

HLA COMPLIANCE CHECKLIST
FEDERATE
VERSION 1.3 (DRAFT)
4 May 1998

Compliance Item 1: The federate shall have an HLA Simulation Object Model (SOM), documented in accordance with the HLA Object Model Template (OMT).

Object Model Requirements

* : indicates mandatory table

Table	OMT Ref	
Object Model Identification	4.1	*
Object Class Structures	4.2	*
Object Interactions	4.3	*
Attributes	4.4	*
Parameter	4.5	*
Enumerated and Complex Data Types	4.6	
Routing Space	4.7	
Lexicon	5.2	*

Supporting Documentation

HLA Rules [1]

Object Model Template [2]

Test Procedures for the Object Model Template [3]

Compliance Item 2: Federates shall be able to update and/or reflect any attributes of objects in their SOM and send and/or receive SOM interactions, as specified in their SOM.

Service Requirements

† : RTI-initiated service; federate must accept service invocation

Service	IF Ref	OMT Ref
Publish Object Class	5.2	4.2.2
Publish Interaction Class	5.4	4.3.2
Subscribe Object Class Attributes	5.6	4.2.2
Subscribe Interaction Class	5.8	4.3.2
Register Object Instance	6.2	4.2.2
Discover Object Instance†	6.3	4.2.2
Update Attribute Values	6.4	4.4.2
Reflect Attribute Values†	6.5	4.4.2
Send Interaction	6.6	4.3.2
Receive Interaction†	6.7	4.3.2
Provide Attribute Value Update†	6.16	4.3.2
Register Object Instance With Region	9.5	4.4.2
Associate Region For Updates	9.6	4.4.2
Subscribe Object Class Attributes With Region	9.8	4.4.2
Subscribe Interaction Class With Region	9.10	4.5.2
Send Interaction With Region	9.12	4.5.2

Supporting Documentation

HLA Rules [1]

Object Model Template [2]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

Compliance Item 3: Federates shall be able to transfer and/or accept ownership of attributes dynamically during a federation execution, as specified in their SOM.

Service Requirements

† : RTI-initiated service; federate must accept service invocation

Service	IF Ref	OMT Ref
Unconditional Attribute Ownership Divestiture	7.2	4.4.2
Negotiated Attribute Ownership Divestiture	7.3	4.4.2
Request Attribute Ownership Assumption†	7.4	4.4.2
Attribute Ownership Divestiture Notification†	7.5	4.4.2
Attribute Ownership Acquisition Notification†	7.6	4.4.2
Attribute Ownership Acquisition	7.7	4.4.2
Attribute Ownership Acquisition If Available	7.8	4.4.2
Attribute Ownership Unavailable†	7.9	4.4.2
Request Attribute Ownership Release†	7.10	4.4.2
Attribute Ownership Release Response	7.11	4.4.2

Supporting Documentation

HLA Rules [1]

Object Model Template [2]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

Compliance Item 4: Federates shall be able to vary the conditions (e.g., threshold) under which they provide updates of attributes of objects, as specified in their SOM.

Service Requirements

† : RTI-initiated service; federate must accept service invocation

Service	IF Ref	OMT Ref
Update Attribute Values	6.4	4.4.2
Reflect Attribute Values†	6.5	4.4.2

Supporting Documentation

HLA Rules [1]

Object Model Template [2]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

Compliance Item 5: Federates shall be able to manage local time in a way which will allow them to coordinate data exchange with other members of a federation.

Service Requirements

† : RTI-initiated service; federate must accept service invocation

Service	IF Ref	OMT Ref
Enable Time Regulation	8.2	
Time Regulation Enabled†	8.3	
Disable Time Regulation	8.4	
Enable Time Constrained	8.5	
Time Constrained Enabled†	8.6	
Disable Time Constrained	8.7	
Time Advance Request	8.8	
Time Advance Request Available	8.9	
Next Event Request	8.10	
Next Event Request Available	8.11	
Flush Queue Request	8.12	
Time Advance Grant†	8.13	
Enable Asynchronous Delivery	8.14	
Disable Asynchronous Delivery	8.15	
Query LBTS	8.16	
Query Federate Time	8.17	
Query Min Next Event Time	8.18	
Modify Lookahead	8.19	
Query Lookahead	8.20	
Retract	8.21	
Request Retraction†	8.22	

Supporting Documentation

HLA Rules [1]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

Compliance Item 6: During a federation execution, federates shall interact with the runtime infrastructure (RTI) in accordance with the HLA interface specification.

