

SECTOR ANALYSIS • TELECOMMUNICATIONS & MEDIA

Statutory Uptime, Unrecoverable Moments

For a carrier, 911 availability is not an SLA — it is a statute with an FCC filing attached. For a broadcaster, the kick-off happens once. Both end at the same place: you have seconds, not minutes.

THALAMUS ADVISORY • ENTERPRISE RESILIENCE PRACTICE

01 — THE SIGNAL

Two sectors, one clock

Telecommunications and media are usually discussed together because the companies have merged, not because the businesses resemble each other. Operationally they are near-opposites — and they arrive at the same reliability requirement from different directions.

Combined US revenue runs to roughly \$1.1 trillion. Telecom carries statutory obligations: 911 availability is law, and the FCC requires outage reporting. Media carries the opposite profile — no statute, but a live event has a fixed, publicly-known moment where failure is maximally visible and completely unrecoverable.

02 — THE MECHANISM

Cloud-native networks and unrepeatable peaks

Telecom's current structural change is the 5G core moving to cloud-native network functions. Components that were appliances with decades of operational convention are becoming containers, and the practice around them is still forming. The instrumentation that worked for an appliance does not describe a pod, and the teams who understand the network and the teams who understand Kubernetes are frequently different people.

Media's pattern is concentration. A live sports event generates demand in minutes against an audience that will narrate the failure publicly in real time. There is no retry, no buffering that hides the fault, and no second chance — the architecture that serves on-demand content beautifully has

its cushion removed entirely.

On-demand streaming hides faults behind retry and buffering. Live removes the cushion, which is why the same architecture behaves so differently on the one night it matters.

Live news is harder still: unlike sport, the peak arrives unscheduled, so nothing can be pre-staged for a known moment.

03 – THE COST

Where it actually lands

SURFACE

HOW IT PRESENTS

Regulatory reporting	FCC outage reporting obligations with fixed timelines; public-safety availability is a statutory duty, not a commercial target.
Live-event failure	Maximally visible, completely unrecoverable, and narrated publicly while it happens.
Truck rolls	A provisioning fault becomes an expensive physical visit — one of the few places an incident converts directly into field labour cost.
Shared infrastructure	Public-safety and consumer services on common infrastructure, where a consumer-scale average can mask a public-safety degradation.
Merged estates	Post-merger media groups run overlapping systems with no single observability convention, and the seam is where correlation fails.

04 – THE AI STAKES

Infrastructure as a target, content as a vector

Telecom is critical national infrastructure and is targeted accordingly. What has changed is the economics of patience: the reconnaissance and lateral movement that used to require skilled operator time is now substantially automated, which favours long, quiet campaigns against exactly the kind of large, distributed estate a carrier runs.

For media, the AI pressure is different and mostly about volume — personalisation and recommendation models in the delivery path, automated content pipelines, and an ad-insertion layer with real-time decisioning. Each is a dependency with variable latency sitting between the viewer and the stream.

Both share the same detection problem. When the response window is the event itself, an investigation that takes twenty minutes has not helped.

05 — THE REMEDY

Seconds, and per-class objectives

- **Sub-minute SLO evaluation.** When the window is the event, the evaluation cycle has to be shorter than the event.
- **Separate objectives per service class.** Public-safety, consumer mobile, fixed-wireless broadband and live streaming should each hold their own SLO and error budget. A shared average is how a statutory obligation gets masked by consumer scale.
- **Instrument cloud-native network functions to the same standard as IT.** OTLP brings CNFs into one observability estate rather than maintaining a parallel telecom-specific stack and a translation layer between them.
- **Pre-stage for known events.** Derive configuration from the traffic you expect, not from the traffic you normally see — the retail lesson applies exactly.
- **Correlate before paging.** During a live event, an alert storm is indistinguishable from a total failure to the people trying to respond.

06 — IN PRACTICE

Hosted, or customized for your estate

Hosted on Thalamus AI Cloud

Suits streaming platforms, digital channels, advertising technology and customer-care estates — the systems with commercial rather than statutory obligations. Managed instances provision per region with dedicated tenancy, which matters for media groups where content partners impose their own data-handling terms.

Customized for your enterprise

Network estates are self-hosted. For carriers the platform runs inside your own boundary with no egress, which is generally a precondition for anything touching the core or public-safety services. Customization here usually means: per-service-class tenancy so public-safety obligations are measured separately from consumer averages; SLO templates for cloud-native network functions

expressed in network terms rather than microservice ones; event-weighted error budgets for live media so the kick-off carries more weight than a Tuesday afternoon; and webhook delivery into your existing NOC tooling so correlated problems arrive where operators already are.

