



[Healthcare] Ordering Service

Version 1.0

OMG Document Number health/2016-11-01

Normative Reference: <http://www.omg.org/spec/HCOS/1.0>

Associated Normative Machine Consumable Files:

<http://www.omg.org/spec/HCOS/20161101/2016-11-02.xmi>

<http://www.omg.org/spec/HCOS/20161101/2016-11-03.xmi>

<http://www.omg.org/spec/HCOS/20161101/2016-11-04.xmi>

Associated Non-Normative Files:

<http://www.omg.org/spec/HCOS/20161101/2016-11-05.eap>

<http://www.omg.org/spec/HCOS/20161101/2016-11-06.zip>

Specification Template: omg/16-05-01

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- UML Profiles

Modernization Specifications

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CORBA Security Specifications

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Courier – 10 pt. Bold: Programming language elements.

Helvetica/Arial – 10 pt: Exceptions

NOTE: Terms that appear in italics are defined in the glossary. Italic text also represents the name of a document, specification, or other publication.

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0 Scope

The Healthcare Ordering Service (HCOS) is intended to complement the existing portfolio of Service Oriented Architecture (SOA) services on the HL7 / OMG services roadmap. The HCOS provides a consistent, structured methodology for ordering a variety of services and products, including, but not limited to, pharmacy, nutrition, radiology, and laboratory items. It manages electronic interactions between an order source and those providing requested fulfillment services, specifically recognizing that the consequences of an order are not necessarily enacted by the initial recipient, but may only be realized after a complex, multi-step workflow.

The Ordering Service allows providers of complex services or applications to submit appropriate, valid orders and to facilitate desirable interactions with a larger number of fulfillment services. The service helps unify disparate types of orders into a common meta- model cleanly separating essential concerns, prerequisites, and workflow.

The HCOS also defines functional behaviors surrounding the querying and management of an Ordering Service Catalog. The Order Service Catalog allows organizations to collect, import, annotate, manage, and export list of items that can be subsequently displayed to consumers for a variety of different purposes. It typically holds collections of orderable items available to an organization or facility, the definition of orderables used to render and constrain order entry forms, and libraries of order set or plan of care definitions for any number of patient populations.

Further, there are a number of general services that are necessary to the implementation of both order and order catalog management, but are normally provided as part of the operating environment, not specifically as part of the service implementation.

Such supporting services include:

- Identification and authentication
- Authorization and access control
- Audit logging of user actions
- Systems management
- Event generation (e.g. DDS)
- Maintenance, backup, recovery (both system and disaster)

1 Conformance

[TODO]

The Conformance clause identifies which clauses of the specification are mandatory (or conditionally mandatory) and which are optional in order for an implementation to claim conformance to the specification.

Note: For conditionally mandatory clauses, the conditions must, of course, be specified.

It may be helpful to use a table to organise your conformance points.

Table 1.1: This is a table in the Conformance section which has been given an incredibly long title to show that even if we have very verbose authors, the titles of tables will still be formatted in a way that is pleasing to the eye and meets typographical standards

Conformance point 1	An explanation
Conformance point 2	An explanation

--	--

2 Normative References

The following normative documents contain provisions which, through reference in this text, constitute provisions of this specification. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply.

- [EISE2005] J. David Eisenberg, OASIS OpenDocument Essentials, 2005
- [HELL1994] Derek Willan (ed), Greek rural postmen and their cancellation numbers, 1994
- [TRIM1993] John Trimmer, How to Avoid Huge Ships, 1993
- [WATS2016] Andrew Watson, An example bibliography entry, 2016

3 Terms and Definitions

[TODO]	

4 Symbols

List of symbols/abbreviations.

[TODO]

5 Additional Information

5.1 Acknowledgments

The following companies submitted this specification:

- Cognitive Medical Systems
- [TODO]

6 Overview

6.1 General Disclaimer for Initial Submission

The submission of this proposal realizes that this proposal is incomplete and the work presented here is a work in progress meant to inform the public as a whole as to the technical directions that we are taking. This release focus only on the platform independent models and as not documented platform specific binds at this point, although it has been informed by them. Readers will note two significant classes of service in this specification; services related to the order catalog and services related to the life-cycle of a healthcare order. Currently there is a large effort in the harmonization of various Order Catalog Standards work and this document is actively trying to reflect these changes. Given this the concepts and work in the Order catalog sections is much less developed than sections covering Order Management. Currently there is an attempt underway to transfer of the as much information as possible into the XMI files that accompany this specification and generate sections of this document where possible, at this point this effort is underway and very incomplete.

6.2 Partial list of known issues:

[TODO Relate back to SFM]

[TODO – Explain role of Service]

[TODO – Example Sequence Diagrams]

[TODO – Example for multiple fulfillers]

[TODO – Add Service specific order state model]

[TODO – Add Fulfillment state model]

[TODO – Add behaviors, Exceptions, Errors, Pre and Post Conditions to model]

[TODO – Add reference to HL7 V3_SPEC_ORDERSRVINT_R1_DSTU_2015FEB]

[TODO – Deal with SVG vs PNG generation issues – Large diagram scale down in PNG much better than SVG, many of the SVG based diagrams are doing weird stuff with fonts/box size]

[TODO – All PSMs]

[TODO – Conformance]

[TODO – Formatting issues in page breaks]

[TODO – Catalog – resolve primary datatypes (string, any etc.)]

7 Platform Independent Models for Order Management

7.1 Order Management

This is a high level description of the Order Management data structures. The detailed implementation of the normative description of the structures is in the machine readable files associated with this specification.

7.1.1 General Model Issues

7.1.1.1 The role of Identifiers

[TODO – Introduction to how identifier are used]

7.1.1.2 Order Service issued identifiers

[TODO – Identifiers issued by the service for orders, order items etc]

7.1.1.2.1 External Identifiers

[TODO – The importance of external identifiers and there use in the service]

7.1.1.3 Order State Model

[TODO – State Diagram]

[TODO – Explain roles state model and life-cycle]

7.1.1.4 Approach to content

The Order Management Service approaches detailed domain content using a wrapping mechanism to provide interface isolation from the changing nature of healthcare data model. Many of the entities in the data model are in effect envelopes that expose key information the service needs to dispatch and manage the order process. Entities that exhibit the attributes Content Signifier and Content are such envelopes. Conforming services will have a limit set of content forms they understand, and this set is expected to vary both by implements, installation, and over time.

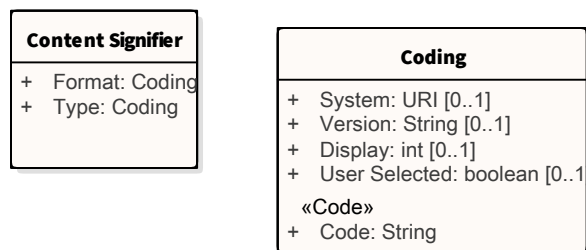


Figure 7.1: Content Signifier

7.1.1.4.1 Content Signifier

The Content Signifier defines two key elements for describing the nature of the content, the Type and the Format. Both elements are expressed as a Coding with supports unambiguous semantic definition. The Type identifies the nature or class of what the content is, for example a medication. The Format identifies the physical representational form of the decoded content, for example

7.1.1.4.2 Content

The context is a Base64 encoding of the binary content consistent with RFC 4648 Base64 encoding. This allows a single “envelope” to represent an unlimited number of potential content model.

7.1.2 Order Service Data Model – Major Order Artifacts

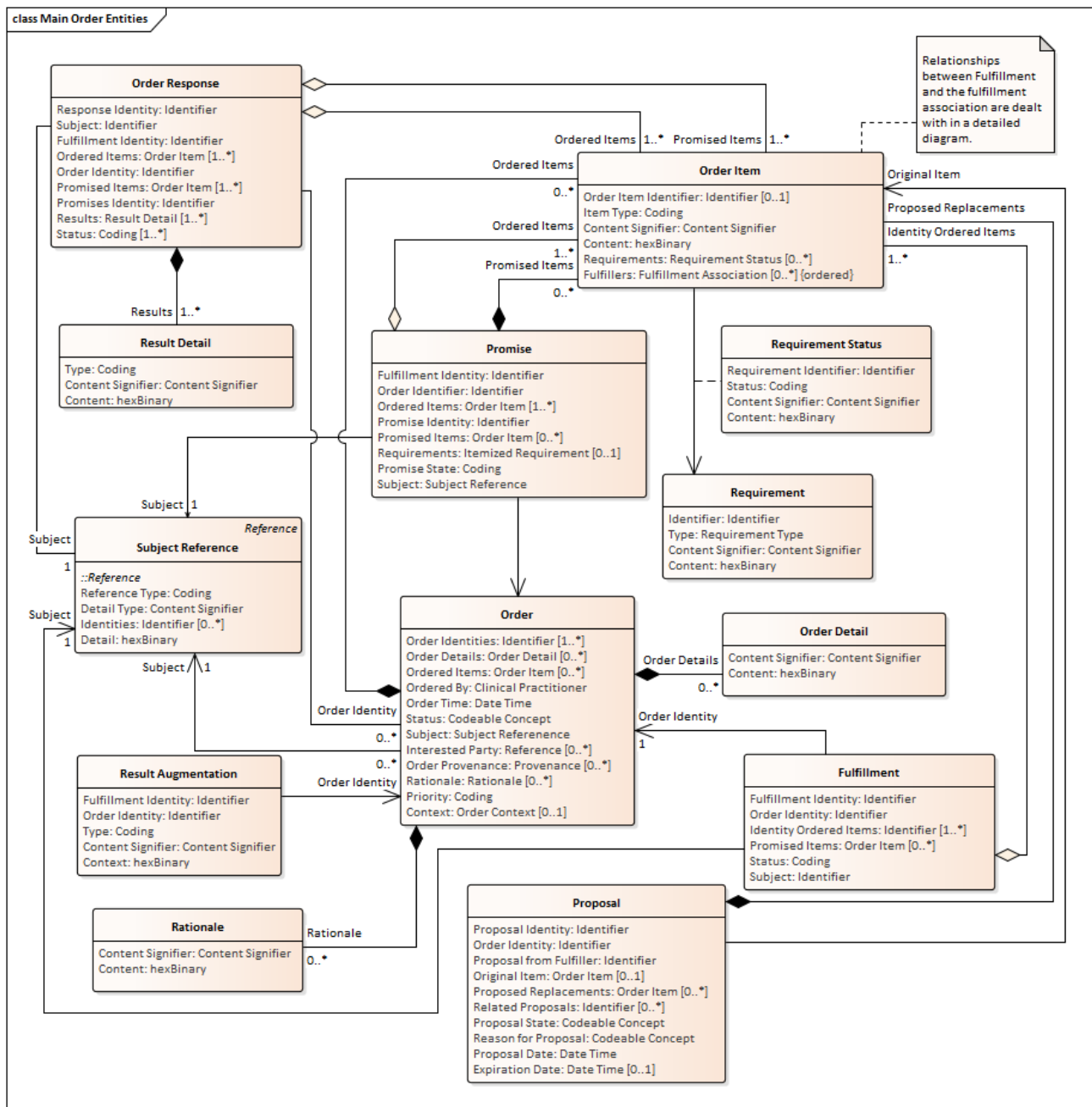


Figure 7.2: Major Order Entities

Class	Summary Description
Fulfillment	Information relating to the fulfillment of the order items within an order
Order	The order as a whole
Order Detail	This class is used to communicate details about the subject or the order necessary for the performance of the order. This includes supplemental order detail for the orders that require an extended common context between the ordered items. For example specimen information.
Order Item	A specific element to order. For example a medication.
Order Response	Information relating to the performance of the order. For example laboratory results, or the analysis of an image.
Promise	This class represents the intent of the fulfillment to perform certain action(s). This may or may not be the same as the requested action(s).
Proposal	The class represent a proposal by a fulfillment service do something other then exactly what was requested. For example the substitution of a generic drug for a name brand one.
Rationale	Documentation for the rationale behind an order.
Requirement	Constraints or preconditions to the acceptance or fulfillment of an order. Requirements can be about the collection of a specimen, counseling, patient presence or procedure / sequence.
Requirement Status	This class is used to capture the status and state of a requirement, e.g. "signed" and the digital signature of the signer.
Result Augmentation	Supplemental information about an order response or result.
Result Detail	The result details, qualitative and quantitative measurements.
Subject Reference	Reference to the Subject of the order (e.g. Patient).

