Oracle® Agile Product Lifecycle Management for Process

Web Services Guide

Extensibility Pack 3.12

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Oracle® Agile Product Lifecycle Management for Process Web Services Guide

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Preface

The *Agile Product Lifecycle Management for Process Web Services Guide* explains how to use install and configure the Web Services API, and provides documentation of each available web service.

To use this document, you should have a basic familiarity with web services software development, and the Oracle Agile PLM for Process configuration files and user interface. The information presented for each web service is intended to give a business and technical view of the inputs, outputs, and possible results of the web service call. Contract details, such as detailed WSDL and XSD information is not presented here — rather, they are available from the web service metadata or from the provided WSDL and XSD files.

This Preface contains these topics:

- Audience
- Variability of Installations
- Documentation Accessibility
- Software Availability
- Related Documents
- Conventions

Audience

This guide is intended for client programmers involved with integrating Oracle Agile Product Lifecycle Management for Process. Information about using Oracle Agile PLM for Process resides in application-specific user guides. Information about administering Oracle Agile PLM for Process resides in the *Oracle Agile Product Lifecycle Management for Process Administrator User Guide*.

Variability of Installations

Descriptions and illustrations of the Agile PLM for Process user interface included in this manual may not match your installation. The user interface of Agile PLM for Process applications and the features included can vary greatly depending on such variables as:

- Which applications your organization has purchased and installed
- Configuration settings that may turn features off or on
- Customization specific to your organization

- Security settings as they apply to the system and your user account

Documentation Accessibility

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Software Availability

Oracle Software Delivery Cloud (OSDC) provides the latest copy of the core software. Note the core software does not include all patches and hot fixes. Access OSDC at:

http://edelivery.oracle.com.

Related Documents

For more information, see the following documents in the Oracle Agile Product Lifecycle Management for Process Extensibility Pack documentation set:

- *Agile Product Lifecycle Management for Process Extensibility Guide*
- *Agile Product Lifecycle Management for Process Data Administration Toolkit Guide*
- *Agile Product Lifecycle Management for Process Print Extensibility Guide*
- *Agile Product Lifecycle Management for Process Custom Section Denormalization Guide*
- *Agile Product Lifecycle Management for Process Extended Attribute Denormalization Guide*
- *Agile Product Lifecycle Management for Process Reporting Guide*
- *Agile Product Lifecycle Management for Process Navigation Configuration Guide*
- *Agile Product Lifecycle Management for Process Extended Attribute Calculation Guide*
- *Agile Product Lifecycle Management for Process Release Notes*

Notes and other documentation are posted on Oracle Technology Network (OTN) at this location:

http://www.oracle.com/technetwork/documentation/agile-085940.html#plmprocess

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Using the Web Services Application Programming Interface

Web Services Application Programming Interface Overview

Oracle Agile Product Lifecycle Management (PLM) for Process allows programmatic access to your organization's data using Oracle Agile PLM for Process Web Services API.

The API consists of a set of standardized, fully supported web services to provide clients with simple, rich, and secure integration capabilities. Each service is granular in nature, focused on delivering a specific business function. Consumers of the API will be able to compose multiple services as needed to meet larger business function needs.

Each major release of the Web Services API maintains backward compatibility with the previous release, allowing previous client integrations to remain unchanged, whenever possible. Any contract changes are only made in the new versions of the web services.

The Web Services are deployed into and hosted by the Integration web application. Several configuration file changes must be made to enable the web services, which determine the authentication & authorization mechanism that should be used for web service calls, as well as some other options. Additionally, a new virtual directory must be added in IIS within the Integration web application.

For installation and configuration details, please refer to Chapter 2, "Setting Up the Application Programming Interface".

Supported Oracle Agile PLM for Process Versions

To use the Web Services available in this release, you must be using Oracle Agile PLM for Process version 6.1.1 or greater.

Versioning the Web Services

To allow previous client implementations of the Web Service API to remain unchanged, yet still provide for new features, the release contains separate versions of the previous services and new versions of the full feature set.

Previous versions of the web services have no data contract changes, and the service endpoints remain unchanged.

This should allow previous client implementations to continue working as is. However, clients wishing to use new capability of the web service calls must implement the v30 versions.

The primary change that clients and integrators will see is that there are now three service endpoints for any pre-existing services:

- v21—The v21 web services are now deprecated.
- v24—The v24 web services will remain unchanged and support the previous functionality. They will be deprecated in an upcoming release.
- v25—The v25 web services will remain unchanged and support the previous functionality.
- v30—The v30 web services will support any relevant pre-existing functionality along with new operations and contract changes.
- v37—The v37 web services version is only applicable to the new AttachmentService web services.

Each service version has its own endpoint, and therefore its own WSDL. For example, the following endpoints exist for GeneralSpecServices:

- v24 endpoint

  http://<servername>/Integration/ProdikaContracts/Specification/Common/v24/GeneralSpecServices.svc

- v25 endpoint

  http://<servername>/Integration/ProdikaContracts/Specification/Common/v25/GeneralSpecServices.svc

- v30 endpoint

  http://<servername>/Integration/ProdikaContracts/Specification/Common/v30/GeneralSpecServices.svc

- v37 endpoint

  http://<servername>/Integration/ProdikaContracts/REST/v37/AttachmentService.svc

Clients and integrators that are new to the Web Service API are encouraged to implement the v30 versions only.

Supported Web Services Contracts

General Spec Services

General Spec Services provides operations that act on Global Specification Management (GSM) specifications.

Operations	v24	v25	v30	Notes
GetSpecSummary	●	●	●	v25 includes an IsTemplate return value.
GetSpecNumbersForCriteria	●	●	●	v25 includes an IncludeSpecTemplates search criterion.
SaveSpecCrossReferences	●	●	●	
GetGSMPercentBreakdown	●	●	●	
GetComplianceData	●	●	●	

See Chapter 3, "Using the General Spec Services Web Services" for more information.

SCRM Services

SCRM Services provides operations that act on Supply Chain Relationship Management (SCRM) sourcing approvals, companies, and facilities.

Operations	v24	v25	v30	Notes
GetCompany	●	●	●	
GetFacility	●	●	●	
GetSCRMSourcingApproval	●	●	●	

See Chapter 4, "Using the SCRM Services Web Service" for more information.

Nutrition Services

Nutrition Services provides nutrition and Nutrition Surveillance Management (NSM) related operations.

Operations	v24	v25	v30	Notes
GetNutrientItemsPer100g	●	●	●	
SaveNutrientAnalysis	●	●	●	
GetNutrientAnalysis	●	●	●	
GetNutrientComposite	●	●	●	

See Chapter 5, "Using the Nutrition Service Web Services" for more information.

Custom Data Services

Custom Data Services provides operations related to extended attributes and custom sections.

Operations	v24	v25	v30	Notes
GetCustomSectionSchema	●	●	●	
GetSpecCustomSections	●	●	●	
GetSpecExtendedAttributes	●	●	●	
GetSCRMCustomSections	●	●	●	
GetSCRMExtendedAttributes	●	●	●	
SaveCustomLookup	●	●	●	
GetCustomSectionsMetaData	●	●	●	
GetExtendedAttributesMetaData	●	●	●	
GetEQCustomSections	●	●	●	
GetEQExtendedAttributes	●	●	●	
GetCalculatedCustomSection	●	●	●	
GetPQMCustomSections			●	

Operations	v24	v25	v30	Notes
AddPQMCustomSections			●	
DeletePQMCustomSections			●	
UpdatePQMCustomSection			●	

See Chapter 6, "Using the Custom Data Services Web Services" for more information.

Cost Services

Cost Services provides formulation specification costing related capabilities.

Operations	v24	v25	v30	Notes
SaveDWBSpecCost	●	●	●	

See Chapter 7, "Using the Cost Services Web Service" for more information.

Bill of Materials Services

Bill of Materials Services provide operations related to a process specification's Bill of Materials (BOM).

Operations	v24	v25	v30	Notes
GetOutputBOM	●	●	●	
GetFormulationBOM	●	●	●	
GetFormulationStepBOM			●	

See Chapter 8, "Using the Bill of Materials Web Service" for more information.

Spec Relationship Services

Spec Relationship Services provides operations that define a specification's related specification listing.

Operations	v24	v25	v30	Notes
GetProductRelationships	●	●	●	
GetMaterialRelationships	●	●	●	
GetIngredientRelationships			●	Forv3.0 GetMaterialRelationships was renamed GetIngredientRelationships.
GetPackagingRelationships	●	●	●	
GetPrintedPackagingRelationships	●	●	●	
GetFormulationRelationships	●	●	●	
GetNutrientProfileRelationships	●	●	●	
GetTradeSpecRelationships	●	●	●	
GetMenuItemRelationships	●	●	●	

See Chapter 9, "Using the Spec Relationship Services" for more information.

Specification Services

Specification Services provides operations that act on individual specification types.

Operations	v24	v25	v30	Notes
GetActivity	●	●	●	
GetSpecIngredientStatements	●	●	●	

See Chapter 10, "Using the Specification Services Web Services" for more information.

EQ Services

EQ Services provides operations related to eQuestionnaire (eQ).

Operations	v24	v25	v30	Notes
GetEQComplianceItems	●	●	●	
GetEQSummaryInfo	●	●	●	
GetEQNutritionInfo	●	●	●	
GetEQBreakdownInfo	●	●	●	
GetEQNumbersForCriteria	●	●	●	

See Chapter 11, "Using the EQ Services Web Services" for more information.

PQS Services

PQS Services provides operations related to Product Quality Scorecard (PQS).

Operations	v24	v25	v30	Notes
SavePqsSamples	●	●	●	

See Chapter 12, "Using the PQS Services Web Services" for more information.

PQM Services

PQM Services provides operations related to Product Quality Management (PQM).

Operations	v24	v25	v30	Notes
GetPQMSummary			●	
CreatePQMIssues			●	
UpdatePQMIssues			●	
CreatePQMActions			●	
UpdatePQMActions			●	
CreatePQMAudits			●	
UpdatePQMAudits			●	

Operations	v24	v25	v30	Notes
GetSuppliers			●	
AddSuppliers			●	
DeleteSuppliers			●	
GetAffectedItems			●	
AddAffectedItems			●	
DeleteAffectedItems			●	
GetPQMItemByCriteria			●	
GetRelatedItems			●	
AddRelatedItems			●	
DeleteRelatedItems			●	
GetSupportingDocumentIDs			●	
GetURLSupportingDocument			●	
AddURLSupportingDocument			●	
DeleteURLSupportingDocuments			●	
AddSupportingDocumentAttachment			●	
DeleteSupportingDocumentAttachments			●	
GetRichTextSupportingDocument			●	
AddRichTextSupportingDocument			●	
DeleteRichTextSupportingDocuments			●	
GetDRLDocument			●	
AddDRLDocument			●	
DeleteDRLDocuments			●	
AddDRLCatalog			●	
DeleteDRLCatalogs			●	
GetAttachment			●	
AddAttachmentProcedure			●	
DeleteAttachmentProcedures			●	
AddCrossReferences			●	
DeleteCrossReferences			●	
UpdateCrossReferences			●	

See Chapter 13, "Using the PQM Services Web Services" for more information.

CSS Services

CSS Services provides operations related to Content Synchronization and Syndication (CSS).

Operations	v24	v25	v30	Notes
SendResponse		●	●	

See Chapter 14, "Using the CSS Services Web Services" for more information.

Attachment Services

Attachments Services provides operations related to getting attachment files and rich texts of GSM specifications, and SCRM companies, facilities, and sourcing approvals.

Operations	v24	v25	v30	v37	Notes
GetAttachment		●	●	●	Returns the specified attachment file as raw stream.
GetAttachmentJson		●	●	●	Returns the specified attachment file in JSON format.
GetRichText		●	●	●	Returns the specified rich text as an HTML page.
GetRichTextJson		●	●	●	Returns the specified rich text in JSON format.

See Chapter 15, "Using the Attachment Service Web Services" for more information.

Custom Web Services

Please see the Reference Implementation for more information about custom web services.

Common Response Headers

Each web service includes a common response in the SOAP Header. This common response consists of the following:

- **Result Code**—A string value representing the overall result of the web service call (for instance, RESULT_NO_ERRORS, RESULT_INVALID_INPUT, etc.). Possible values of the result code are documented for each web service.
- **List of Messages**—List of warning or error messages that provide details for any issues that occur when calling each web service. Each message has a message code, severity, and a description. Possible message codes and descriptions are documented for each web service.

2

Setting Up the Application Programming Interface

Pre-requisites

Oracle Agile PLM for Process Web Services Application Programming Interface (API) requires Microsoft .NET Framework 3.5 and Windows Communication Foundation (WCF). These must be installed on the machine that will be hosting the Integration web application, which will host the web services.

Registering Windows Communication Foundation

To register Windows Communication Foundation:

1. Install Microsoft .NET Framework 3.5.
2. Register the Windows Communication Foundation.
   a. Navigate to C:\WINDOWS\Microsoft.NET\Framework\v3.0\Windows Communication Foundation.
   b. Run the following command to register this service and update your machine.config file: **`ServiceModelReg.exe -i`**
3. Verify .svc files are mapped in IIS.
   a. IIS->Integration->Properties->Virtual Directory->Configuration
   b. If .svc files are not mapped, run **`ServiceModelReg.exe /s:W3SVC`**.

Deploying the API Code

Adding the Web Services API Files

Add the API files to an existing Oracle Agile PLM for Process environment.

To add the API files:

1. Extract all files from the extensibility pack release file to a temporary folder.
2. Switch to this temporary folder in Windows command prompt, and run the command: **`FileCompressionHelper.exe -d`**
3. From the temporary folder, copy the contents of the Integration folder within Web folder to the Prodika\web\Integration folder of your Oracle Agile PLM for Process installation.
   a. Make sure to include the web.config file.

b. Overwrite existing files with the same name.

