OIIE Scenario 16 – Publish Maintenance Work Status/Work History from MMS to ORM

Before submitting a request for work advisory, the ORM needs to ensure that similar active work is not already in process. Once the ORM submits a request for work and receives back a Work Request or Work Order unique identifier, the ORM may periodically want an update on the status of the work. Finally, the ORM also needs to retrieve the work history of a functional location segment or asset to perform comprehensive equipment health diagnostics/prognostics.

Actors

Maintenance Management System	Publishes updates on work requests and/or work orders for functional locations, serialized assets, or models along with status changes for this work and completed work histories for these entities.
Operational Risk Management System	Subscribes to updates for work requests and/or work orders for functional locations, serialized assets, or models along with status changes for this work and completed work histories for these entities.

Data Content

The data sent from the MMS to the ORM consists of:

- The functional location, serialized asset, or make/model where work is to be performed

- The work request or work order with associated work steps

- Work status audit trail records

- Completed work records

MIMOSA CCOM Reference Types

For the purposes of reference data management, the following MIMOSA CCOM types may be referenced:

- AgentType
- AssetType
- PropertyType/PropertyDefinition
- ModelType
- PriorityLevelType
- SegmentType
- SolutionPackageType
- UnitType
- WorkManagementType

- WorkStatusType
- WorkTaskType

NOTE   For versions of MIMOSA CCOM prior to 4.1, the types referring to 'Property' use the term 'Attribute' instead.

System Interoperability Events

This scenario the requires the sending/receipt of the following Events:

- Publish Work Request Data

- Publish Work Order Data

- Publish Work Status Data

- Publish Completed Work Data

Data Formats

The data published by the MMS and received by the ORM must conform to MIMOSA CCOM BODs.

Infrastructural Components

ISBM

The communication between all systems occurs via the ISBM using publish-subscribe services.

Implementation Requirements

The MMS must implement a client for the ISBM Provider Publication and Channel Management (GetChannel operation only) Services.

The ORM must implement a client for the ISBM Consumer Publication and Channel Management (GetChannel operation only) Services. The ORM may implement the ISBM Notify Listener Service for message notification.

Suggested Channel/Topic Configuration

A channel should be created for install requests and should conform to the following format:

`/Enterprise/Enterprise Subdivision/.../ISO18435:D2.3/Publication`

For example:

`/Enterprise/Refinery A/Area A/Light Ends Area/ISO18435:D2.3/Publication`

As outlined in the document ISBM Guidelines, topics should match the message content. Correspondingly, the following topic format should be used:

`OIIE:S16:V1.2/StandardSchemaName{:Version}`

For example:

`OIIE:S16:V1.2/CCOM-XML:SyncWorkRequests:V1.0`

```
OIIE:S16:V1.2/CCOM-XML:SyncWorkOrders:V1.0
OIIE:S16:V1.2/CCOM-XML:SyncWorkStatus:V1.0
OIIE:S16:V1.2/CCOM-XML:SyncCompletedWork:V1.0
```