7.1.2.1 Order Service Data Model – Proposals

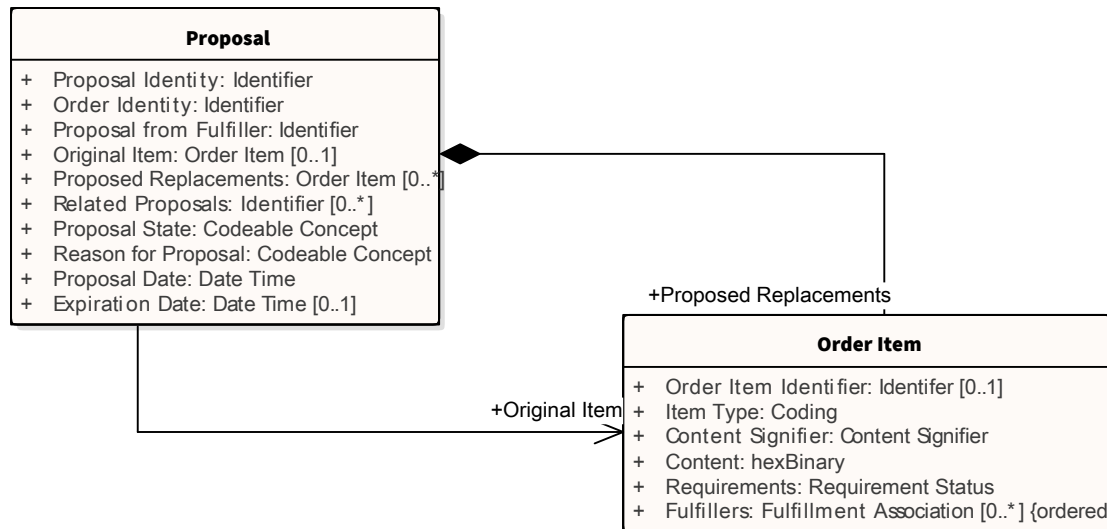


Figure 7.3: Proposals

Class	Summary Description
Order Item	A specific element to order.
Proposal	The class represent a proposal by a fulfillment service do something other then exactly what was requested. For example the substitution of a generic drug for a name brand one.

[TODO – Describe the role of the proposal and its' relationship to an order]

7.1.2.2 Order Service Data Model – Rationale

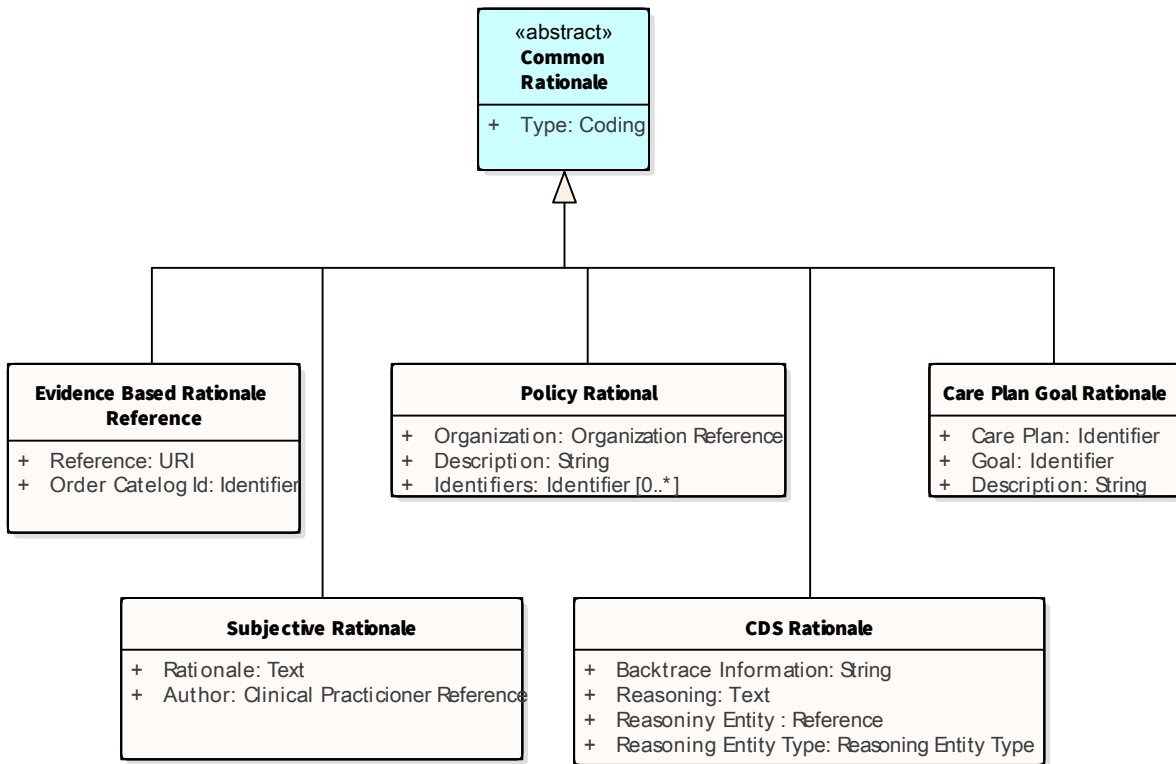


Figure 7.4: Rationale

The orders defines a set of data structures to capture the rational for placing an order. The following table summarizes these data structures.

Class	Summary Description
Care Plan Goal Rationale	Rationale for the order is based on a care plan goal.
CDS Rationale	Rational for the order is based on clinical decision support reasoning.
Common Rationale	Abstract class that for Rationale.
Evidence Based Rationale Reference	Rationale for the order is Evidence based and this data structure is used to reference it.
Policy Rationale	Rationale for the order based on Policy, for example a reflex order.
Subjective Rationale	Rationale for the order is subjective.

7.1.2.3 Order Service Data Model – Requirements

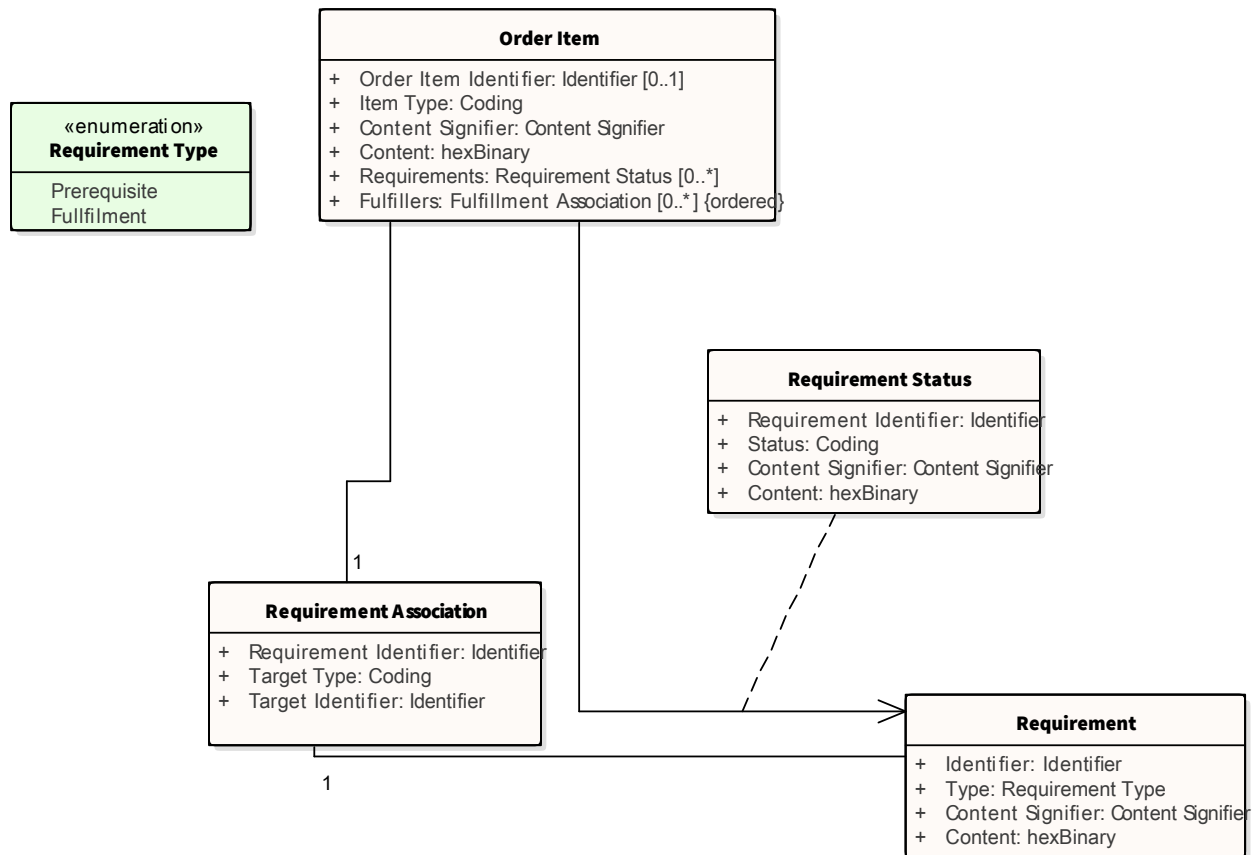


Figure 7.5: Requirements

Class	Summary Description
Requirement	Constraints or preconditions to the acceptance or fulfillment of an order. Requirements can be about the collection of a specimen, counseling, patient presence or procedure / sequence.
Requirement Status	This class is used to capture the status and state of a requirement, e.g. "signed" and the digital signature of the signer.
Requirement Type	Enumeration defining the types of requirement type.

[TODO – Relate to a broad requirements model and acknowledge the we either need to build it here or hopefully find a model that fits, It is likely that for this cut we will need to define a basic taxonomy like was done for rationale]

7.1.2.4 Order Service Data Model – Fulfillment

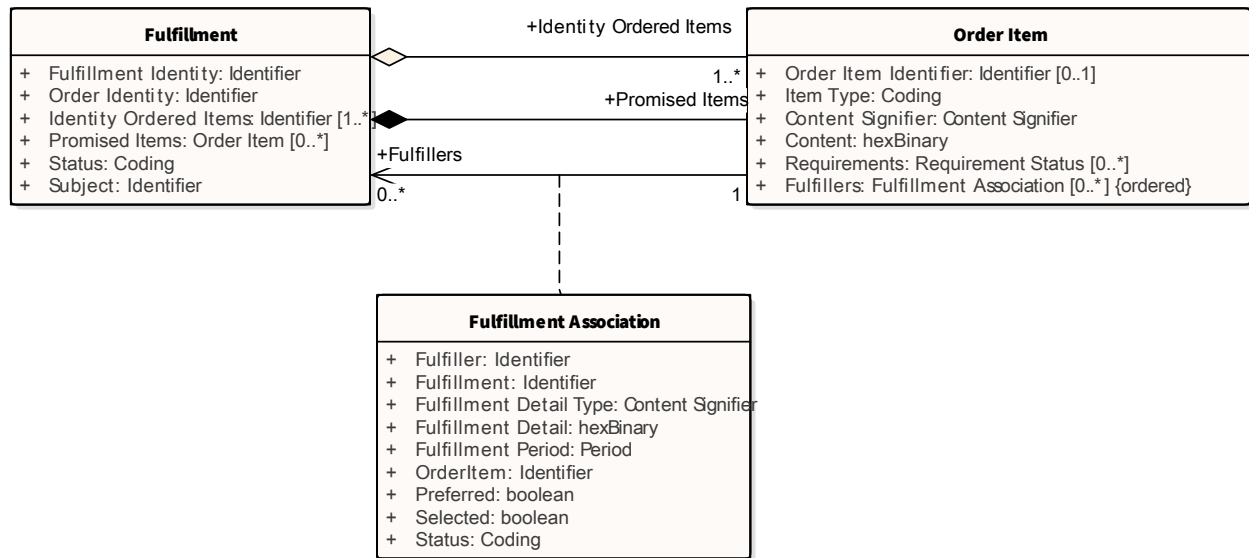


Figure 7.6: Fulfillment Overview

The fulfillment associations will evolve as the order progresses. Unreleased orders may have user/system selected or potential fulfiller. As the life-cycle of the order proceeds the associations will reflect the actual fulfillers and acts of fulfillment.