Note: If deploying API on a 64-bit machine, please remove System.Web.dll and System.Web.xml from <PLM4P-install-folder>\Web\Integration\bin.

Adding a Virtual Directory to IIS

To add a new ProdikaContracts virtual directory to IIS:

1. In the Internet Information Services Manager, find the virtual directory for the Integration web application.
2. Right click and select **New>Virtual Directory**.
3. Enter the following values in the wizard:

   Alias: 'ProdikaContracts'

   Path: <PLM4P-install-folder>\Web\Integration\Contracts\Prodika

   Permissions: Read
4. In the Internet Information Services Manager, find the new virtual directory for ProdikaContracts.
5. Right click and select **Properties**.
6. In the properties dialog, change the Execute Permissions field to 'Scripts Only' and then click **OK**.
7. Restart IIS.

Configuration File Changes

Update the following configuration files to enable the Web Services API:

config\DeployedConfig.config

Place the following configuration in the DeployedConfig node:

```
<ProdikaAPI>
    <ConfigInfo configReplace="file:%CONFIG_HOME%\environmentvariables.config"
    configExtends="file:%CONFIG_
    HOME%\Custom\EnvironmentSettings.config,EnvironmentSettings/ProdikaAPI/ConfigIn
    fo" />
</ProdikaAPI>
```

config\Custom\EnvironmentSettings.config

Note: The UserID and Password settings have been changed to pull data entered in the SetupAssistant. Be sure to configure the username and password entries (`Prodika.ProdikaAPI.SysUser` and `Prodika.ProdikaAPI.SysPassword`) using the SetupAssistant tool in Agile PLM for Process 6.1.1.

Place the following configuration in the EnvironmentSettings node:

```
<ProdikaAPI>
    <ConfigInfo configChildKey="key">
        <add key="UserID" value="Prodika.ProdikaAPI.SysUser" />
        <add key="Password" value="Prodika.ProdikaAPI.SysPassword" />
        <add key="IsUseTrustedAuth"
        value="@@VAR:Prodika.ProdikaAPI.IsUseTrustedAuth@@" />
        <add key="IsLoginBypassOn"
        value="@@VAR:Prodika.ProdikaAPI.IsLoginBypassOn@@" />
    </ConfigInfo>
</ProdikaAPI>
```

config\Custom\CustomerSettings.config

Place the following configuration in the /CustomerSettings/Core/Prodika/Services node:

```
<ProdikaAPIConfigService refscope="Application"
factory="Singleton:Xeno.Prodika.ProdikaAPI.Services.ProdikaAPIConfigServiceFactory
,ProdikaAPILib" >
      <envvar name="MaxRecordCountGet" value="250"/>
      <envvar name="MaxRecordCountSave" value="250"/>
      <envvar name="ApprovedWorkflowName" value="Is Approved"/>
      <envvar name="SCRMApprovedWorkflowName" value="Is Approved"/>
</ProdikaAPIConfigService>
```

Notes

- **MaxRecordCountGet**—Value to limit top-level records returned by web service Get operations
- **MaxRecordCountSave**—Value to limit number of records for Save operations
- **ApprovedWorkflowName**—Value can be set to the appropriate Workflow Tag name that is used in WFA to declare a step as Approved or Official
- **SCRMApprovedWorkflowName**—Value can be set to the appropriate Workflow Tag name that is used in WFA to declare a step in SCRM workflow as Approved or Official

config\environmentvariables.config

Determining the Authentication Approach

The Web Services adhere to all security permission rules that are present in the core application, such as Spec read permissions, Business Unit visibility/security, and more. For instance, the GetSpecSummary web service will not return a spec that the user does not have valid Read permissions to. The permissions are evaluated against the PLM for Process user that is calling the web service. The web services API can therefore be set up for user authentication in two different ways, which has implications on the configuration required:

Option 1—Using one single declared PLM for Process user for all the web service calls

This user is specified by the Prodika.ProdikaAPI.SysUser value, which is set by the Setup Assistant. Each web service call authenticates to the application, and evaluates permissions, with this user account. This option is the simplest to set up, as it requires

no extra configuration steps, and is typically used when systems are communicating (via web services) without regard to individual permissions.

When using one single declared PLM for Process user for all the web service calls, the following configuration entries would need to be added to the environmentvariables.config file:

```
Prodika.ProdikaAPI.IsLoginBypassOn=true
Prodika.ProdikaAPI.IsUseTrustedAuth=true
```

Option 2—Specifying a PLM for Process user for each web service call

The user account must be supplied to each web service call by the client application, using the ClientCredentials of the client. You must set the environmentvariables configuration as follows: IsLoginBypassOn=false, which will ignore then Prodika.ProdikaAPI.SysUser value. To configure this option, you will have to install a web site certificate for IIS, and make additional configuration changes.

When specifying a PLM for Process user for each web service call, the following configuration entries would need to be added to the environmentvariables.config file:

```
Prodika.ProdikaAPI.IsLoginBypassOn=false
Prodika.ProdikaAPI.IsUseTrustedAuth=true
```

Additionally, the following four set up steps must be implemented for this option:

Step 1—Installing certificates for the web server Before the web service APIs can support UserNamePasswordValidator authentication for every call, a web site certificate must be installed. This certificate is used to encrypt the messages transferred between the clients and web server. Internet Information Server (IIS), integrated wizard can be used to request and install a site certificate.

- For IIS 6.0 on Windows Server 2003 platform, please refer to the following article to see the detail about the installation:

  "How To: Install Imported Certificates on a Web Server in Windows Server 2003" found at http://support.microsoft.com/kb/816794

- For IIS 7 on Windows Server 2008, please refer to the following article:

  "Import a Server Certificate (IIS 7)" found at http://technet.microsoft.com/en-us/library/cc732785%28WS.10%29.aspx

Step 2—Setting up the service credentials configuration Add a new configuration or modify an existing configuration node in:

```
<WEB_ROOT>\Integration/web.config
```

Node:

```
/configuration/system.serviceModel/behaviors/serviceBehaviors/behavior/serviceC
redentials
```

The following is a sample of <serviceCredentials> node:

```
<serviceCredentials>
    <serviceCertificate findValue="ApI_Cert" storeLocation="LocalMachine"
x509FindType="FindBySubjectName" storeName="My"/>
    <userNameAuthentication
    userNamePasswordValidationMode="Custom"customUserNamePasswordValidatorType=
    "WCFPlatformExtensions.WCFProdikaUserNamePasswordValidator,ProdikaAPILib"/>
</serviceCredentials>
```

You should modify the <serviceCertificate> node to adapt the information of the certificate installed in "Step 1—Installing certificates for the web server" on page 2-4.

For more information about how to config this node, please refer to the following article:

<serviceCertificate> of <serviceCredentials> found at

http://msdn.microsoft.com/en-us/library/ms731340.aspx

> **Note:** If this node already exists in the configuration file, do not add another node. Instead, modify the information based on the original configuration.

Step 3—Setting the wsHttpBinding configuration Add a new <wsHttpBinding> configuration node in:

```
<WEB_ROOT>\Integration\web.config
```

Node:

```
/configuration/system.serviceModel/bindings/
```

The following is a sample of <wsHttpBinding> node:

```
<wsHttpBinding>
    <binding name="prodikaAPIBinding">
        <security mode="Message">
        <message clientCredentialType="UserName"/>
        </security>
    </binding>
```

Make sure the “Name” attribute of the <binding> node is unique in the whole <wsHttpBinding> node. This value will be used in "Step 4—Setting the service bindings configuration" on page 2-5.

Step 4—Setting the service bindings configuration Open the configuration file:

```
<WEB_ROOT>\Integration\Contracts\Prodika\web.config
```

For each <endpoint> sub-node like shown in below of `/configuration/system.serviceModel/services/service` nodes,

```
<endpoint binding="basicHttpBinding" contract="..." />
```

update to:

```
<endpoint binding="wsHttpBinding" bindingConfiguration="prodikaAPIBinding"
contract="..." />
```

The value of the “bindingConfiguration” attribute should equal the value of “name” attribute configured in "Step 3—Setting the wsHttpBinding configuration" on page 2-5.

Verifying the Installation

The final steps in setting up the API are verifying that the web services are accessible and that they are working.

To verify that the web services are accessible, bring up the services in Internet Explorer:

1. Launch Internet Explorer.
2. In the Address bar, type:

   ```
   http://<servername>/Integration/ProdikaContracts/Specification/Common/v30/GeneralSpecServices.svc
   ```

3. You should see a page titled GeneralSpecServices Service.
   - If you see the page, the web services are accessible.
   - If you do not see the page, please review the installation and configuration.

To verify the web services are operational, you will need to execute a web service call and get a result. Various web service clients provide this functionality. If you can call the web service and get a result, the setup process is complete.

3

Using the General Spec Services Web Services

Overview of General Spec Services

GeneralSpecServices provides operations that act on Global Specification Management (GSM) specifications. The following operations are supported:

Operations	v24	v25	v30	Description
GetSpecSummary	●	●	●	Returns the specification summary data and cross references for a given list of specifications
GetSpecNumbersForCriteria	●	●	●	Returns the specification number and cross references for specifications matching several input criteria
SaveSpecCrossReferences	●	●	●	Creates, updates, and deletes cross references for a given specification
GetGSMPercentBreakdown	●	●	●	Returns percent breakdown information for a list of specifications
GetComplianceData	●	●	●	Returns compliance data for a given list of specifications

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/Common/v24/GeneralSpecServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/Common/v25/GeneralSpecServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/Common/v30/GeneralSpecServices.svc

Get Spec Summary

Use the GetSpecSummary web service to retrieve specification summary information for a given list of specifications.

Input

1. Allow Only Approved Spec—Specifications returned must be in an Approved status. (See Condition C - Allow Only Approved Spec.)
2. A list of specification numbers, cross references, or a combination of either.

Table 3–1 Input

Name	Type	Description
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects. See "tSpecIdentifierCriterion" on page A-9

Output

The following specification summary data is returned for each specification:

- Name
- ShortName
- SpecificationIdentifier
  - SpecNumber and IssueNumber
  - List of Cross References — The cross reference consists of SystemID, EquivalentValue, Description, Status, and UOM
- SpecType (four digit specification type code; see "Condition D - Specification Types" on page A-2)
- Status
- Category
- SubCategory
- Group
- Originator
- EffectiveDate
- InactiveDate

> **Note:** If any date field is empty or “null”, the field is automatically populated with the maximum date value of 12/31/9999. The user interface will not show the date or will show it as “-----”.

- Supercedes
- ReasonForChange

- IsTemplate (v25 and v30 only)

Table 3–2 Output

Name	Type	Description
tSpecificationSummaryWrapper	tSpecificationSummaryWrapper[]	Array of tSpecificationSummaryWrapper objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3–3 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.
RESULT_INVALID_INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See"Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See"Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	SPEC_SUMMARY_RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading a specification.

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, F detailed in "Special Conditions" on page A-1.

Get Spec Numbers For Criteria

Use the Get Spec Numbers for Criteria service to search for specifications using various predefined search criteria. The service returns a list of matching specification numbers (specification number, issue number, and list of cross references).

Input

The following input criteria are available as search criteria:

1. Allow Only Approved Spec—Restricts results to specifications in an Approved status. See "Condition C - Allow Only Approved Spec" on page A-1.
   - True—Specifications returned must be in an “Approved” status
   - False—Specifications returned may be in any status
2. Spec Created/Modified Date Range—Restrict results to specifications created or modified in the given date range
   - Date Range Type —CreatedBetweenDateRange or ModifiedBetweenDateRange; required
   - Start Date —Datetime; required
   - End Date —Datetime; optional (if no End Date is provided, any specification date after the Start Date will be returned)
3. Originators—Restricts search results to specifications created by any user in the list of originators
   - Originator Type—OriginatorUserNames list or OriginatorExternalIDs list
     - OriginatorUserNames—List of strings representing the specification originator UserNames. These are login names.
     - OriginatorExternalIDs—List of strings representing the specification originator User External IDs
4. Spec Status—Restricts results to specifications whose statuses contain any of the listed workflow statuses. For example, “Draft” will also return “Draft Review”.
   - Spec Status name
   - If Allow Only Approved Spec is set to True and a Spec Status is provided, both values must resolve for a specification to be returned
5. Spec Name —Restricts results to specifications with a specification name **containing** the given string
6. Short Name—Restricts results to specifications with a specification short name **containing** the given string
7. Spec Types—Restricts results to specifications types in given list of specification types
   - Specification type must be four digits
   - Possible specification type values: See "Condition D - Specification Types" on page A-2
8. Cross Reference—Restricts results to specifications containing the given cross reference System ID and Equivalent Code
9. IncludeSpecTemplates—v25 and v30 only; Search results include specification templates. For v24, by default, excludes templates from search results.

Table 3–4 Input

Name	Type	Description
QueryOptions	tQueryOptions	Contains search criteria

Output

A list of Specification Identifiers (tSpecificationIdentifier) that contain the following:

- SpecificationNumber
  - Spec Number
  - Issue Number
- List of Cross References
  - SystemId
  - Description
  - UOM
  - Status
  - Equivalent Value

Table 3–5 Output

Name	Type	Description
specificationIdentifiers	tSpecificationIdentifier []	Array of tSpecificationIdentifier

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3–6 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.

Table 3–6 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid parameters passed in
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ORIGINATOR_ TYPE	Must be of type OriginatorUserNames or OriginatorExternalIDs
	INVALID_SPEC_TYPE	Must be numeric; four digits
	INVALID_DATE_RANGE	CreatedBetweenDateRange or ModifiedBetweenDateRange expected
		Start date required and must be prior to (optional) End date
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	SPEC_SUMMARY_ RETRIEVAL_ERROR	Occurs when an unexpected exception occurs when loading a specification

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, D, E2, F in "Special Conditions" on page A-1.

