<u>**CNC Test Portal — Evaluator Guide**</u>

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Continuum Nexus Core (CNC)
Deterministic, Governed Runtime Evaluation

1. Purpose of This Guide

This guide is intended for engineers, technical evaluators, and decision-makers who wish to independently evaluate **Continuum Nexus Core (CNC)** using the public CNC Test Portal.

CNC is not a model, not a training system, and not a probabilistic AI service.
It is a **deterministic runtime core** designed to enforce lawful execution, invariant preservation, and auditable behavior in autonomous systems.

This guide explains:
- what CNC is,
- what can be evaluated today,
- how to interact with the CNC Test Portal,
- what behaviors are guaranteed,
- and how to interpret evaluation results.

This document intentionally **does not disclose internal algorithms, architectures, or proprietary design details**.

2. What CNC Is (High-Level)

CNC is a **governance-first autonomous runtime core**.

At a high level, CNC:
- executes deterministically,
- enforces explicit invariants,
- rejects unsafe or invalid transitions,
- produces reproducible digests,
- and maintains a complete audit trail of execution.

CNC is designed to be used as a **core runtime layer** beneath higher-level planning, simulation, or decision systems.

It does **not**:
- learn via training,
- perform probabilistic inference,
- or generate outputs stochastically.

Every CNC execution is:
- bounded,
- repeatable,
- and verifiable.

3. What This Evaluation Is (and Is Not)

This evaluation demonstrates
- Deterministic execution (bit-identical replay).
- Invariant enforcement under real inputs.
- Governed runtime behavior.
- Sensitivity to input changes after initialization.
- Stability across repeated runs.

This evaluation does not demonstrate
- Domain-specific performance (e.g., oil & gas optimization).
- Production deployment scaling.
- Integration with enterprise systems.
- Model accuracy or prediction quality.

Those aspects are addressed only in **Phase 2 evaluations** under NDA.

4. Determinism and Replay Guarantees

CNC is deterministic by construction.

This means:
- Identical inputs produce identical outputs.
- Identical runs produce identical digests.
- Replays can be verified independently.

The portal allows evaluators to:
- submit the same payload multiple times,
- confirm that outputs and digests are identical,
- and validate that no randomness or infrastructure variance is present.

This behavior has been verified across:
- local environments,
- cloud environments,
- and AWS infrastructure.

5. Sensitivity Behavior (Important Clarification)

CNC enforces a short **initialization window**.
- **Ticks 1–2** are used to initialize internal state.
- Input differences during this window do **not** affect the final digest.
- Starting at **tick 3**, input differences will deterministically propagate.

Guarantee:

Sensitivity is guaranteed for runs of **3 or more ticks**.

This is a deliberate design choice for stability and safety, not a defect.

6. CNC Test Portal Overview

Portal URL:
https://cnctestportal.com

The CNC Test Portal provides a minimal, stateless evaluation surface.

Current Portal Architecture
- Static HTML/CSS frontend (served via NGINX).
- FastAPI backend.
- Stateless execution.
- No authentication (Phase 1).
- Strict input validation.
- Bounded execution.

The portal exists solely to enable **independent evaluation** of CNC runtime behavior.

7. Submitting an Evaluation Request

Endpoint
POST /invoke
Request Body

The request body must conform to the required trace_v1 schema.

The schema includes:
- request_id
- schema version
- mode
- tick count
- channel definitions
- input series

Optional Non-Breaking Fields

The portal accepts optional fields that are ignored by CNC if unrecognized:
- industry_mode
  Example values: "defense", "oil_gas", "finance", "health"
- run_label
  Human-readable identifier.
- notes
  Evaluator notes for context.

These fields:
- do not affect execution,
- do not affect determinism,
- and are safe to omit.

8. Evaluation Modes (UI Context Only)

The portal may present **industry-oriented evaluation modes**.

These modes:
- preload example scenarios,
- suggest appropriate tick horizons,
- surface evaluation guidance.

Important:
Evaluation modes do **not** alter CNC behavior.
They exist purely for evaluator convenience.

9. Interpreting the Response

Each response includes:
- ok
  Whether execution completed successfully.
- ticks_executed
  Number of ticks executed.
- digest
  Deterministic fingerprint of the run.
- invariants_passed
  Whether all enforced invariants held.
- summary
  Aggregated metrics across execution.

If two runs produce the same digest, they are **provably identical executions**.

10. Replay and Verification

Evaluators may:
- re-submit identical payloads,
- compare digests,
- and verify replay stability.

This is the primary evidence CNC provides:

The system behaves identically every time, under the same conditions.

11. Portal Security Model (Phase 1)

Current Characteristics
- No user accounts.
- No authentication.
- Stateless processing.
- Infrastructure-level rate limiting.
- No data persistence beyond execution.

Planned Enhancements (Non-Breaking)
- Optional invite-based tokens.
- Session tagging.
- Enhanced evaluator telemetry.