Class	Summary Description
Fulfillment	Information relating to the fulfillment of the order items within an order
Fulfillment Association	Provides an association that covers the life-cycle of the fulfillment of an order item. In the earlier part of the order life-cycle this association is used to provide suggestions and guidance for how the order may be fulfilled. In the later phases of an order life-cycle this association would reflect both what is pending fulfillment and a history for fulfillments.

7.1.2.5 Order Service Data Model – Service Monitoring

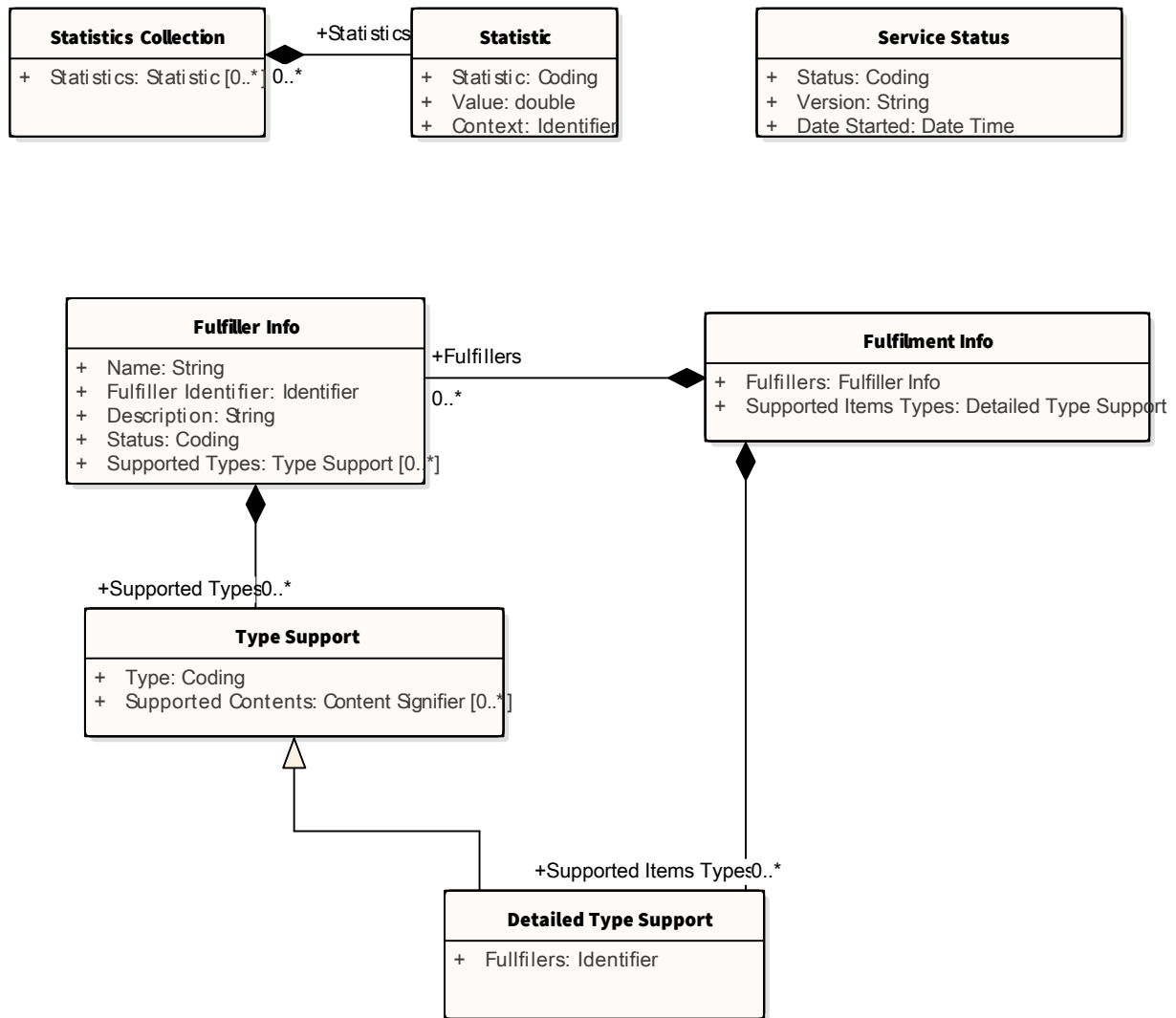


Figure 7.7: Service Monitoring

The order service monitoring data model covers the essential data structures used to report on state and health of the service.

Class	Summary Description
Detailed Type Support	List of type support that includes the identity of the fulfillers supporting that type.
Fulfiller Info	Information about a specific fulfiller including the order item types they support.
Fulfillment Info	Container to provide a collection or known fulfillers as well as an index of what orders types are supported.
Service Status	General information about the service instance

Statistics	A single statistic, identified by code.
Statistics Collection	A collection of statistics.
Type Support	Information on the support Content Signifiers supported on a type.

7.2 Order Catalog

This is a high level description of the Order Catalog Management data structures. The detailed implementation of the normative description of the structures is in the machine readable files associated with this specification

7.2.1 Order Catalog – Core Data Model

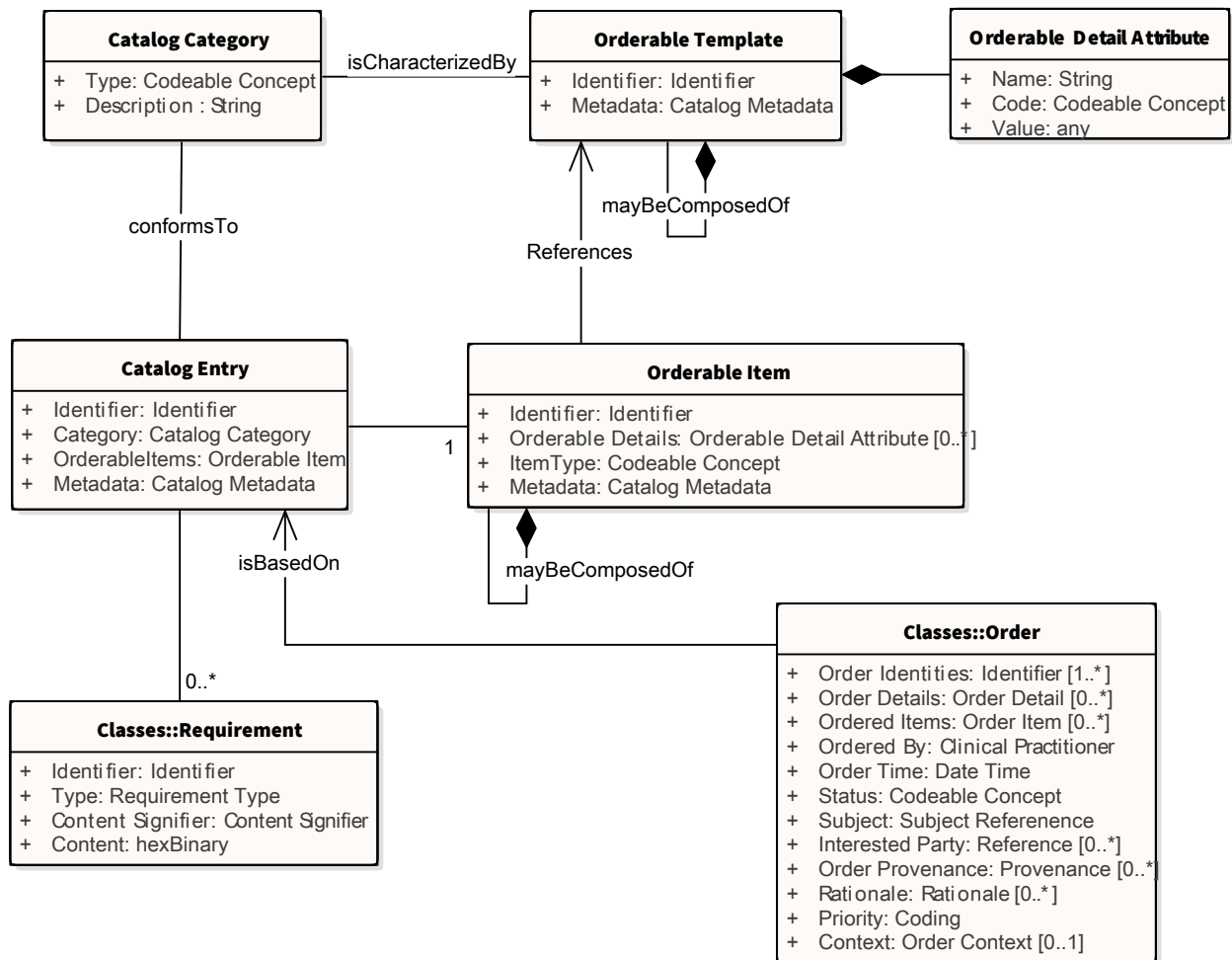


Figure 7.8: Order Catalog Core Data Model

Class	Summary Description
Catalog Category	Describes the kind of catalog entry. For instance, Order Set, Medication Formulary, Lab Test Catalog, Human Services etc.
Catalog Entry	The knowledge artifacts, products, and services that can be selected, ordered, and exchanged from a catalog. These include (but not limited to) order sets, lab tests, and medication products for instance.
Orderable Detail Attribute	Attribute that must be specified to complete a catalog entry - eg dosage. This defines the template attributes that are instantiated in a specific kind of catalog entry

Orderable Item	A set of concepts for the products and services that can be ordered from a catalog. An example might include a dispensable medication term such as “Amoxicillin 200 mg tablet” or a laboratory test or panel LOINC concept.
Orderable Template	Describes the characteristics that can be defined for a given Catalog Category. For instance for a medication might include dosage, frequency, duration, administration instructions, etc.

7.2.2 Order Catalog – Support Data Structures

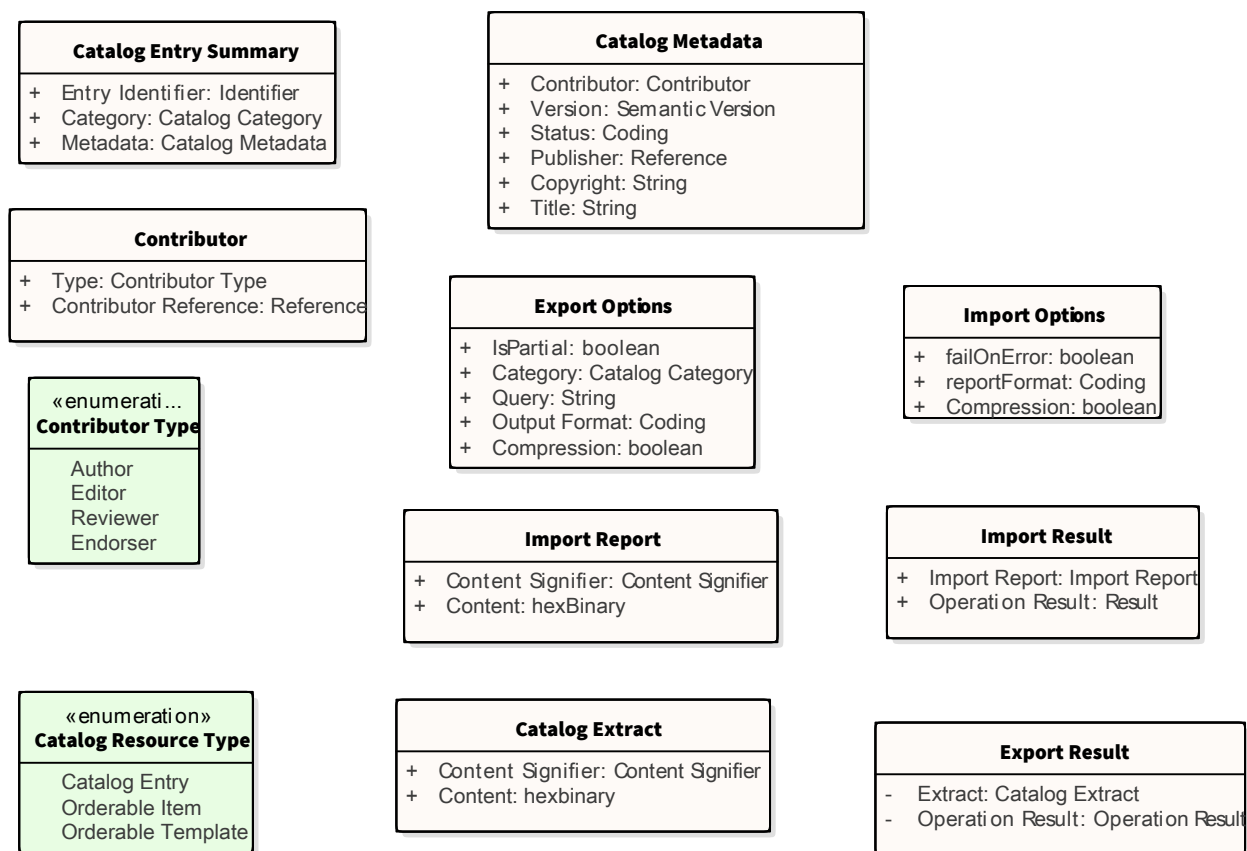


Figure 7.9: Catalog Support Data Structures

Class	Summary Description
Catalog Entry Summary	A condensed set of information to identify a Catalog Entry to facilitate search results.
Catalog Extract	Serialized catalog content resulting from an export operation.
Catalog Metadata	Information about a catalog object to support the curation and management of the catalog object.
Catalog Resource Type	An enumeration of catalog object types that are exposed through the search interface.