Save Spec Cross References

Use the SaveSpecCrossReferences web service to modify a given specification's list of cross references. The web service takes a list of cross reference change items, which may be Adds, Updates, and/or Deletes. It then applies those modifications to a given specification's cross references. Results of the web service call include a list of all specifications that have been affected, along with the newly updated list of cross references.

Any added or updated cross reference will have its Externally Managed flag set to that cross reference's default Externally Managed value.

Specifications that the user does not have workflow 'Write' permissions for will not be modified.

Input

1. tSpecIdentifierCriterion—The specification to modify. Required.
2. List of Cross Reference change items (CrossRefUpdateItem). At least one is required. Allowed types:
   - AddCrossReference
     - NewCrossReference
   - UpdateCrossReference
     - OriginalCrossReference
     - ReplacementCrossReference
   - DeleteCrossReference
     - RemoveCrossReference

Output

The result will be a list of specifications (SpecUpdatedWrappers) affected by the cross reference changes. For each specification affected, the results will include the full cross reference list. See Condition #1 in "Condition A - No Issue Specified in Input Criteria" on page A-1.

1. SpecUpdatedWrapper
   - SpecificationIdentifier
     - SpecNumber and IssueNumber
     - List of Cross References — The cross reference consists of SystemID, EquivalentValue, Description, UOM, and Status

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3–7 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 3–7 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid parameters passed in
	INVALID_CROSS_ REFERENCE	Cross Reference (SystemID, Equivalent) or Specification Number input is required. See "Condition E - Specification Identifier Input Formats" on page A-2.
	NO_SPEC_FOUND	This may be caused by several factors. Details of the error will be provided in the Message Description. ▪ Unable to locate specification with given input ▪ A Delete cross reference references a cross reference that does not exist on a specification ▪ An Add cross reference is adding a cross reference that already exists ▪ An Add cross reference is adding a cross references with a status of New, Inactive, or Archived ▪ An Update cross reference is updating a cross reference where the status of the replacement cross reference is New, Inactive, or Archived ▪ Referencing an unknown system ID ▪ Referencing an unknown specification type ▪ Equivalent length is invalid
	INVALID_SECURITY_ PRIVILEGES	User must have role [EXTERNALLY_MANAGED_ CROSS_REF_ADMIN] to modify cross references
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs loading a specification
	UNKNOWN_ERROR	Unknown exception retrieving specification relationships

Notes

See Conditions A.1, A.2, B.1, D, E, F in "Special Conditions" on page A-1.

Get GSM Percent Breakdown

The GetGSMPercentBreakdown service returns percent breakdown information for a list of specifications.

The web service respects:

- GSM BU Security
- WFA Permissions
- Formula Classifications

It returns the following pieces of data for each % breakdown:

- Breakdown Summary Information
- Breakdown Description
- Restrictions
- Formula Classifications
- Tags
- Breakdown Details
- Component Name
- Component ID (Unless it is free text)
- Component Description
- Component COO
- Component Complies With
- Component Formulation Amount
- Component Min Amount
- Component Max Amount
- Component Total Solids
- Component Function
- Component Critical Flag

Specification Types

Compliance information is returned for the following specification types:

- Product Specification
- Material Specification
- Trade Specification

Input

1. tSpecInputCriteria—A standard list of spec identifiers (specification #, issue #, or Cross Reference items)

Output

1. SpecFormulaBreakdown
   - tSpecificationIdentifier SpecificationIdentifier
   - tFormulaBreakdowns[] FormulaBreakdowns

   a. tFormulaBreakdowns consist of the following:
      - tBreakdown[] breakdowns
      - boolean IsProprietary
      - boolean PublishToSupplierPortal
      - boolean IsMasterFormula
      - DateTime CreationDate

- string Description
- tRestriction[] Restrictions (may be a string/alias, or may need other information)
- string[] FormulationClassifications

b. tBreakdowns consist of the following:

- string Name
- string Description
- string Caption (free text only)
- tBreakdownSource breakdownSource {Material Spec, FIC Term, FoodItemCatalog, FreeText}
- double PercentFormulation
- double MinRange
- double MaxRange
- boolean IsCritical
- integer SequenceNumber
- tComplianceItem[] CompliesWith
- tCountry[] CountriesOfOrigin
- string ComponentFunction

c. tCountry consists of the following:

- string CountryID
- string CountryName
- string ISOCode
- integer ISONumericCode

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3–8 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.

Table 3–8 Result Codes

Name	Type	Description
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	SPEC_ PERCENTBREAKDOWN_ RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading specification %breakdown information

Notes

See Conditions A.1, A.2, B, C.1, C.2, D.1 (1004, 2147, 6501), E.1, E.2, F in "Special Conditions" on page A-1.

Get Compliance Data

Use the GetComplianceData web service to retrieve compliance information for a given list of specifications. The specification identifier passed in can include IncludeCompliesWith, IncludeAllergens, IncludeAdditives, and IncludeIntolerances. When these are set to True, the compliance items for that type are included. Otherwise, the compliance items for that type will not be included.

The service returns the following:

- Complies With Items
- Allergens Know to Contain Item, Max/100g and Source/Comments
- Allergens May Contain Item, Max/100g and Source/Comments
- Allergens Does Not Contain Item
- Intolerances Know to Contain Item, Max/100g and Source/Comments
- Intolerances May Contain Item, Max/100g and Source/Comments
- Intolerances Does Not Contain Item
- Additives Know to Contain Item, Max/100g and Source/Comments
- Additives May Contain Item, Max/100g and Source/Comments
- Additives Does Not Contain Item

Specification Types

Compliance information is returned for the following specification types:

- Menu Item specification
- Product specification
- Material specification
- Process specification (in v5.2 or less)
- Trade specification

Input

1. Specification Identifier (spec number or cross reference)
2. Combine Like Items (Boolean)

   IncludeCompliesWith, IncludeAllergens, IncludeAdditives, IncludeIntolerances

   - True—Include this item selection data
   - False—Do not include this item selection data
3. Allow Only Approved Spec—Top-level specification returned must be in an "Approved" status (For more information see "Condition C - Allow Only Approved Spec" on page A-1).

Output

1. Each OutputItem in the OutputItems list includes:
   - tSpecComplianceInfo[] complianceSpecs
2. Each tSpecComplianceInfo includes:

- tSpecificationIdentifier SpecificationIdentifier
- tComplianceItem[] CompliesWith
- tComplianceItemContained[] AllergensContained
- tComplianceItemContained[] AdditivesContained
- tComplianceItemContained[] IntolerancesContained
- tComplianceItem[] AllergensNotContained
- tComplianceItem[] AdditivesNotContained
- tComplianceItem[] IntolerancesNotContained
- tComplianceItemContained[] AllergensPossiblyContained
- tComplianceItemContained[] AdditivesPossiblyContained
- tComplianceItemContained[] IntolerancesPossiblyContained

3. Each tComplianceItemContained structure includes:
   - tComplianceItem ComplianceItem
     - string Name
     - string ExternalID
   - tMeasurement MaxPer100Grams
     - double Value
       - tUOM UOM
   - Output Summary
     - Ref tSpecComplianceInfo structure
   - Input Summary
     - Input Items—List of input items. Each Input item will include:
       - Specification Identifier (Spec Number-Issue Number or Cross References, IncludeCompliesWith, IncludeAllergens, IncludeAdditives, IncludeIntolerances)

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 3–9 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 3–9 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_INPUT	A valid SpecInputCriteria is required
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See"Condition F - Max Records Retrieved" on page A-2.
	BOM_ITEM_ CALCULATION_ERROR	Occurs when an Input UOM category differs from the batch UOM category and it does not have a Density defined
RESULT_FAILURE	UNKNOWN_ERROR	Unexpected exception occurs when formatting the output items

Notes

See Conditions A.1, A.2, C.1, C.2, E, F in "Special Conditions" on page A-1.

4

Using the SCRM Services Web Service

Overview of SCRM Services

SCRMServices provides operations that act on Supply Chain Relationship Management (SCRM) sourcing approvals (specification-related and non specification-related), companies, and facilities. The following operations are supported:

Operation	v24	v25	v30	Description
GetCompany	●	●	●	Returns SCRM company information, company hierarchies, and facilities for given company identifiers
GetFacility	●	●	●	Returns SCRM facility information and related sourcing approvals for given facility identifiers
GetSCRMSourcingApproval	●	●	●	Returns specification-related or non specification-related sourcing approval information for given sourcing approval identifiers

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/SCRM/v24/SCRMServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/SCRM/v25/SCRMServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/SCRM/v30/SCRMServices.svc

Get Company

Use the GetCompany web service to retrieve the company profiles for a given list of companies.

Input

A list of company numbers, cross references, or a combination of either.

Table 4–1 Input

Name	Type	Description
CompanyIdentifiers	tSCRMEntityIdentifier []	Array of one or more tSCRMEntityIdentifier objects

Output

The following company profile data is returned for each company:

- Company Profile Number
- Company Name
- Company business units and corresponding business unit status
- Postal Address (address 1, address 2, City, State, Postal Code, Country)
- Street Address (address 1, address 2, City, State, Postal Code, Country)
- Website
- Phone
- Fax
- Cross References
- Special Attributes
- Special Notes
- Parent Companies (Collection of parent company number only)
- Child Companies (Collection of child company number only)
- Facilities (Collection of facility numbers only)

Table 4–2 Output

Name	Type	Description
Companies	tCompany []	Array of tCompany objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4–3 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.
RESULT_INVALID_ INPUT	INVALID_COMPANY_ NUMBER	Company number input format is invalid. See #1 of "Condition K - Invalid Company Input Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See # 2 of "Condition K - Invalid Company Input Formats" on page A-4.
	NO_COMPANY_FOUND	Occurs if any company cannot be found for the input criteria (the service will continue to process remaining criteria).
	NOT_ENOUGH_ PRIVILEGES	Occurs if the API user has no read permission to companies returned for the input criteria.
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See"Condition F - Max Records Retrieved" on page A-2.

Notes

See Conditions F.1, K.1, and K.2 in "Special Conditions" on page A-1.

Get Facility

Use the GetFacility web service to retrieve the facility profiles for a given list of facilities.

Input

A list of facility numbers, cross references, or a combination of either

Table 4–4 Input

Name	Type	Description
FacilityIdentifiers	tSCRMEntityIdentifier []	Array of one or more tSCRMEntityIdentifier objects

Output

The following facility profile data is returned for each facility:

- Facility Profile Number
- Facility Name
- Facility business units and corresponding business unit status
- Postal Address (address 1, address 2, City, State, Postal Code, Country)
- Street Address (address 1, address 2, City, State, Postal Code, Country)
- Website
- Phone
- Fax
- Cross References
- Special Attributes
- Special Notes
- Specification Related Sourcing Approvals (Collection of pkids, sourcing approval Number and GSM specification number)
- Non Specification Related Sourcing Approvals (Collection of pkids and sourcing approval number)

Table 4–5 Output

Name	Type	Description
Facilities	tFacility []	Array of tFacility objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4–6 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.

Table 4–6 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	INVALID_FACILITY_ NUMBER	Facility number input format is invalid. See #1 of "Condition L - Invalid Facility Input Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See # 2 of "Condition L - Invalid Facility Input Formats" on page A-4.
	NO_FACILITY_FOUND	Occurs if any facility cannot be found for the input criteria (the service will continue to process remaining criteria).
	NOT_ENOUGH_ PRIVILEGES	Occurs if the API user has no read permission to companies returned for the input criteria.
RESULT_WARNINGS	INVALID_FACILITY_ NUMBER	Facility number input format is invalid. See #1 of "Condition L - Invalid Facility Input Formats" on page A-4.

Notes

See Conditions L.1, L.2, and F.1 in "Special Conditions" on page A-1.

Get SCRM Sourcing Approval

Use the GetSCRMSourcingApproval web service to retrieve sourcing approval information. The service returns specification-related or non specification-related sourcing approval information for given sourcing approval identifiers.

Input

1. A list of sourcing approval PKIDs or sourcing approval numbers.
2. Allow Only Approved Entity—Specification-related sourcing approvals returned must be in an "Approved" workflow status (Non specification-related sourcing approvals ignore this setting). (See "Condition J - Allow Only Approved Entity" on page A-4).

Table 4–7 Input

Name	Type	Description
AllowOnlyApprovedEntity	boolean	True—Specification-related sourcing approvals returned must be in an Approved status. False—Specification-related sourcing approvals returned may be in any status. See "Condition J - Allow Only Approved Entity" on page A-4 for details.
SourcingApprovalIdentifier	tSCRMSourcingApprovalIdentifier[]	Array of one or more sourcing approval PKIDs or sourcing approval numbers.

Output

1. Each specification-related sourcing approval includes:
   - Source Company Number
   - Source Company Cross Reference(s)
   - Source Facility Number
   - Source Facility Cross Reference
   - Specification Number
   - Specification Cross Reference(s)
   - Receiving Facilities (collection of facility numbers, facility names, and cross references)
   - Status
   - Supplier Item Number
   - Supplier Signed Boolean
   - Supplier Signed Date
   - Supplier Signed Text
   - Sourcing Type
   - Protocol ID
   - Class

- Notes
- QA Assigned (usernames)
- SC Assigned (usernames)

2. Each non-specification related sourcing approval includes:
   - Source Company Number
   - Source Facility Number
   - Source Company Cross References
   - Source Facility Cross References
   - Item/Service Description
   - Receiving Facilities (collection of facility numbers, facility names, and cross references)
   - Status
   - Sourcing Type
   - Class
   - Notes
   - QA Assigned (usernames)
   - SC Assigned (usernames)

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 4–8 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid parameters passed in (SCRM identifier is not a tSCRMSouringApprovalPKID or tSCRMSourcingApprovalNumber type)
	INVALID_PKID	A valid Sourcing Approval PKID is required
	INVALID_SCRMENTITY_ NUMBER	Occurs if you enter a sourcing approval number. A valid Sourcing Approval number is required.
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

Notes

See Conditions F1, I1, and I2 in "Special Conditions" on page A-1.

