinash Dhinakaran, Principal Integration Architect

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Document control

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Sign-off	"An engagement under this design is signed by the practice lead before any build proceeds."		

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CONVENTIONS

Source tags. [S] figure read from the provider's or standard owner's own current page on Sep 24, 2026, or on Sep 27, 2026 where the text says so · [S*] figure from the owner's page summary where the page itself could not be opened · [A] design assumption · [T] design target (the record's outcome figure and anything derived from it). Every figure carries at least one tag. No figure comes from any prior engagement, file or asset. 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 10, 2026	1.1	Approval line now reads: approved by the Founder, issued by Symbeeo. Avinash Dhinakaran remains the author.
Nov 4, 2026	1.2	Wording correction: how the comparison is described.

1 · Scope

Who it is for. The head of platform engineering and the finance business partner of a games studio whose live-service title runs on two clouds, whose Kubernetes clusters are shared by six teams, and whose monthly bill arrives as two schemas that nobody can add together.

Typical buyer [A]. A games studio with one live-service title. Game servers and matchmaking on AWS in four Kubernetes clusters; player services, telemetry and AI moderation models on Microsoft Azure; analytics on Snowflake. Six game and platform teams share the clusters. Monthly cloud and data-platform spend about USD 1.8 million [A].

What is in. FOCUS exports from each provider landed in the studio's own storage; validation against each provider's published conformance gaps; one allocation to six teams and one shared platform owner; the split rule for shared clusters; invoice reconciliation at month-end; commitment utilization; daily anomaly notice; AI charges as their own category; a weekly unit cost per 1,000 player-hours. **What is out.** Choosing the FinOps platform (done in the comparison, SRA-SPD-001 §5 D3); rightsizing or commitment purchases themselves; the game's architecture.

Assumptions. The store lives in the studio's AWS account; platforms read it and hold no history of their own (SRA-SPD-001 §5 D2) [A]. Azure is billed under a Microsoft Customer Agreement, which the FOCUS export supports [A]; [S]. Player-hours come from the game's own telemetry [A].

Related documents, read Sep 24, 2026. SRA-SPD-001 v1.0 and SDD-SPD-001 v1.0 (issued Sep 27, 2026) · FOCUS 1.4 release, ratified Jun 4, 2026 (`https://www.finops.org/insights/introducing-focus-1-4/`) · FOCUS 1.3 release, Dec 11, 2025 (`https://www.linuxfoundation.org/press/finops-foundation-launches-focus-1.3-to-deepen-cloud-and-saas-billing-transparency-announces-expanded-vendor-support-for-focus-1.2`) · FOCUS data generators by version (`https://focus.finops.org/`) · AWS Data Exports for FOCUS 1.2, Nov 19, 2025 (`https://aws.amazon.com/about-aws/whats-new/2025/11/aws-data-exports-focus-1-2-available`) · FOCUS 1.2 with AWS columns conformance gaps (`https://docs.aws.amazon.com/cur/latest/userguide/table-dictionary-focus-1-2-aws-conformance.html`) · Cost Management exports tutorial, updated Sep 26, 2025 (`https://learn.microsoft.com/en-us/azure/cost-management-billing/costs/tutorial-improved-exports`) · FinOps hubs overview, updated May 18, 2026 (`https://learn.microsoft.com/en-us/cloud-computing/finops/toolkit/hubs/finops-hubs-overview`) · OpenCost, CNCF (`https://www.cncf.io/projects/opencost/`) · FinOps Framework 2026 (`https://www.finops.org/framework/`). **Read Sep 27, 2026:** FOCUS Validator, versions offered 1.2 and 1.3 (`https://focus.finops.org/focus-validator/`) · FOCUS provider list, AWS, Microsoft and Google Cloud at 1.2, Snowflake at 1.3 (`https://`

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focus.finops.org/) · FOCUS cost and usage details file schema, Microsoft Learn, updated Oct 9, 2025, newest version listed 1.2-preview (https://learn.microsoft.com/en-us/azure/cost-management-billing/dataset-schema/cost-usage-details-focus).