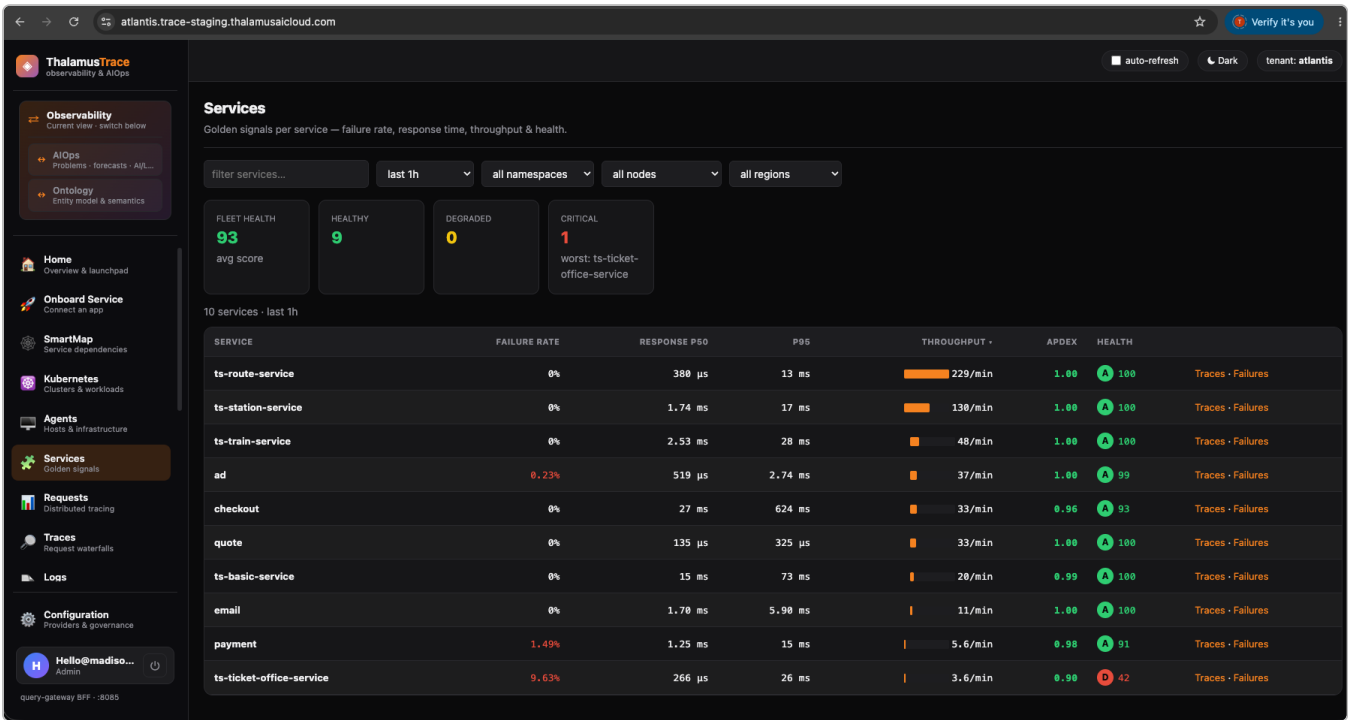


FIGURE 1 – THALAMUSTRACE · GOLDEN SIGNALS

Fleet health with per-service granularity. Failure rate, latency percentiles, throughput and Apdex per service, filterable by namespace, node and region. The pattern to notice is the outlier: one service at 9.63% failure and health grade D while the fleet averages 93. For a carrier that outlier might be the service class carrying a statutory obligation, and an estate-wide average would never show it.