5

Using the Nutrition Service Web Services

Overview of Nutrition Service

NutritionService provides nutrition and Nutrition Surveillance Management (NSM) related operations. The following operations are supported:

Operation	v24	v25	v30	Description
GetNutrientItemsPer100g	●	●	●	Returns the Nutrient Items for a given list of specifications
SaveNutrientAnalysis	●*	●*	●*	Saves nutrient analysis data (nutrient sample and nutrient item values) for a specification. *v24 added two new fields to analysis input
GetNutrientAnalysis	●	●	●	Returns the Nutrient Analysis summary and list of Nutrient Items for a given nutrient analysis number
GetNutrientComposite	●	●	●	Returns the Nutrient Composite summary, list of Analyses that make up the composite, and the list resulting Nutrient Items for a given nutrient composite number

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/Nutrition/v24/NutritionService.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/Nutrition/v25/NutritionService.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/Nutrition/v30/NutritionService.svc

Get Nutrient Items per 100g

The Get Nutrient Items per 100g web method gets a list of nutrient items for each of the specified GSM specifications. For material and product specifications, nutrient items are retrieved from the nutrient composition. For trade and menu item specifications, nutrient items are retrieved from the active nutrient profile. Additionally, the nutrient items from a given nutrient profile specification can also be retrieved.

Input

1. AllowOnlyApprovedSpec flag—If included and set to "True," only approved specifications will be included in the output. See "Condition C - Allow Only Approved Spec" on page A-1 for more information.
2. Array named specIdentifierCriterion of type tSpecIdentifierCriterion—The identifiers can refer to any GSM specification type that associates with nutrient profiles or nutrient compositions. See "tSpecIdentifierCriterion" on page A-9 for more information.

Table 5–1 Input

Name	Type	Description
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects

Output

The only output is an array named NutrientData. The elements are of type tNutrientDataWrapper (see "tNutrientDataWrapper" on page A-19 for more information). Each tNutrientDataWrapper element lists the nutrient items for one specification. Each nutrient item contains:

- InfoodsCode—The InFoodsID value of the nutrient. See "Condition H - InFoodsCode" on page A-2.
- ValuePer100Gms—The numerical value for 100 grams
- UOM—Unit of measure
  - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
  - ID—The unit of measure identification number.
  - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
- Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
- Comments—Additional comments about this particular nutrient.

Table 5–2 Output

Name	Type	Description
NutrientData	tNutrientDataWrapper	Nutrient items for one specification

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5–3 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.
RESULT_FAILURE	UNEXPECTED_RESULT	Unexpected exception occurs when loading specification information
RESULT_INVALID_ INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See"Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_SPEC_TYPE	The specification type is not supported
	NO_VALID_PARAMETERS	No valid parameters used
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, D.1 (Types: 1004, 2147, 5750, 5816, 6500, 6501), E, F, and H in "Special Conditions" on page A-1.

Save Nutrient Analysis

Use the SaveNutrientAnalysis web service to import new nutrient analysis entries into NSM. For a given specification, the web service takes a list of NutrientSamples, which includes a specification number, SCRM facility, a list of business units, and a list of nutrient items.

Results of the web service call include an overall success indicator and a list of all nutrient analyses that have been imported. Each nutrient analysis result contains a system-generated analysis number and the sample number used as input.

Input

Input is a list of tNutrientSample objects. Each NutrientSample contains a SampleSummary and a list of NutrientItems.

SampleSummary

- SampleNumber—The number to assign to the nutrient analysis
- SampleType—Type name to assign to the nutrient analysis
- GtinUPC—GTIN UPC value
- SpecNumber—The specification to associate this nutrient analysis to. May be a SpecNumber-IssueNumber or a cross reference. If using a cross reference and the cross reference is associated to multiple specifications, an error will occur.
- SourceFacility—The SCRM facility to associate this nutrient analysis to. May be an facility number or cross reference. If the cross reference is associated to multiple facilities, an error will occur.
- BusinessUnits—List of business units to associate the analysis to. Each business unit entry must contain the full business unit alias (for example, “CPI North America Retail”).
- AnalysisDate
- SentToLabDate—Optional; Available for v24 only
- ReceivedFromLabDate—Optional; Available for v24 only
- Description—Text field

NutrientItems—List of nutrient items. Each nutrient item contains:

- InfoodsCode—The InFoodsID value of the nutrient. See "Condition H - InFoodsCode" on page A-2.
- ValuePer100Gms—The numerical value for 100 grams
- UOM—Unit of measure
  - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
  - ID—Not used
  - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
- Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
- Comments—Text field

Output

The result will be an overall success indicator and a list of all nutrient analyses that have been imported.

IsSuccessful—True or False

Results—List of NutrientAnalysisResult objects. Each NutrientAnalysisResult object provides a system generated AnalysisNumber for the newly imported nutrient analysis, and its corresponding SampleNumber used as input.

- AnalysisNumber—System generated reference number for the nutrient analysis
- SampleNumber—Number used as input to assign to the nutrient analysis

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5–4 Result Codes

Name	Type	Description
INVALID_INPUT	INVALID_SECURITY_ PRIVILEGES	User must have role [NUTRIENT_ANALYSIS_ CREATOR] to save nutrient analysis data
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NUTRITION_SAMPLE_ INVALID	Nutrient sample required
	NUTRITION_ANALYSIS_ INVALID	No valid parameters for nutrient analysis
	MAX_RECORDS_SAVED	Maximum records count allowed for nutrient analysis records save exceeded. Request rejected.
	NUTRITION_ANALYSIS_ INVALID_ SAMPLENUMBER	Nutrient analysis Sample Number input invalid (must be 50 alphanumeric characters or less)
	NUTRITION_ANALYSIS_ INVALID_ SAMPLETYPE	Nutrient analysis Sample Type input invalid (must be 50 alphanumeric characters or less)
	NUTRITION_ANALYSIS_ INVALID_ DESCRIPTION	Nutrient analysis Description length invalid (must be 1024 alphanumeric characters or less)
	NUTRITION_ANALYSIS_ INVALID_GTINUPC	Nutrient analysis GTINUPC input invalid (must be 14 alphanumeric characters or less)
	NUTRITION_ANALYSIS_ INVALID_ SCRM_FACILITY	Nutrient analysis SCRM source Facility input invalid. See "Condition I - SCRM Entity Input" on page A-3.

Table 5–4 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	NUTRIENT_ANALYSIS_ INVALID_ BUSINESS_UNIT	No business unit found for given alias
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
	NUTRIENT_ITEM_ INVALID_COMMENT	Nutrient item Comments must be 512 alphanumeric characters or less
	NUTRIENT_ITEM_ INVALID_UOM	Unit of measure not found for given ISOCode or abbreviation
	NUTRIENT_ITEM_ INVALID_ INFOODS_CODE	No Infoods Code found for given input value
	NUTRIENT_ITEM_ INVALID_SOURCE	Provide Source cannot be found
	UNKNOWN_ERROR	Unknown error retrieving SCRM facility information
RESULT_FAILURE	NUTRIENT_SAMPLE_ SAVE_ERROR	Unknown error saving nutrient analysis

Notes

See Conditions A.1, A.2, E, G, H, and I in "Special Conditions" on page A-1.

Get Nutrient Analysis

Use the GetNutrientAnalysis web service to retrieve the Nutrient Analysis summary and list of Nutrient Items for a given nutrient analysis number. The associated SCRM facility information will only be returned if the calling user has access permission to the facility.

Input

A nutrient analysis number

Table 5–5 Input

Name	Type	Description
AnalysisNumber	String Max length = 8	Unique numerical identifier for the nutrient analysis. Required.

Output

NutrientAnalysisSummary

- AnalysisNumber —System-assigned analysis number
- SampleNumber—User-defined number for the sample. This can be alpha or numeric.
- Description—Description of the analysis
- specificationIdentifier
  - Spec # and Issue #
  - List of Cross References
- GTIN_UPC—GTIN UPC value
- SampleType —User-defined field denoting the type of sample, such as raw material or finished product
- Facility—The facility where the sample is sourced
- HasAccessToSourceFacility—Set to false if user does not have access to the source facility
- List of BusinessUnits—List of business units to associate the analysis to. Each business unit entry must contain the full business unit alias (for example, “CPI North America Retail”).
- AnalysisDate
- LastUpdateDate
- SentToLabDate
- ReceivedFromLabDate
- Originator (Name, ExternalId)

List of Nutrient Items. Each nutrient item contains:

- InfoodsCode—The InFoodsID value of the nutrient. See "Condition H - InFoodsCode" on page A-2.
- ValuePer100Gms—The numerical value for 100 grams

- UOM—Unit of measure
  - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
  - ID—The unit of measure identification number
  - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
- Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
- Comments—Additional comments about this particular nutrient

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5–6 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid request parameters
	NUTRITION_ANALYSIS_NUMBER_INVALID	Nutrient Analysis Number is required. Nutrient Analysis Number length must not be more than 8 characters
	NUTRITION_ANALYSIS_NOT_FOUND	No nutrient analysis found with given nutrient analysis number
	INVALID_SECURITY_PRIVILEGES	If user does not have permission for the nutrient analysis' related specification

Notes

See Conditions B (for the nutrient analysis' related specification) and H in "Special Conditions" on page A-1.

Get Nutrient Composite

Use the GetNutrientComposite web service to retrieve the Nutrient Composite summary, list of Analyses that make up the Composite, and the list resulting Nutrient Items for a given nutrient composite number. The resulting nutrient items list is a composite of the nutrient analyses according to their weighted values. Each resulting nutrient item returned does not include the source or comments data.

The nutrient composite information will only be returned if the calling user has access to the associated Specification.

Input

A nutrient analysis number

Table 5–7 Input

Name	Type	Description
CompositeNumber	String Max length = 10	Unique numerical identifier for the nutrient composite. Required.

Output

The following Nutrient Composite data is returned:

NutrientCompositeSummary

- CompositeNumber
- Title
- Description
- SpecificationIdentifier
  - Spec # and Issue #
  - List of Cross References
- List of BusinessUnits
- CompositeDate
- LastUpdateDate
- Originator (Name, ExternalId)

List of Weighted Nutrient Analyses. Each Weighted Analysis has:

- Analysis Number
- Specification Identifier
- Analysis Date
- Weighting
- Comments

List of Nutrient Items. Each nutrient item has:

- InfoodsCode—The InFoodsID value of the nutrient. See "Condition H - InFoodsCode" on page A-2.
- ValuePer100Gms—The numerical value for 100 grams

- UOM—Unit of measure
  - ISOCode—The ISO code of the unit of measure. If no ISO code is available for the UOM, this field should not be used and the Abbreviation field should be populated.
  - ID—The unit of measure identification number
  - Abbreviation—The abbreviation of the UOM to use. This field is only referenced if the ISOCode is not used.
- Source—The name of the location/source the nutrient analysis was produced. Uses the name column from the NutritionalOrigin table.
- Comments—Text field

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 5–8 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid request parameters
	NUTRITION_COMPOSITE_NUMBER_INVALID	Nutrient Composite Number is required.
		Nutrient Composite Number length must not be more than 10 characters.
	NUTRITION_COMPOSITE_NOT_FOUND	No nutrient composite found with given nutrient composite number
	INVALID_SECURITY_PRIVILEGES	If user does not have permission for the composite's specification

Notes

See Conditions B (for the nutrient composite's related specification) and H in "Special Conditions" on page A-1.

6

Using the Custom Data Services Web Services

Overview of Custom Data Services

CustomDataServices provides operations related to extended attributes and custom sections. The following operations are supported:

Operation	v24	v25	v30	Description
GetCustomSectionSchema	●	●	●	Returns an XML Schema describing the specified custom sections format expected when calling one of the other getXCustomSections web services.
GetSpecCustomSections	●	●	●	Returns the specified custom section data for the given specifications if the user has read permissions. The resulting custom section XML is unique for each custom section type/template.
GetSpecExtendedAttributes	●	●	●	Returns all extended attributes for the given GSM specifications.
GetSCRMCustomSections	●	●	●	Returns the specified custom section data for the given companies, facilities, or sourcing approvals.
GetSCRMExtendedAttributes	●	●	●	Returns all extended attribute data for the given companies, facilities, or sourcing approvals.
SaveCustomLookup	●	●	●	Updates the custom import lookup table, used by qualitative lookup extended attributes, with the provided lookup entries.
GetCustomSectionsMetaData	●	●	●	Returns custom section meta data describing various attributes of the given custom section.
GetExtendedAttributesMetaData	●	●	●	Returns extended attribute meta data describing various attributes of the given extended attribute.
GetEQCustomSections	●	●	●	Returns the specified custom section data for the given eQuestionnaire.
GetEQExtendedAttributes	●	●	●	Returns all extended attribute data for the given eQuestionnaire.

Operation	v24	v25	v30	Description
GetCalculatedCustomSection	●	●	●	Returns a calculated version of a custom section for a given custom section number and GSM specification. Data can be provided to override existing specification data used in the calculation.
GetPQMCustomSections			●	Retrieves custom section data for specified PQM items
AddPQMCustomSections			●	Adds custom section data to specified PQM items
DeletePQMCustomSections			●	Removes existing custom sections from specified PQM items
UpdatePQMCustomSection			●	Updates existing custom section data of specified PQM items

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/Common/v24/CustomDataServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/Common/v25/CustomDataServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/Common/v30/CustomDataServices.svc

Get Custom Section Schema

This web method gets an XML schema describing a custom section. (See http://www.w3.org/XML/Schema for the XML Schema specification.) Custom sections are composed of rows and columns of extended attributes. Extended attributes are of a limited number of types. Oracle Agile PLM for Process API supplies an XML schema file (ExtendedAttributeTypes.xsd) that specifies those types.

