



Continuous Data Integrity Posture Management (cDIPM)

“Continuous, AI-Driven Data Integrity Posture for Regulated Environments”



INTRODUCTION

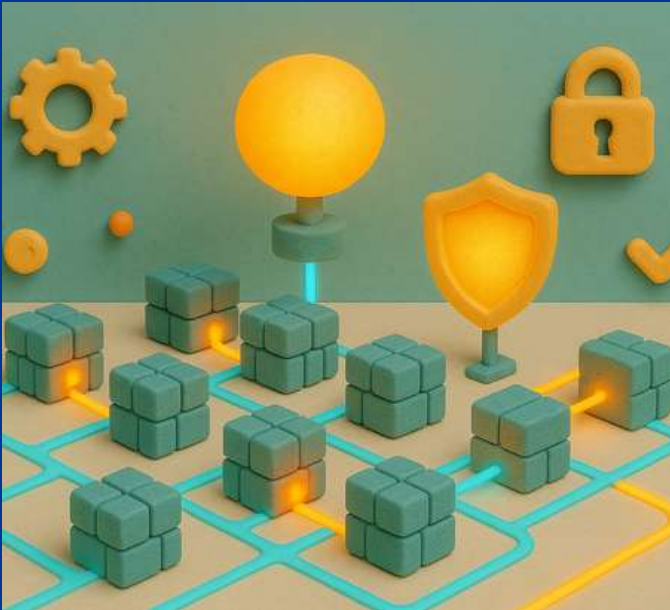
In regulated industries, data integrity is non-negotiable. Yet many organizations struggle with gaps like patchy validation, weak audit trails, manual sampling, inconsistency, and latent risk. Traditional methods like spot checks, retrospective audits and static validation often fail to catch integrity failures until after the fact, leaving exposures and potential noncompliance. Continuous Data Integrity Posture Management (cDIPM) by xLM (in collaboration with Sentra) offers a paradigm shift. An always-on, management-level view over data integrity health and compliance posture. cDIPM continuously monitors systems, captures anomalies, enforces policies, and provides actionable dashboards and evidence, all built for GxP alignment.

With cDIPM, you transform data integrity from a periodic checkbox to a continuously assured posture. You get:

- Real-time insight and alerts
- Enforced integrity policies
- Audit-ready evidence always available
- Reduced manual workloads, reduced risk



Vision for cDIPM



cDIPM envisions transforming data integrity from a periodic compliance activity into a continuous, self-sustaining foundation for digital operations. By unifying discovery, lineage, access governance, and real-time integrity monitoring, cDIPM embeds ALCOA+ principles across OT, IT, and cloud systems creating an environment where data trust is inherent, compliance is seamless, and AI-driven insights remain verifiably reliable.

We believe that data integrity shouldn't be a periodic audit it should be a continuous assurance posture embedded in operations.

- Proactive Integrity Assurance, not reactive checks
- Visibility across systems, not siloed audits
- Actionable detection & prevention, not mere reporting
- Regulatory defensibility by design, not patchwork remediation



OUR PROCESS

► Define Integrity Rules

Declarative integrity rules, policies codified and versioned.

► Implementation & Validation

Deploy monitoring agents or adapters and baseline integrity state.

► Anomaly Detection & Alerts

Detect trends and anomalies, Forecast temperature/humidity drift and optimizes sensor location and mapping strategy.

► Compliance Reporting & Evidence

Auto-generated audit-ready evidence, versioned logs and dashboards.

