OIIE Scenario 38 – Pull Partial Product Data from OEM PDM to MATERIALS/PROCURE

During procurement an EPC (or O/O) EPC may request product data for evaluation of suitability against engineering requirements, etc. In this Scenario the Manufacturer may want to hold back certain information about their products until a suitable agreement is in place. 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. Receive requests for model data and reply with model data, including data sheets in an agreed standard format.
Procurement Management System (MATERIALS/PROCURE)	Temporary storage location for (partial) engineering product data required during procurement/model selection. Request model data from OEM PDM and receive procurement-related model data.

Data Content

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

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

Note The data sheets returned in this Scenario may be sparse compared to the complete data held by the OEM and may be inadequate for the operation and maintenance of an asset. The data that is returned is at the discretion of the Manufacturer.

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 will focus recommends 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 and/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 only needs to 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.

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 Procurement Management System must implement a client for the ISBM Consumer Request and Channel Management Services (GetChannel operation only).

All systems may implement the ISBM Notify Listener Service for message notification.

Suggested Channel/Topic Configuration

This is an inter-enterprise Scenario involving an OEM PDM System and a Procurement Management System 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.

Inter-Enterprise Configuration

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

The Procurement Management System can create a channel specifically for the model data as follows:

```
/Enterprise/Enterprise Subdivision/.../Model/Definition/ISO18435:D0.2/Request
```

For example:

```
/Demo Enterprise/Refinery A/Area A/ISO18435:D0.2/Model/Definition/Request
```

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

```
/OEM/OEM Subdivision/.../Model/Definition/ISO18435:D0.2/Request
```

For example:

```
/Demo Supplier/Product Management/Model/Definition/ISO18435:D0.2/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 PDM and Procurement Management System) 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:D0.2/Request
```

For example:

```
/Demo Enterprise/Suppliers/Demo Supplier/Model/Definition/IS18435:D0.2/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:S38:V1.1/StandardSchemaName{:Version}
```

For example:

```
OIIE:S38:V1.1/CCOM-XML:GetModelDatasheetDefinitions:V1.0
```

SDAIR

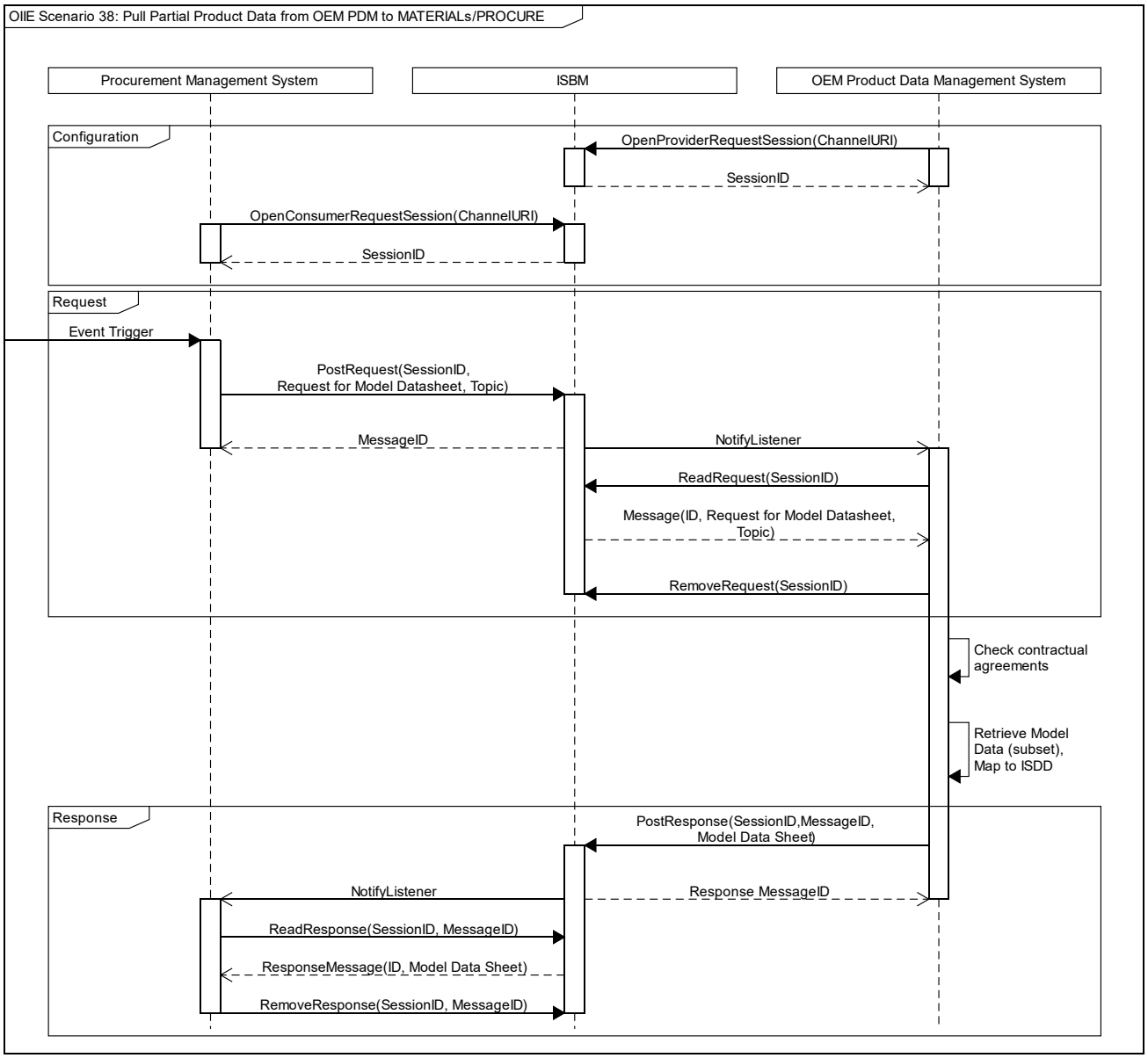
The Scenario may require the use of an SDAIR in the following capacities:

- 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., EPC and OEM) defined properties

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.



Note The mapping to ISDD may already be recorded, in which case it will execute the known mapping, otherwise the OEM's processing may include generation of the mapping to the required ISDD.

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

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
1.1	2020-06-29	Updated to use OpenO&M template. Updated suggested channel configuration.
1.0	2019-01-31	Initial write-up.