

The chain health signals

The pipeline that watches the plant is itself plant. It fails stuck, full, partial, slow, silent, confident and plausible — and defaults to silence while every dashboard keeps rendering, politely, from stale values. Seven signals make those failures announce themselves.

RECORD Seven signals, what each announces, the discipline it closes

HEALTH SIGNAL	WHAT IT ANNOUNCES	DISCIPLINE IT CLOSES
Heartbeats and last-value age	Stuck acquisition; stale values served as fresh.	Acquisition, reporting obligation.
Buffer depth and drain events	Outages absorbed versus data at risk.	Edge buffering, load arithmetic.
Ingest lag and queue depth	Stores failing slowly, unwatched.	Storage and retention design.
Clock offset per source	Time failing plausibly, corrupting everything downstream.	Timestamp discipline.
Schema violations, quality-code rates	Context drifting; quality laundered en route.	Data contracts, master data.
Certificate days-to-expiry	Trust lapsing on a schedule anyone could have read.	Hardening the data path.
Staleness banners at consumers	Degradation declared, not hidden.	Contract tempo clause, displays.

ASK The design questions behind the panel — and the field that closes it

- **Where does consequence earn redundancy?**
Fleet-feeding hubs and compliance-critical flows justify redundant brokers, clustered stores and dual paths. The convenience dashboard does not.
- **Are the buffers sized honestly?**
Sized honestly, buffering turns most transport failures into latency rather than loss — the reason buffer health leads the list.
- **Does each consumer declare its own degradation?**
A dashboard that renders stale data *and says so* is an instrument; one that does not is a hazard.
- **Are the health signals published into the chain itself?**
Same namespace under a system branch, same store, same displays, same notification discipline.
- **Who answers when one goes amber?**
A named chain operator with the runbook and the authority to act. The last field on this card is a person's name.

THE BOUNDARY THIS CARD CARRIES

Chain failures compose — a clock fault corrupts everything downstream of it — and they default to silence, which is why the announcement has to be engineered rather than hoped for. This card lists signals to publish; it sets no thresholds, availability targets or on-call obligation, and authorises no change to a system in service.