Contributor	Person or organization contributing to the catalog. Examples are author, reviewer, etc.
Contributor Types	Enumerates the roles performed by people and organizations with respect to catalog objects.
Export Options	Configuration parameters for catalog exports.
Export Result	Return value for a catalog export operation including the extract and an operation result representing success or failure of the operation.
Import Options	Configuration parameters for catalog imports.
Import Report	Report summarizing the results of a catalog import operation.
Import Result	Return value for a catalog import operation including the report and an operation result representing success or failure of the operation.

7.3 Common Model Elements

This is a high level description of the common data structures used by both order and catalog management. The detailed implementation of the normative description of the structures is in the machine readable files associated with this specification

7.3.1 Supporting Data Structures

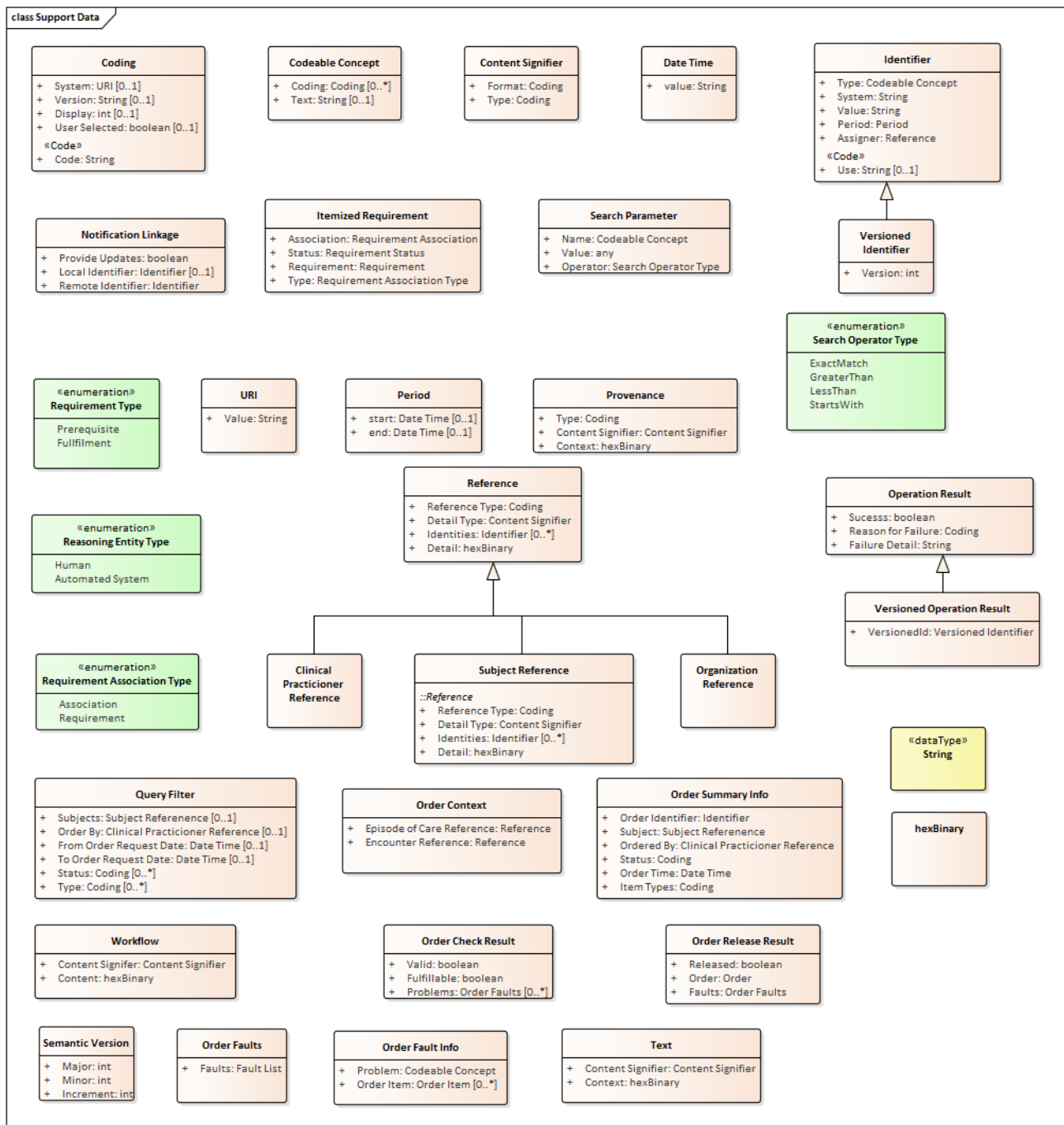


Figure 7.10: Support Data Structures

Class	Summary Description
Clinical Practitioner Reference	Reference to a Clinical Practitioner.
Codeable Concept	A CodeableConcept represents a value that is usually supplied by providing a reference to one or more terminologies or ontologies, but may also be defined by

	the provision of text.
Coding	A Coding is a representation of a defined concept using a symbol from a defined "code system".
Content Signifier	Defines the nature of the content.
Date Time	Date and Time stamp
hexBinary	A Base64 encoding of the binary content consistent with RFC 4648 Base64 encoding.
Identifier	A numeric or alphanumeric string that is associated with a single object or entity within a given system.
Itemized Requirement	Union like structure Containing or relating to a specific requirement and it's status. Used in reporting requirements.
Notification Linkages	Structure used to report on a potential linkage request between the local order service and a remote system.
Operation Result	General operation returned structure to indicate success or failure and provided detailed information in the event of an operations failure.
Order Check Result	The results of checking an order for potential fulfillment.
Order Context	The context in which the order is occurring.
Order Fault Info	Information that targets a specific fault in an order to am order item.
Order Faults	A list of faults with an order.
Order Release Result	The results of attempting to release an order for fulfillment.
Order Summary Info	Summary information about an order.
Organization Reference	A reference to an organization.
Period	A period of time. The start and end time if provided are consider inclusive.
Provenance	Represents the concept of provenance. This is a an envelope for a provenance representation.
Query Filter	Definition of filters to apply to a search or find operation.
Reasoning Entity Type	Enumeration defining the types of reasoning entity types.
Reference	A reference to an entity. Includes by identifier information as well as content based identification for error checking.
Requirement Association Type	Enumeration defining the types of requirement associations.
Requirement Type	Enumeration defining the types of requirement type.
Search Operator Type	Enumeration of Search operators types.

Search Parameters	A parameter is search for. Include the value to check based in the enclosed operator.
Semantic Version	A semantic version identifier.
Subject Reference	Reference to the Subject of the order (e.g. Patient).
Text	Text represents textual information that is often in the form of documentation.
URI	A Uniform Resource Identifier Reference - See RFC 3986
Versioned Identifier	An identifier supplemented with a version.
Versioned Operation Result	An Operation Result supplemented with a Versioned Identifier.
Workflow	Wrapper of a workflow. The Content Signifier indicates the form of workflow model that is found encoded in the Content field.

7.3.2 Supporting Collections

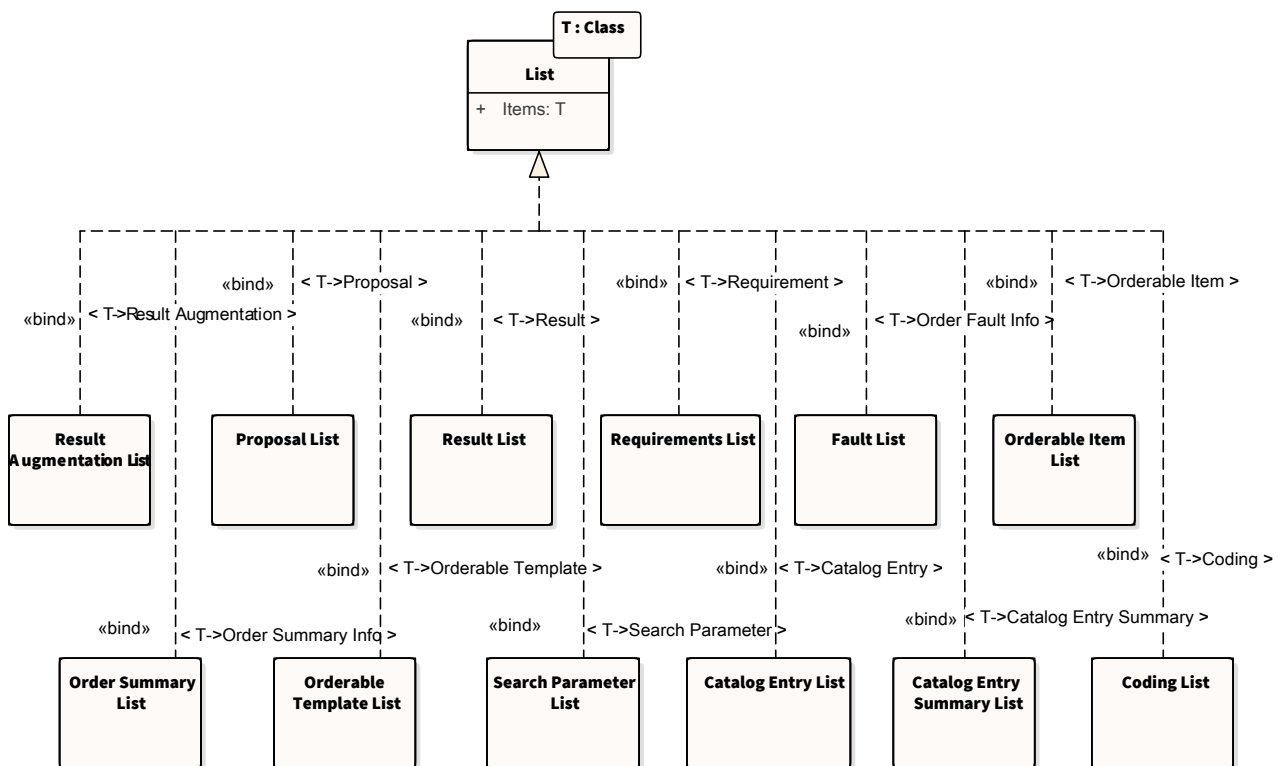


Figure 7.11: Supporting Collections

8 Platform Independent Service Definitions

[TODO – How are global preconditions handled?]

