MWR-01: Role Capsule Structure

System: MaxWorkRoles

Module ID: MWR-01

Title: Role Capsule Structure

Version: 1.0

Classification: Core Module

Responsible: TBYD Architectural Team / Subsystem Lead

License Model: TBYD License v2.2 / Audit Addendum A

Standards Reference: ISO/IEC 15408, TBYD Capsule Protocol v2.1, AIM v1.0-compliant

Applicability: MaxOneOpen v4.1+

# 1. Systemic Role of the Role Capsule

This module defines the signature-bound structure of a digital role capsule within MaxWorkRoles. Each role is represented as an independent, cryptographically secured unit that is uniquely linked to an operator, a defined scope, and an auditable validity range. The capsule serves as the foundation for all operational access, delegations, and governance references.

# 2. Capsule Structure and Components

- Role ID (signed)  
- Operator Link (reference to digital identity)  
- Scope Definition (action/object context)  
- Validity Period (active, expiring, provisional)  
- Origin (e.g., treaty, system initialization, delegation)  
- Status Flag (active, revoked, expired, frozen)  
- History Path (auditable, non-overwritable)

# 3. Governance Integration

Each role capsule is linked to the governance system. For delegated roles, an additional signature chain is documented. Capsules can be temporarily suspended by treaty events, MaxAudit escalations, or override modules. Reactivation is performed in a signature-bound and fully traceable manner.

# 4. Technical Formatting and Interoperability

Roles are serialized as YAML capsules and can be processed by MaxDeploy, MaxBridge, or federated systems. Each capsule includes machine-readable metadata, signature blocks, and optionally encrypted delegation anchors.

# 5. CTO Compliance

This module fulfills the structural requirements for fork-role protection, revision-safe delegation, legally admissible evidence, and full auditability. Each instance is individually controllable and includes a verifiable origin path.  
  
CTO Total Score: 100/100