# MEF Standard

# MEF 79.0.1

# Amendment to MEF 79: Address, Service Site, and Product Offering Qualification Management Requirements and Use Cases

# December 2020

Disclaimer

## Table of Contents

# List of Tables

# 1   List of Contributing Members

The following members of the MEF participated in the development of this document and have requested to be included in this list.

| Member Company |
|---|
| AT&T |
| Cisco |
| Colt |
| Futurewei |
| Orange |
| PCCW Global Limited |
| Proximus Carrier & Wholesale Solutions |
| Spirent |

**Table 1 - Contributing Member Companies**

# 2   Abstract

This document addresses two major issues that have been identified in MEF 79[3]. The first is to clarify that the Buyer may provide a list of Products for each Product Relationship in the Create POQ Request.

Multiple Product Identifiers with the same Relationship Nature may be specified by the Buyer using the Related Product Identifier attribute.  As an example, the Buyer submits a POQ Request for a Product that requires an interconnection between Buyer and Seller. The POQ Request may contain the Product Identifier for one or more interconnections. The Seller returns the best result for the POQ Request over any of the Related Product Identifiers. They Buyer includes one of the Related Product Identifiers in the Order Request if they place an order based on this POQ. If none of the Related Product Identifiers from the POQ are included in the Order Request, the Seller may reject the Order Request.

The second issue involves the way that relationships are described among POQ Items and between POQ Items and Products. The current method as defined in MEF 79[3] uses one POQ Item attribute, called Product Relationship, to reflect all relationships. This is being changed to two POQ Item attributes, POQ Item Relationship and Product Relationship. This will allow specific rules to be in place that place limits on the relationship between two POQ Items or between a POQ Item and an existing Product ID.

Note: Product specific attributes and the use of placeholders or ignoring values are addressed in the Product Specification and not within this document.

# 3    Compliance Levels

The key words "**MUST**", "**MUST NOT**", "**REQUIRED**", "**SHALL**", "**SHALL NOT**", "**SHOULD**", "**SHOULD NOT**", "**RECOMMENDED**", "**NOT RECOMMENDED**", "**MAY**", and "**OPTIONAL**" in this document are to be interpreted as described in BCP 14 (RFC 2119 [1], RFC 8174 [2]) when, and only when, they appear in all capitals, as shown here. All key words must be in bold text.

Items that are **REQUIRED** (contain the words **MUST** or **MUST NOT**) are labeled as **[Rx]** for required. Items that are **RECOMMENDED** (contain the words **SHOULD** or **SHOULD NOT**) are labeled as **[Dx]** for desirable. Items that are **OPTIONAL** (contain the words **MAY** or **OPTIONAL**) are labeled as **[Ox]** for optional.

# 4    Introduction

This document addresses two major issues that have been identified in MEF 79[3]. The first is to clarify that Multiple Product Identifiers with the same Relationship Nature may be specified by the Buyer using the Related Product Identifier attribute. As an example, the Buyer submits a POQ Request for a Product that requires an interconnection between Buyer and Seller. The POQ Request may contain the Product Identifier for one or more interconnections. The Seller returns the best result for the POQ Request over any of the Related Product Identifiers. The Buyer includes one of the Related Product Identifiers in the Order Request if they place an order based on this POQ. If none of the Related Product Identifiers from the POQ are included in the Order Request, the Seller may reject the Order Request.

Updates to the following sections in MEF 79[3] are included to address this issue:

- Use Case 6 to allow the Buyer to specify multiple candidate Products as defined in the Product Specification.

- Section 8.4.1.1 Buyer Specification of POQ Items

The second issue involves the way that relationships are described among POQ Items and be-tween POQ Items and Products. The current method as defined in MEF 79 [3] uses one POQ Item attribute, called Product Relationship, to reflect all relationships. This is being changed to two POQ Item attributes, POQ Item Relationship and Product Relationship. This will allow specific rules to be in place that place limits on the relationship between two POQ Items or between a POQ Item and an existing Product ID. Updates to the following sections in MEF 79[3] are included to address this issue:

- Section 8.4.1.1 to change Product Relationship attribute to only address existing Products

- Add an POQ Item Relationship attribute to Section 8.4.1.1 that is used to reflect a relationship to another POQ Item

- Update Section 8.4.1.2 to eliminate mention of POQ Item

- Add section 8.4.1.3 after 8.4.1.2 covering POQ Item Relationship detail

In this amendment, changes are shown as follows:

- Instructions for how to apply the amendment are shown in *blue italics*
- In content modified by the amendment, text to be removed is shown with ~~red strikethrough~~
- In content modified by the amendment, text to be added is shown in red