8.1 Order Management

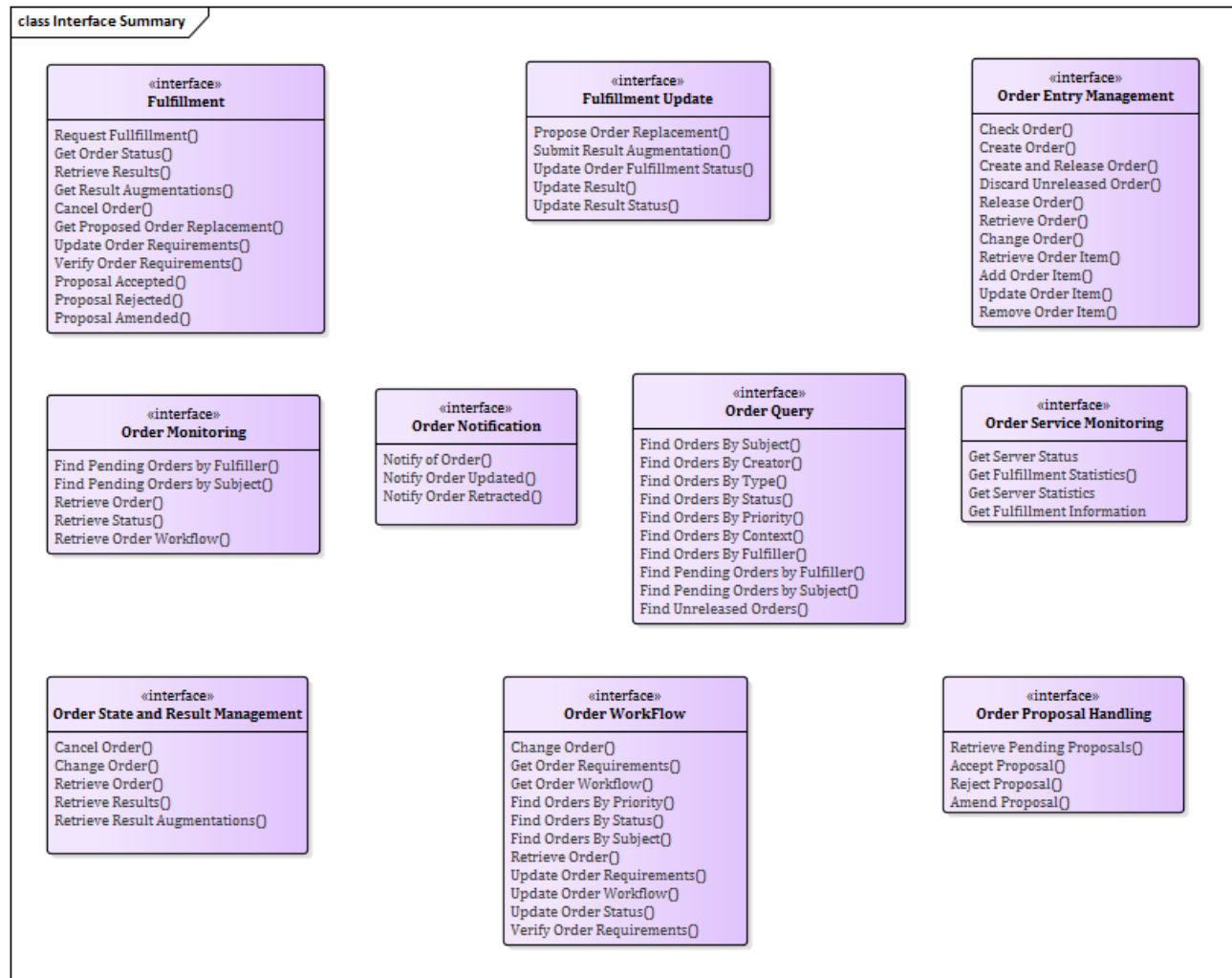


Figure 8.1: Order Management Interface Summary

The interfaces for order management are summarized below:

Interface	Summary Description
Fulfillment	Interface user by the Order Management Service to communicate with Fulfillment Providers.
Fulfillment Update	Interface that Fulfillment Providers can use to advise the Order Management Service of Fulfillment related information.

Order Entry Management	Interface used to create and build an Order.
Order Monitoring	Interfaces used to provide read-only view into the order service for viewing the state of outstanding orders.
Order Notification	An interface to to provided the Order management service visibility or orders that are not under its' management.
Order Proposal Handling	Interface used to review and management order item replacement proposals.
Order Query	Interface used to find orders.
Order Service Monitoring	Interface used to review the health of the order service.
Order State and Result Management	Interface used used to manage released orders and handle results.
Order Workflow	Interface used to address order workflow

8.1.1 Order Entry Management

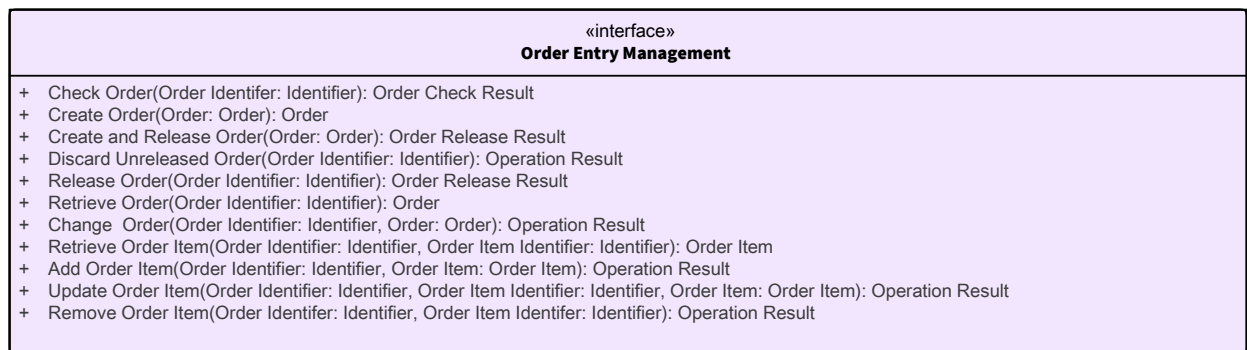


Figure 8.2: Order Entry Management Interface

The Order Entry Management Interface provides the core operations to create and release potential orders. This interface allow the consumer to build up an order in a number of steps and then either release or discard the order.

8.1.1.1 Check Order

Checks the validity of the order and may make tentative fulfillment associations.

Input Parameters	1. Order Identifier: Identifier
Output	1. Order Check Result
Pre-Conditions	1. The order must exist in the orders service and the identifier is known.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.1.2 Create Order

Creates an Order in the order service in a preliminary and unreleased state. The order need not be valid at this point. The order is returned by the service and will include the service specific order identifier. This order is not considered valid for release. Additional changes to the order are expected.

Input Parameters	2. Order: Order
Output	1. Order
Pre-Conditions	1. The client has sufficient information to create the request.
Post-Conditions	1. The returned order structure has been updated with order identifier. 2. Knowledge of the order is retained by the order service. 3. Order is in a preliminary and unreleased state.
Error Conditions	1. Unauthorized
Additional Details	

8.1.1.3 Create and Release Order

Creates an Order in the order service that is considered to be valid and attempts to release the Order for fulfillment.

Input Parameters	1. Order
Output	1. Order Release Result
Pre-Conditions	1. The client has sufficient information to create the request.
Post-Conditions	1. The returned order structure has been updated with order identifier. 2. Knowledge of the order is retained by the order service.
Error Conditions	1. Malformed Order 2. Unfulfillable Order 3. Unauthorized 4. Unsupported Order Type

Additional Details	
--------------------	--

8.1.1.4 Discard Unreleased Order

Discards an unreleased order from the service. Usage of the Service issued Order Identifier associated the order should now be consider a non-existent order. It is suggested that implementing services not reuse the Order Identifier.

Input Parameters	1. Order Identifier: Identifier
Output	1. Operation Result
Pre-Conditions	1. The order must exist in the orders service and the identifier is known.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.1.5 Release Order

Releases an unreleased order for fulfillment. The order is checked and if correct released for fulfillment.

Input Parameters	1. Order Identifier: Identifier
Output	1. Order Release Result
Pre-Conditions	1. The order must exist in the orders service and the identifier is known.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.1.6 Retrieve Order

Retrieves a specific order and its full detail, given an order identifier.

Input Parameters	1. Order Identifier: Identifier
Output	1. Order
Pre-Conditions	1. An order exists and the identifier is known.
Post-Conditions	
Error Conditions	1. Unknown Order 2. Unauthorized
Additional Details	

8.1.1.7 Change Order

Change an unreleased order.

Input Parameters	<ol style="list-style-type: none">1. Order Identifier: Identifier2. Order: Order
Output	<ol style="list-style-type: none">1. Order
Pre-Conditions	<ol style="list-style-type: none">1. An order exists and the identifier is known.2. The order is not released3. User is authorized to make the change
Post-Conditions	<ol style="list-style-type: none">1. The order referenced by order identifier has been updated to match the requirements in the input order.2. The modified order is returned.
Error Conditions	<ol style="list-style-type: none">1. Unauthorized
Additional Details	

8.1.1.8 Retrieve Order Item

Fetches an Order Item from a specific order.

Input Parameters	<ol style="list-style-type: none">1. Order Identifier: Identifier2. Order Item Identifier
Output	<ol style="list-style-type: none">1. Order Item
Pre-Conditions	<ol style="list-style-type: none">1.
Post-Conditions	<ol style="list-style-type: none">1.
Error Conditions	<ol style="list-style-type: none">1. Unauthorized
Additional Details	

8.1.1.9 Add Order Item

Adds an Order Item to an Order.

Input Parameters	<ol style="list-style-type: none">1. Order Identifier: Identifier2. Order Item: Order Item
Output	<ol style="list-style-type: none">1. Operation Result
Pre-Conditions	<ol style="list-style-type: none">1. Order is not released2. The order must exist in the orders service and the identifier is known.
Post-Conditions	<ol style="list-style-type: none">1. The item is added to the order and a Order Item Identifier assigned.

Error Conditions	1. Unauthorized
Additional Details	

8.1.1.10 Update Order Item

Updates a specific Order Item in an Order.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier: Identifier 2. Order Item Identifier: Identifiers 3. Order Item: Order Item
Output	<ol style="list-style-type: none"> 1. Operation Result
Pre-Conditions	<ol style="list-style-type: none"> 1. Order Item must exist 2. Order is not released 3. The order must exist in the orders service and the identifier is known.
Post-Conditions	<ol style="list-style-type: none"> 1. Old Item replaced by new Item
Error Conditions	<ol style="list-style-type: none"> 1. Unauthorized 2. No such Item 3. Invalid Order State
Additional Details	

8.1.1.11 Remove Order Item

Removes an Order Item from an Order.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier: Identifier 2. Order Item Identifier: Identifier
Output	<ol style="list-style-type: none"> 1. Operation Result
Pre-Conditions	<ol style="list-style-type: none"> 1. Order Item must exist. 2. Order is not released 3. The order must exist in the orders service and the identifier is known.
Post-Conditions	<ol style="list-style-type: none"> 1. Item removed from order
Error Conditions	<ol style="list-style-type: none"> 1. Unauthorized 2. No such item
Additional Details	

8.1.2 Order State and Result Management

«interface» Order State and Result Management	
<ul style="list-style-type: none"> + Cancel Order(Order Identifier: Identifier): Operation Result + Change Order(Order Identifier: Identifier, Order: Order): Operation Result + Retrieve Order(Order Identifier: Identifier): Order + Retrieve Results(Order Identifier: Identifier): Result List + Retrieve Result Augmentations(Order Identifier: Identifier): Result Augmentation List 	

Figure 8.3: Order State and Result Management Interface

The Order state and result management is a general interface oriented toward managing released orders and dealing with results retrieval.

8.1.2.1 Cancel Order

Attempts to cancel a released order. Not all orders may be canceled.

Input Parameters	1. Order Identifier: Identifier
Output	Operation Result
Pre-Conditions	<ul style="list-style-type: none"> 1. An order exists and the identifier is known. 2. The order is not completed. 3. Any fulfillment systems involved in the processing of the order allow the order to be canceled.
Post-Conditions	<ul style="list-style-type: none"> 1. The order referenced by order identifier has been canceled and will not be acted upon. 2. The cancel order notification is returned
Error Conditions	<ul style="list-style-type: none"> 1. Unknown Order 2. Order already completed 3. Order cannot be canceled. 4. Unauthorized
Additional Details	

8.1.2.2 Change Order

Changes an order that has been released. Many released orders will restrict the specific changes that may occur based upon order processing state and the nature the requested change.