Input

Table 6–1 Input

Name	Description
CustomSectionID	A unique ID number assigned to a custom section when it is created. The editor label for this value is: "Section Number."

Output

Table 6–2 Output

Name	Description
customSectionID	The ID number passed as input
Schema	An XML schema describing the custom section

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–3 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.
RESULT_INVALID_ INPUT	INVALID_CUSTOM_ SECTION_NUMBER	Invalid Custom Section number
RESULT_FAILURE	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.

Get Spec Custom Sections

This method gets custom section data for GSM specifications. The query is limited to the identified specifications and custom section types. Not all specified specifications may have every specified custom section type.

Input

Table 6–4 Input

Name	Description
CustomSectionNumbers	Array of custom section ID numbers
AllowOnlyApprovedSpec	If set to true, only the latest Approved issue number is retrieved, if one exists (see "Condition C - Allow Only Approved Spec" on page A-1).
specIdentifierCriterion	Array of tSpecIdentifierCriterion. These identify which specifications to query. For more information see "tSpecIdentifierCriterion" on page A-9.

Output

A tCustomSectionSpec element is returned for each specification that is found. These have two sub-elements:

1. SpecificationNumber—Identifies a specification that matched one input. It is of type tSpecificationNumber, as explained in "tSpecificationNumber" on page A-9.
2. Sections—Lists any custom sections of the types specified in the input that belong to the specification. Within “Sections” is one or more tCustomSectionSpec elements. There is one per custom section found. Each tCustomSectionSpec has a tExtension element containing an Any element. The nodes under this conform to the XML schema returned by GetCustomSectionSchema (see "Get Custom Section Schema" on page 6-3).

   The sub-node is the section name. It in turn contains a node per row. Row nodes contain one node per column. Column nodes contain the actual values.

   To summarize, the hierarchy is: Sections / tExtension /Any / <section-type> / <row_name> /<column_name >/ <extended-attribute-type> / Value. The first column contains labels instead of values.

   Object Level Security is evaluated for each custom section returned based on the web service user. Custom sections without appropriate security privileges are removed from the results, and include the INVALID_SECURITY_PRIVILEGES message.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–5 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.

Table 6–5 Result Codes

Name	Type	Description
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition G - Max Records Allowed For Save" on page A-2.
	INVALID_SECURITY_ PRIVILEGES	User must have role [EXTERNALLY_MANAGED_ CROSS_REF_ADMIN] to modify cross references.
		User does not have access to requested custom section.
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing criteria or custom section number
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_FAILURE	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.
	CUSTOM_SECTION_ RETRIEVAL_ERROR	Unknown error getting custom section data

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Spec Extended Attributes

This web method gets extended attribute data for GSM specifications.

Input

1. A list of specification numbers, cross references, or a combination of either
2. Allow Only Approved Spec—Specifications returned must be in an Approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 6–6 Input

Name	Type	Description
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an Approved status False—Specifications returned may be in any status
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects. See "tSpecIdentifierCriterion" on page A-9.

Output

A tExtendedAttributeSpec element is returned for each specification that is found. These have two sub-elements:

1. SpecificationNumber—Identifies a specification that matched one input. It is of type tSpecificationNumber.
2. ExtendedAttributes—Lists any extended attributes that belong to the specification inside the Any node. Each attribute has a Value element. The body is the value. An ISO code for the unit of measure is in the unit of measure (UOM) attribute. Oracle Agile PLM for Process API supplies an XML schema file (ExtendedAttributeTypes.xsd) that specifies the format for each extended attribute type.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–7 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_FAILURE	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.
	SPEC_LOAD_ERROR	Unexpected exception loading specifications
	UNKNOWN_ERROR	Unknown error getting extended attributes data

Table 6–7 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing criteria or custom section number
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNING	EXTENDED_ATTRIBUTE_ GENERATION_ERROR	Error generating extended attribute XML data for specification
	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition G - Max Records Allowed For Save" on page A-2.

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get SCRM Custom Sections

This method gets custom section data for SCRM companies, facilities, and sourcing approvals. The query is limited to the identified companies, facilities, sourcing approvals, and custom section types. Not all specified companies, facilities, and sourcing approvals may have every specified custom section type.

The inputs and outputs for each SCRM object are listed below:

Company Profile

Table 6–8 Input and Output

Input	Output
CompanyNumber/CompanyCrossReference	Custom Section message matching the specification custom section message
CustomSectionNumbers	

Facility Profile

Table 6–9 Input and Output

Input	Output
FacilityNumber/FacilityCrossReference	Custom Section message matching the specification custom section message
CustomSectionNumbers	

Specification Related Sourcing Approval

Table 6–10 Input, Output and Security

Input	Output	Security
Sourcing Approval Number/PKID **CustomSectionNumbers**	Custom Section message matching the specification custom section message	GSM Business Unit and Object Level Security
AllowOnlyApprovedEntity (optional)	boolean	True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag. Refer to "config\Custom\CustomerSettings.config" on page 2-3 for more information. False—Sourcing approvals returned may be in any status. This input applies only to sourcing approvals. It is ignored when pulling data from companies or facilities.

Non-Specification Related Sourcing Approval

Table 6–11 Input, Output and Security

Input	Output	Security
Sourcing Approval Number/PKID **CustomSectionNumbers**	Custom Section message matching the specification custom section message	Object Level Security
Allow Only Approved Entity **(optional)**	Input for non-specification related sourcing approval.	

Input

1. SCRMEntityInputCriteria—Include a set of SCRM entities which may be SCRMCompany, SCRMFacility or SCRMSourcingApproval.
2. CustomSectionNumbers—Include a list of custom section numbers needed to retrieve from the entities which match the criteria in SCRMEntityInputCriteria.
3. Allow Only Approved Entity (optional):
   - True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag.
   - False—Sourcing approvals returned may be in any status.

Output

Each tSCRMCustomSection in the CustomSections list will include:

1. EntityInfo—If the entity is a company or facility, this field will include the entity number and cross references. For a sourcing approval entity, this field will include the sourcing approval PKID.
2. Sections—Lists any custom sections of the types specified in the input that belong to the entity.

   Each [Sections] node has one or more Extension elements containing an [Any] element.

   The sub-node is the section name. It in turn contains a node per row. Row nodes contain one node per column. Column nodes contain the actual values.

   To summarize, the hierarchy is:

   Sections / tExtension /Any / <section-type> / <row_name> /<column_name >/ <extended-attribute-type> / Value.

   The first column contains labels instead of values.

   Object Level Security is evaluated for each custom section returned based on the web service user. Custom sections without appropriate security privileges are removed from the results, and include the INVALID_SECURITY_PRIVILEGES message.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–12 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	CUSTOM_SECTION_ RETRIEVAL_ERROR	Occurs if cannot retrieve custom sections or if current user has no read permission about matching entity
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing criteria or custom section number(s)
	INVALID_SCRMENTITY_ NUMBER	Entity number is not a 7 digit number
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PKID	PKID input is not a valid sourcing approval (specification-related and non-specification related) PKID
	INVALID_CUSTOM_ SECTION_NUMBER	Custom Section numbers are required

Notes

See Conditions F.1, I.1, and I.2 in "Special Conditions" on page A-1. For specification related sourcing approvals, see B.1.

Get SCRM Extended Attributes

The GetSCRMExtendedAttributes web service pulls all extended attributes on a company, facility, or sourcing approval.

The inputs and outputs for each SCRM object are listed below:

Company Profile

Table 6–13 Input and Output

Input	Output
Company Identifier (CompanyNumber/CompanyCrossReference)	Group of Extended Attributes matching the specification extended attributes message

Facility Profile

Table 6–14 Input and Output

Input	Output
FacilityNumber/FacilityCrossReference	Group of Extended Attributes matching the specification extended attributes message

Specification Related Sourcing Approval

Table 6–15 Input, Output and Security

Input	Output	Security
Sourcing Approval Number/PKID **Allow Only Approved Entity (optional)**	Group of Extended Attributes matching the specification extended attributes message	GSM Business Unit and Object Level Security

Non Specification Related Sourcing Approval

Table 6–16 Input, Output and Security

Input	Output	Security
Sourcing Approval Number/PKID **Allow Only Approved Entity (optional)**	Group of Extended Attributes matching the specification extended attributes message	Object Level Security

Input

1. SCRMEntityInputCriteria—Include a set of SCRM entities which may be SCRMCompany, SCRMFacility or SCRMSourcingApproval.
2. Allow Only Approved Entity (optional)
   - True—Sourcing approvals returned must be in an Approved status. An approved status is determined by a configurable tag.
   - False—Sourcing approvals returned may be in any status.

Output

A tSCRMExtendedAttributes element is returned for each SCRM entity that is found. These have two sub-elements:

1. EntityInfo—If the entity is a company or facility, this field will include the entity number and cross references. For a sourcing approval entity, this field will include the sourcing approval PKID.
2. ExtendedAttributes—Lists any extended attributes that belong to the entity inside the [Any] node. Each attribute has a Value element. The body is the value. An ISO code for the unit of measure (UOM) is in the unit of measure attribute. Oracle Agile PLM for Process API supplies an XML schema file (ExtendedAttributeTypes.xsd) that specifies the format for each extended attribute type.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–17 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	SCRMEntityInputCriteria missing or input format is invalid
	INVALID_SCRMENTITY_NUMBER	Entity number is not a 7 digit number
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See I.2.b of "Condition I - SCRM Entity Input" on page A-3.
	INVALID_PKID	PKID input is not a valid sourcing approval (specification-related and non-specification related) PKID
RESULT_WARNINGS	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	SCRM_EXTENDEDATTRIBUTES_LOAD_ERROR	Occurs if cannot retrieve Extended Attributes or if the current user has no read permission about matching entity

Notes

See Conditions F.1, I.1, and I.2 in "Special Conditions" on page A-1. For specification related sourcing approvals, see B.1.

Save Custom Lookup

This web method adds items to the lookup lists used by qualitative lookup extended attributes. Those extended attributes refer to a category of lookups that are displayed as checkboxes, radio buttons, or other types of lists in the user interface.

Multiple lookup items may be added in each call. Lookup items must have a category, name, external ID, sequence, and status. If the category does not already exist, it is created.

Input

The only input is an array named CustomLookup of type tCustomLookup. See "tCustomLookup" on page A-19 for more information. Category, SequenceID and Status are required fields.

Output

The only output is a flag named IsSuccessful. It is “True” if no errors occurred while saving the new lookup options.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–18 Result Codes

Name	Type	Description
INVALID_INPUT	INVALID_SECURITY_ PRIVILEGES	User must have role [DATA_ ADMIN] or [SUPER_DATA_ ADMIN] to save custom lookup data
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_FAILURE	UNEXPECTED_RESULT	The custom section ID number is invalid or the request could not be processed. The description explains the problem.

Table 6–18 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded. Request rejected.
	CUSTOM_LOOKUP_ CATEGORY_INVALID	Category required with maximum length of 150 characters
	CUSTOM_LOOKUP_ EXTERNALID_INVALID	ExternalID must be <= 80 characters
	CUSTOM_LOOKUP_ VALUE_INVALID	Value must be <= 150 characters
	CUSTOM_LOOKUP_ STATUS_INVALID	Status must be 0 (Inactive) or 1 (Active)
	CUSTOM_LOOKUP_ INVALID	tCustomLookup must contain data
	CUSTOM_LOOKUP_ SORTORDER_INVALID	Sequence must be numeric and <= 4 digits

Notes

See Condition G in "Special Conditions" on page A-1.

Get Custom Sections MetaData

Use the GetCustomSectionsMetaData web service to retrieve the custom section profiles for a given custom section.

Input

A custom section ID or a custom section number

Table 6–19 Input

Name	Type	Description
customSectionMetaDataInputCriteria	tCustomSectionMetaDataInputCriteria	A tCustomSectionMetaDataInputCriteria object

Output

The following custom section profile data is returned for each custom section:

- Custom Section Number
- Custom Section ID
- Custom Section Dynamic Tags
- Custom Section Hide Header
- Custom Section Row (Sequence, ID and Dynamic Tags)
- Custom Section Column (Sequence, ID, Width, Print Width, and Dynamic Tags)

Table 6–20 Output

Name	Type	Description
customSections	tCustomSection[]	Array of tCustomSection objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–21 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occur processing request

Table 6–21 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid parameters
	CUSTOM_SECTION_ID_ INVALID	Custom Section ID input format is invalid. See #1 of "Condition O - Invalid Custom Sections MetaData Input Formats" on page A-4.
	CUSTOM_SECTION_ NUMBER_INVALID	Custom Section Number input format is invalid. See #2 of "Condition O - Invalid Custom Sections MetaData Input Formats" on page A-4.
	INVALID_INPUT_ CRITERIA_NUMBER	Input type is neither tCustomSectionID nor tCustomSectionNumber
	NO_CUSTOM_SECTION_ FOUND	Occurs if any custom section cannot be found for the input criteria (the service will continue to process remaining criteria)

Notes

See Conditions O1 and O2 in "Special Conditions" on page A-1.

Get Extended Attributes MetaData

Use the GetExtendedAttributesMetaData web service to retrieve the extended attribute profiles for a given extended attribute.

Input

An extended attribute ID

Table 6–22 Input

Name	Type	Description
extendedAttributeID	string	Extended Attribute ID

Output

The following extended attribute profile data is returned for each extended attribute:

- Extended Attribute ID
- Extended Attribute Dynamic Tags

Table 6–23 Output

Name	Type	Description
extendedAttributes	tExtendedAttribute []	Array of tExtendedAttribute objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–24 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occur processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid parameters
	EXTENDED_ATTRIBUTE_ID_INVALID	Extended Attribute ID input format is invalid. See "Condition P - Invalid Extended Attributes MetaData Input Formats" on page A-4.
RESULT_WARNINGS	NO_EXTENDED_ATTRIBUTE_FOUND	Occurs if any extended attribute cannot be found for the input criteria (the service will continue to process remaining criteria)

Notes

See Condition P in "Special Conditions" on page A-1. If the Extended Attribute is distinct, there will be an extra value called “Is Distinct” returned in Dynamic Tags.