► Continuous Monitoring

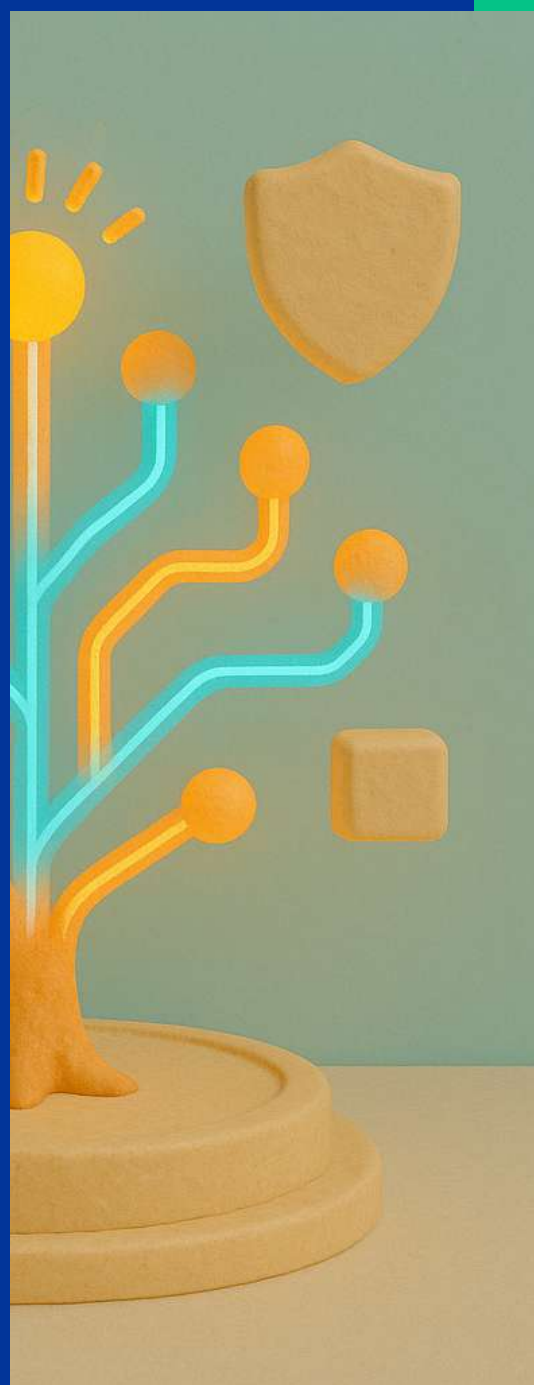
Real-time monitoring of data flows, writes, edits and anomalies.

► Continuous Improvement

Feedback loops, model tuning, evolving rules & posture.

INTELLIGENT FEATURES

- **Real-Time Integrity Monitoring**
Continuously monitors data operations (create, update, delete) across systems to detect integrity violations or anomalies.
- **Anomaly Scoring & Root-Cause Insights**
Uses ML/statistical models to score anomalous changes and surface likely root cause or risk drivers.
- **Policy Enforcement & Compliance Engine**
Automatically enforces integrity rules namely immutability, audit logging, and field protection by detecting, flagging, and rejecting any violations in real time.
- **Unified Dashboard & Evidence Store**
Unified view of integrity posture across systems while maintaining versioned logs, metadata, and audit-ready evidence.
- **Alerting & Escalation Workflows**
Configurable thresholds, multi-level notifications, routing to responsible teams when breach or drift occurs.



VALUE MATRIX

Aspect	Traditional Methods	cDIPM by xLM	Value / Business Impact
Detection Latency	Weeks or months (in audits)	Near real-time detection	Failures caught earlier, less loss
Coverage & Scale	Sample-based, spot checks	Full coverage of data flows & systems	No blind spots, higher assurance
Manual Effort & Cost	High manual review and compilation of evidence	Automated monitoring and reporting	Less labor, lower ongoing cost
Audit & Evidence Readiness	Collecting logs and artifacts post-event	Always-on evidence storage, versioned logs	Audit preparedness always maintained
Risk of Non-Compliance	Higher, with possible regulatory findings	Lower, with early detection and enforcement	Reduced regulatory and financial risk
Improvement Cycle	Slow updates to rules and policies	Feedback-driven tuning of rules and models	Continuous improvement, more resilience

ABOUT US

xLM is a trusted managed application provider enabling FDA-regulated organizations to modernize compliance, quality, and IT operations.

With decades of domain expertise and a technology-first mindset, xLM helps companies scale digital transformation without compromising on validation, traceability, or audit-readiness.

Our Other Applications

➤ Continuous Intelligent Validation (cIV)

➤ Continuous Predictive Maintenance (cPdM)

➤ Continuous Environmental Monitoring System (cEMS)

➤ Continuous Temperature Mapping (cTM)



Our stack incorporates intelligent and responsible AI into all our managed services. From Predictive Analytics to Software Validation, our apps are pre-built with best practices so that they can be deployed within days or hours.



Intelligent Application Provider

All our apps are delivered as managed apps. We do the heavy lifting so that you can focus on building your business



Intelligent and Responsible AI

Through our partnership with IBM, all our AI centric apps are delivered with cLCG (Continuous Life Cycle Governance)



White Glove Service

Our team does more than 95% of the heavy lifting. All we need from you are approvals



Extensive App Portfolio

xLM leverages its robust partner ecosystem to deliver over 15 managed apps and it is growing



Delivered Validated

All our managed apps are delivered “validated”



21 CFR Part 11/Annex 11/FDA CSA Compliant

Ensures all our managed services are compliant out of the box



High Data Integrity Assurance

Our services guarantee accurate, reliable and resilient data across all our managed apps.

[Get Started](#)

