# OIIE Scenario 7 – Pull OEM Model data from OEM PDM to REG-PRODUCT

While the OEM is considered to be the authoritative source for product data, this data is replicated to an internal system (REG-PRODUCT) for management within the Execution Environment. The product data is provided as data sheets in an agreed upon standard form, such as an Industry Standard Datasheet Definition (ISDD). Using standardized property sets for equipment classes based on recognized industry standard data sheets improves the exchange and understandability of core product data properties. OEMs must create mappings to the standardized data sheets for the product data they wish to share.

## Actors

| | |
|---|---|
| **Manufacturer Product Data Management System (OEM PRODUCT)** | External system of record for engineering product data.<br>Receive requests for model data and reply with model data, including data sheets in an agreed standard format. |
| **Product Model Registry (REG-PRODUCT)** | Internal registry of engineering product data, allowing additional observations and supplementary data to be associated with original OEM's model data.<br>Request model data from OEM PDM and receive and register O&M-related model data. |

## Data Content

The data sent from the OEM PDM System to the Model Registry is, at a minimum, composed of:

- The model(s)
- The (OEM) data sheet for each model

### OEM Data Sheet Requirements

The OEM data sheets may come in many different forms and some OEMs may provide more data than others. To enable the data sheets to be understood and handled effectively by the receiving O&M systems as well as reducing the effort for OEMs so they do not have to provide many custom data formats, the data sheets will be shared in an agreed upon standard format. This Scenario recommends the use of Industry Datasheet Definitions (ISDDs) as the method for representing standardized data sheets. This form represents data sheets using CCOM and provides standardized sets of properties based on industry accepted reference data sheets, such as those published by industry standards bodies and associations, for example ISA, API, PIP, etc. The agreed format may be determined ahead of time or included in the request for product data.

Due to differences in OEM data and the standardized data sheets, OEMs will need to map their internal data to the standardized forms. This mapping need only be done once and can be reused for all customers requesting the same format. Additional product data (or data sheet properties) that are not mappable to the standardized data sheets and which an OEM wants to share may be included as extensions to the standardized data sheets.

NOTE The mapping of OEM product data to a standardized form is not part of this Scenario and is assumed to have been done a priori.


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### MIMOSA CCOM Reference Types

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

- AssetType
- PropertySetType/PropertySetDefinition (for Data Sheets)
    - The reference PropertySetTypes and PropertySetDefinitions should come from the catalogue of published ISDDs.
- PropertyType/PropertyDefinition
- SegmentType
- UnitType

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:

- Pull Product Model Data

## Data Formats

The data published by the Manufacturer Product Data System and received by the Model Registry must comply with MIMOSA CCOM BODs.

## Infrastructural Components

### ISBM

The communication between all systems occurs via the ISBM using request-response services.

#### Implementation Requirements

The OEM PDM System must implement a client for the ISBM Provider Request and Channel Management Services (GetChannel operation only). The OEM PDM System may implement the ISBM Notify Listener Service for message notification.

The internal Product Model Registry must implement a client for the ISBM Consumer Request and Channel Management Services (GetChannel operation only). The Model Registry may implement the ISBM Notify Listener Service for message notification.

#### Suggested Channel/Topic Configuration

This is an inter-enterprise Scenario involving an OEM and an Owner/Operator (O/O) and so two possible ISBM configurations could be used depending on whether the ISBM is shared infrastructure or each party manages their own instance. In the latter case, each party will have their own channel configurations defined from their perspective that must be mapped between the instances.


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### *Inter-Enterprise Configuration*

If each party, i.e., the OEM and O/O in this case, manage their own ISBM instance then the two ISBMs must be connected and the channels mapped between instances.

The O/O can create a channel specifically for the model data as follows:

```
/Enterprise/Enterprise Subdivision/.../Model/Definition/ISO18435:D4.2/Request
```

For example:

```
/Demo Enterprise/Refinery A/Area A/ISO18435:D4.2/Model/Definition/Request
```

The OEM can create channel specifically for model data as follows:

```
/OEM/OEM Subdivision/.../Model/Definition/ISO18435:D4.2/Request
```

For example:

```
/Demo Supplier/Product Management/Model/Definition/ISO18435:D4.2/Request
```

The mapping between these two channels will be recorded as part of the inter-enterprise configuration management of the ISBM.

### *Shared Configuration*

When both parties (OEM and O/O) communicate via a single ISBM instance, for example, the O/O has invited the OEM to directly connect to their OIIE instance as part of contracting arrangements, a channel can be created specifically for model data as follows:

```
/Enterprise/Suppliers/OEM/Model/Definition/ISO18435:D4.2/Request
```

For example:

```
/Demo Enterprise/Suppliers/Demo Supplier/Model/Definition/IS18435:D4.2/Request
```

### *Topic Configuration*

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

```
OIIE:S7:V1.2/StandardSchemaName{:Version}
```

For example:

```
OIIE:S7:V1.2/CCOM-XML:GetModelDatasheetDefinitions:V1.0
```

## SDAIR

In this Scenario, an SDAIR may participate as an explicit actor in the role of the Product Model Registry.