Get EQ Custom Sections

Use the GetEQCustomSections web service to retrieve the eQ custom section profiles for a given eQ.

Input

An eQ number and a list of custom section numbers

Table 6–25 Input

Name	Type	Description
eqNumber	tEQNumber	An tEQNumber object
csNumbers	string []	A list of eQ custom section numbers

Output

The following eQ custom section profile data is returned for each eQ:

- EQ Number
- tExtension (Any, MustUnderstand and MustUnderstandSpecified)

Table 6–26 Output

Name	Type	Description
sections	List<tExtension>	Array of tExtension objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–27 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occur processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See "Condition M - Invalid EQ Input Formats" on page A-4.
	EQ_CUSTOM_SECTION_NUMBER_INVALID	EQ Custom Section Number input format is invalid. See #2 of "Condition O - Invalid Custom Sections MetaData Input Formats" on page A-4.
	INVALID_SECURITY_PRIVILEGES	Occurs if the API user has no read permission to eQ returned for the input criteria. See "Condition N - Invalid Security Privileges" on page A-4.

Table 6–27 Result Codes

Name	Type	Description
RESULT_WARNINGS	NO_EQ_FOUND	Occurs if any eQ cannot be found for the input criteria (the service will continue to process remaining criteria)

Notes

See Conditions M1, N1, N2, and O2 in "Special Conditions" on page A-1.

Get EQ Extended Attributes

Use the GetEQExtendedAttributes web service to retrieve the eQ extended attribute profiles for a given list of eQs.

Input

A list of eQ Numbers

Table 6–28 Input

Name	Type	Description
eqNumber	tEQNumber	A list of tEQNumber objects

Output

The following eQ extended attribute profile data is returned for each eQ:

- EQ Number
- tExtension (Any, MustUnderstand and MustUnderstandSpecified)

Table 6–29 Output

Name	Type	Description
extensions	tEQExtendedAttribute[]	Array of tEQExtendedAttribute objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–30 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occur processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See "Condition M - Invalid EQ Input Formats" on page A-4.
	INVALID_SECURITY_ PRIVILEGES	Occurs if the API user has no read permission to eQ returned for the input criteria. See "Condition N - Invalid Security Privileges" on page A-4.
RESULT_WARNINGS	NO_EQ_FOUND	Occurs if any eQ cannot be found for the input criteria (the service will continue to process remaining criteria)

Notes

See Conditions M1, N1, and N2 in "Special Conditions" on page A-1.

Get Calculated Custom Section

The GetCalculatedCustomSection web service provides the ability to retrieve and recalculate custom section data for a given specification with additional overridable parameters. The calculated custom section data is not preserved on the specification.

Input

1. A specification number or cross reference
2. Custom Section ID
3. A list of custom section column IDs
4. A list of custom section row IDs
5. A set of overridable properties to be used by calculation scripts

Table 6–31 Input

Name	Type	Description
CustomSectionID	string	A custom section ID
HostSpecificationIdentification	tSpecIdentifierCriterion	tCrossReference: cross reference of a spec tSpecificationNumber: specification number of a spec
HostContext	tSpecIdentifierCriterion	The HostContext field is currently a placeholder, and is not used
ColumnIDs	String[]	An array of column Ids that a resulting custom section will have. If not specified, no column filter will be applied.
RowIDs	String[]	An array of row Ids that a resulting custom section will have. If not specified, no row filter will be applied.
Overrides	tOverrideParameterHolder	A holder for overridable specification properties. See Input Overrides for detailed list of overridable properties.

Input Overrides

Table 6–32 Input Overrides

Name	Type	Description
NutrientItems	tNutrientItemInput[]	An array of nutrients to be overridden. If a nutrient is present on a specification, its value will be overridden if it is specified in this array.
AllergensMustContain	tComplianceItemContained[]	An array of “must contain” allergens to be overridden
AllergensMayContain	tComplianceItemContained[]	An array of “may contain” allergens to be overridden

Table 6–32 Input Overrides

Name	Type	Description
AdditivesMustContain	tComplianceItemContained[]	An array of "must contain" additives to be overridden
AdditivesMayContain	tComplianceItemContained[]	An array of "may contain" additives to be overridden
SensitivitiesMustContain	tComplianceItemContained[]	An array of "must contain" sensitivities/intolerances to be overridden
SensitivitiesMayContain	tComplianceItemContained[]	An array of "may contain" sensitivities/intolerances to be overridden
ExtendedAttributes	tExtendedAttributeBase[]	An array of distinct extended attributes to be overridden. The following types can be specified: tExtendedAttributeText tExtendedAttributeDate tExtendedAttributeNumeric tExtendedAttributeQuantitativeRange tExtendedAttributeQualitative tExtendedAttributeBoolean
PercentTotalSolids	double	A decimal representation of a percent of a specification total solids
EdiblePortion	double	A decimal representation of a percent of a specification edible portion
DensityMass	tMeasurement	Mass portion of a specification density
DensityVolume	tMeasurement	Volume portion of a specification density
AmountPerServing	tMeasurement	Amount per serving of a specification
ReferencedAmount	tMeasurement	Reference amount of a specification
TareWeightRefWeight	tMeasurement	Tare weights reference weight of a specification
TareWeight	tMeasurement	Tare weight of a specification
TareWeightBase	double	Tare weight base amount of a specification

Output

The following custom section data is returned:

- A custom section (See the GetSpecCustomSection web service output for details)
- List of resulting calculation errors

Table 6–33 Output

Name	Type	Description
CustomSectionSpecs	tCustomSectionSpec[]	Array of one custom section specification
CalculationErrors	String[]	Array of calculation errors produced by calculation process

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–34 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occur processing request
RESULT_INVALID_INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) format is invalid. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_INPUT_CRITERIA_NUMBER	Input criteria is too broad. It has to match only one specification.
	INVALID_SECURITY_PRIVILEGES	Current user does not have access to the custom section for the given specification
	INVALID_CUSTOM_SECTION_NUMBER	Invalid custom section number
RESULT_FAILURE	UNKNOWN_SCHEMA_GENERATION_ERROR	Occurs when an unexpected exception occurs during a call of a web service

Notes

The web service provides the ability to override values on distinct extended attributes only. There is no ability to override values on a particular cell unless it holds a distinct attribute.

Although the web service calculates and returns repeatable rows, filtering around these rows is not supported, as repeatable rows cannot be uniquely identified.

The web service currently does not support custom section calculations for Theoretical Outputs.

Any additional calculations on a specification (i.e. BOM calculation, per serving calculation) that are typically done through the **Calculate** button on the UI will not be performed.

Get PQM Custom Sections

Use GetPQMCustomSections web service to retrieve custom section data for PQM items.

Input

Table 6–35 Input

Name	Type	Description
PQMItemIdentifiers	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
CustomSectionNumbers	string[]	Array of one or more existing custom section numbers
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

Output

Table 6–36 Output

Name	Type	Description
PQMCustomSections	tPQMCustomSection[]	Array of tPQMCustomSection objects

Each tPQMCustomSection returned will include:

- PQMItemIdentifier
- CustomSections—A list of tExtension objects representing custom sections in the types specified in the input belonging to the PQM item. Each tExtension contains an Any element, and the hierarchy conforms to the XML schema returned by GetCustomSectionSchema web service.

Table 6–37 tPQMCustomSection

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	
CustomSections	tExtension[]	

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–38 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occur processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing PQM item identifier or custom section number
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_ REFERENCE	Cross reference input is invalid
	CUSTOM_SECTION_ NUMBER_INVALID	Custom section number input is invalid
	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed
RESULT_FAILURE	CUSTOM_SECTION_ RETRIEVAL_ERROR	Returned if an unexpected exception occurs while processing request
	INVALID_SECURITY_ PRIVILEGES	User must have [PQM_ADMIN] role or WFA read permission to retrieve PQM item;
		User must meet the security access level to view the custom sections
	NO_CUSTOM_SECTION_ FOUND	Custom section input not found on PQM item
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

Add PQM Custom Sections

Use AddPQMCustomSections web service to add custom section data to specified PQM items.

Note: When adding a custom section to PQM item, all the columns and rows in "Active" status will be added, including those without the "Add this item when section is created" tag.

Input

Table 6–39 Input

Name	Type	Description
PQMItemIdentifiers	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
CustomSectionInstances	tCustomSectionInstance []	Array of one or more tCustomSectionInstance objects

Each tCustomSectionInstance object contains section number and a tExtension element holding the custom section data. The hierarchy under tExtension element is: tExtension/Any/<section-name>/<row_name>/<column_name>/<extended-attribute-type>/Value. The hierarchy must confront to the XML schema returned by GetCustomSectionSchema web service.

Table 6–40 tCustomSectionInstance

Name	Type	Description
CustomSectionNumber	string	
Content	tExtension	

Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

If all the custom sections input are successfully added, the overall result is success. Else, the overall result is fail and the changes will not be saved.

Table 6–41 tPQMCustomSection

Name	Type	Description
IsSuccessful	boolean	
PQMItemsAffected	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–42 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing PQM item identifier or custom section instance
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_ REFERENCE	Cross reference input is invalid
	CUSTOM_SECTION_ NUMBER_INVALID	Custom section number input is invalid or custom section already exists on the PQM item
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
RESULT_FAILURE	CUSTOM_SECTION_ RETRIEVAL_ERROR	Returned if an unexpected exception occurs while processing request
	INVALID_SECURITY_ PRIVILEGES	User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item; User also must have [ADD_ CUSTOM_SECTION] role to add custom sections
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have [ADD_CUSTOM_SECTION] role to add a custom section.

Delete PQM Custom Sections

Use DeletePQMCustomSections web service to remove existing custom sections from specified PQM items.

Input

Table 6–43 Input

Name	Type	Description
PQMItemIdentifiers	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
CustomSectionNumbers	string[]	Array of one or more existing custom section numbers

Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

If all the custom sections are successfully removed, the overall result is success. Otherwise the overall result is fail and the changes will not be saved.

Table 6–44 Output

Name	Type	Description
IsSuccessful	boolean	
PQMItemsAffected	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–45 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 6–45 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing PQM item identifier or custom section number
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_ REFERENCE	Cross reference input is invalid
	CUSTOM_SECTION_ NUMBER_INVALID	Custom section number input is invalid
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
RESULT_FAILURE	CUSTOM_SECTION_ RETRIEVAL_ERROR	Returned if an unexpected exception occurs while processing request
	INVALID_SECURITY_ PRIVILEGES	User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item;
		User also must have [REMOVE_ CUSTOM_SECTION] role to delete custom sections
	NO_CUSTOM_SECTION_ FOUND	Custom section input not found on PQM item
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have [REMOVE_CUSTOM_SECTION] role to delete a custom section.

Update PQM Custom Section

Use UpdatePQMCustomSections web service to update existing custom section data of specified PQM items.

Input

Table 6–46 Input

Name	Type	Description
PQMItemIdentifiers	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
CustomSectionInstances	tCustomSectionInstance[]	Array of one or more tCustomSectionInstance objects

Each tCustomSectionInstance object contains section number and a tExtension element holding the custom section data. The hierarchy under tExtension element is: tExtension/Any/<section-name>/<row_name>/<column_name>/<extended-attribute-type>/Value. The hierarchy must confront to the XML schema returned by GetCustomSectionSchema web service.

Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

If all the custom sections are updated successfully, the overall result is success. Else the overall result is fail and the changes will not be saved.

Table 6–47 Output

Name	Type	Description
IsSuccessful	boolean	
PQMItemsAffected	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 6–48 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 6–48 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing PQM item identifier or custom section instance
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_CROSS_ REFERENCE	Cross reference input is invalid
	CUSTOM_SECTION_ NUMBER_INVALID	Custom section number input is invalid
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
RESULT_FAILURE	CUSTOM_SECTION_ RETRIEVAL_ERROR	Returned if an unexpected exception occurs while processing request
	INVALID_SECURITY_ PRIVILEGES	User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

7

Using the Cost Services Web Service

Overview of Cost Services

CostServices provides formulation specification costing related capabilities. The following operations are supported:

Operation	v24	v25	v30	Description
SaveDWBSpecCost	●	●	●	Imports specification costing information for formulation specifications calculations based on cost type, SCRM entity, and more.

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/DWB/v24/CostServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/DWB/v25/CostServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/DWB/v30/CostServices.svc

Save DWB Spec Cost

SaveDWBSpecCost saves costing data for specifications used as inputs in formulation specification calculations. Multiple cost items can be sent in one message group, where the Timestamp input value determines cost availability. Each cost item is categorized by the SCRM entity, cost type grouping, specification, and currency. Formulation specifications can pull in the data imported through this web service by refreshing the application cache.