1c · Public implementations this design follows

Table 2. Public implementations this design follows

Implementation	Who published it · date	What it settles for this design	URL
An Italian energy group's multi-cloud FinOps platform on the FOCUS data model	AWS Cloud Financial Management blog · Jul 24, 2026 · public deployment	The same pattern run by a real company: an Italian energy and utilities group with about 15,000 employees on AWS, Azure and Google Cloud, normalizes 100 % of its multi-cloud cost and usage data to FOCUS in one store (Amazon S3, AWS Glue, Amazon Athena), moved from showback to chargeback by business unit, and reports budget review effort cut by up to 40 %; the group's own figure, not a target here	https://aws.amazon.com/blogs/aws-cloud-financial-management/automating-multi-cloud-cost-management-at-scale-a2as-finops-platform-powered-by-aws/
AWS Data Exports for FOCUS 1.2, with its conformance-gap table	AWS · export GA Nov 19, 2025 · vendor documentation, used to build our own design	R1 and R4 as published: export named "FOCUS 1.2 with AWS columns", delivered to Amazon S3, all Regions of the standard AWS commercial partition; eleven published gaps, eight of missing data (among them InvoiceIssuerName and SkuPriceId may be null) and three of incorrect data (ConsumedQuantity includes minimum charged quantities); gap table read Sep 27, 2026	https://docs.aws.amazon.com/cur/latest/userguide/table-dictionary-focus-1-2-aws-conformance.html
FinOps hubs, Microsoft FinOps toolkit	Microsoft Learn · updated May 18, 2026 · vendor documentation, used to build our own design	A published reference build of the same pattern on Azure: Cost Management FOCUS exports into Data Lake storage, Data Factory ingestion, Azure Data Explorer or Fabric Real-Time Intelligence; estimated from USD 120 a month plus USD 10 per USD 1 million monitored; other providers' data is added through Data Factory rather than natively	https://learn.microsoft.com/en-us/cloud-computing/finops/toolkit/hubs/finops-hubs-overview
FOCUS 1.4 release	FinOps Foundation · ratified Jun 4, 2026, announced Jun 10, 2026 · published standard, used to build our own design	§4.3 and §6: 1.4 adds Invoice Detail, Billing Period and a 30-column Contract Commitment dataset; the release note announced 1.4 validation for later in Q3 2026, and the hosted FOCUS Validator still offered only 1.2 and 1.3 when read on Sep 27, 2026; 1.5 plans native AI support with model identity and token consumption	https://www.finops.org/insights/introducing-focus-1-4/

Figures in §2 and §4 are from these pages, read Sep 24, 2026; the provider versions were read on Sep 27, 2026 (AWS 1.2; Microsoft 1.2, labeled 1.2-preview on its schema page; Snowflake 1.3; no provider on 1.4). The store's schema is held at the newest version a provider exports and the hosted validator checks (1.3), not the newest ratified (1.4), because of the fourth row. The energy group row is the only public deployment found; it is on three clouds rather than two and names no game studio.

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2 · Requirements register

Table 3. Requirements register

#	Requirement	Value	Source
R1	AWS feed	FOCUS 1.2 via AWS Data Exports, "FOCUS 1.2 with AWS columns", to Amazon S3	[S] AWS
R2	Azure feed	Cost Management export "Cost and usage details (FOCUS)", Parquet with Snappy, daily month-to-date; Microsoft listed at FOCUS 1.2, labeled 1.2-preview on Microsoft's schema page	[S] Microsoft; focus.finops.org
R3	Data-platform feed	Snowflake listed at FOCUS 1.3	[S] focus.finops.org
R4	Conformance gaps	each provider's published gaps recorded per column; AWS publishes eleven	[S] AWS gaps page
R5	Export landing to queryable	≤ 24 h	[T]
R6	Billed cost per billing period and invoice issuer against the invoice	± 0.5 %	[T]
R7	Monthly spend allocated to a named team or the platform owner	≥ 95 %	[T]
R8	Shared-cluster split rule	by requested CPU and memory per namespace	[A]
R9	Mandatory tags at provisioning	cost-center, product, environment, owner	[A]
R10	Daily anomaly notified to its owner	≤ 24 h after the data lands	[T]
R11	Commitment utilization per provider	monthly; alarm below 95 %	[T]
R12	AI model and inference charges	own category with an owner, 100 % of identifiable	[T]
R13	Month-end forecast error	≤ ± 10 %	[T]
R14	Unit cost	cloud cost per 1,000 player-hours, weekly, per team	[T]
R15	Cost history held outside the studio's accounts	none	[T]

Fifteen rows; four carry a provider's or standard's figure, two are design assumptions, nine are design targets.

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3 · Architecture overview

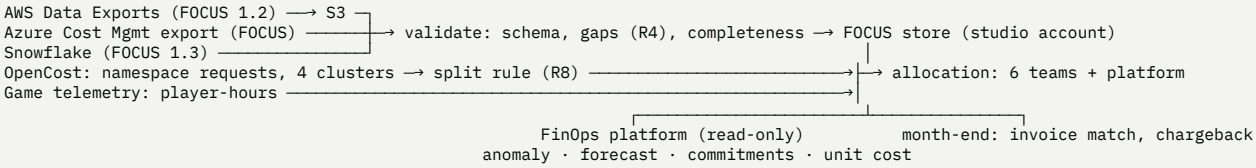


Figure 1. Multi-cloud FOCUS cost model

Three providers' FOCUS exports normalized once, split once, read by every view. The parts table lists feeds, schema versions and tools, not infrastructure.