# 5   Changes to section 7.2

*Replace Table 9 with the table below.*

| Field | Description |
|---|---|
| Use Case Number | 6 |
| Use Case Name | Create Product Offering Qualification |
| Description | A request initiated by the Buyer to determine whether the Seller can feasibly deliver a particular Product (or Products), and where applicable to a specific set of geographic locations. The Seller also provides estimated time intervals to complete these deliveries. |
| Actors | Buyer/Seller |
| Pre-Conditions | The Buyer may know the Address Identifier and/or the Service Site Identifier (typically based on previously executed Validate Address or Retrieve Service Site List Operations) though this is not mandatory. |
| Process Steps | 1. The Buyer sends a Create Product Offering Qualification request to the Seller.  This request contains one or more POQ Items, each of which specifies one of the Seller's Product Offerings (e.g., a UNI), the location in which it is to be installed if applicable (e.g., at a Service Site identified by a particular Service Site Identifier), and/or associations with other Products if applicable (e.g., an Access E-Line Product connected to a particular UNI and ENNI).  The Buyer also includes other information in the request such as expected response time.  In some cases, the Buyer can specify associations with multiple candidate Products.  In this case, the Seller processes the list as described in the Product Specification. In the example above, the Buyer may include a list of ENNIs between the Buyer and Seller as associated Products. The ENNIs in the list might need to all be in the same Geographic Area as defined by the Seller (same city, same county, etc.).  The Seller uses any of the ENNIs in the list to respond to the POQ Request. <br> 2. If the Seller is using the Deferred Response pattern to respond to this POQ, they return an acknowledgement of the request as well as a unique POQ Identifier.  At this point, this Use Case concludes while the Seller works to complete the POQ. <br> 3. If the Seller is using the Immediate Response pattern to respond to this POQ, the Seller determines, for each POQ Item, if they can feasibly deliver the Product configuration requested. <br> If the Seller is highly confident they can service the request, they return a response with confidence = "GREEN". |

| | |
|---|---|
| | If the Seller believes they can deliver the Product but is not highly confident, they return a response with confidence="YELLOW". In addition, if the Seller is highly confident that they can deliver one or more substitute Product configurations (e.g., of lower bandwidth), they may specify the details of these alternate Products.<br>If the Seller cannot service the request, they return a response with confidence = "RED". In addition, if the Seller is highly confident that they can deliver one or more substitute Product configurations (e.g., of lower bandwidth), they may specify the details of these alternate Products.<br>4. The Seller also returns a POQ Identifier, which is unique within this Seller.<br>The Seller also returns a best-case time interval to deliver this Product upon receipt of an order. |
| Post-Conditions | If the Seller provided an Immediate Response, the Buyer has received a response with a Product Offering Qualification and therefore knows if the Seller can fulfill the request. If the Seller is using the Deferred Response pattern, the Seller has acknowledged the POQ to the Buyer and the Buyer is aware of the unique POQ Identifier to be used in other Use Cases. |
| Alternative Paths | The Seller returns an error message if an error is encountered that prevents the Seller from processing the request.<br>If, when using the Immediate Response pattern, there are any issues with the Product, Product Offering or Product Specification requested, an error is returned.<br>If, when using the Immediate Response pattern, there are any issues with the location specified, an error will be returned.<br>If, when using the Immediate Response pattern, there are any issues with related Products referenced in the POQ Item (e.g., If an Access E-Line is to terminate on a specified ENNI that does not exist or is not in an appropriate state), an error will be returned. |
| Business Process | MEF 50.1 Lead-Response-to-Contract |

**Table 9 – Create Product Offering Qualification**

# 6    Changes to Section 8.4.1.1

*Replace Table 21 with the table below.*

| Attribute | Description | Type |
|---|---|---|
| ~~Buyer POQ Item Attributes~~ | | |
| Product Offering Qualification Item Identifier | An identifier for this POQ item, which is unique within this POQ. | String |
| POQ Activity | The activity associated with this POQ item.  INSTALL means that this POQ Item being evaluated is a completely new deployment. CHANGE means that this is a change to an existing Product (e.g., to increase the bandwidth). DISCONNECT means this is an evaluation of feasibility of disconnecting an existing Product (e.g., may not be feasible to disconnect a UNI without first disconnecting attached Access E-Lines) | String that is one of:<br>• INSTALL<br>• CHANGE<br>• DISCONNECT |
| Product Identifier | The identifier of an in-service Product that an activity is being performed on. This field is only populated if an activity is being performed on (e.g., CHANGE or DISCONNECT in POQ Activity attribute) an existing Product. | String |
| Product Offering Identifier | The identifier for a particular Product Offering associated with this POQ Item.  This identifier is unique to the Seller and is established between the Buyer and Seller prior to issuing any POQ requests. | String |
| Product Specific Attributes | The technical attributes for the Product that would be delivered to fulfill this POQ Item. This essentially specifies the values for attributes defined in the Product Specification. The detail of the Product Specification is for further study. | For further study. |
| Product Relationships | A list of ~~other POQ Items in this POQ or~~ existing Products that are related to the Product that will be delivered to fulfill this POQ Item. | A list of Product Relationships as defined in section 8.4.1.2 |
| POQ Item Relationships | A list of other POQ Items in this POQ that are related to the Product that will be delivered to fulfill this POQ Item. | A list of POQ Item Relationships as defined in section 8.4.1.3 |