CIR

The CIR is used to keep track of the object mappings between all systems.
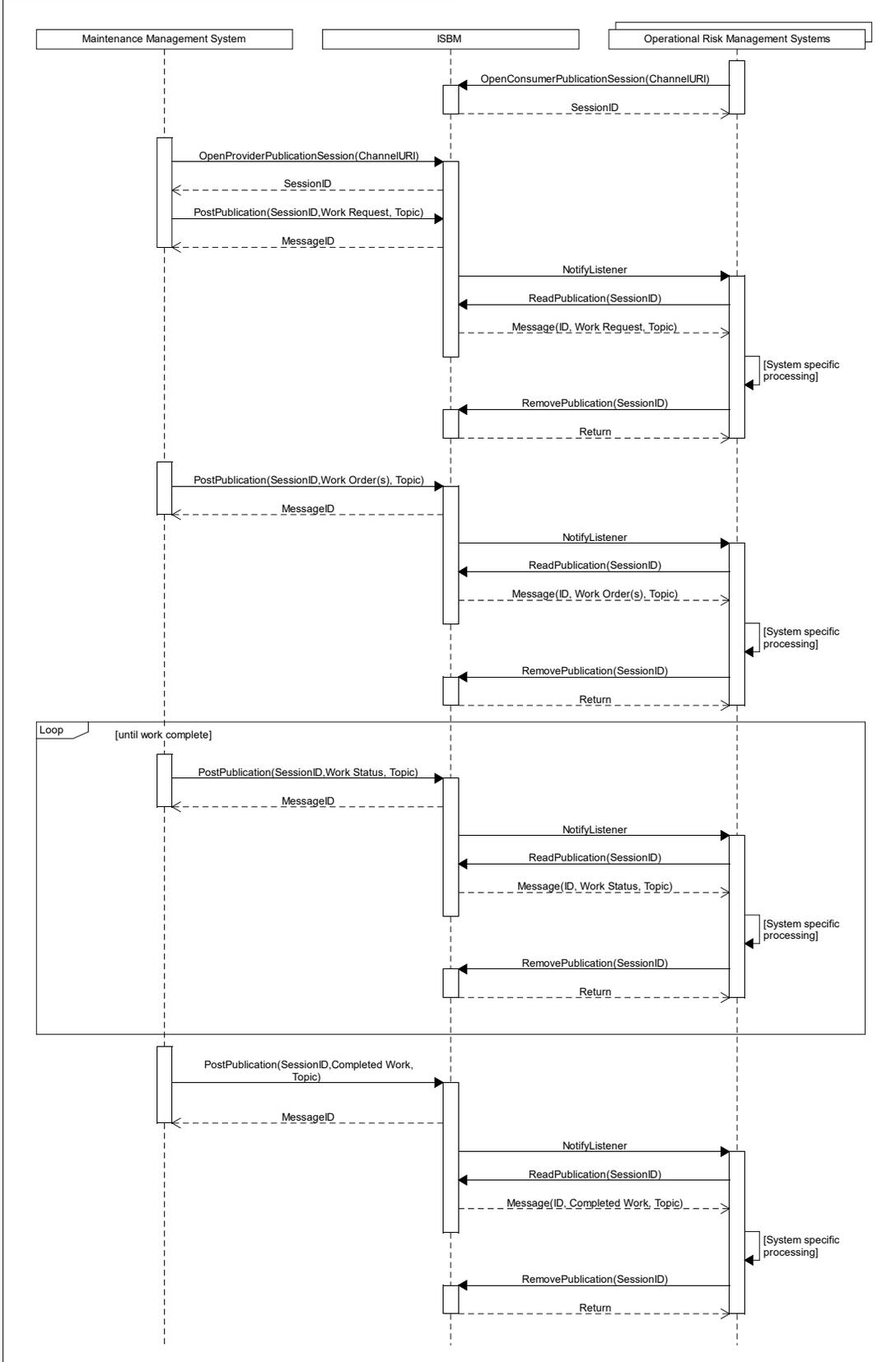
Suggested Categories Configuration

The following CIR categories are suggested:

Data Type	MIMOSA CCOM Categories
Functional locations	Segment
Serialized assets	Asset
Product make/model	Model
Agents	Agent
Solution Packages	Solution Package

Event Sequence

The following diagram represents a simplified set of exemplar interactions between the systems required to achieve this Scenario. The system actors are assumed to have OIIE/ISBM adaptors implemented as required, with services according to the ISBM Implementation Requirements described above. For simplicity, it is assumed that each system/adaptor implements the optional Notify Listener service.

OIIE Scenario 16: Publish Maintenance Work Status/Work History events from MMS to ORM

Maintenance Management System	ISBM	Operational Risk Management Systems

OpenConsumerPublicationSession(ChannelURI)

SessionID

OpenProviderPublicationSession(ChannelURI)

SessionID

PostPublication(SessionID,Work Request, Topic)

MessageID

NotifyListener

ReadPublication(SessionID)

Message(ID, Work Request, Topic)

[System specific processing]

RemovePublication(SessionID)

Return

PostPublication(SessionID,Work Order(s), Topic)

MessageID

NotifyListener

ReadPublication(SessionID)

Message(ID, Work Order(s), Topic)

[System specific processing]

RemovePublication(SessionID)

Return

Loop [until work complete]

PostPublication(SessionID,Work Status, Topic)

MessageID

NotifyListener

ReadPublication(SessionID)

Message(ID, Work Status, Topic)

[System specific processing]

RemovePublication(SessionID)

Return

PostPublication(SessionID,Completed Work, Topic)

MessageID

NotifyListener

ReadPublication(SessionID)

Message(ID, Completed Work, Topic)

[System specific processing]

RemovePublication(SessionID)

Return

Version Applicability/Alignment

Scenarios describe general data requirements and, hence, they are aligned to specific versions of CCOM and/or other MIMOSA standards. For example, older versions of CCOM may not include the data elements required by newer Scenarios, while older Scenarios may become obsolete or have their data requirements change over time.

This Scenario is applicable to the following versions of CCOM:

- CCOM 3.x (part of OSA-EAI 3.x)

- CCOM 4.x

NOTE   Use of 'x' in the version number indicates a variable version. For example, "4.x" indicates applicability to all versions of CCOM with the MAJOR version '4', regardless of MINOR and PATCH versions.

Document Versioning

Version	Date	Major Changes
1.2	2020-06-29	Updated to use OpenO&M template
1.1	2019-02-06	Update to revised Use Case architecture.
1.0	2018-11-06	Import from website-based documentation.