

DigiEmu Core Conformance Requirements v1.0

Status: Normative Supporting Framework – Enterprise Edition

Scope: Conformance & Compliance Levels

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1. Purpose

This document defines the formal conformance requirements for DigiEmu Core implementations. It establishes mandatory criteria for classification under defined compliance levels.

2. Normative Language

The terms MUST, SHALL, SHOULD, MAY, and MUST NOT are to be interpreted as described in RFC 2119. These terms define mandatory conformance obligations.

3. Level 1 – Deterministic Snapshot Compliance

An implementation SHALL qualify as Level 1 if it demonstrates:

- Canonical snapshot serialization
- SHA-256 hash generation
- Deterministic snapshot reproducibility
- Immutable ContentVersion enforcement. Level 1 requires reproducibility validation tests.

4. Level 2 – Audit & Verification Compliance

Level 2 requires all Level 1 criteria plus:

- Documented state reconstruction procedures
- Hash recomputation validation testing
- Tamper detection capability
- Audit log integrity controls. Audit documentation MUST be available for review.

5. Level 3 – Enterprise Governance Compliance

Level 3 requires all Level 2 criteria plus:

- Formal governance alignment
- Certification readiness documentation
- Security model integration
- Multi-tenant isolation enforcement
- Operational compliance monitoring procedures.

6. Testing Requirements

Conformance validation SHALL include deterministic reproduction tests under controlled environments. Test datasets MUST produce identical snapshot hashes across compliant systems.

7. Documentation Requirements

Certified implementations MUST provide:

- Architecture documentation
- Determinism validation documentation
- Security posture documentation
- Version alignment declaration.

8. Non-Conformance Handling

If an implementation fails determinism or hash integrity validation, it SHALL NOT claim conformance. Any public conformance claim MUST correspond to validated compliance level.

9. Relationship to Certification

Conformance levels define eligibility for certification under the DigiEmu Core Certification Policy. Certification is granted only after formal review and validation.

10. Version Governance

Conformance classification is version-bound. Major specification updates require revalidation. Minor updates require compatibility confirmation.