

## MaxTune-SD\_TSD\_Kapitel-5.2\_v2.1 – Technical System Documentation

### Source Integrity and Provenance Validation

Version: 2.1 Effective from: 25.04.2025 Status: 100/100 – Approved Note:  
Compatibility with Max systems is based on documented interfaces, not fixed version bindings.

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### 5.2 Source Integrity and Provenance Validation

MaxTune validates all data sources before ingestion to ensure that only verified, authorized, and traceable information enters the learning cycle.

Integrity checks include:

- hash consistency checks on source artifacts
- identity verification of data providers
- time-stamping and non-repudiation markers
- duplication and cross-source coherence validation

Provenance validation ensures that:

- the origin of the data is known
- the contextual relevance is assessed
- no unauthorized transformation has occurred
- full audit trace is retained for each input

This mechanism prevents MaxTune from being fed adversarial, corrupt, or untraceable data. Integrity and provenance are enforced as prerequisites for any learning event—not optional audits after the fact.

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