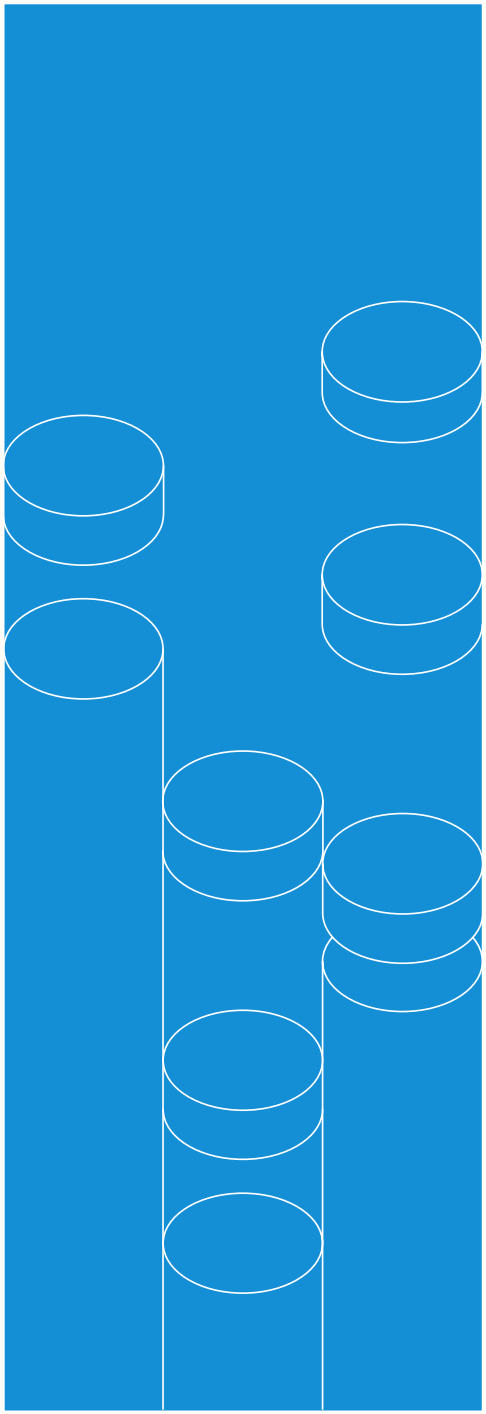

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THE RISE OF TELEMETRY PIPELINES:

Unlocking the Full Value of Your Observability Data

Introduction: The Telemetry Data Explosion

Organizations generate massive volumes of telemetry data daily—logs, metrics, traces, and events from modern distributed systems. But raw data alone doesn't drive value—timely, actionable insights do.

The Core Challenge

Efficiently collecting, processing, and analyzing telemetry while managing cost and complexity is a real issue. This requires balancing high-throughput data flows with real-time analysis, without overwhelming storage or observability tools.
As environments scale, so do the challenges—demanding smarter, more adaptable solutions.

Key Pressure Points

+ Volume: Billions of signals across microservices and platforms
+ Velocity: Millisecond-level streaming data
+ Variety: Logs, metrics, traces, and events in diverse formats
+ Costs: Skyrocketing tooling and storage expenses

> **You don't need all the data, you need the right data.**
> *- Mezmo Webinar, Cut Costs, Not Insights*

What Is a Telemetry Pipeline?

