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From Cost Center to Data Plane

Big League Observability Plus Benefits on Open Source



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BUSINESS CONTEXT

Proscia and Concentriq®

We digitize pathology — turning the world's glass slides into data

CONCENTRIQ®

Our pathology AI platform. Customers use it to manage, view, share and analyze gigapixel whole-slide images across drug discovery, development and diagnosis.

16 of 20
top pharma on Concentriq

12M
patient cases managed a year

WHY DIGITIZE PATHOLOGY

Faster, better diagnostics
Pathologists review and sign out cases on screen, not under a microscope

Collaboration without shipping glass
Experts consult on the same slide from anywhere

AI at scale
Digital images make AI-assisted analysis possible on every case

Therapies to market sooner
Pharma accelerates research, trials and companion diagnostics

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BUSINESS CONTEXT

Observability spend at scale

36% of enterprises spend more than $1M a year on observability (Futurum)

15%+ of IT budget for a third of enterprises by 2027, up from 3–7% today (Cribl)

50% of GenAI deployments will need LLM observability by 2028, up from 15% (Gartner)

OUR SAAS EXPERIENCE

3–5x bill spikes from a single service stuck in a loop emitting logs — an expensive mistake.

To save money, we rotated telemetry across customers — switching off healthy ones to spotlight those with problems.

COMPLIANCE AND RETENTION

Healthcare telemetry in the EU and US must stay in-region, under tight access control, and be retained long enough for audit.

HIPAA · US | GDPR · EU | PHI handling | Data residency | Audit retention

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BUSINESS CONTEXT

Why now: what has changed



COLLECTION

OpenTelemetry

Agents and collectors are now far easier to deploy and manage across a fleet.



STORAGE + QUERY

ClickHouse

Simpler to deploy and run, with housekeeping like automatic compaction built in.



OPERATIONS

Altinity operator

Provisioning, scaling, upgrades and restores become declarative config on Kubernetes.



ACCESS

Grafana + Claude

Connected to ClickHouse, dashboards and AI turn raw telemetry into answers.

Running observability in-house is now realistic for a lean platform team.

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BUSINESS CONTEXT

Outcomes

6–8x

cheaper total spend than today's telemetry at our former SaaS vendor's rates

~14x

more data in one year: ~2.4B → ~33B records a month

~100x

cheaper to keep data: ~$5 vs ~$790 per TB-month, retention only

~10 min

median time to root cause per AI-assisted investigation (26 queries)

Fully customizable

Built around our pipelines, not a vendor roadmap

Integrates with anything

We can write any integration we want

Total retention control

We decide what to keep, and for how long

No new sub-processor

Telemetry stays in our own AWS accounts

Beyond APM

Business metrics ship through the same pipeline

Figures as of August 2026

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TECHNICAL DEEP DIVE

The stack

COLLECT

OpenTelemetry

Logs, metrics and traces

STORE AND QUERY

ClickHouse

Hot on EBS, cold on S3

SEE AND ALERT

Grafana

Dashboards, Alerting, MCP

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TECHNICAL DEEP DIVE

Architecture overview

WORKLOAD ACCOUNTS

US Workloads + OTel collectors

EU Workloads + OTel collectors

OTLP/gRPC →

OTLP/gRPC →

OBSERVABILITY ACCOUNT

US

Gateway, ClickHouse, Grafana, o11y MCP

Grafana alerting to Slack and email (SES)

ALSO WRITING TO CLICKHOUSE

YACE (CloudWatch), httpcheck probes

EU

Gateway, ClickHouse, Grafana, o11y MCP

Grafana alerting to Slack and email (SES)

