Federation Engineering Agreements
Template (FEAT) Programmer’s Reference Guide

Federation agreements are critical to the successful design, execution, and reuse of federation assets. However, inconsistent formats and use across federations have made it difficult to capture and compare agreements between federations. This lack of a consistent approach to documenting federation agreements makes reuse and understanding more difficult. Lack of consistent format also prevents tool development and automation.

The federation agreements template is intended to provide a standardized format for recording federation agreements to increase their usability and reuse. The template is an eXtensible Markup Language (XML) schema from which compliant XML-based federation agreement documents can be created. XML was chosen for encoding agreements documents because it is both human and machine-readable and has wide tool support. Creating the template as an XML schema allows XML-enabled tools to both validate conformant documents, and edit and exchange agreements documents without introducing incompatibilities.

Wherever possible, the team that prepared the template leveraged existing, authoritative schemas for the representation of elements in this schema including:

- Modeling and Simulation (M&S) Community of Interest—Discovery Metadata Specification (MSC-DMS)
- XML Linking Language (XLink)
- XML Metadata Interchange (XMI)
- Common Platform Enumeration (CPE)
- Intelligence Community Information Security Marking (IC-ISM)
- eXtensible Configuration Checklist Description Format (XCCDF)
- Geography Markup Language (GML)
- State Chart XML (SCXML)

The federation agreements are decomposed into eight categories:

1. Metadata—Information about the federation agreements document itself.
2. Design—Agreements about the basic purpose and design of the federation.
5. Data—Agreements about structure, values, and semantics of data to be exchanged during federation execution.
6. Infrastructure—Technical agreements about hardware, software, network protocols, and processes for implementing the infrastructure to support federation execution.
7. Modeling—Agreements to be implemented in the member applications that semantically affect the current execution of the federation.
8. Variances—Exceptions to the federation agreements deemed necessary during integration and testing.

This Programmer’s Reference provides specific technical guidance on the syntax and semantics required to create a conformant XML-based federation agreements document.