Input

Table 7–1 Input

Name	Description
CostCulture	Optional description of the culture
MessageID	This alphanumeric value must be unique. It helps prevent the same cost data being imported twice.
OrganizationalUnitID	Optional key for a business unit
PrincipalName	Optional name
Timestamp	Current time
CostItems	Array of tCostItem, as described on "tCostItem" on page A-13

Output

Table 7–2 Output

Name	Description
SequenceNumber	Unique ID assigned to this cost import
NumberOfItemsImported	This number should match the number of tCostItem nodes in the input. See "tCostItem" on page A-13 for more information.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 7–3 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 7–3 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	INVALID_MESSAGE_ID	The input message ID must be unique across all calls, and must be 128 characters or less
	NO_VALID_PARAMETERS	Invalid Cost message - no data passed
	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded. Request rejected.
	INVALID_COST_MESSAGE_ COST_CULTURE	Optional, must be <= 10 characters
	INVALID_COST_MESSAGE_ ORGUNITID	Optional, must be <= 48 characters
	INVALID_COST_MESSAGE_ PRINCIPAL_NAME	Optional, must be <= 100 characters
	INVALID_COST_ITEMS_ INPUT	No cost items to import
RESULT_FAILURE	UNEXPECTED_RESULT	The description explains the problem
	INVALID_CURRENCY	No currency has the specified ISO code
	INVALID_UOM_ISOCODE	No unit of measure was found for an ISO code
	INVALID_COST_TYPE	Cost Type must be <= 12 characters
	INVALID_COSTITEM_ EQUIVALENT	Optional; must be <= 24 characters
	INVALID_SCRM_ENTITY	Invalid SCRM Facility input; SCRM Facility could not be found
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.

Notes

See Conditions E, G, and I in "Special Conditions" on page A-1.

8

Using the Bill of Materials Web Service

Overview of Bill of Materials

BillofMaterials provide capabilities related to a formulation specification's Bill of Materials (BOM) information. The following operations are supported:

Operation	v24	v25	v30	Description
GetOutputBOM	●	●	●	Returns the bill of materials data for a given material specification which is an output of a formulation specification.
GetFormulationBOM	●	●	●	Returns the bill of materials data for a given formulation specification.
GetFormulationStepBOM			●	Returns a list of steps, BOM inputs (including consume from step outputs), and outputs for a given formulation specification.

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/ Specification/Formulation /v24/ BillOfMaterialsServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/ Specification/Formulation /v25/ BillOfMaterialsServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/ Specification/Formulation /v30/ BillOfMaterialsServices.svc

Get Output BOM

Use the GetOutputBOM web service to retrieve the Bill of Materials (BOM) for a given material specification which is an output of formulation specifications. The specification identifier passed in can optionally include a context (specification identifier) which limits the BOM information to a certain formulation specification by that context. If a context is not given, BOM data for all available formulation specifications containing that output will be returned.

A Boolean parameter, CombineLikeItems, is used to determine if the same formula item used in multiple steps of a formulation specification to produce the output material will be returned as one combined row, or as unique rows.

Business unit visibility will be enforceable via the standard API configuration options, but will only be used for determining visibility to the top level specification. All BOM input items will be returned, regardless of BU visibility.

Results will consist of a list of OutputItems for the matching input criteria. Each OuputItem will consist of a list of tBillOfMaterialsContainer items. tBillOfMaterialsContainer has OutSummary, InputSummary, and Context. The context is the formulation specification generating the output item. Also if an input Item A has a context (formulation specification), the input items generate item A from that formulation specification will be returned recursively.

See the Output section below for details of the data that each context specific Output specification in the result will include.

Input

1. Specification Identifier (specification number or cross reference)
2. Specification Context (specification identifier)—Optional; if used, limits the Output BOM information to the BOM data from the producing specification matching the context.
3. Combine Like Items (Boolean)
   - True — Combines identical formula items used in multiple steps into one.
   - False—Displays each as a unique item; does not combine.
4. Allow Only Approved Spec—Top level specification returned to must be in an Approved status. See Condition C - Allow Only Approved Spec.

Output

Each OutputItem in the OutputItems list will include:

1. Specification Identifier
2. List of tBillOfMaterialsContainer object

Each tBillOfMaterialsContainer includes:

1. Context—The context for the output material is the formulation specification that produced it
2. Output Summary
   - Output type (string)
     - Product, By-product, Waste, or Reference
   - Beginning Batch Size (Quantity and UOM)

- Processing Loss Factor
- Approximate Yield (Quantity and UOM)
- Beginning Percent Total Solids
- Water Gain/Loss Factor
- Final Percent Total Solids
- Final Density (Mass and volume conversion)

3. Input Summary
   - Input Items —List of input items. Each Input item will include:
     - Specification Identifier
     - BOM Annotation—Not used if CombineLikeItems is True
     - Quantity Details
       - Quantity
       - UOM
       - Percent
     - Gain/Loss Factor
     - Quantity Range—Include the max and min quantities of the input when the formulation calculation path set to "Quantity Range". Not used for other calculation paths.
       - Max
         - Quantity
         - UOM
       - Min
         - Quantity
         - UOM
     - Yield Range—Include the max and min quantities of the input when the formulation calculation path is set to "Yield Range". Not used for other calculation paths.
       - Max
         - Quantity
         - UOM
       - Min
         - Quantity
         - UOM
     - Percent Factor Range—Include the max and min percent factors of the input when the formulation calculation path is set to "Percent Range". Not used for other calculation paths.
       - Max
       - Min

  - Yield Details
    - Quantity
    - UOM
    - Percent
- Alternate Input Items—List of alternate input items. Each Alternate will consist of:
  - List of Original Spec Identifier
  - List of Substitute Material items. Each Substitute Material will include:
    - Substitute Material identifier
    - Producing Spec Context
    - Substitute Factor
    - Gain Loss Factor
    - Description
- Packaging Materials
  - Spec Identifier
  - Packaging Type
  - Units: Quantity
  - UOM
  - UOM Category
  - Scrap Factor
  - Quantity Range—Include the max and min quantities of the packaging materials when the formulation calculation path is set to "Quantity Range". Not used for other calculation paths.
    - Max
      - Quantity
      - UOM
    - Min
      - Quantity
      - UOM
- Yield Range—Include the max and min quantities of the packaging materials when the formulation calculation path is set to "Yield Range". Not used for other calculation paths.
    - Max
      - Quantity
      - UOM
    - Min
      - Quantity
      - UOM

- Percent Factor Range—Include the max and min percent factors of the packaging materials when the formulation calculation path is set to "Percent Range". Not used for other calculation paths.
  - Max
  - Min
- Alternate Packaging Materials
  - Original Material Spec Identifier
  - Substitute Material
    - Substitute Material Identifier
    - Producing Spec Content
    - Substitute Factor
    - Gain Loss Factor
    - Description

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 8–1 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_INPUT	A valid tBOMInputCriteria is required

Table 8–1 Result Codes

Name	Type	Description
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_ TYPE	Specification (specification number-issue number) must be a material specification
	BOM_ITEM_ CALCULATION_ERROR	Occurs when an Input UOM category differs from the batch UOM category and it does not have a Density defined
RESULT_FAILURE	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, and E in "Special Conditions" on page A-1.

Packaging Items, Alternate Packaging Items, and Alternate Input Items do not respect “CombineLikeItems”.

Get Formulation BOM

Use the GetFormulationBOM web service to retrieve all the formulation outputs with their Bill of Materials (BOM) data for one or more formulation(s) specifications.

A Boolean parameter, CombineLikeItems, is used to determine if the same formula item used in multiple steps of a formulation specification to produce the output material will be returned as one combined row, or as unique rows.

Business unit visibility will be enforceable via the standard API configuration options, but will only be used for determining visibility to the top level specification. All BOM input items will be returned, regardless of BU visibility.

Results will consist of a list of formulation specifications for the matching input criteria. Each formulation specification will consist of a list of outputItems. See the "Get Output BOM" on page 8-2 for detailed information about OutputItem.

Input

1. Specification Identifier (specification number or cross reference)
2. Combine Like Items (Boolean)
   - True —Combines identical formula items used in multiple steps into one.
   - False—Displays each as a unique item; does not combine.
3. Allow Only Approved Spec: Specifications returned to must be in an Approved status (see "Condition C - Allow Only Approved Spec" on page A-1)

Output

The following Formulation Specification data is returned for each specification:

1. specificationIdentifier
   - Spec # and Issue #
   - List of Cross References
2. Array Of tOutputItem outputItems
   - Specification Identifier
   - List of tBillOfMaterialsContainer object
     - OutputSummary
       - Context—Formulation specification
       - Output Summary
         - Output type (string): combination of Product, By-product, Waste, or Reference
         - Beginning Batch Size (quantity & UOM)
         - Processing Loss Factor
         - Approximate Yield (quantity & UOM)
         - Beginning Percent Total Solids
         - Water Gain/Loss Factor
         - Min/Max Formula Values
         - Final Percent Total Solids

- Final Density (mass & volume conversion)

– InputSummary
  - Array of tInputItems: Input Item
    - Specification Identifier
    - BOM Annotation-Not used if CombineLikeItems is True
    - Quantity Details
      – Quantity
      – UOM
      – Percent
    - Gain/Loss Factor
    - Yield Details
      – Quantity
      – UOM
      – Percent
  - Array of tAlternateInputItems: Alternate Input
    - List of Original Spec Identifier
    - List of Substitute Material items.
      – Substitute Material identifier
      – Producing Spec Context—Not used
      – Substitute Factor
      – Gain/Loss Factor
    - Description
  - Array of tBOMPackagingMaterials: Packaging Material
    - Specification Identifier
    - UOM
    - UOMCategory
    - PackagingType
    - ScrapFactor
    - Units: Quantity
  - Array of tAlternateInputItems: Alternate Packaging Material
    - List of Original Spec Identifier
    - List of Substitute Material items
      – Substitute Material identifier
      – Producing Spec Context (not used pre 6.0)
      – Substitute Factor
      – Gain Lost Factor
    - Description

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 8–2 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	SPEC_SUMMARY_ RETRIEVAL_ERROR	Occurs when an unexpected exception occurs loading a specification

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, and E in "Special Conditions" on page A-1.

Packaging Items, Alternate Packaging Items, and Alternate Input Items do not respect “CombineLikeItems”.

Get Formulation Step BOM

Use the GetFormulationStepBOM to retrieve a list of steps, BOM inputs (including consume from step outputs), and outputs.

Input

1. A list of specification numbers, cross references, or a combination of either
2. Allow Only Approved Spec—Specifications returned to must be in an Approved status

Table 8–3 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	■ True: Specifications returned to must be in an Approved status ■ False: Specifications returned may be in any status

Output

The following Specification Step data is returned for each spec:

1. Step Details
   - Step PKID—System generated unique identifier for the Step
   - Step Number
   - Step Name
   - Step Instructions
2. Step Behavior
   - Behavior Type
   - Behavior Name

Table 8–4 Output

Name	Type	Description
FormulationSteps	tFormulationStep []	Array of tFormulationStep objects

The following Input BOM data is returned for each Input BOM item/Step combination. In other words if an item was used in three separate steps, it should be represented in three rows, with the step differentiating between them. The items include 'consume from step' items, which are outputs from other steps that are used as inputs.

- PKID for Line—System generated unique identifier for the row
- Spec Identifier
  - Spec Number—Including Spec Number and Issue Number

    - Cross References
    - Spec PKID
    - Spec Name
- Step Number—The step for the BOM input. If the input item is used in multiple steps then there should be multiple rows.
- Sequence Number—The order in which is used to sort on the UI
- BOM Annotation—Inline comments of the BOM input
- %Batch
- Quantity Details
    - Quantity
    - Quantity UOM
    - Quantity in the base mass UOM—Value that it is stored in
    - Quantity in the base volume UOM—Value that it is stored in. Only available if density is defined.
- Gain/Loss
- Yield Details
    - Yield
    - Yield UOM
    - Yield in the base mass UOM
    - Yield in the base volume UOM
- Extended Cost

The values below should be taken from the Material Basis if they exist, if not then from the Material itself.

- Spec Number
- Spec Issue
- Spec Name
- Total Solids
- Density Details
    - Density Quantity (mass)
    - Density Quantity UOM (mass)
    - Density Quantity (volume)
    - Density Quantity UOM (volume)
    - Density Quantity in base mass
    - Density Quantity in base volume
- Cost—Including Price (double), Currency (string), and PerValue (tMeasurement)

Table 8–5 Input

Name	Type	Description
InputItems	tSpecificationBOMInputWrapper []	Array of tSpecificationBOMInputWrapper objects

The following are the outputs and their associated input and output steps:

- PKID for Line—System generated unique identifier for the row
- Spec Identifier
  - Spec Number—Including Spec Number and Issue Number
  - Cross References
  - Spec PKID
  - Spec Name
- Output Step Number
- Input Step Number—If the output is used as an input, this represents the step number
- Sequence Number—The order in which is used to sort on the UI
- Quantity Details
  - Quantity
  - Quantity UOM
  - Quantity in the base mass UOM—Value that it is stored in.
  - Quantity in the base volume UOM—Value that it is stored in. Only available if density is defined.
- Yield Details
  - Yield
  - Yield UOM
  - Yield in the base mass UOM
  - Yield in the base volume UOM
- Output Type—Internal, External, Referenced

The following values should be taken from the material itself:

- Spec Number
- Spec Issue
- Spec Name
- Process Gain/Loss
- Water Gain/Loss
- Total Solids
- Density Details
  - Density Quantity (mass)
  - Density Quantity UOM (mass)

- Density Quantity (volume)
- Density Quantity UOM (volume)
- Density Quantity in base mass
- Density Quantity in base volume

Table 8–6 Output

Name	Type	Description
OutputItems	tSpecificationBOMOutputWrapper [	Array of tSpecificationBOMOutputWrapper objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 8–7 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	NO_SPEC_FOUND	Occurs if any specification cannot be found for the input criteria (the service will continue to process remaining criteria).
RESULT_FAILURE	SPEC_SUMMARY_RETRIEVAL_ERROR	Occurs when an unexpected exception occurs loading a specification

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, and E in "Special Conditions" on page A-1.

9

Using the Spec Relationship Services

This chapter describes the Spec Relationship web service. The operations contained herein were once contained in the GeneralServices - GetSpecRelationships web service, and are now broken out into individual operations for each specification type.