ALSO WRITING TO CLICKHOUSE

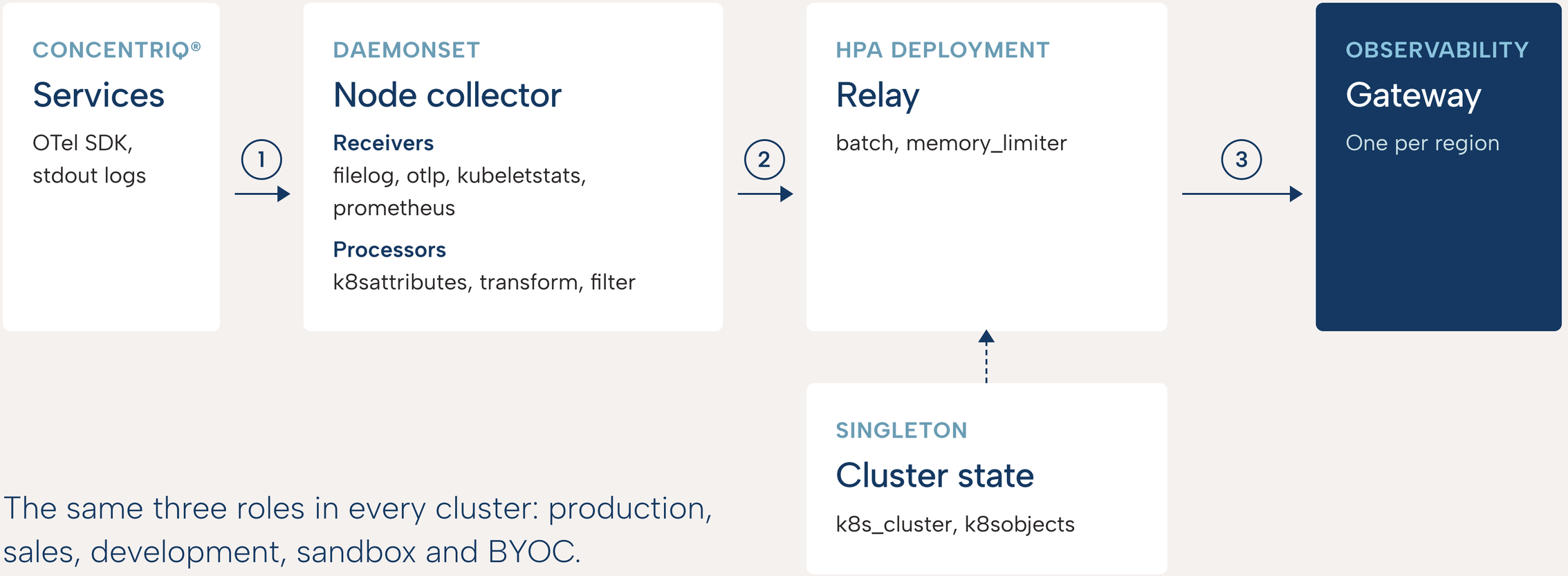
YACE (CloudWatch), httpcheck probes

Telemetry stays in its geography. One interface between accounts.