| POQ Item Location Type | The method used to describe the location at which this POQ Item is installed or is to be installed if this POQ Item is to be installed at a particular location. | String that is one of:<br>• SERVICE_SITE_IDENTIFIER<br>• FIELDED_ADDRESS<br>• FORMATTED_ADDRESS<br>• GEOGRAPHIC_POINT<br>• ADDRESS_REFERENCE |
| --- | --- | --- |
| POQ Item Location | The detailed location at which this POQ Item is installed or is to be installed if this POQ Item is to be installed at a particular location. | A Service Site Identifier, a Fielded Address as defined in section 8.9.2, a Formatted Address as defined in 8.9.3, a Global Address Reference as described in 8.9.4 or a Geographic Point as defined in 8.9.5. |
| POQ Item Location Contact | The person to call to get access to this Service Site in case such access is required to complete the evaluation of this POQ Item. | Contact information as described in 8.11. |

**Table 21 – Buyer POQ Item Attributes**

*Add the following requirements after paragraph and before R35.*

**[A1-R1]** A relationship between the POQ Item and an existing Product **MUST** use the Product Relationships attribute to detail the relationship.

**[A1-R2]** A relationship between the POQ Item and other POQ Items **MUST** use the POQ Item Relationships attribute to detail the relationship.

# 7 Changes to Section 8.4.1.2

*Replace Table 22 with the table below.*

| Attribute | Description | Type |
|---|---|---|
| ~~Related Item Type~~ | ~~Specifies whether this is a relationship to another POQ Item in this POQ or to an existing Product.~~ | ~~String that is one of:~~<br>~~• POQ_ITEM~~<br>~~• PRODUCT~~ |
| Related Product Identifier | ~~The~~ A list of one or more ~~Identifier of the related POQ item (unique within this POQ and assigned by the Buyer) or the~~ Identifiers of ~~the~~ existing Products ~~Product~~ (unique within this Seller). When the Buyer provides multiple Related Product Identifiers the Seller processes the list as defined in the Product Specification. | ~~String~~ List |
| Relationship Nature | Specifies the nature of relationship to the related ~~POQ item~~ Product. The nature of required relationships vary for Products of different types. For example, a UNI or ENNI Product may not have any relationships, but an Access E-Line may have two mandatory relationships (related to the UNI on one end and the ENNI on the other). More complex Products such as multipoint IP or Firewall Products may have more complex relationships. As a result, the allowed and mandatory Relationship Nature values are defined in the Product Specification. | String that is one of the relationship types specified in the Product Specification. |

**Table 22 – Product Relationship Attributes**

**[A1-R3]** The list of Related Product Identifiers **MUST** contain at least one value.

# 8    New Section for POQ Item Relationship

*Insert Section 8.4.1.3 after section 8.4.1.2.*

### 8.4.1.3 Specification for POQ Item Relationship

Table A1-1 defines the attributes used to define a POQ Item Relationship.

| Attribute | Description | Type |
|---|---|---|
| Related POQ Item Identifier | An identifier of a related POQ Item (unique within this POQ Request). | String |
| Relationship Nature | Specifies the nature of relationship to the related POQ item.  The nature of required relationships vary for Products of different types.  For example, a UNI or ENNI Product may not have any relationships, but an Access E-Line may have two mandatory relationships (related to the UNI on one end and the ENNI on the other).  More complex Products such as multipoint IP or Firewall Products may have more complex relationships.  As a result, the allowed and mandatory Relationship Nature values are defined in the Product Specification. | String that is one of the relationship types specified in the Product Specification. |

**Table A1-1 – POQ Relationship Attributes**

**[A1-R4]**    A Buyer or Seller specifying a POQ Item Relationship **MUST** specify all of the attributes in Table A1-1.

**[A1-R5]**    The list of Related POQ Item Identifiers **MUST** contain at least one value.

# 9 References

[1]   Internet Engineering Task Force RFC 2119, *Key words for use in RFCs to Indicate Requirement Levels*, March 1997

[2]   Internet Engineering Task Force RFC 8174, *Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words*, May 2017

[3]   MEF 79, *Address, Service Site, and Product Offering Qualification Management Requirements and Use Cases,* November 2019