

## MaxAudit Output Formats & Signature Chain

Version: 1.0

Issued by: SAC, Take Back Your Data (TBYD)

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### 1. Purpose

This document defines the structure and format of all outputs produced by the MaxAudit system. All output formats are standardized and optimized for traceability, verification, and interoperability with regulatory and operational systems.

### 2. Audit Protocol (PDF + JSON)

Each audit run produces a protocol in two formats:

- PDF: Human-readable, formatted for official communication
- JSON: Machine-readable, intended for automated archiving and evaluation

The content includes:

- Audit ID (UUID)
- Timestamp (ISO 8601)
- System identifier and Fork ID (if present)
- Deviation summary and classification
- Status code (green/yellow/red)
- SHA-256 result hash
- Signature metadata

### 3. Signature Chain Structure

Each audit output is finalized with a cryptographic signature that links it to a continuous and verifiable signature chain. The signature chain includes:

- Reference hash of the used audit schema
- Hash of audit execution trace
- Hash of audit result
- Previous audit signature (linked backward)
- Fork Registry anchor (if applicable)
- Public key identifier (TBYD Audit Certificate v1)

### 4. Status Interpretation

Status	Interpretation
Green	System is fully compliant. No action

	required.
Yellow	Deviation detected. Remediation required. Re-audit mandatory.
Red	Critical deviation or manipulation. System must be deactivated.

## 5. Validation & Forward Integrity

All outputs are designed to ensure forward integrity:

- Any modification breaks the signature chain
- Each entry is independently verifiable using public cryptographic methods
- Verifiers and authorities can confirm validity offline and airgapped

## 6. Output Lifecycle

- Outputs are valid until the next audit or system change
- Retention period: Defined by local regulation or internal governance
- Fork-specific outputs are archived in the Fork Registry if activated