Table 4. Architecture overview

Role	Component (exact name)	Qty	Capacity used	Why this unit
AWS feed	AWS Data Exports, "FOCUS 1.2 with AWS columns"	1 per payer account	daily	the provider's own FOCUS export; S3 destination [S]
Azure feed	Cost Management export, "Cost and usage details (FOCUS)", Parquet, Snappy	1 per billing profile	daily month-to-date	combines actual and amortized cost in one dataset [S]
Data-platform feed	Snowflake FOCUS data	1	daily	listed at FOCUS 1.3 [S]
Validator	FOCUS Validator	1	1.2 and 1.3 datasets	covers all three feeds' versions; the hosted validator offers 1.2 and 1.3, the open-source package adds 1.4 from release 2.2.1 (Aug 5, 2026), read Sep 27, 2026 [S]
Cluster split	OpenCost, CNCF incubating since Oct 25, 2024	4 clusters	namespace-level requests	Kubernetes cost and allocation visibility [S]
Store	FOCUS store in the studio's AWS account	1	about 20 months of history [A]	client-owned system of record (SRA-SPD-001 §5 D2) [A]
FinOps platform	selected in the comparison	1	read-only on the store	SRA-SPD-001 §5 D3 [A]

4 · Design by subsystem

4.1 Ingestion.

One export per provider lands in the studio's storage; the AWS export in S3 directly, the Azure export copied from its storage container, the Snowflake data read on a schedule [S]; [A]. A day is queryable within 24 hours of landing (R5) [T]; a missing or partial day is flagged incomplete in every view, using FOCUS 1.3's completeness flag where the provider emits it [S].

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4.2 Validation.

Each load is checked against its FOCUS version with the FOCUS Validator where it covers that version [S]. A failure that matches the provider's published gap is recorded, not patched; one that does not holds the load (R4). The AWS gaps are carried as known nulls, including InvoiceIssuerName, which the reconciliation in §4.6 therefore falls back to billing account for [S]; [A].

4.3 Mapping.

One mapping per provider per FOCUS version, versioned in the studio's repository. The store holds the union of 1.2 and 1.3 columns; FOCUS 1.4 columns (Invoice Detail, Billing Period, the 30-column Contract Commitment dataset) are added when a provider exports them and the validator checks them [S]. Rejected: rewriting provider data to the newest version in the pipeline — it hides which provider actually supplied a column.

4.4 Allocation.

Tags enforced at provisioning, four mandatory keys (R9) [A]; untagged spend lands in an unallocated bucket owned by finance. Target 95 % allocated (R7) [T].

4.5 Shared clusters.

OpenCost reports requested CPU and memory per namespace [S]; each cluster's billed cost is split to namespaces in proportion, and namespaces map to teams (R8) [A]. The split must sum to the cluster's billed cost to the cent [T]. Rejected: splitting by actual usage — a team that reserves capacity and leaves it idle would pay nothing for it.

4.6 Month-end.

Billed cost per invoice issuer summed and matched to each invoice; a difference above ± 0.5 % holds the period open and raises a provider query (R6) [T]. Chargeback file to the ERP on working day 3 [A].

4.7 Commitments and anomaly.

Commitment utilization per provider monthly, alarmed below 95 % (R11) [T]; a day's cost per team above its rolling band notified to the owner within 24 hours (R10) [T]. No commitment is bought on data flagged incomplete (SRA-SPD-001 §5 D8).

4.8 AI and unit cost.

Azure AI model and inference charges tagged `ai-workload` and reported as their own category (R12) [T]; token-level columns adopted when FOCUS 1.5 is published and exported [S]. Weekly unit cost per 1,000 player-hours per team, from the allocation and the game's telemetry (R14) [T], the FinOps Framework's Unit Economics capability [S].

5 · Failure behavior

Table 5. Failure behavior

Failure	Behavior	Source
An export is late or partial	day flagged incomplete; re-pulled; anomaly and forecast skip the day	[A]
A provider moves to a new FOCUS version	load held; last good data served; mapping updated and re-validated	[A]
A validator failure not in the provider's gap list	load held; provider support case opened	[A]

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Failure	Behavior	Source
Invoice mismatch above ± 0.5 %	period stays open; provider query raised	[T]
OpenCost unavailable for a cluster	that cluster's cost stays in the platform owner's bucket until requests are read again	[A]
FinOps platform unavailable	views down; store intact; platform backfills from the store	[A]

6 · Limits

- FOCUS 1.2 does not carry the 1.4 Invoice Detail or expanded Contract Commitment datasets; until the providers export them, invoice and commitment data comes partly from each provider's own files.
- The AWS gaps mean some list and contracted unit prices can be null; savings against list cannot be computed for those rows.
- Splitting by requests assumes requests are set; a namespace without them is split by usage and flagged.
- The design allocates and reports; it does not rightsize, buy commitments or promise any saving.
- No figure here has been measured.

7 · Lessons learned

None yet — this is a design study; populated after the first build against it.

8 · The author

WRITTEN BY

Avinash Dhinakaran

Principal Integration Architect

iSAQB Certified Professional for Software Architecture – Advanced Level (CPSA-A), Oracle Certified Consultant – Value Chain Planning, Master Data Management, SCM Cloud

Signed off by Edwin Ozer, Founder.

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SYMBEEO

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