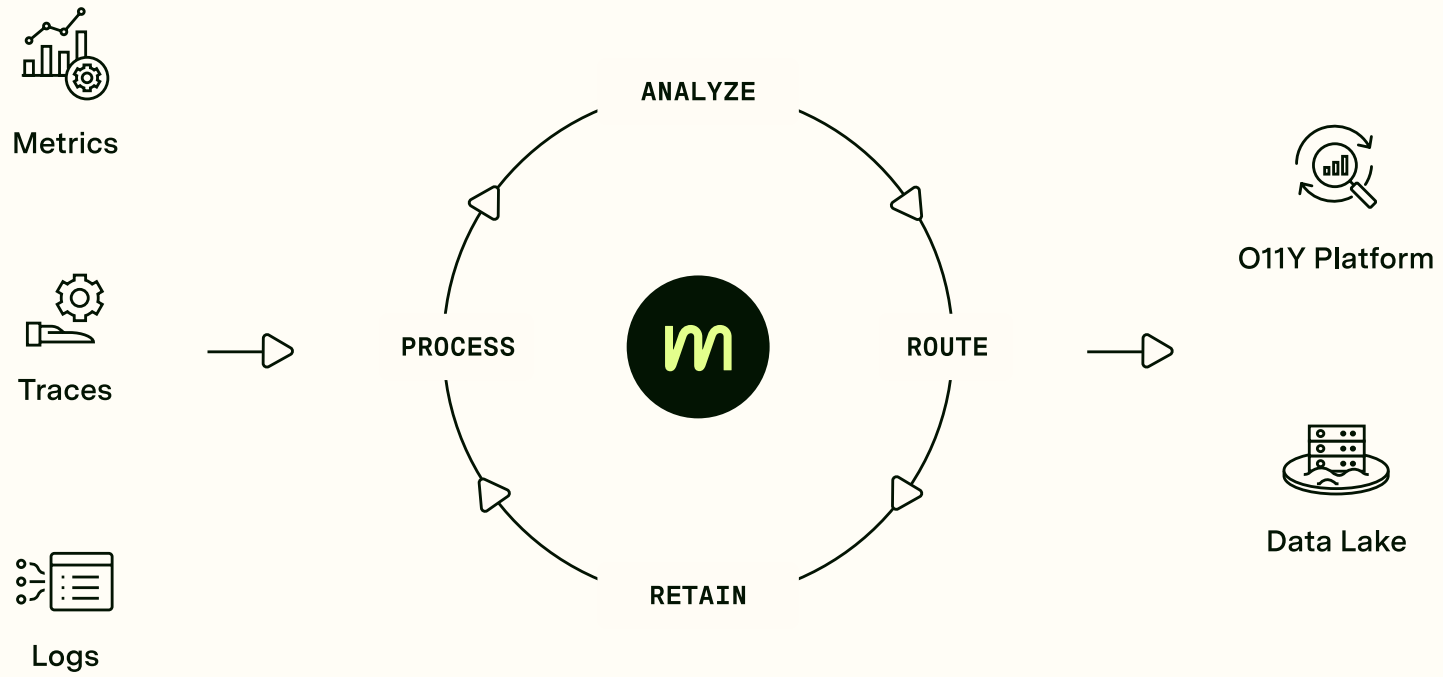
Telemetry = the raw signals (logs, metrics, traces);
Observability = the practice of interpreting these signals;
Telemetry Pipelines = the infrastructure that makes this efficient.

A telemetry pipeline is an intelligent system that manages the full lifecycle of telemetry data—from collection to transformation, enrichment, and routing to observability, analytics, or security tools. Acting as an intermediary between systems and tooling, it transforms raw operational data into actionable insights.

Core Functions

+ Collect from distributed sources (apps, infrastructure, cloud)
+ Filter irrelevant or redundant data
+ Enrich data with context (e.g., environment, location, severity)

TELEMETRY PIPELINE DIAGRAM



SOURCE	MEZMO PLATFORM	DESTINATION

Why Telemetry Pipelines Matter

Modern systems generate vast amounts of telemetry data, but traditional observability strategies can't scale efficiently to manage it all. Telemetry pipelines bridge this gap. By intelligently handling the flow and fidelity of telemetry signals, these pipelines unlock faster troubleshooting, better decision-making, and significant cost savings. They transform observability from a reactive process to a proactive strategy. Traditional approaches like centralized logging or APM alone can't keep up with the scale and complexity of today's environments.

Benefits

+ Reduce storage and tooling costs by up to 60%
+ Improve incident response times with contextual data
+ Enable proactive insights via data correlation
+ Avoid vendor lock-in with flexible routing

> **Customers saw a 30–50% reduction in observability costs with telemetry pipelines.**
>
> *- Mezmo Webinar, Cut Costs, Not Insights*

Telemetry Pipelines vs. Observability Pipelines

As observability needs evolve, so do the systems that support them. While “telemetry pipeline” and “observability pipeline” are sometimes used interchangeably, they are different. Telemetry pipelines are a more comprehensive evolution, capable of handling broader data types, performing advanced processing, and supporting tool-agnostic architectures. In contrast, observability pipelines are typically focused on routing observability signals and are often tied to specific tools.

The table below highlights how Telemetry and Observability Pipelines differ in key features and functionality.

FEATURE/FUNCTION	TELEMETRY PIPELINE	OBSERVABILITY PIPELINE
Scope	Full telemetry (logs, metrics, traces)	Primarily observability-focused
Data Handling	Filtering, enrichment, transformation	Basic routing
Tool Independence	Routes to any destination	Often vendor-specific
Optimization Capabilities	Advanced cost control, custom rules	Basic, or tied to a tool
Flexibility	Open standard-compatible	Less flexible, integrated with vendor tools
Business Focus	Efficiency, cost savings, and insight depth	Monitoring and alerting

Business Value: Real-World Outcomes & ROI

Telemetry pipelines are more than just a technical upgrade—they deliver tangible, measurable improvements that impact the entire business, from engineering operations to security and strategic decision-making.

