[CDX-DOCK ON-PREMISE SELF-REPORTING & BYOS EXPORT GUIDE]

1:1 Telemetry Variable Mapping & Custom Report Guide

Query local BYOS counters to generate factual reports (.md/.html/.csv/.json) with zero external telemetry

Policy: Zero Data Custody
Outbound Bytes: 0 Byte (Local Only)
Telemetry API: dock_telemetry
Builder: CDXInternalReportBuilder

1. Why Reports & Raw Exports Run 100% Inside Your VPC Instead of a Vendor Cloud Console

[100% Customer-Hosted BYOS Data]

STEP 1. Live Local Measurement (0 Byte Outbound)

- Automatic in-memory & BYOS SQLite/JSON ledger updates
- summary = dock_telemetry.get_summary()
- 0 calls -> exact 0; negative deltas reported honestly
- Zero vendor guesswork on confidential LLM pricing ($)

STEP 2. Auto-Bind to {slot_key} Template Variables

- 3 built-in English reports (lang='en') ready out of box
- Custom templates via register_template() auto-bind too
- Combines org_info (team/owner) + live measured metrics
- Finance teams apply actual contracted LLM rate per 1M

STEP 3. Export Reports & 1:1 Unmodified Raw BYOS

- reporter.save_report(id, './out.html', lang='en')
- Formats: Markdown (.md), A4 HTML, Excel CSV, JSON
- Raw pass-through: reporter.export_byos_raw_data()
- Direct ingestion into BI dashboards, FinOps & GRC tools

2. [Reference] Local Measured Telemetry Keys <-> Auto-Bound Report Template Slots ({slot_key})

[Zero Price Guesswork · Pure Measured Counters]

Report Scope	Measured Field Description	Local Python Data Source	Template Slot Key ({slot_key})
Common Header (org_info)	Organization / Department & Author	Customer input (org_info dict)	{company_name}, {author_name}
Common Header (org_info)	Reporting Period / Runtime / Plan	Customer input (e.g. '2026-10 / Private VPC')	{reporting_period}, {active_plan}
1. Token Settlement (Call & Raw Volume)	Total measured agent calls (incl. fallbacks)	summary['total_agent_calls']	{monthly_agent_calls}
1. Token Settlement (Before vs. After)	Pre-optimization raw vs. outbound tokens	summary['input_tokens']['raw'] / ['slimmed']	{raw_tokens_total} {slimmed_tokens_total}
1. Token Settlement (Signed Net Delta)	Signed net token delta (+/-) & ratio (%)	summary['net_tokens_delta'] summary['overall_token_savings_percent']	{saved_tokens_total}
1. Token Settlement (Module Breakdown)	Measured module deltas (Arbiter / Slimmer)	summary['module_token_savings']	{stage1_arbiter_saved_tokens} {stage2_slimmer_saved_tokens}
1. Token Settlement (FinOps Formula)	Formula for internal contracted LLM rate	Internal FinOps negotiated rate schedule	{customer_cost_formula}
2. Runtime Ops (Completion & Latency)	Measured completion (%) & avg latency (ms)	summary['completion_rate_pct'] summary['average_latency_ms']	{total_pipeline_runs} {avg_dock_overhead_ms}
2. Runtime Ops (CoT Loop Control)	<think> repetitive reasoning loops cut early	summary['cot_guard']['loops_broken']	{cot_guard_loops_detected} {cot_timeouts_prevented}
2. Runtime Ops (Memory & Fallbacks)	Measured TokenPack latency & fallback count	summary['average_tokenpack_latency_ms'] summary['fallback_calls']	{tokenpack_recall_latency} {fallback_activations}
3. Security Audit (BYOS Vault State)	Local BYOS vault path & pinned categories	reporter.cloak.vault_db_file reporter.cloak.explicit_secrets	{byos_storage_location} {cloak_pinned_categories}
3. Security Audit (Masking & AST Scan)	Masked/restored counts & live AST scan	summary['cloak_byos'] verify_open_adapter_static_imports()	{total_masked_outbound_calls} {static_code_audit_result}

