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Iraq National Single Window (NSW) Technical Integration Specs

1. Introduction & Single Window Integration Architecture

This document defines the technical interoperability specifications for integrating commercial banks, customs clearance authorities, and border ports into the Iraq National Single Window (NSW) automated customs and trade network.

- High-throughput RESTful JSON and gRPC endpoints engineered for sub-200ms transaction settlement.
- Mutual Transport Layer Security (mTLS) with 2048-bit sovereign root-signed certificates.
- Full compliance with the World Customs Organization (WCO) Data Model v3.10 standard.

2. Authentication, Authorization & Digital Signatures

Every transactional payload requires OAuth 2.0 bearer authorization and cryptographic non-repudiation seals.

- X.509 cryptographic digital signing of all clearance declarations and trade declarations.
- Real-time certificate revocation checking via high-availability OCSP responders.
- Cryptographic idempotency keys preventing duplicate customs submission processing.

3. Service Level Agreements & High Concurrency Performance

Integration nodes must support sustained throughput of 10,000 transactions per second with 99.99% uptime guarantees.

SOVEREIGN CERTIFICATION & INSTITUTIONAL SEAL

This document is formally ratified by the IDG Engineering Council and Governance Directorate. Full technical adherence is mandatory across all connected platforms.