Applied Monitoring

Institutional AV Observability, Applied. A three-day, in-person, hands-on intensive from Hyperscale AV.

Overview

Monitoring AV systems is often fragmented across vendor-specific tools, partial visibility, and reactive workflows. Institutions increasingly expect reliable, measurable performance.

This intensive introduces the **AV Observability Framework**: a structured discipline for aligning monitoring with institutional governance. Participants define what healthy AV means within their environment and translate that into KPIs, health models, data pipelines, and sustainable architecture.

Throughout the course, **Omniglass** (a self-hosted, open-source AV monitoring platform) demonstrates how these principles translate into real systems. Graduates leave prepared to introduce structured, defensible observability in their organization, and continue the work through ongoing professional dialogue and shared reference resources.

Why You Should Attend

AV systems now carry more of an institution's daily work than ever, and the expectation that they simply work has risen with them. The discipline of monitoring them has not kept pace. Most teams watch their estate through a patchwork of vendor portals and still hear about failures from the people sitting in the room.

This course replaces that reactive posture with a structured, vendor-neutral practice. It is taught through a single case study and a four-layer framework, so what you learn transfers to whatever tools and hardware you already run, and holds its value as they change.

You leave with working artifacts, not just concepts: a health model, a data-point specification, and an observability blueprint for your own environment. The approach scales the same way your estate does, from a handful of rooms to several thousand.

Learning Objectives

- **Framework Alignment.** Explain the layers of the AV Observability Framework and how they align monitoring with institutional goals and risk posture.
- **Health Model Design.** Design a structured AV health model, including KPIs, triggers, metrics, and data pipelines that transform telemetry into actionable insight.

- **Activation Planning.** Develop an internal advocacy and phased activation plan to introduce structured observability within your environment.

Day-by-Day

Three days, twenty-two sections, one case study carried end to end.

DAY 1: INTENT AND MEASUREMENT

- **Introduction.** Meet Fred and set the tone for a practical, hands-on approach to AV monitoring. Class uses a case-study framework to apply each concept in real time, building a complete observability blueprint and working prototype by end of week.
- **Monitoring Fundamentals.** Monitoring means knowing system health at any point in time. Establishes core terms: telemetry, monitoring, observability, and operator. Covers why AV monitoring is harder than IT monitoring, from agentless constraints to lack of API standards to complex health models.
- **The AV Observability Framework.** Introduces the AV Observability Framework: the methodology applied through the case study to produce an observability blueprint. Four layers: Align (mission, goals), Measure (KPIs, health models, data points), Instrument (pipelines, acquisition, storage), Practice (actions, visualizations, iteration).
- **Project Highwind Case Study.** A fictional scenario: monitoring 1,000 new meeting rooms with two KPIs, uptime and utilization, all within three months. Participants extract requirements, define success criteria, and anchor subsequent work in the constraints.
- **Intent and Goals.** Translates institutional mission into SMART goals. Participants role-play requirement gathering with stakeholders, clarify scope and ownership, and name the non-negotiables. The Align layer in practice. Intent first, before any measurement.
- **KPIs and Targets.** Translates goals into measurable KPIs, with targets, owners, and the decision each KPI drives. Distinguishes KPIs from SLOs and SLAs, and names the audience for every measure. The foundation every measurement decision hangs from.
- **Health Models.** Defines what healthy and unhealthy mean through traffic-light severity states. Health models map failure modes and thresholds to system health and underpin uptime KPIs. Built from problem events triggered by underlying data conditions.
- **Data Fundamentals.** Surveys core data types: numbers, strings, booleans, objects, arrays, and binary. Establishes that data is monitoring's lifeblood and sets up how to specify, collect, and reason about it. The connective tissue between what we measure and how we'll capture it.

DAY 2: DATA COLLECTION

- **Data Points Specification.** Lists which data to collect by priority: KPI requirements first, then health model triggers, then operational inventory. Specifies name, unique key, type, units, source, frequency, and retention for each point. The bridge artifact that turns measurement intent into a collection plan.
- **Data Pipelines.** The end-to-end flow from source to sink: input, parse, filter, buffer, route, output. Most platforms hide this complexity, but AV environments demand hands-on pipeline work because vendor support is uneven. The day's center of gravity.
- **Polling and Queries.** Active collection over the network: ICMP reachability, raw TCP and UDP ports, and SNMP polling. Covers the core tooling and the agent, manager, MIB, and OID model. Foundational signal where vendor support allows it, though AV vendor support remains inconsistent.
- **APIs.** REST, RPC, and GraphQL patterns over HTTP and HTTPS. Standard methods (GET, POST, PUT, DELETE), request and response cycles, headers, and payloads. The most standardized mechanism for pulling data from modern AV devices.
- **Console and CLI.** Telnet, SSH, and raw TCP for devices without APIs. A bread-and-butter AV technique that trades security and stability for coverage. Scripted carefully, tested thoroughly, deployed narrowly.
- **AV Control.** The protocols AV gear speaks to be driven: polled and session-based control over serial, TCP, and proprietary transports. Reading telemetry from devices built to be controlled, not observed. The deepest part of the collection iceberg, where vendor cooperation runs out and craft takes over.
- **Scraping.** Creative data extraction from device web interfaces when APIs don't exist. Browser automation, page scraping, form submission. Only on devices you own, with permission, on corporate networks, and thoroughly tested.
- **Instrumentation Wrap-Up.** Steps back from the protocols to the pattern: what makes a device easy or painful to collect from, and what good looks like. The properties to demand from gear so the data comes to you instead of you fighting for it. Closes the collection layer and bridges into practice.

DAY 3: PRACTICE AND OPERATIONS

- **Health Model in Action.** Data is flowing. The health model is reacting. The utilization KPI just fired. Participants trace an alert from firing back to the underlying data condition, watch state transitions against real telemetry, and iterate on the failure modes they didn't anticipate on Day 1.
- **Visualization and Dashboards.** Raw data into actionable views tailored to audience: operations dashboards for real-time alerts, executive dashboards for SLA trends, technical dashboards for diagnostics. Hierarchy, color, white space, and alert fatigue are first-class design concerns.

- **Notifications and Actions.** Events trigger notifications (email, SMS, Slack) or automations (scripts, incident tickets, remediation). Maturity runs from basic alerts through enriched context to semi-automated remediation to self-healing systems. Design to prevent alarm fatigue from the start.
- **AI and Analytics.** Beyond thresholds: pattern detection, anomaly identification, predictive alerts, and correlation across heterogeneous signals. Where the telemetry pipeline feeds something smarter than a static comparison.
- **Iteration.** Closing the loop back to Align. Monitoring is never done: each pass through the framework surfaces what to measure next, what to instrument better, what intent has changed. Cadence, retrospectives, and treating observability as a living system rather than a one-time build.
- **Capstone.** The full framework walked end to end against Project Highwind, from intent through measurement, instrumentation, and practice. What we would specify differently knowing what we know now, the keys to making it stick, and where to take the work after the room empties.

Logistics

Format	Three-day, in-person, hands-on intensive
Dates	
Location	
Tuition	
Renewal units	24 AVIXA RUs (CTS, CTS-D, CTS-I)

Take control of your monitoring. To reserve seats or ask about a private cohort for your team, contact Hyperscale AV at **hyperscaleav.com/contact**.

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