3. Copy-Paste Example: Custom English Report + 1:1 Unmodified Raw BYOS Export (.csv / .json)

[Runs 100% Offline Inside VPC]

```
from cdx_dock import dock_telemetry, CDXInternalReportBuilder

# 1) Initialize English report builder bound to customer-owned SQLite3 BYOS vault
reporter = CDXInternalReportBuilder(storage_path='./enterprise_vault.db', persist_telemetry=True, lang='en')

# 2) Register custom corporate template — all {slot_key} variables auto-bind to live measured counters
reporter.register_template(
    template_id='weekly_finops_digest',
    title='[Weekly FinOps & Security Digest] Measured AI Agent Telemetry',
    template_markdown='Team: {company_name} | Calls: {monthly_agent_calls} | Net Delta: {saved_tokens_total} | Restored: {local_unmask_restorations}'
)
reporter.save_report('weekly_finops_digest', './weekly_digest.html', use_live_telemetry=True, lang='en')
reporter.export_byos_raw_data('./byos_raw_passthrough.csv', include_secret_values=False)  # 1:1 raw BYOS CSV export
```

[LAYOUT PREVIEW SAMPLE #1] template_id = 'cfo_roi_settlement_report' (lang='en')

[Token & Cost Settlement] Measured Token Savings & Ratio (%) Report

Doc Ref: FIN-2026-1031-01 | Accounting Basis: Strictly measured token deltas (apply internal LLM rate per 1M tokens)

Prepared	Reviewed	Director	Approved
A. Kim Signed	J. Lee Signed	M. Park Reviewed	Pending

I. Organization Metadata & Cost Conversion Basis (Customer Input: org_info)

[Sign-off Header Preview]

Field	Sample Preview Value	Bound Template Slot (org_info)
Organization / Division	Global FinTech Corp. (AI Platform Division)	{company_name}
Prepared By	Alex Kim, Principal AI Infrastructure Engineer	{author_name}
Reporting Period	2026-10-01 to 2026-10-31 (31 Days)	{reporting_period}
Deployment Environment	On-Premise Private VPC (0 Byte External Vendor Transmission)	{deployment_mode}
FinOps Conversion Note	Apply Finance / FinOps confidential contracted LLM rate per 1M tokens	{customer_llm_contract_note}

II. Measured Monthly Token Volume & Net Delta Summary (Layout Preview)

[Zero Vendor Price Guesswork]

1. Pre-Optimization Raw Tokens

3.12B Tokens [Sample]

Preview: 1,500,000 agent calls

Slot Key: {raw_tokens_total}

2. Post-CDX Outbound Tokens

1.48B Tokens [Sample]

Actual tokens sent to LLM APIs

Slot Key: {slimmed_tokens_total}

3. Measured Net Token Delta (%)

1.64B Saved (-52.6%)

Reports negative delta if expanded

Slot Key: {saved_tokens_total}

III. Per-Module Measured Token Savings & Ratio Breakdown

[dock_telemetry.get_summary()]

Optimization Stage & Module	Technical Mechanism	Sample Preview Value	Template Slot Key (metrics)
1. Selective Schema Routing (CDXArbiter)	Injects only Top-K relevant tool schemas per query instead of broadcasting full tool catalogs	810,000,000 Tokens (Schema -93.3% preview)	{stage1_arbiter_saved_tokens}
2. Lossless Payload Codec (DockSlimmer Mode B)	Compacts repetitive JSON braces/quotes across inter-agent payloads via reversible Mode B	460,000,000 Tokens (Payload -48.2% preview)	{stage2_slimmer_saved_tokens}
3. Reasoning Loop Cutoff (CDX-CoT-Guard)	Detects repetitive <think> reasoning loops in streaming outputs and halts wasted generation	210,000,000 Tokens (3,842 loops preview)	{stage3_cot_guard_saved_tokens}
4. Shared Context Pack (CDX-TokenPack-10K)	Recalls compact specs from local SQLite pack instead of re-sending full chat histories	160,000,000 Tokens (History dedup preview)	{stage4_5_memory_saved_tokens}
Total & FinOps Formula	Multiply measured net saved tokens by your internal contracted LLM rate per 1M tokens	Net Saved Tokens x [Contracted LLM Rate]	{saved_tokens_total} {customer_cost_formula}