Service Requirements

* : indicates mandatory service

† : RTI-initiated service; federate must accept service invocation

Service	IF Ref	OMT Ref
Create Federation Execution	4.2	*
Destroy Federation Execution	4.3	*
Join Federation Execution	4.4	*
Resign Federation Execution	4.5	*
Register Federation Synchronization Point	4.6	
Synchronization Point Registration Succeeded†	4.7	
Synchronization Point Registration Failed†	4.7	
Announce Synchronization Point†	4.8	
Synchronization Point Achieved	4.9	
Federation Synchronized†	4.10	
Request Federation Save	4.11	
Initiate Federate Save†	4.12	
Federate Save Begun	4.13	
Federate Save Complete	4.14	
Federate Save Not Complete	4.14	
Federation Saved†	4.15	
Federation Not Saved†	4.15	
Request Restore	4.16	
Initiate Restore†	4.19	
Restore Complete	4.20	
Restore Not Complete	4.20	
Federation Restored†	4.21	
Federation Not Restored†	4.21	
Unpublish Object Class	5.3	
Unpublish Interaction Class	5.5	
Unsubscribe Object Class	5.7	
Unsubscribe Interaction Class	5.9	
Start Registration for Object Class†	5.10	
Stop Registration for Object Class†	5.11	
Turn Interactions On†	5.12	
Turn Interactions Off†	5.13	
Delete Object Instance	6.8	
Remove Object Instance†	6.9	
Local Delete Object Instance	6.10	
Change Attribute Transportation Type	6.11	
Change Interaction Transportation Type	6.12	
Attributes In Scope	6.13	
Attributes Out Of Scope	6.14	
Request Object Attribute Value Update	6.15	
Turn Attributes On for Object Instance†	6.17	
Turn Attributes Off for Object Instance†	6.18	
Cancel Negotiated Attribute Ownership Divestiture	7.12	
Cancel Attribute Ownership Acquisition	7.13	
Confirm Attribute Ownership Acquisition Cancellation†	7.14	

Query Attribute Ownership	7.15
Inform Attribute Ownership†	7.16
Is Attribute Owned by Federate	7.17
Change Attribute Order Type	8.23
Change Interaction Order Type	8.24
Create Region	9.2
Modify Region	9.3
Delete Region	9.4
Unassociate Region For Updates	9.7
Unsubscribe Object Class With Region	9.9
Unsubscribe Interaction Class With Region	9.11
Request Class Attribute Value Update With Region	9.13
Enable Class Relevance Advisory Switch	10.23
Disable Class Relevance Advisory Switch	10.24
Enable Attribute Relevance Advisory Switch	10.25
Disable Attribute Relevance Advisory Switch	10.26
Enable Attribute Scope Advisory Switch	10.27
Disable Attribute Scope Advisory Switch	10.28
Enable Interaction Relevance Advisory Switch	10.29
Disable Interaction Relevance Advisory Switch	10.30

Supporting Documentation

HLA Rules [1]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

HLA COMPLIANCE CHECKLIST FEDERATION

Compliance Item 1: Federations shall have an HLA Federation Object Model (FOM), documented in accordance with the HLA Object Model Template (OMT).

Object Model Requirements

* : indicates mandatory table

Table	OMT Ref	
Object Model Identification	4.1	*
Object Class Structures	4.2	*
Object Interactions	4.3	*
Attributes	4.4	*
Parameter	4.5	*
Enumerated and Complex Data Types	4.6	
Routing Space	4.7	
Lexicon	5.2	*

Supporting Documentation

HLA Rules [1]

Object Model Template [2]

Test Procedures for the Object Model Template [3]

Compliance Item 2: In a federation, all object representation shall be in the federates, not in the Run Time Infrastructure (RTI).

Supporting Documentation

HLA Rules [1]

Comments

Review federation design/enforced by RTI

Compliance Item 3: During a federation execution, all FOM data interchanged among federates occurs via the RTI.

Supporting Documentation

HLA Rules [1]

Comments

Review federation design/operations

Compliance Item 4: During a federation execution, federates shall interact with the RTI in accordance with the HLA interface specification.

Supporting Documentation

HLA Rules [1]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

Comments

Test all federates for compliance with interface specification

No added testing is needed if all federates in federation are HLA-compliant

Compliance Item 5: During a federation execution, an instance attribute shall be owned by at most one federate at any time.

Supporting Documentation

HLA Rules [1]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

Comments

Review federation execution design; enforced by RTI

HLA COMPLIANCE CHECKLIST RUNTIME INFRASTRUCTURE

Compliance Item 1: During a federation execution, the Run Time Infrastructure (RTI) shall interact with federates in accordance with the full set of services in the HLA interface specification.

Supporting Documentation

HLA Rules [1]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

Comments

Test RTI federate interfaces for all services given in the Interface Specification

Compliance Item 2: RTI shall provide services as called for by the federates via the interface in accordance with the RTI functional specification.

Supporting Documentation

HLA Rules [1]

Run Time Infrastructure Functional Specification [6]

Comments

Test RTI for compliance with RTI functional specification (in draft)

Compliance Item 3: In a federation, all object representation in the FOM shall be in the Federates, not in the RTI, except for the RTI supplied MOM specified in section 11 of the Interface Specification.

Supporting Documentation

HLA Rules [1]

Interface Specification [4]

Comments

Review RTI design.

Compliance Item 4: During a federation execution, the RTI shall enforce the fact that an attribute of an instance of an object can be owned by only one federate at any given time.

Supporting Documentation

HLA Rules [1]

Interface Specification [4]

Test Procedures for the Interface Specification [5]

Comments

Test via Query Attribute Ownership service.

Review RTI design.

REFERENCES

- [1] Defense Modeling and Simulation Office, High Level Architecture Rules, Version 1.3, 5 February 1998.
- [2] Defense Modeling and Simulation Office, High Level Architecture Object Model Template, Version 1.3, 5 February 1998.
- [3] Defense Modeling and Simulation Office, High Level Architecture Object Model Template Test Procedures, Version 1.3, April 1998.
- [4] Defense Modeling and Simulation Office, High Level Architecture Interface Specification, Version 1.3, 5 February 1998.
- [5] Defense Modeling and Simulation Office, High Level Architecture Interface Specification Test Procedures, Version 1.3, April 1998.
- [6] Defense Modeling and Simulation Office, High Level Architecture RTI Functional Specification.