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TECHNICAL DEEP DIVE

Collection in every workload cluster

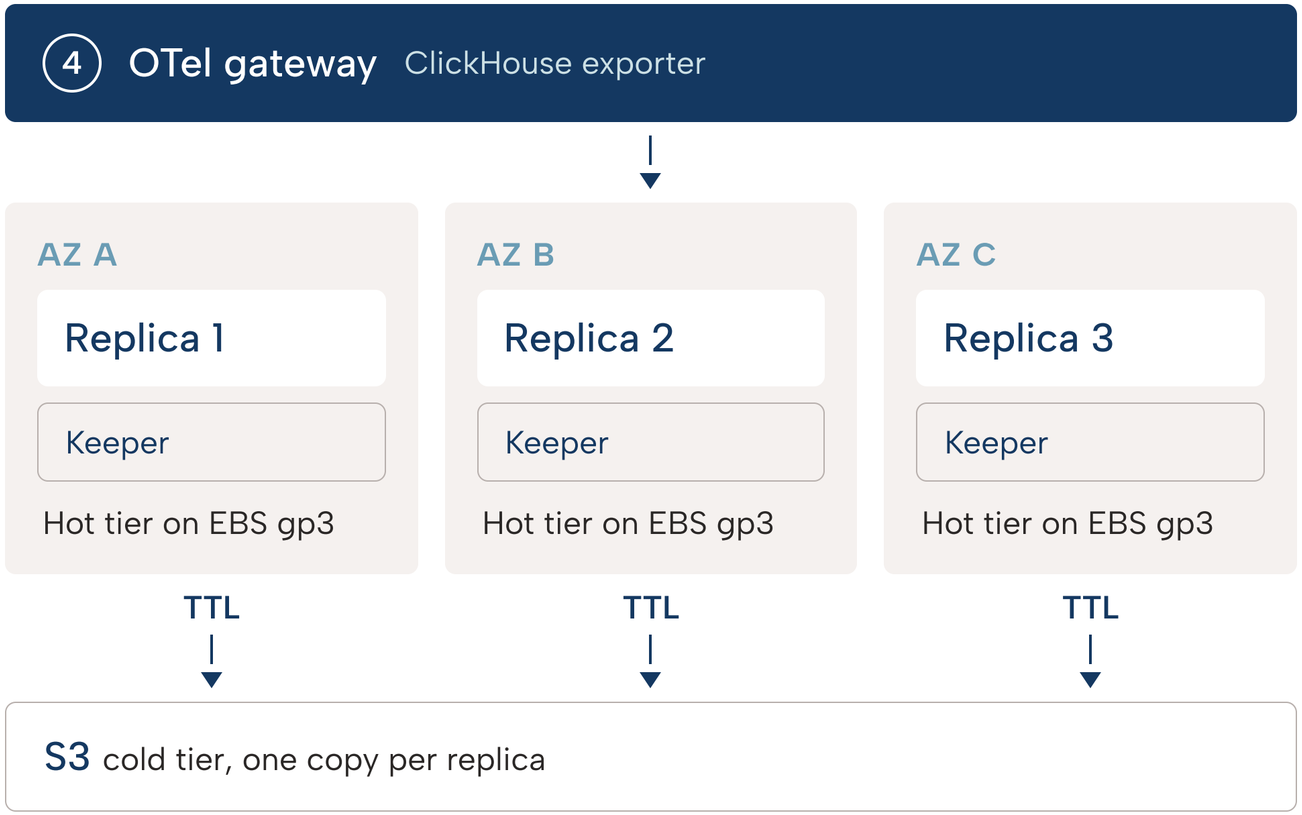


The same three roles in every cluster: production, sales, development, sandbox and BYOC.

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TECHNICAL DEEP DIVE

ClickHouse and storage, per region



Any AZ can fail

One shard, three replicas; Keeper quorum holds with two nodes

~40:1

compression on raw column data

Metrics 95:1, traces 43:1, logs 25:1

Figures as of August 2026
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TECHNICAL DEEP DIVE

Scale

~1B

records ingested per day

US ~776M, EU ~312M

~28 TB

uncompressed ingest per month

~33B records per month

~250B

records retained

~220 TB uncompressed, nothing expires

13

Kubernetes clusters

~125 namespaces

~190

deployments

~30 services

~275

AWS resources monitored

224 RDS, 40 OpenSearch, 11 EKS

Figures as of August 2026

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TECHNICAL DEEP DIVE

Plain-language queries through our o11y MCP

ENGINEER

"Which RabbitMQ queues are backing up right now, and on which customer?"

VP CUSTOMER SUCCESS

"Which customers saw elevated error rates in the last 24 hours?"

~540k

queries per week, US

20 / 260 ms

p50 / p95, US, served from S3

~10 min

median time to root cause

support investigations, June–Aug 2026

Figures as of August 2026

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BEYOND ENGINEERING

From cost center to data plane

ClickHouse telemetry store

DATALAKE

dbt models on Athena

Daily business tables for Concentriq® AP / AP-Dx and Concentriq® LS.

