



AF-HB-9600-001

Interoperability and Distributed-System Assurance Handbook

Space / Aviation / Defense

FIRST EDITION

AF 9600 SUPPORTING DOCUMENT

Document identity and use

FIRST EDITION MANUSCRIPT - Prepared for Aerospace Federation review

Field	Controlled identity
Document	AF-HB-9600-001 - Interoperability and Distributed-System Assurance Handbook
Parent standard	AF 9600 - Artificial Intelligence, Autonomous Systems & Interoperability
Edition / language	FIRST EDITION / English master text
Family	Manuals
Primary source anchors	23-29; Annexes H-J
Suggested local owner	Interoperability authority
Authority	Publisher approval and effective date are not assigned. Local use requires authorized adoption and completed parameters.

Use with the main standard

This document implements the identified AF 9600 clauses and annexes. Read the complete applicable requirements in the main standard. The source anchors are navigation references; a template does not replace technical judgement, evidence, permission or eligible approval.

AF-ML-9600-001 lists the complete supporting set. AF-CM-9600-001 maps the main clauses and annexes to working documents. AF-TP-9600-001 establishes the common local parameter baseline; add the relevant discipline profiles.

Record control

Identify the object, configuration, record owner and dates. Reference attachments by stable identifier and version. Keep superseded evidence and decisions traceable. Use the approved local retention, access and authentication arrangements. No technical limit, numerical limit, interval or acceptance value is assigned by a blank template.

Implementation model: Translate the stated responsibilities and controls into the actual organization. Informative examples remain explanatory; use approved programme-specific values for operational decisions.

1 Define the exact relationship

Use AF-PR-9600-018 to identify producers, consumers, directions, configurations, modes and optional features. Record contracts in AF-RG-9600-007 and combinations in AF-RG-9600-008. A product-wide compatibility statement is too broad unless evidence supports all of its stated relationships.

1.1 Contract responsibilities

Agree syntax, meaning, behavior, trust and operational duties. Identify owners of adapters and transformed data. Specify change notices, deprecation, defects, continuity and disputes. A technically working connection can still lack an accountable support arrangement.

1.2 Scope of evidence

Populate AF-TP-9600-011 and AF-TP-9600-012. Include every required mode and direction in the matrix. Mark untested entries explicitly and keep failed essential combinations blocked.

2 Preserve meaning through exchange

Use AF-PR-9600-019 and AF-WI-9600-008. Define units, axes, handedness, frame, transformation, time convention and freshness. Preserve uncertainty and missing-value meaning through each adapter.

2.1 Negative cases

Evaluate a plausible coordinate in the wrong frame, stale data with a current arrival time, unknown enumeration, overflow and lossy conversion. A schema pass does not settle these questions. Record actual consumer behavior and its resulting effects.

2.2 Time and command meaning

Distinguish event time, processing time and use time. Include clock uncertainty in age decisions. Define received, accepted and completed command states with exact authority and validity intervals.

3 Exercise distributed failures

Use AF-PR-9600-020 and AF-WI-9600-009. Test lost acknowledgment after completed execution, duplicate delivery, restart, conflicting ownership and partitions. Verify persistent execution identity and reconciliation of external effects.

3.1 Capacity and trust

Include bursts, retries, management traffic and protective functions in timing and queue tests. Use AF-PR-9600-021 to verify trust and permissions without ignoring physical effects of protective controls. Reliable delivery is distinct from fresh information and authorized action.

3.2 Joint acceptance

Use AF-WI-9600-010 and AF-PR-9600-024 for paired tests. Identify exact contracts, versions, scenarios and limitations. Both eligible parties shall understand the accepted relationship and remaining duties.

4 Maintain compatibility

Provider, schema, model, clock, adapter or security-policy changes can alter the relationship. Use AF-RG-9600-010 to assess affected combinations and retest the relevant evidence. Unchanged endpoint names do not establish unchanged behavior.

Required evidence: Controlled contracts, semantic integrity, actual state behavior and joint evidence for each claimed relationship.