Input Parameters	<ul style="list-style-type: none"> 1. Order Identifiers 2. Order: Order
Output	Operation Result
Pre-Conditions	1. An order exists and the identifier is known.

	<ol style="list-style-type: none"> The order is not completed. Any fulfillment systems involved in the processing of the order allow the order to be changed.
Post-Conditions	Operation Result
Error Conditions	<ol style="list-style-type: none"> Unauthorized Unknown Order Order already completed Order cannot be change.
Additional Details	

8.1.2.3 Retrieve Order

Retrieves an Order by Identifier.

Input Parameters	<ol style="list-style-type: none"> Order Identifier: Identifier
Output	Order
Pre-Conditions	<ol style="list-style-type: none"> An order exists and the identifier is known.
Post-Conditions	<ol style="list-style-type: none">
Error Conditions	<ol style="list-style-type: none"> Unauthorized
Additional Details	

8.1.2.4 Retrieve Results

Retrieve all results associated with a specific Order Identifier.

Input Parameters	<ol style="list-style-type: none"> Order Identifier
Output	Result List
Pre-Conditions	<ol style="list-style-type: none"> An order exists and the identifier is known.
Post-Conditions	<ol style="list-style-type: none">
Error Conditions	<ol style="list-style-type: none"> Unauthorized
Additional Details	

8.1.2.5 Retrieve Result Augmentations

Retrieve all results augmentations associated with a specific Order Identifier

Input Parameters	<ol style="list-style-type: none"> Order Identifier: Identifier
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Output	Result Augmentation List
Pre-Conditions	1. An order exists and the identifier is known. 2.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.3 Order Query

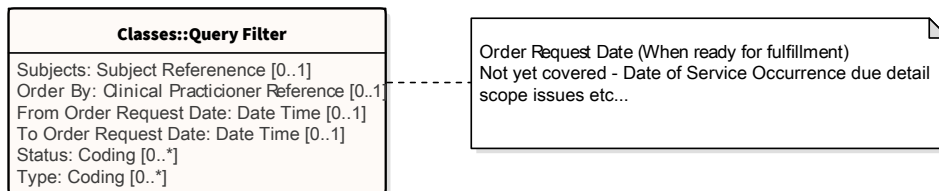
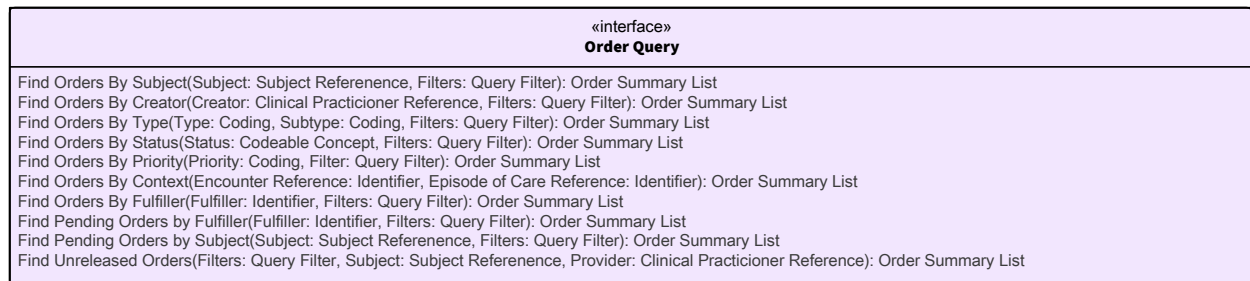


Figure 8.4: Order Query Interface

The Order Query Interface provides the core services to find orders.

8.1.3.1 Find Orders By Subject

Find any orders for a specific subject (i.e Patient) that match the specified query filter.

Input Parameters	1. Subject: Subject Reference 2. Filters: Query Filters
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.

Error Conditions	1. Unauthorized
Additional Details	

8.1.3.2 Find Orders By Creator

Find any orders created by a particular Clinical Practitioner that match the requested query filter.

Input Parameters	1. Creator: Clinical Practitioner References 2. Filters: Query Filter
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.3.3 Find Orders By Type

Find orders by type matching the query filters.

Input Parameters	1. Type: Coding 2. Subtype: Coding 3. Filters: Query Filters
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.3.4 Find Orders By Status

Find all orders with a specific status that match the query filters.

Input Parameters	1. Status: Codeable Concept 2. Filters: Query Filters
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized

Additional Details	

8.1.3.5 Find Orders By Priority

Find all orders of a requested priority that match the query filters.

Input Parameters	<ol style="list-style-type: none"> 1. Priority: Coding 2. Filters: Query Filter
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.3.6 Find Orders By Context

Find any orders relating to specific episode or care encounter.

Input Parameters	1.
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.3.7 Find Orders By Fulfiller

Find any order for a particular fulfiller that match the query filter.

Input Parameters	<ol style="list-style-type: none"> 1. Fulfiller: Identifiers 2. Filter: Query Filter
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized

Additional Details	
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8.1.3.8 Find Pending Orders by Fulfiller

Finds all pending orders for a fulfiller that match the query filter.

Input Parameters	<ol style="list-style-type: none"> 1. Fulfiller: Identifier 2. Filters: Query Filter
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.3.9 Find Pending Orders by Subject

Find all pending orders for a specific subject that match the query filters.

Input Parameters	<ol style="list-style-type: none"> 1. Subject: Subject Reference 2. Filters: Query Filter
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.3.10 Find Unreleased Orders

Finds any unreleased orders for a subject and clinical practitioner that match the query filter. Both the subject and the clinical practitioner references are optional and when not provide should be considered as any match.

Input Parameters	<ol style="list-style-type: none"> 1. Filters: Query Filter 2. Subject: Subject Reference [May be empty] 3. Provider: Clinical Practitioner References [May be empty]
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized

8.1.4 Order Workflow

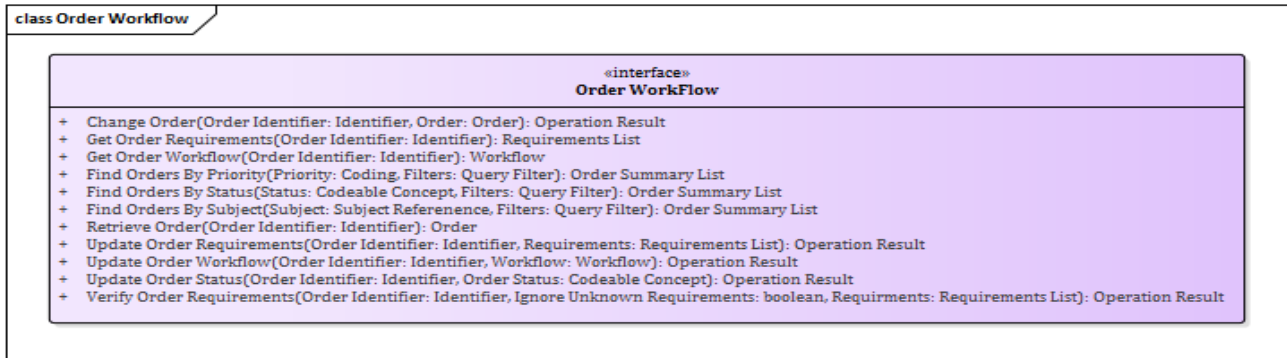


Figure 8.5: Order Workflow Interface

The Order Workflow interface provides the core services that are required to address order workflow. This interface is geared toward systems that deal with updating the state and status of an order.

8.1.4.1 Change Order

Changes an order that has been released. Many released orders will restrict the specific changes that may occur based upon order processing state and the nature the requested change.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier: Identifiers 2. Order: Order
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.4.2 Get Order Requirements

Find what requirements an order has for fulfillment and what their current status is. This information might include such things as the order catalog, order service configuration, and requirements asserted by fulfillment systems.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier: Identifier
Output	Requirements List

Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.4.3 Get Order Workflow

Gets the workflow, if any, associated with an order.

Input Parameters	1. Order Identifier: Identifier
Output	Workflow
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.4.4 Find Orders By Priority

Find orders of the specified priority that match the provided query filters.

Input Parameters	1. Priority: Coding 2. Filters: Query Filters
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.4.5 Find Orders By Status

Find the orders for a specific status that match the provided query filters.

Input Parameters	1. Status: Codeable Concept 2. Filters: Query Filter
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.

Error Conditions	1. Unauthorized
Additional Details	

8.1.4.6 Find Orders By Subject

Find the orders for the specified subject that match the provided query filters.

Input Parameters	1. Subject: Subject References 2. Filters: Query Filters
Output	Order Summary List
Pre-Conditions	1. 2.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.4.7 Retrieve Order

Retrieve and order by identifier.

Input Parameters	1. Order Identifier: Identifier
Output	Order
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.4.8 Update Order Requirements

Update the requirements associated with an order. This allows specific requirements to be updated, removed, and added.

Input Parameters	1. Order Identifier: Identifier 2. Requirements: Requirements List
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized

Additional Details	
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8.1.4.9 Update Order Workflow

Update the Workflow associated with an order.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier: Identifiers 2. Workflow: Workflow
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.4.10 Update Order Status

Update the status of an order.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier: Identifier 2. Order Status: Codeable Concept
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.4.11 Verify Order Requirements

Validate the requirements of an order. The list of requirements are provided to the service in a provisional manner. The validation done should be the same as would be done for an update, but without any side effects.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier: Identifiers 2. Ignore Unknown Requirements: boolean 3. Requirements: Requirements List
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized

Additional Details	
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8.1.5 Order Proposal Handling

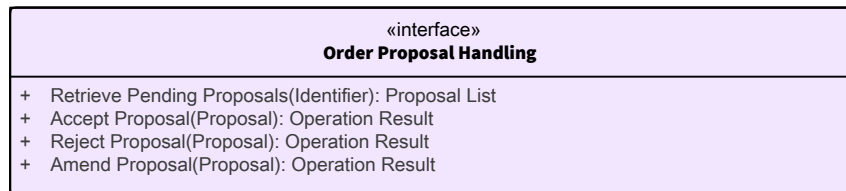


Figure 8.6: Order Proposal Handling

The Order proposal handling interface provides the core operations need to manage order item replacement proposals.

8.1.5.1 Retrieve Pending Proposals

Finds any pending proposal for a specific order.

Input Parameters	1. Order Identifier
Output	Proposal List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.5.2 Accept Proposal

Accepts a proposal for alteration to an ordered item.

Input Parameters	1. Proposal: Proposal
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1. The proposal is not longer considered pending. 2. The proposing fulfillment service is informed of the acceptance of their proposal.

Error Conditions	1. Unauthorized
Additional Details	

8.1.5.3 Reject Proposal

Rejects a proposal for the replacement of an order item.

Input Parameters	1. Proposal: Procedure
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1. The proposal is not longer considered pending. 2. The proposing fulfillment service is informed of the rejection of their proposal
Error Conditions	1. Unauthorized
Additional Details	

8.1.5.4 Amend Proposal

Input Parameters	1.
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1. The proposal is not longer considered pending. 2. The proposing fulfillment service is informed of the amendment and may act on it or counter propose.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6 Fulfillment

«interface» Fulfillment
+ Request Fulfillment(Order: Order): Promise + Get Order Status(Order Identifier: Identifier): Codeable Concept + Retrieve Results(Order Identifier: Identifier): Result List + Get Result Augmentations(Order Identifier: Identifier): Result Augmentation List + Cancel Order(Order Identifier: Identifier): Coding + Get Proposed Order Replacement(Order Identifier: Identifier): Proposal List + Update Order Requirements(Order Identifier: Identifier, Requirements: Requirements List): Promise + Verify Order Requirements(Order Identifier: Identifier, Requirements: Requirements List): Operation Result + Proposal Accepted(Proposal: Proposal): Operation Result + Proposal Rejected(Proposal: Proposal): Operation Result + Proposal Amended(Proposal: Proposal): Operation Result

Figure 8.7: Fulfillment Interface

The Fulfillment Interface is a contract for how a general order service can interact with another system that actually fulfills the order. This interface may be implemented by systems that wish to plug into a generalized order service. A generalized order service uses this interface as the primary means of interacting with a fulfillment service. This interface supports requests for fulfillment, result retrieval, retrieval of result supplements, and updating fulfillment specific workflow requirements. It is also possible that an ordering service might also present this interface as act as a fulfillment agent.