IN-PRODUCT ANALYTICS alpha

Concentriq® AP / AP-Dx

AWS Quick dashboards on the datalake, embedded inside the admin area.

CUSTOMER MONITORING

Their own backend

Customers get Concentriq® telemetry in any backend with an exporter.

We used to switch customers' telemetry off to save money. Now we ship it to them.

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PLANNED

Next: Altinity Project Antalya

COPIES OF THE SAME DATA ON S3

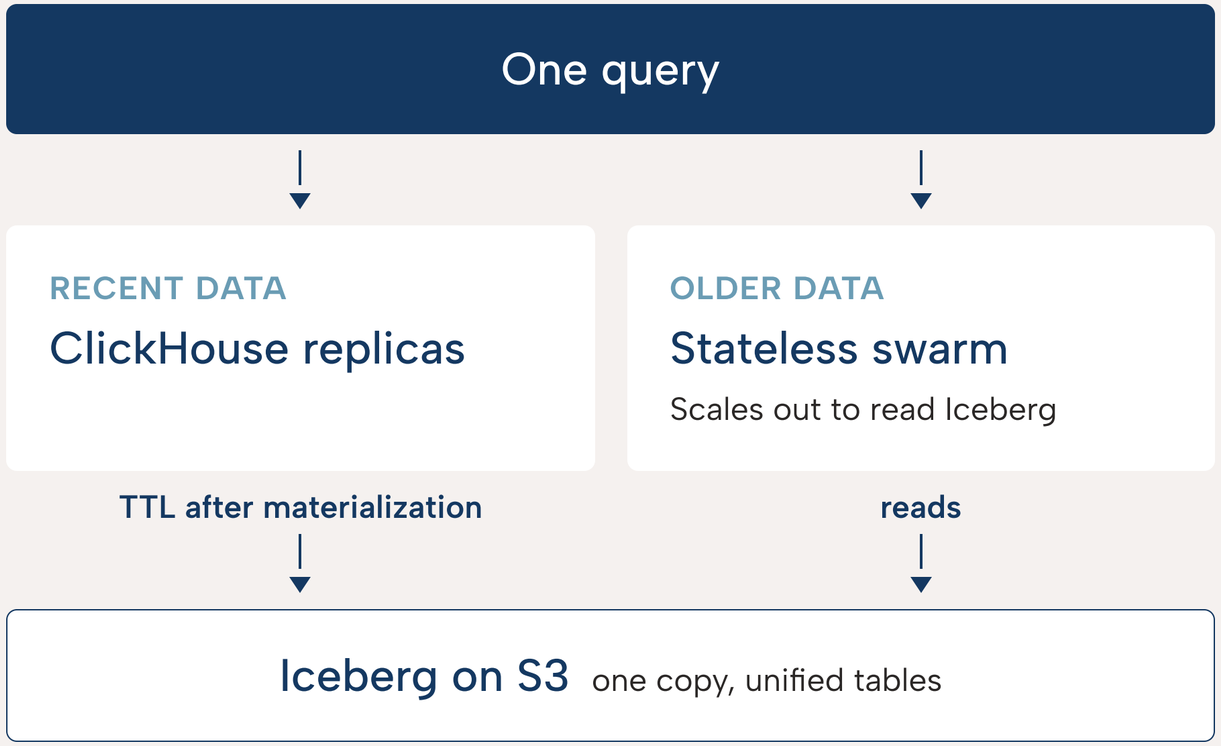
3 copies

Today: every ClickHouse replica keeps its own copy on S3.

58.8 TB = 3 × 19.6 TB, US + EU

1 copy

Planned: data is stored once, in Iceberg.



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TAKEAWAYS

Four things to steal

1. Store telemetry on object storage you own, and retention stops being a budget decision.
2. Put an MCP in front of it, so anyone can ask questions in plain language.
3. Treat telemetry as product data. Feed it to your datalake, your product and your customers.
4. You don't have to build all of it. Buy the parts you don't want to run, and keep OpenTelemetry as the interface.

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Thank you
Questions?
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