At the core of this impact are four key use cases that map directly to business priorities: **operational excellence**, **cost optimization**, **security and compliance**, and **business intelligence**. Whether it's accelerating issue resolution, cutting observability costs, strengthening your security posture, or uncovering insights that guide smarter decisions, telemetry pipelines unlock real value across teams and functions.

> **"The ability in Mezmo to identify trends of specific log streams or searches is amazing. Being able to step back and look at the frequency of issues or do higher-level analysis is such an important factor when you're trying to debug or architect your systems. Mezmo's telemetry pipeline has given us so much more visibility and insight into our data - it's really helped us make more intelligent decisions to improve the experience for our customers."**
>
> *- Director of Infrastructure Engineering, Revenue Intelligence Company*

OPERATIONAL EXCELLENCE

Telemetry pipelines drastically improve operational performance by accelerating incident detection and resolution. By filtering noise and enriching signals with contextual metadata, teams can:

- **Reduce Mean Time to Detect (MTTD) by up to 70%** — Faster detection means problems are identified before they escalate.
- **Achieve up to 60% faster Mean Time to Resolution (MTTR)** — Rich, contextual data enables quicker root cause analysis and fixes.
- **Enable proactive issue detection through advanced anomaly detection** and correlation, reducing the likelihood of user impact.

COST OPTIMIZATION

One of the most immediate benefits is significant cost reduction, especially in cloud and observability spend:

- **Reduce storage costs by 40–60%** by filtering out low-value or redundant telemetry before it reaches expensive storage systems.
- **Lower licensing fees** by minimizing the volume of data ingested into paid observability tools like Splunk or Datadog.
- **Optimize cloud infrastructure spend** by using telemetry insights to right-size resources and reduce over-provisioning.

> **After implementing a telemetry pipeline, one enterprise reduced their Splunk licensing fees by 46% in just three months, freeing up budget for innovation.**
>
> *- Mezmo Webinar, Cut Costs, Not Insights*

SECURITY AND COMPLIANCE

Telemetry pipelines enhance your security posture by enabling better data quality and faster threat detection:

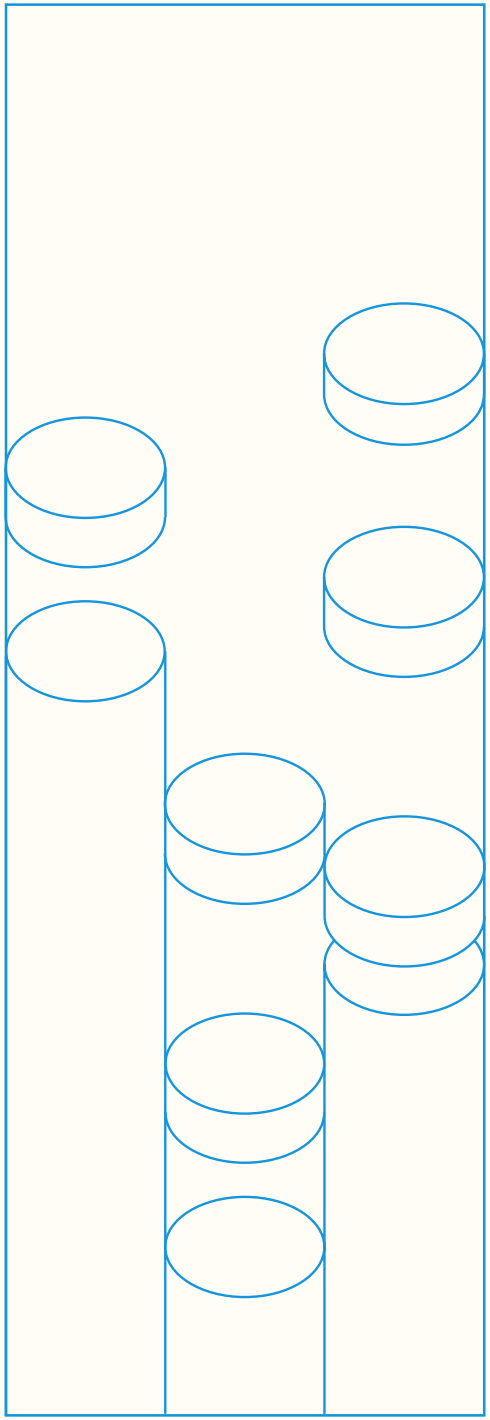
- **Improve threat detection** through correlation across logs, metrics, and traces — spotting suspicious activity that siloed tools might miss.
- **Accelerate incident response** by delivering enriched, contextual data to security teams in real-time.
- **Support compliance and governance** by enabling fine-grained data routing and retention policies, ensuring sensitive data is protected and audit-ready.