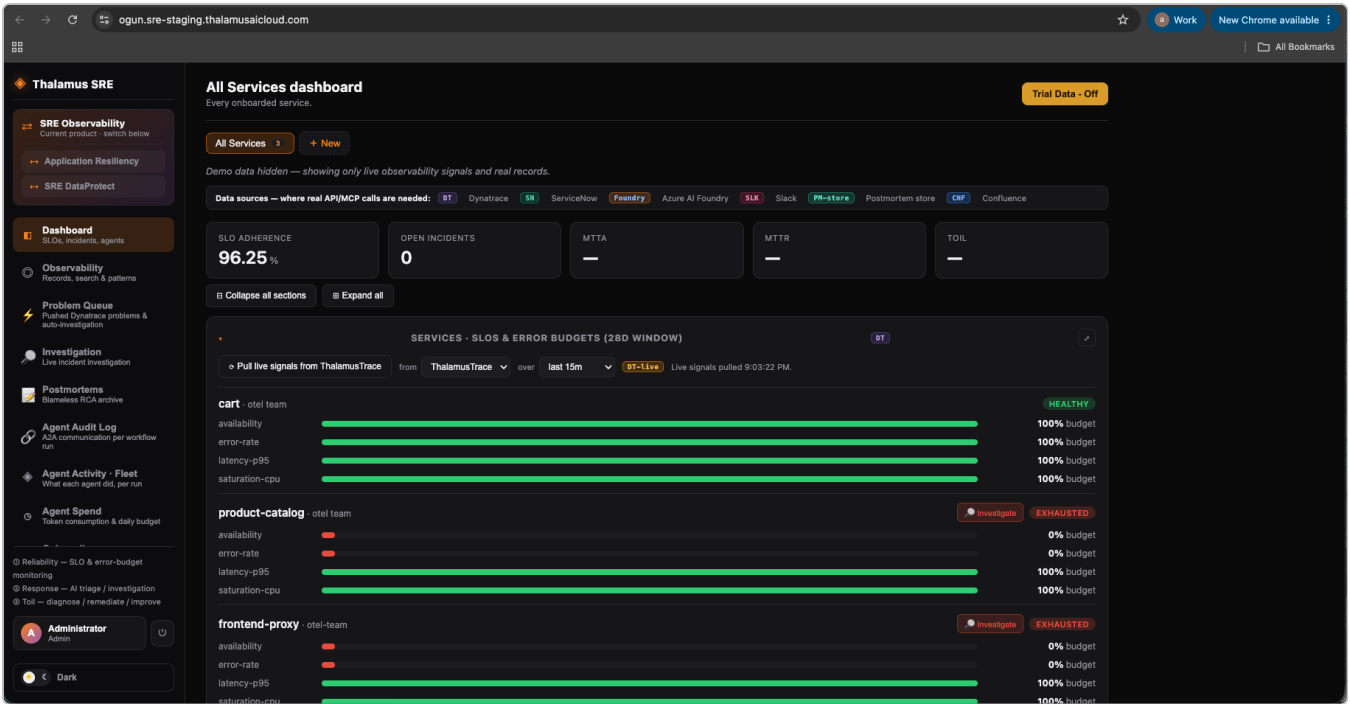


FIGURE 2 — THALAMUS SRE • SLO & ERROR BUDGETS

Separate budgets, separately tracked. Each service carries availability, error-rate, latency and saturation objectives with independent remaining budget over a 28-day window. This is the mechanism that lets public-safety, consumer and broadband service classes hold genuinely different obligations — rather than one shared number in which the most important one is the least visible.

07 — GETTING THERE

How Thalamus Advisory helps

ENGAGEMENT

WHAT IT PRODUCES

Service-Class SLO Design
4 weeks

Objectives separated by obligation — statutory, contractual, commercial — so the measurement reflects the duty rather than the traffic mix.

CNF Observability
6–8 weeks

Cloud-native network functions instrumented to the same standard as the IT estate, with correlation spanning both.

Live Event Readiness
3–4 weeks per event

Traffic-derived configuration, correlation rehearsal and an escalation path sized to a response window measured in seconds.

Outage Reporting
Readiness
3 weeks

Timeline and evidence generation shaped to FCC reporting requirements, produced from the incident record rather than reconstructed afterwards.

THE COUNTER-ARGUMENT, MADE HONESTLY

Carriers run NOCs with decades of operational maturity and monitoring built specifically for network estates. A general-purpose observability platform does not replace that, and proposing otherwise misunderstands the domain.

The defensible position is the seam: cloud-native network functions and IT services now share fate, and almost nobody can correlate across that boundary today. That is a real gap with a real cost. The rest of your network monitoring should stay exactly where it is.



ONE NUMBER

Seconds. The response window for a live-event failure, against an industry-typical detection-to-diagnosis time measured in minutes.

No amount of post-event analysis recovers a kick-off. This is the clearest case in the series for evaluation cycles measured in seconds rather than polling intervals.

Where to start on Monday

Take your most recent live event or peak. Write down the time from **first degradation to first correct diagnosis**.

Compare it to the length of the event. If diagnosis consumed a meaningful fraction of the window, correlation and evaluation cadence are where your next investment belongs.

Enterprise resilience for the age of autonomous systems. We help organisations build operational practice that stays trustworthy when the systems making decisions are no longer entirely human.

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Every figure we print carries its assumptions. Where we model, we say so.

Written for engineering leaders. Forward it to one.