Additionally, the Scenario may require the use of an SDAIR in the following capacities:

- Registry of agreed upon ISDDs and/or Enterprise Data Sheet Definitions (conforming to ISDD specification)
- Registry of mappings between ISDD properties and enterprise (i.e., O/O and OEM) defined properties


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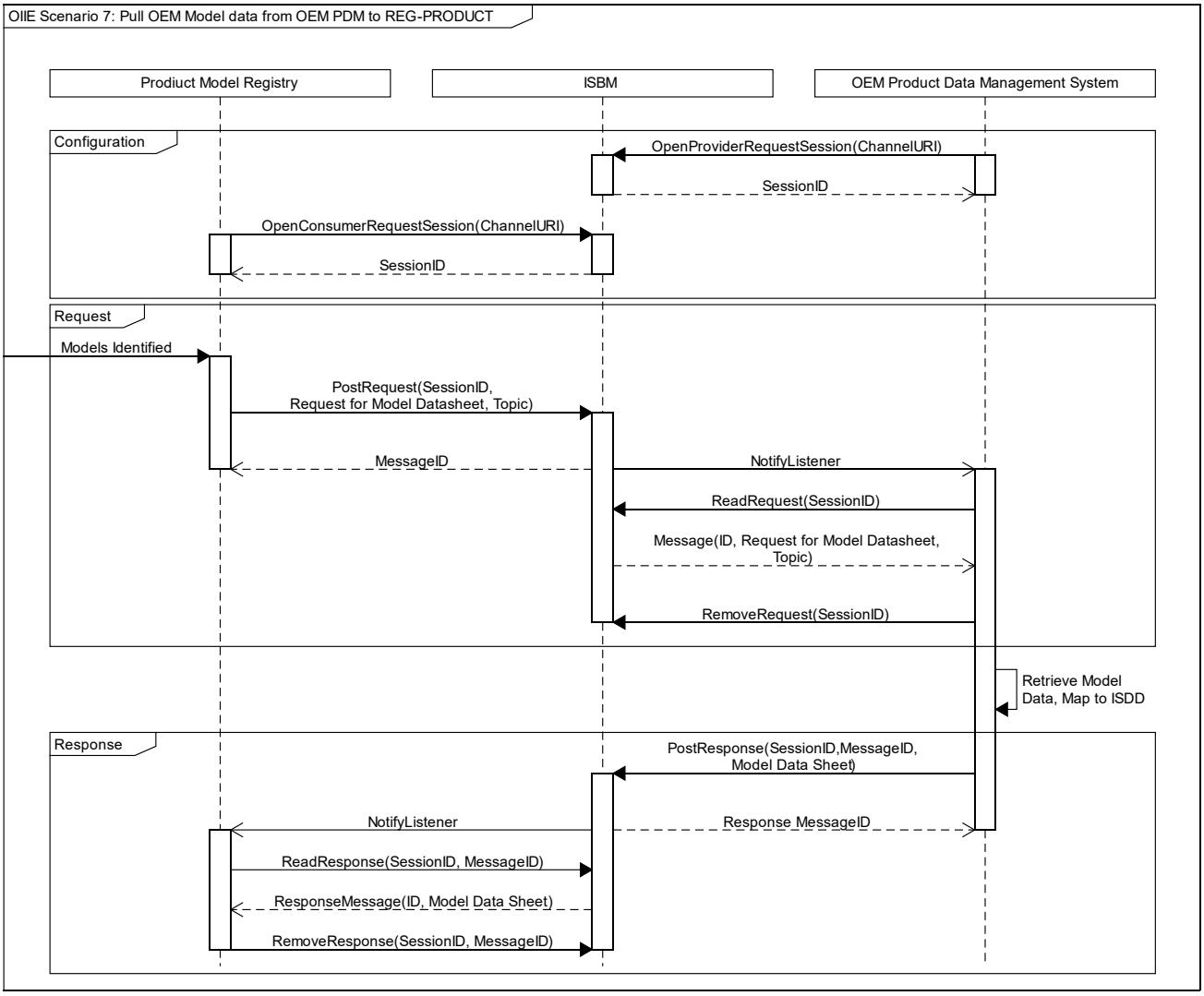
# Event Sequence

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.




# 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 4.x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NOTE This Scenario was introduced in its more complete form after the release of CCOM 4.x series, which was designed, in part, to support the ISDDs and, hence, is not compatible with the CCOM 3.x series.

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 | 2020-12-11 | Updated to use OpenO&M template. Updated suggested channel configuration. |
| 1.1 | 2019-01-29 | Updated to new Use Case Architecture. Extended with use of ISDDs. |
| 1.0 | 2019-01-29 | Imported from old draft documentation. |


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