These changes do not affect CNC behavior.

12. Production Readiness Clarification

CNC is production-grade in terms of:
- determinism,
- safety enforcement,
- and auditability.

The CNC Test Portal is **not** a production deployment.
It is an **evaluation surface** only.

13. Phase 2 Evaluation Path

Organizations seeking deeper evaluation may proceed to Phase 2 under NDA.

Phase 2 may include:
- extended execution horizons,
- domain-specific constraints,
- integration discussions,
- and architecture review.

Phase 2 access is not automatic and requires mutual agreement.

14. Summary

CNC provides something rare in modern autonomous systems:
- Deterministic execution.
- Lawful, invariant-driven behavior.
- Full replay and auditability.
- Clear separation between governance and intelligence.

This evaluation allows you to verify those properties directly.

Legal Disclaimer & Terms and Conditions

1. Evaluation-Only Use

This document and the CNC Test Portal are provided **solely for limited, non-production evaluation purposes** to approved evaluators. Access is granted for the purpose of observing deterministic and governed runtime behavior of the Continuum Nexus Core (CNC) under controlled conditions, and for no other purpose.

The CNC Test Portal is **not a commercial offering**, **not a production service**, and **not a general-availability product**.

2. Intellectual Property & Confidentiality

All information, interfaces, outputs, documentation, software behavior, data structures, execution characteristics, and materials made available through the CNC Test Portal are the **exclusive and proprietary property of LUXCRYPTA Technologies, LLC**, and are protected under applicable intellectual property, trade secret, and confidentiality laws.

Nothing contained in this document, the CNC Test Portal, or any evaluation output shall be construed as granting, by implication, estoppel, or otherwise, **any license or right** to use, copy, modify, distribute, reverse engineer, decompile, disassemble, derive source code from, or create derivative works of any CNC technology.

The CNC runtime kernel, its internal state, execution logic, algorithms, mathematical constructs, update rules, and system architecture **remain confidential and undisclosed**, and are not exposed through the evaluation process.

3. No Reverse Engineering or Circumvention

Evaluators agree not to:

- Attempt to reverse engineer, infer, or reconstruct internal algorithms, models, or system logic;
- Perform systematic probing intended to extract internal parameters, update rules, or latent structure;
- Circumvent, bypass, or interfere with technical or procedural safeguards;
- Use outputs to develop competing or derivative technologies.

Any such activity constitutes unauthorized use and may result in immediate termination of access.

4. Scope of Evaluation Outputs

Outputs provided by the CNC Test Portal are intentionally limited to **high-level, deterministic summaries**, cryptographic digests, and invariant status indicators. These outputs are designed to demonstrate repeatability, bounded behavior, and governed execution, and **do not represent full system state, internal telemetry, or decision logic**.

Evaluation results are **contextual**, **scenario-dependent**, and **non-exhaustive**. They are not intended to characterize performance, accuracy, suitability, or fitness for any specific operational purpose.

5. No Warranties

The CNC Test Portal and all related materials are provided **"as is" and "as available,"** without warranties of any kind, whether express, implied, or statutory, including but not limited to warranties of merchantability, fitness for a particular purpose, non-infringement, or uninterrupted availability.

LUXCRYPTA Technologies, LLC makes no representations regarding the completeness, accuracy, or applicability of evaluation outputs for any real-world deployment.

6. Limitation of Liability

To the maximum extent permitted by law, LUXCRYPTA Technologies, LLC shall not be liable for any direct, indirect, incidental, consequential, special, or punitive damages arising out of or related to the use of, or inability to use, the CNC Test Portal or evaluation outputs, including but not limited to loss of data, business interruption, or reputational harm.

7. Phase 1 vs. Phase 2 Evaluation

The CNC Test Portal constitutes a **Phase 1 evaluation surface only**. Phase 1 is limited to black-box observation of deterministic runtime behavior.

Any **deeper technical evaluation**, including but not limited to:
- concurrency or scaling models,
- versioning and upgrade guarantees,
- integration architectures,
- deployment configurations,
- dependency boundaries,
- or conditions under which guarantees may be constrained,

requires a **separately executed non-disclosure agreement (NDA)** and a **mutually defined evaluation scope** ("Phase 2").

No Phase 2 rights are granted through access to the CNC Test Portal.

8. Termination of Access

LUXCRYPTA Technologies, LLC reserves the right to suspend or terminate access to the CNC Test Portal at any time, with or without notice, for any reason, including violation of these terms or changes in evaluation scope.

9. Governing Law

These terms shall be governed by and construed in accordance with the laws of the State of Texas, without regard to its conflict-of-law principles.

10. Acceptance of Terms

By accessing or using the CNC Test Portal, evaluators acknowledge that they have read, understood, and agreed to be bound by this Legal Disclaimer and Terms and Conditions.