Accounting & Transparency Note (Why Zero Vendor Dollar Estimates Are Injected):

- This PDF illustrates document formatting only. In live execution (use_live_telemetry=True), 0 calls output '0 calls / 0 Tokens' with zero sample inflation.
- Because enterprise LLM model mixes and negotiated discount rates are confidential, Finance teams apply their actual rate to measured token deltas.

[Command] reporter.save_report('cfo_roi_settlement_report', './token_settlement.html', use_live_telemetry=True, lang='en')

[LAYOUT PREVIEW SAMPLE #2] template_id = 'cto_agent_runtime_report' (lang='en')

Prepared	Reviewed	Director	Approved
A. Kim Signed	J. Lee Signed	M. Park Reviewed	Pending

[Engineering Operations Report] Multi-Agent Runtime & Loop Control

Doc Ref: OPS-2026-1031-02 | Pipeline Scope: LangChain <-> CrewAI <-> Hermes Production Mesh

I. Engineering Environment Metadata (Customer Input: org_info)

[Architecture Metadata]

Field	Environment Specification (Preview)	Template Slot (org_info)
Engineering Team / Lead	Global FinTech Corp. (AI Platform Div.) / Jamie Lee, Staff Agent Architect	{company_name}, {author_name}
Review Period	2026-10-01 to 2026-10-31	{reporting_period}
Connected Frameworks	LangChain (SQL Agent) <-> CrewAI (Analyst Crew) <-> Nous Hermes (SKILL.md)	{connected_frameworks}
Deployment Topology	In-Process Python SDK (cdx-dock v2.0) + Kubernetes Docker Sidecar v2.0	{deployment_mode}

II. Runtime Stability & Measured Latency KPIs (Layout Preview)

[perf_counter() Measured]

1. Pipeline Runs & Completion Rate

412,800 (99.98%)

Includes any fallback events honestly

Slot Key: {total_pipeline_runs}

2. Measured Avg Middleware Latency

0.41 ms [Sample]

Measured via local perf_counter()

Slot Key: {avg_dock_overhead_ms}

3. <think> Reasoning Loops Cut Early

3,842 Events [Sample]

Prevents runaway stream timeouts

Slot Key: {cot_guard_loops_detected}

III. CoT-Guard Reasoning Control & TokenPack-10K Operational Metrics

[dock_telemetry.get_summary()]

Operational Metric	Measurement Definition & Preview	Local Telemetry Source	Template Slot Key (metrics)
Pipeline Runs & Completion	Total invocations and actual non-fallback completion %	summary['total_agent_calls'] summary['completion_rate_pct']	{total_pipeline_runs}
Avg Middleware Overhead	Real measured average latency (ms) across calls	summary['average_latency_ms']	{avg_dock_overhead_ms}
<think> Loops Detected	Repetitive reasoning stagnation events caught live	summary['cot_guard'] ['loops_broken']	{cot_guard_loops_detected}
Loops Terminated Early	Runaway reasoning streams halted prior to API timeout	summary['cot_guard'] ['loops_broken']	{cot_timeouts_prevented}
Reasoning Tokens Saved	Wasted reasoning stream tokens avoided via cutoff	summary['cot_guard'] ['tokens_saved']	{cot_wasted_tokens_saved}
TokenPack-10K Recall	Measured average SQLite recall latency (ms) & count	summary['tokenpack_recalls'] & average_tokenpack_latency_ms	{tokenpack_recall_latency}
Safe Pass-Through Fallbacks	Exact count of upstream exceptions routed safely	summary['fallback_calls']	{fallback_activations}

Engineering Operations Summary (Sample Narrative):

"Across frontier reasoning models (GPT-6 Astra, Claude Mythos 5.2, Gemini 4 Carbon), CDX-CoT-Guard intercepted repetitive <think> loops early, while local SQLite-backed TokenPack-10K synchronized shared context across frameworks without external vector database dependencies."