8.1.6.1 Request Fulfillment

Allows the order service to place an order and receive a promise from the fulfillment system. This is the primary means whereby a fulfillment service is informed of an order. The promise that is returned indicated the status and nature of fulfillment.

Input Parameters	1. Order: Order
Output	Promise
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6.2 Get Order Status

Get the current status of an order on the fulfillment system.

Input Parameters	1. Order Identifier: Identifier
Output	Coding (See fulfillment state model [TODO])
Pre-Conditions	1.
Post-Conditions	1.

Error Conditions	1. Unauthorized
Additional Details	The coding is the same system as reflected in the promise but also includes the post acceptance states (e.g. processing, partially complete, resulted, supplemental results etc.)

8.1.6.3 Retrieve Results

Retrieve the results of this order.

Input Parameters	1. Order Identifier: Identifiers
Output	Result List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6.4 Get Result Augmentations

Get any result augmentations associated with an order.

Input Parameters	1. Order Identifier: Identifier
Output	Operation Result
Pre-Conditions	1. 2.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6.5 Cancel Order

Requests that a fulfillment system cancel the fulfillment of an order.

Input Parameters	1. Order Identifier
Output	Coding
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6.6 Get Proposed Order Replacement

Provides a mechanism whereby the order service can request if there are any proposal for order item replacement with an order.

Input Parameters	1. Order Identifier: Identifier
Output	Proposal List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6.7 Update Order Requirements

Update the requirements for an order. This is the primary mechanism whereby a fulfillment service is informed of changes to requirements that it may have asserted, For example a service that requires an endorsement requirement would have the signature returned as part of the content of the updated requirement.

Input Parameters	1. Order Identifier: Identifiers 2. Requirements: Requirements List
Output	Promise
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6.8 Verify Order Requirements

Request that a fulfillment system validate a set of requirements for an order in the same manner that an update operation would. The validation should have no side effects.

Input Parameters	1. Order Identifier: Identifiers 1. Requirements: Requirements List
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized

Additional Details	
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8.1.6.9 Proposal Accepted

Notifies a fulfillment system that a proposal it has made has been accepted and should be incorporated into the order.

Input Parameters	1. Proposal
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6.10 Proposal Rejected

Notifies a fulfillment system that a proposal it has made has been rejected and either a new proposal should be made or the original order item fulfilled.

Input Parameters	1. Proposal
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.6.11 Proposal Amended

Notifies a fulfillment system that a proposal it has made has been amended. The fulfillment system should either act on the amendment or counter propose.

Input Parameters	1. Proposal
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.7 Fulfillment Update

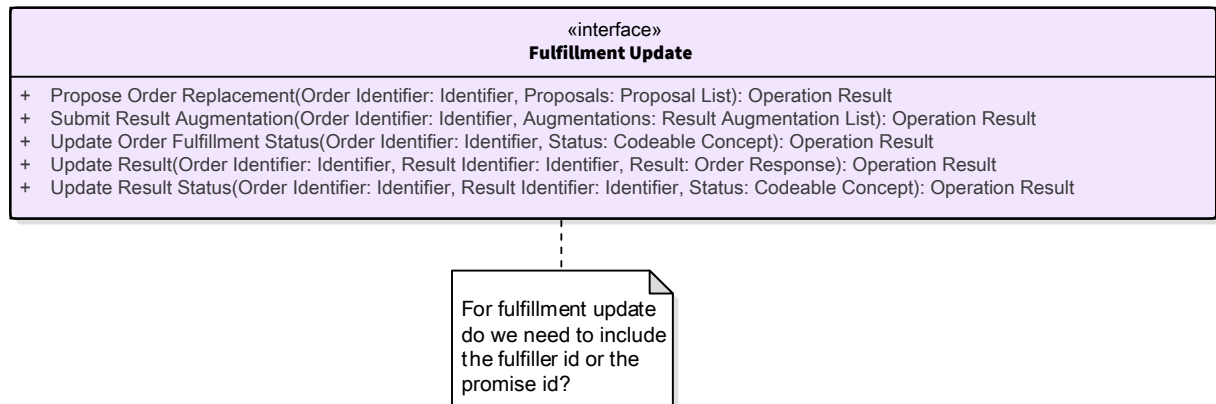


Figure 8.8: Fulfillment Update Interface

The Fulfillment Update interface provides a service point for fulfillment systems that wish to push information to the order service. This interface is implemented by the order service as a callback point for fulfillment systems. This includes updating the order status, updating results, providing supplemental result information, and proposing an alternative order.

8.1.7.1 Propose Order Replacement

Allows a fulfillment system to dynamically assert a set of proposals for modifications to the order items in an order.

Input Parameters	1. Order Identifiers: Identifier 2. Proposals: Proposal List
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.7.2 Submit Result Augmentation

Provides notification to the order service of a result augmentations for an order.

Input Parameters	1. Order Identifiers 2. Augmentations: Result Augmentation List
Output	Operation Result

Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.7.3 Update Order Fulfillment Status

Provide notification to orders service of updates to the fulfillment status of and order.

Input Parameters	<ol style="list-style-type: none"> Order Identifier: Identifiers Status: Coding
Output	Operation Result
Pre-Conditions	<ol style="list-style-type: none">
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.7.4 Update Result

Notifies the order service of a new or updated result.

Input Parameters	<ol style="list-style-type: none"> Order Identifier: Identifiers Result Identifier: Identifier Result: Order Response
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.7.5 Update Result Status

Notifies the order service of an updated result status.

Input Parameters	<ol style="list-style-type: none"> Order Identifier: Identifiers Result Identifier: Identifiers Status: Codeable concept
------------------	---

Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.8 Order Monitoring

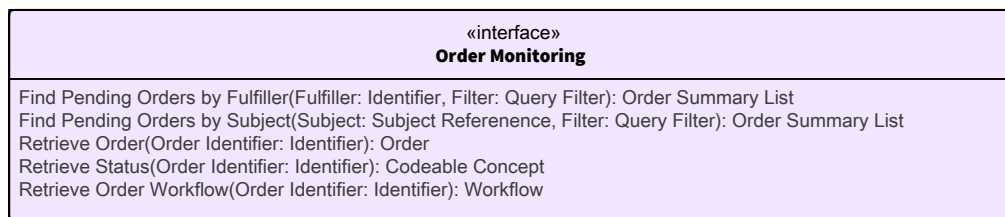


Figure 8.9: Order Monitoring Interface

The order monitoring interface provides a read-only view into the order service for viewing the state of outstanding orders.

8.1.8.1 Find Pending Orders by Fulfiller

Find the pending orders for a fulfiller that match the query filters.

Input Parameters	1. Fulfiller: Identifiers 2. Filter: Query Filter
Output	Order Summary List
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.8.2 Find Orders by Subject

Finds the pending orders for a subject that match the query filter.

Input Parameters	<ol style="list-style-type: none"> 1. Subject: Subject References 2. Filter: Query Filter
Output	Order Summary
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.8.3 Retrieve Order

Retrieve an order by identifier.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier: Identifier
Output	Order
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.8.4 Retrieve Status

Retrieve the status of an order.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier
Output	Codeable Concept
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.8.5 Retrieve Order Workflow

Retrieve the Workflow associated with an order.

Input Parameters	<ol style="list-style-type: none"> 1. Order Identifier
Output	Workflow
Pre-Conditions	1.

Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.9 Order Notification

«interface» Order Notification	
+	Notify of Order(Remote Order Identifier: Identifier, Remote System Identifier: Identifier, Order: Order): Notification Linkage
+	Notify Order Updated(Local Order Identifier: Identifier, Remote System Identifier: Identifier, Order: Order): Operation Result
+	Notify Order Retracted(Local Order Identifier: Identifier, Remote System Identifier: Identifier): Operation Result

Figure 8.10: Order Notification Interface

The order notification interface is used by other order handling systems to provide visibility to the order service of orders that it is not managing. This interface is provided to support workflow dependencies and federation of order services

8.1.9.1 Notify of Order

Informs the order service of an order that is being managed elsewhere.

If the order service wishes further updates relating to this order, it should return True for Provide updates and a local order identity that can be used for future updates.

Input Parameters	1. Remote Order Identifier: Identifiers 2. Remote System Identifier: Identifier
Output	Notification Linkage
Pre-Conditions	1. Remote system is authorized to notify the service of orders
Post-Conditions	1. Remote Order and Identity mapping may be retained
Error Conditions	1. Unauthorized
Additional Details	

8.1.9.2 Notify Order Updated

Input Parameters	1. Local Order Identifier: Identifier
------------------	---------------------------------------

	<ol style="list-style-type: none"> Remote System Identifier: Identifier Order: Order
Output	Operation Result
Pre-Conditions	<ol style="list-style-type: none"> Remote System is authorized to provide Order Updates The order service has issued a local identifier and indicate Provide Updates for the order thereby indicating in interest in updates relating to to order. The order service has already been notified of this order Local Identifier issued to Order from specified remote system
Post-Conditions	<ol style="list-style-type: none">
Error Conditions	<ol style="list-style-type: none"> Unauthorized
Additional Details	

8.1.9.3 Notify Order Retracted

Invalidates an order that was previously registered

Input Parameters	<ol style="list-style-type: none"> Local Order Identifier: Identifier Remote System Identifier: Identifier
Output	Operation Result
Pre-Conditions	<ol style="list-style-type: none"> Remote System is authorized to provide Order Updates The order service has issued a local identifier and indicate Provide Updates for the order thereby indicating in interest in updates relating to to order. The order service has already been notified of this order Local Identifier issued to Order from specified remote system
Post-Conditions	<ol style="list-style-type: none">
Error Conditions	<ol style="list-style-type: none"> Unauthorized
Additional Details	

8.1.10 Order Service Monitoring

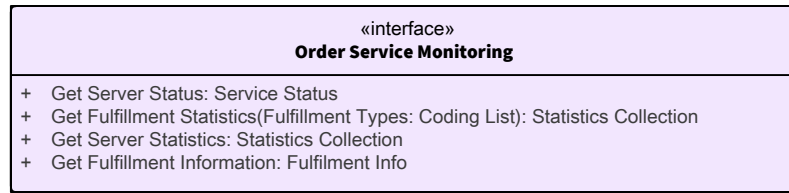


Figure 8.11: Order Service Monitoring Interface

The order service monitoring interface is used to review the health of the order service.

8.1.10.1 Get Server Status

Get Status information about the order server

Input Parameters	None
Output	Service Status
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.10.2 Get Fulfillment Statistics

Get Statistics about specified fulfillment services.