> **The enriched context from our telemetry pipeline cut security incident response times by nearly 50%, helping us meet compliance deadlines with confidence.**
>
> *- Security Lead, FinTech Company*

BUSINESS INTELLIGENCE

Beyond IT, telemetry pipelines connect technical data to business outcomes, empowering better decisions:

- **Tie technical signals to business KPIs** such as revenue impact, customer satisfaction, or operational efficiency.
- **Enable data-driven decision making** by making telemetry insights accessible and actionable for product, marketing, and executive teams.
- **Discover hidden optimization opportunities** by surfacing patterns that reveal inefficiencies or new avenues for growth.



Final Thoughts

Telemetry pipelines are the evolution of observability infrastructure. They reduce costs, increase data intelligence, and improve system health and reliability.

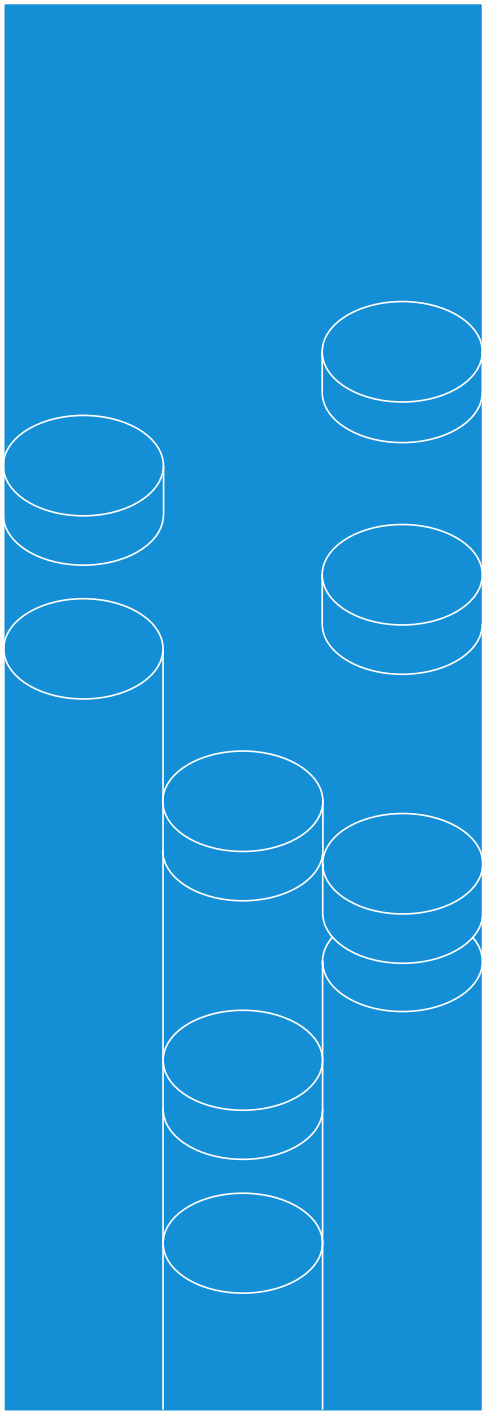
By centralizing and optimizing how telemetry is processed and delivered, they enable engineering and operations teams to gain more insights while spending less.

Experience Mezmo with a free trial. Build an intelligent telemetry pipeline in just a few clicks using out-of-the-box processors, automated data transformation, and intuitive search. Deploy without friction and start reducing log volumes, storage costs, and tool overload—while increasing data value.

> **Observability without telemetry intelligence is just noise.**
>
> - *Bill Balnave, Vice President of Technical Services Mezmo*

About Mezmo

Mezmo is the leader in intelligent telemetry orchestration, empowering platform teams and developers to control, understand, and act on their telemetry data in real-time, reducing costs, accelerating troubleshooting, and enabling innovation at scale. The AI-powered solution combines continuous profiling, intuitive live stream search, responsive, dynamic routing, and stateful in-stream aggregation to deliver enhanced visibility, compliance, and cost optimization. The company has been recognized as one of the fastest-growing companies in the U.S by Inc. 5000 and Deloitte Fast 500.



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