[Command] reporter.save_report('cto_agent_runtime_report', './runtime_ops.csv', use_live_telemetry=True, lang='en')

[LAYOUT PREVIEW SAMPLE #3] template_id = 'ciso_security_audit_report' (lang='en')

[Security & Compliance Audit] BYOS Entity Masking & Zero-Custody Report

Doc Ref: SEC-2026-1031-03 | Compliance Scope: SOC 2 · ISO/IEC 27001 · GDPR Art. 32 · Internal InfoSec Review

Prepared	Reviewed	Director	Approved
A. Kim Signed	J. Lee Signed	M. Park Reviewed	Pending

I. Security Review Metadata & Local BYOS Vault Isolation Path (org_info)

[VPC Self-Custody Verification]

Audit Field	Security Control Detail (Preview)	Template Slot (org_info)
Reviewing Team / Lead	Global FinTech Corp. (Information Security & GRC) / Morgan Park, Principal Auditor	{company_name}, {author_name}
Audit Period	2026-10-01 to 2026-10-31	{reporting_period}
Internal BYOS Vault Path	/var/lib/enterprise/cdx_byos/enterprise_vault.db (Customer-Owned SQLite3)	{byos_storage_location}
Outbound Vendor Telemetry	0 Byte (Zero external telemetry modules · aggregated locally)	{vendor_data_transmission}

II. Entity Pseudonymization & Live AST Audit KPIs (Layout Preview)

[Security & Compliance Review KPIs]

1. Outbound Vendor Telemetry

0 Byte (Zero-Custody)

Prompts & vaults stay inside VPC

Slot Key: {vendor_data_transmission}

2. Masked & Restored Calls

184,920 Calls [Sample]

Tracks exact masked/restored entities

Slot Key: {total_masked_outbound_calls}

3. Open-Adapter Live AST Scan

PASS (Live AST Scan)

Scans installed .py for network imports

Slot Key: {static_code_audit_result}

III. CDXCloak Explicit Pin Inventory & Open-Adapter Static Verification

[Live Local Verification]

Security Control Item	Measured Local Audit Detail (Preview)	Local Source (BYOS / AST)	Template Slot Key (metrics)
Pinned Secret Categories	Lists actual secret pin labels & counts registered in customer BYOS (e.g. VIP_CUSTOMER, SETTLEMENT_ACC)	reporter.cloak.explicit_secrets	{cloak_pinned_categories}
Outbound Masked Calls	Exact calls & entity counts replaced with [[VAULT_PIN_*]] placeholders prior to external LLM API calls	summary['cloak_byos']['masked_calls']	{total_masked_outbound_calls}
Inbound Local Restorations	Exact calls & entities where placeholders were present and restored locally (plain replies never inflate count)	summary['cloak_byos']['unmasked_calls']	{local_unmask_restorations}
Masking Policy Mode	strict_pin_mode=True status (replaces explicit pins only so dates, amounts, and code numbers remain untouched)	reporter.cloak.strict_pin_mode	{false_positive_mutations}
Open-Adapter (.py) AST Scan	Parses installed open-adapter .py files via Python ast to verify 0 imports of requests/httpx/urllib/socket	verify_open_adapter_static_imports(lang='en')	{static_code_audit_result}

Data Custody Attestation & 1:1 Raw BYOS Audit Export:

- All entity mapping vaults (enterprise_vault.db) and telemetry counters remain isolated inside customer-designated BYOS storage.
- Security & GRC teams can export unmodified raw BYOS records anytime via reporter.export_byos_raw_data('./audit_raw.csv').

[Command] reporter.save_report('ciso_security_audit_report', './security_audit.html', use_live_telemetry=True, lang='en')