Input Parameters	1. Fulfillment Types: Coding List
Output	Statistics Collection
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.10.3 Get Server Statistics

Get Statistics about the service

Input Parameters	None
Output	Statistics Collection

Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.1.10.4 Get Fulfillment Information

Get Information about the fulfillment services supported by the server

Input Parameters	None
Output	Fulfillment Info
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

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8.2 Order Catalog Management

8.2.1 Order Service Catalog Management

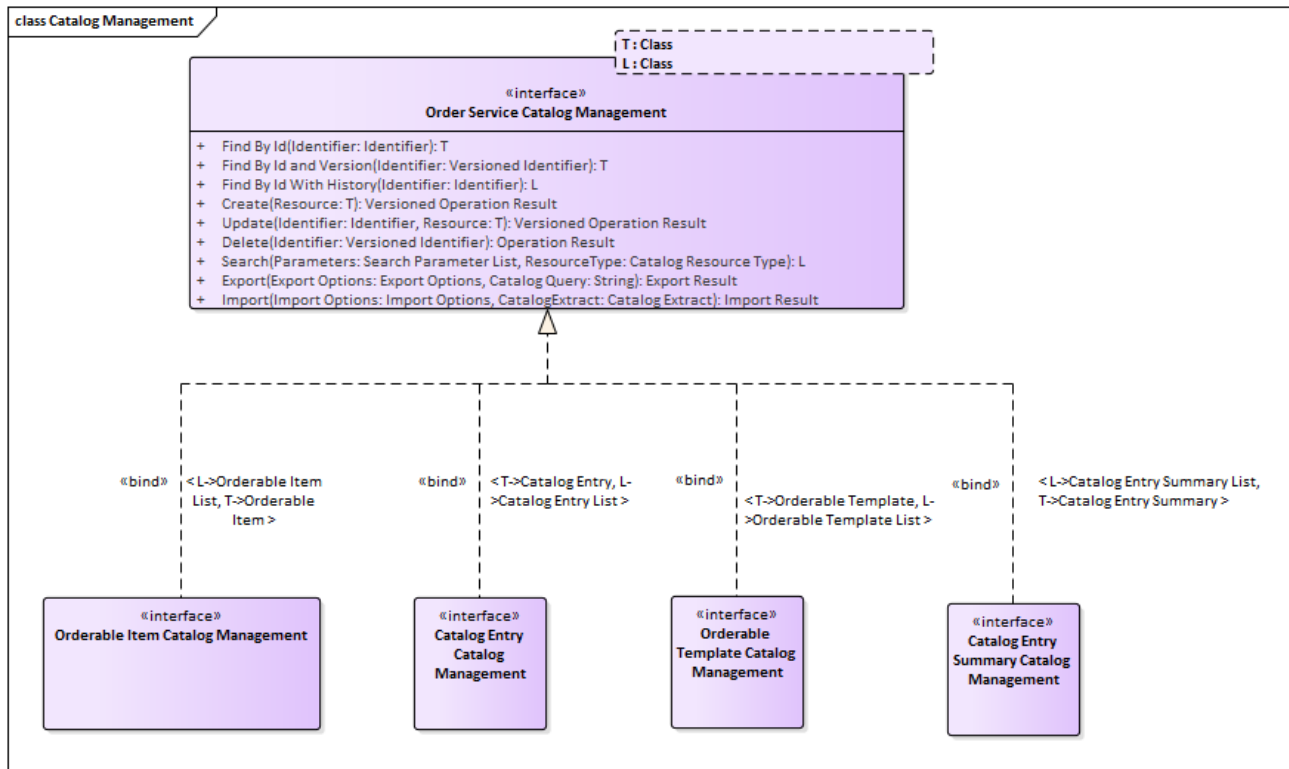


Figure 8.12: Order Service Catalog Management Interfaces

The Order Service catalog interface is oriented toward consumer which build and maintain the catalog. This is a template interface for entities that require catalog management.

The binding information is as follows:

Binding Element	Use
T	The type of the catalog entity
L	A list of entities of type T

8.2.1.1 Find By Id

This operation shall query the Order Catalog (OC) for the entity of Type T with the matching Identifier. The most recent version is returned.

Input Parameters	1. Identifier: Identifier
------------------	---------------------------

Output	T
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.1.2 Find By Id and Version

This operation shall query the Order Catalog (OC) for the entity of Type T with the matching Identifier and version.

Input Parameters	1. Identifier: Versioned Identifier
Output	T
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.1.3 Find By Id With History

This operation shall query the Order Catalog (OC) for the entity of Type T with the matching Identifier and return a list of all versions.

Input Parameters	1. Identifier: Identifier
Output	L
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.1.4 Create

The operation creates a new resource of type T in the order catalog.

Input Parameters	1. Resource: T
Output	Versioned Operation Result
Pre-Conditions	1.

Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.1.5 update

This operation updates a catalog resource in the Order Catalog (OC).

Input Parameters	1. Identifier: Versioned Identifier 2. Resource: T
Output	Versioned Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.1.6 Delete

This operation shall query the Order Catalog (OC) to identify the resource to delete. The resource is then deleted from the catalog.

Input Parameters	1. Identifier: Versioned Identifier
Output	Operation Result
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.1.7 Search

This operation shall query the Order Catalog (OC) for the subset of resources of type T that match one or more of the parameter arguments to the operation.

Input Parameters	1. Parameters: Search Parameters List 2. Resource Type: Catalog Resource Type
Output	L
Pre-Conditions	1.

Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	[TODO – Evaluate for Summary pattern etc.]

8.2.1.8 Export

This operation shall query the Order Catalog (OC) for the resources to export based on the export options specified and/or its query argument.

Input Parameters	<ol style="list-style-type: none"> Export Options: Export Options Catalog Query: String
Output	Operation Result
Pre-Conditions	<ol style="list-style-type: none">
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.1.9 Import

Method imports into an order catalog the resources specified in the extract. Import may also update catalog metadata based on the extract.

Input Parameters	1. Import Options: Import Options
Output	Operation Result
Pre-Conditions	<ol style="list-style-type: none">
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.2 Orderable Item Catalog Management

Binding of the Order Service Catalog Management interface to handle Orderable Items.

Binding	Type
T	Orderable Item

L	Orderable Item List
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8.2.3 Catalog Entry Catalog Management

Binding of the Order Service Catalog Management interface to handle Catalog Entries.

Binding	Type
T	Catalog Entry
L	Catalog Entry List

8.2.4 Orderable Template Catalog Management

Binding of the Order Service Catalog Management interface to handle Orderable Templates.

Binding	Type
T	Orderable Template
L	Orderable Template List

8.2.5 Catalog Entry Summary Catalog Management

Binding of the Order Service Catalog Management interface to handle Catalog Entry Summaries.

Binding	Type
T	Catalog Entry Summary
L	Catalog Entry Summary List

8.2.6 Order Service Catalog Reporting

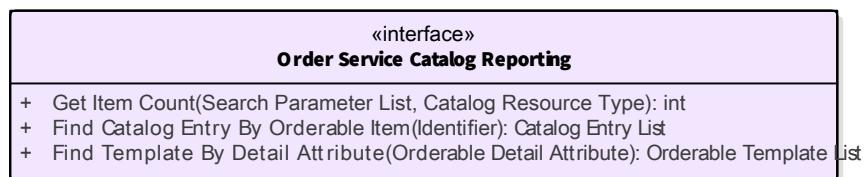


Figure 8.13: Order Service Catalog Reporting Interface

Interface used to report on the contents of the catalog.

8.2.6.1 Get Item Count

This operation shall query the Order Catalog (OC) for a given entity given the search parameters and return the cardinality of the result set.

Input Parameters	<ol style="list-style-type: none">1. Parameters: Search Parameters List2. Resource Type: Catalog Resource Type
Output	int
Pre-Conditions	<ol style="list-style-type: none">1.
Post-Conditions	<ol style="list-style-type: none">1.
Error Conditions	<ol style="list-style-type: none">1. Unauthorized
Additional Details	

8.2.6.2 Find Catalog Entry By Orderable Item

This operation shall query the Order Catalog (OC) for all Catalog Entries whose content references the given contained resource ID anywhere within the containment tree.

Input Parameters	<ol style="list-style-type: none">1. Orderable Item Id: Identifier
Output	Catalog Entry List
Pre-Conditions	<ol style="list-style-type: none">1.
Post-Conditions	<ol style="list-style-type: none">1.
Error Conditions	<ol style="list-style-type: none">1. Unauthorized
Additional Details	

8.2.6.3 Find Template By Detail Attribute

This operation shall query the Order Catalog (OC) for all Templates whose content references the given contained Orderable Detail Attribute anywhere within the containment tree.

Input Parameters	<ol style="list-style-type: none">1. Orderable Detail Attribute: Orderable Detail Attribute
Output	Orderable Template List
Pre-Conditions	<ol style="list-style-type: none">1.2.
Post-Conditions	<ol style="list-style-type: none">1.

Error Conditions	1. Unauthorized
Additional Details	

8.2.7 Order Service Catalog Query Services

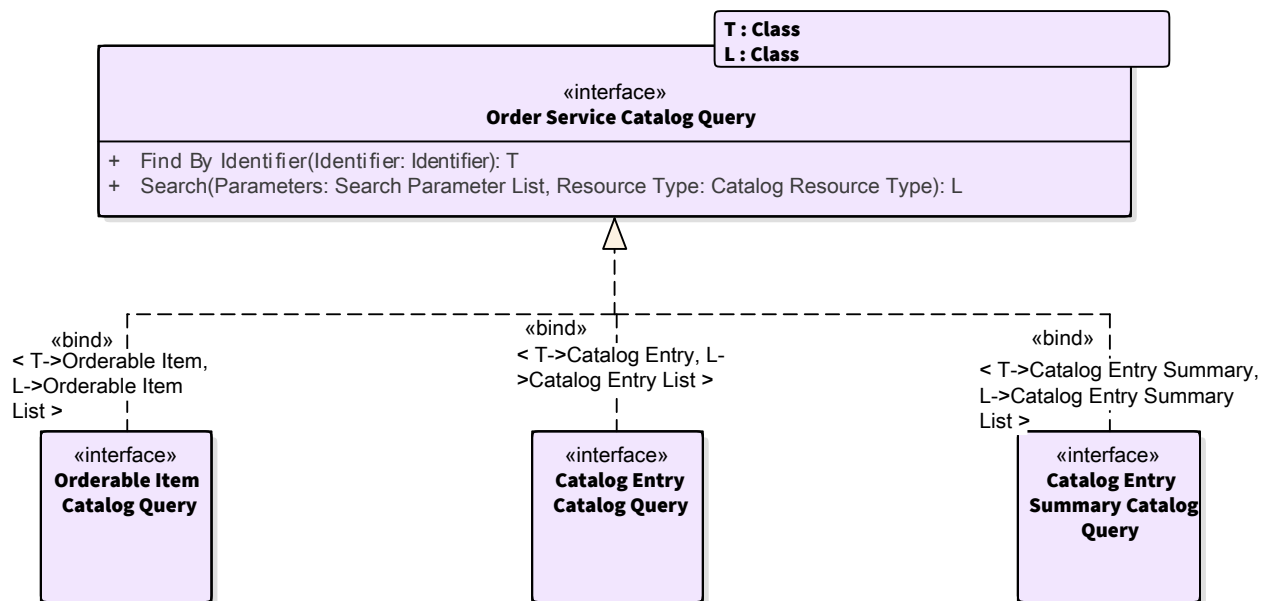


Figure 8.14: Order Service Catalog Query Interface

The Order Service Catalog Query Service is oriented towards consumers which are consuming catalog content for creating orders. This is a template interface.

8.2.7.1 Find By Identifier

This operation shall query the Order Catalog (OC) for the entity of Type T with the matching Identifier. The most recent version is returned.

Input Parameters	1. Identifier: Identifier
Output	T
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized

Additional Details	

8.2.7.2 Search

This operation shall query the Order Catalog (OC) for the subset of resources of type T that match one or more of the parameter arguments to the operation.

Input Parameters	<ol style="list-style-type: none"> 1. Search Parameter List 2. Resource Type: Catalog Resource Type
Output	L
Pre-Conditions	1.
Post-Conditions	1.
Error Conditions	1. Unauthorized
Additional Details	

8.2.8 Orderable Item Catalog Query

This interface is a binding of the Order Service Catalog Query interface to handle Orderable Items.

Binding	Type
T	Orderable Item
L	Orderable Item List

8.2.9 Catalog Entry Catalog Query

This interface is a binding of the Order Service Catalog Query interface to handle Catalog Entries.

Binding	Type
T	Catalog Entry
L	Catalog Entry List

8.2.10 Catalog Entry Summary Catalog Query

This interface is a binding of the Order Service Catalog Query interface to handle Catalog Entry Summaries.

Binding	Type
T	Catalog Entry Summary
L	Catalog Entry Summary List

9 Platform Specific Service Definitions – SOAP

[TDB]

10 Platform Specific Service Definitions – REST

[TDB]

Annex A: Title

(normative)

A.1 Clause heading

Normative annexes are integral parts of the standard. Their presence is optional. An annex's normative status (as opposed to informative) shall be made clear by the way in which it is referred to in the text and under the heading of the annex.

Informative annexes give additional information intended to assist the understanding or use of the standard and shall not contain provisions to which it is necessary to conform in order to be able to claim compliance with the standard. Their presence is optional. An annex's informative status (as opposed to normative) shall be made clear by the way in which it is referred to in the text and under the heading of the annex.

A.2 Clause heading