Overview of Spec Relationship Services

SpecRelationship Services provides operations that describe a specification's relationship to other specifications. Specification identifiers are returned for each relationship, and in some cases, contextual information such as quantities, units of measure, and relationships. The following operations are supported:

Operation	Description
GetFormulationRelationships	Returns given formulation specifications' relationships to GSM activities, master specifications, and owned and linked associated specifications.
GetMaterialRelationships	Returns given material specifications' relationships to packing configuration specifications, parent trade specifications, parent formulation specifications, GSM activities, master specifications, and owned and linked associated specifications.
GetMenuItemRelationships	Returns given menu item specifications' relationships to packaging materials, alternate packaging materials, menu item build items, alternate menu item build items, nutrient profiles, GSM activities, and owned and linked associated specifications.
GetNutrientProfileRelationships	Returns given nutrient profiles' relationships to various related specifications and GSM activities.
GetPackagingRelationships	Returns given packaging specifications' relationships to printed packaging specifications, sub components, packing configurations specifications, equipment specifications, GSM activities, and master specifications.
GetPrintedPackagingRelationships	Returns given printed packaging specifications' relationships to parent packaging specifications, GSM activities, and master specifications.
GetProductRelationships	Returns given product specifications' relationships to packing configuration specifications, GSM activities, master specifications, and owned and linked associated specifications.

Operation	Description
GetTradeSpecRelationships	Returns given trade specifications' relationships to parent trade specifications, next lower level trade specifications, packaging specifications, printed packaging specifications, the related material specification, nutrient profiles, GSM activities, master specifications, and owned and linked associated specifications.

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/Common/v24/SpecRelationshipServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/Common/v25/SpecRelationshipServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/Common/v30/SpecRelationshipServices.svc

Get Formulation Relationships

Use the GetFormulationRelationships web service to retrieve related specification information for a given formulation specification. The service returns given formulation specifications' relationships to GSM activities, master specifications, and owned and linked associated specifications.

Detailed Bill of Material Inputs and Outputs information is available in "Using the Bill of Materials Web Service" on page 8-1.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 9–1 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification data is returned:

1. Specification Identifier
   - Specification Number
   - Cross References
2. GSM Activities
   - Activity Type
   - Description
   - Status
   - Relationship
3. Explicit Master Specs
   - Specification Identifier (specification number, cross references)
4. Owned Associated Specifications
   - Specification Identifier (specification number, cross references)
   - Association
   - Comments
5. Linked Associated Specifications
   - Specification Identifier (specification number, cross references)
   - Association
   - Comments

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9–2 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_ TYPE	A specification type used as input is not supported
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Material Relationships

Use the GetMaterialRelationships web service to retrieve related specification information for a given material specification. Returns given material specifications' relationships to packing configuration specifications, parent trade specifications, parent formulation specifications, GSM activities, master specifications, and owned and linked associated specifications.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 9–3 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification data is returned:

1. Specification Identifier
   - Specification Number
   - Cross References
2. Packing Configuration Specifications
   - Specification Identifier (specification number, cross references)
   - Comments
   - Equivalent
3. Parent Trade Specifications
   - Specification Identifier (specification number, cross references)
   - Context Specification Identifier
4. Parent Formulation Specifications
   - Specification Identifier (specification number, cross references)
5. GSM Activities
   - Activity Type
   - Description
   - Status
   - Relationship
6. Explicit Master Specifications
   - Specification Identifier (specification number, cross references)

7. Owned Associated Specifications
   - Specification Identifier (specification number, cross references)
   - Association
   - Comments
8. Linked Associated Specifications
   - Specification Identifier (specification number, cross references)
   - Association
   - Comments

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9–4 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_ TYPE	A specification type used as input is not supported
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Menu Item Relationships

Use the GetMenuItemRelationships web service to retrieve related specification information for a given menu item specification. The service returns given menu item specifications' relationships to packaging materials, alternate packaging materials, menu item build items, alternate menu item build items, nutrient profiles, GSM activities, and owned and linked associated specifications.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 9–5 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification data is returned:

1. Specification Identifier
   - Specification Number
   - Cross References
2. Packaging Materials
   - Specification Type (packaging, printed packaging)
   - Specification Identifier (specification number, cross references)
   - Packaging Type (Inner, Intermediate, Outer, Label)
   - Units
   - UOM
   - Scrap Factor
3. Alternate Packaging Materials
   - Specification Type (packaging, printed packaging)
   - Specification Identifier (specification number, cross references)
   - Packaging Type (Inner, Intermediate, Outer, Label)
   - Units
   - UOM
   - Scrap Factor
   - Substitutes
4. Menu Item Build Items

- Specification Identifier (specification number, cross references)
- Quantity
- UOM
- Comments

5. Alternate Menu Item Build Items
   - Specification Identifier (specification number, cross references)
   - Original Spec Identifier
   - Substitution Factor
   - Description
6. Nutrient Profiles
   - Specification Identifier (specification number, cross references)
   - IsActive
   - EffectiveDate
   - Status
7. GSM Activities
   - Activity Type
   - Description
   - Status
   - Relationship
8. Owned Associated Specifications
   - Specification Identifier (specification number, cross references)
   - Association
   - Comments
9. Linked Associated Specifications
   - Specification Identifier (specification number, cross references)
   - Association
   - Comments

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9–6 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 9–6 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_ TYPE	A specification type used as input is not supported
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Nutrient Profile Relationships

Use the GetNutrientProfileRelationships web service to retrieve related specification information for a given nutrient profile specification. This service returns given Nutrient Profile(s) relationships to various related specifications and GSM activities.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 9–7 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification data is returned:

1. Specification Identifier
   - Specification Number
   - Cross References
2. Related Specifications
   - Specification Identifier (specification number, cross references)
   - Specification Type
3. GSM Activities
   - Activity Type
   - Description
   - Status
   - Relationship

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9–8 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Occurs when an unexpected exception happens when formatting the output items

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Packaging Relationships

Use the GetPackagingRelationships web service to retrieve related specification information for a given packaging specification. This service returns given packaging specifications' relationships to printed packaging specifications, sub components, packing configurations specifications, equipment specifications, GSM activities, and master specifications.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 9–9 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification data is returned:

1. Specification Identifier
   - Specification Number
   - Cross References
2. Printed Packaging Specifications
   - Specification Identifier (specification number, cross references)
3. Sub Components
   - Specification Identifier (specification number, cross references)
   - Packaging Type (Inner, Intermediate, Outer, Label)
   - Units
   - UOM
4. Packing Configuration Specifications
   - Specification Identifier (specification number, cross references)
   - Equivalent
   - Comments
5. Equipment Specifications
   - Specification Identifier (specification number, cross references)
6. Explicit Master Specifications
   - Specification Identifier (specification number, cross references)

7. GSM Activities
   - Activity Type
   - Description
   - Status
   - Relationship

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9–10 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_ TYPE	A specification type used as input is not supported
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Printed Packaging Relationships

Use the GetPrintedPackagingRelationships web service to retrieve related specification information for a given printed packaging specification. The service returns given printed packaging specifications' relationships to parent packaging specifications, GSM activities, and master specifications.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 9–11 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification data is returned:

1. Specification Identifier
   - Specification Number
   - Cross References
2. Parent Packaging Material Specifications
   - Specification Identifier (specification number, cross references)
3. Explicit Master Specs
   - Specification Identifier (specification number, cross references)
4. GSM Activities
   - Activity Type
   - Description
   - Status
   - Relationship

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9–12 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_ TYPE	A specification type used as input is not supported
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Product Relationships

Use the GetProductRelationships web service to retrieve related specification information for a given product specification. The service returns given product specifications' relationships to packing configuration specifications, GSM activities, master specifications, and owned and linked associated specifications.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 9–13 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification data is returned:

1. Specification Identifier
   - Specification Number
   - Cross References
2. Packing Configuration Specifications
   - Specification Identifier (specification number, cross references)
   - Comments
   - Equivalent
3. GSM Activities
   - Activity Type
   - Description
   - Status
   - Relationship
4. Explicit Master Specifications
   - Specification Identifier (specification number, cross references)
5. Owned Associated Specifications
   - Specification Identifier (specification number, cross references)
   - Association
   - Comments

6. Linked Associated Specifications
   - Specification Identifier (specification number, cross references)
   - Association
   - Comments

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9–14 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Trade Spec Relationships

Use the GetTradeSpecRelationships web service to retrieve related specification information for a given trade specification. The service returns given trade specifications' relationships to parent trade specifications, next lower level trade specifications, packaging specifications, printed packaging specifications, the related material specification, nutrient profiles, GSM activities, master specifications, and owned and linked associated specifications.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 9–15 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification data is returned:

1. Specification Identifier
   - Specification Number
   - Cross References
2. Trade Parent Trade Items
   - Specification Identifier (specification number, cross references)
   - GTIN/UPC/EAN
3. Trade Child Trade Items
   - Specification Identifier (specification number, cross references)
   - GTIN/UPC/EAN
   - Quantity
4. Packaging Materials
   - Specification Identifier (specification number, cross references)
   - SpecType (packaging, printed packaging)
   - Packaging Type (Inner, Intermediate, Outer, Label)
   - Units
   - UOM
   - Scrap Factor

5. Alternate Packaging Materials
   - Specification Identifier (specification number, cross references)
   - Packaging Type (Inner, Intermediate, Outer, Label)
   - Units
   - UOM
   - Scrap Factor
   - Substitutes For
   - Spec Type (packaging, printed packaging)
6. Material Specification
   - Specification Identifier (specification number, cross references)
   - Context Specification Identifier
   - Quantity
   - UOM
7. Nutrient Profiles
   - Specification Identifier (specification number, cross references)
   - IsActive
   - EffectiveDate
   - Status
8. GSM Activities
   - Activity Type
   - Description
   - Status
   - Relationship
9. Explicit Master Specs
   - Specification Identifier (specification number, cross references)
10. Owned Associated Specifications
    - Specification Identifier (specification number, cross references)
    - Association
    - Comments
11. Linked Associated Specifications
    - Specification Identifier (specification number, cross references)
    - Association
    - Comments

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 9–16 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid request parameters
	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
RESULT_WARNINGS	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
	UNSUPPORTED_SPEC_TYPE	A specification type used as input is not supported
RESULT_FAILURE	SPEC_LOAD_ERROR	Occurs when an unexpected exception occurs when loading a specification
	UNKNOWN_ERROR	Unknown exception occurs while retrieving specification relationships

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

10

Using the Specification Services Web Services

Overview of Specification Services

SpecificationServices provides specific operations that act on individual specification types. The following operations are supported:

Operation	v24	v25	v30	Description
GetActivity	●	●	●	Returns the primary and related activity specifications for a given list of specifications.
GetSpecIngredientStatements	●	●	●	Returns ingredient statement information for a given list of (ingredient, product, and nutrient profile) specifications.

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/v24/SpecificationServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/v25/SpecificationServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/Specification/v30/SpecificationServices.svc

Get Activity

Use the GetActivity web service to retrieve activity info for a given list of activity specifications or for associated activities for a given list of specifications.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 10–1 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following activity data is returned for each activity:

1. Activity Summary Information
   - Activity Title
   - Activity # (Spec #-Issue #)
   - Activity Type (ID, Name)
   - Originator
   - Status
   - Special Notes
   - Spec Reader Notification Flag
   - Effective Date
   - Inactive Date
   - Last Edit Date
2. Primary Action Item Information
   - Primary Item Name
   - Primary Item # (Spec #-Issue #)
   - Item Status Dependent flag
3. Related Items information
   - Specification Type (ID, Name)
   - Related Item Name
   - Related Item (Spec #-Issue #)
   - Status

- Comments

Table 10–2 Output

Name	Type	Description
ActivityInfos	tActivitySpecContainer []	Array of tActivitySpecContainer objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 10–3 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
	NOT_ENOUGH_PRIVILEGES	Occurs only when API user has no read permission to any specification qualified for the input criteria
	NO_SPEC_FOUND	Occurs if any specification cannot be found for the input criteria
RESULT_WARNINGS	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E, and F in "Special Conditions" on page A-1.

Get Spec Ingredient Statements

Use the GetSpecIngredientStatements web service to retrieve the ingredient statements for a given list of specifications.

> **Note:** This service is only supported for material specifications, product specifications, and nutrient profiles as defined in "Condition D - Specification Types" on page A-2.

Input

1. A list of specification numbers, cross references, or a combination of either.
2. Allow Only Approved Spec—Specifications returned must be in an approved status. See "Condition C - Allow Only Approved Spec" on page A-1.

Table 10–4 Input

Name	Type	Description
specIdentifierCriterion	tSpecIdentifierCriterion[]	Array of one or more tSpecIdentifierCriterion objects
AllowOnlyApprovedSpec	boolean	True—Specifications returned must be in an "Approved" status False—Specifications returned may be in any status

Output

The following specification ingredient statements are returned for each supported specification:

1. Specification Identifier
   - Specification Number
   - Cross References
2. Ingredient statement
3. Combined statement

Table 10–5 Output

Name	Type	Description
SpecIngredientStatementInfos	tSpecIngredientStatementInfo[]	Array of tSpecIngredientStatementInfo objects

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 10–6 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_ISSUE_NUMBER	Issue input (issue number) format is invalid. See #1 of "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See #2 of "Condition E - Specification Identifier Input Formats" on page A-2.
	NOT_ENOUGH_ PRIVILEGES	Occurs only when API user has no read permission to any specification qualified for the input criteria
	NO_SPEC_FOUND	Occurs if any specification cannot be found for the input criteria
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.

Notes

See Conditions A.1, A.2, B.1, C.1, C.2, E and F in "Special Conditions" on page A-1.

11

Using the EQ Services Web Services

Overview of EQServices

EQServices provides operations that act on EQ items. The following operations are supported:

Operation	v24	v25	v30	Description
GetEQComplianceItems	●	●	●	Returns compliance data for a given list of EQs
GetEQSummaryInfo	●	●	●	Returns the EQ summary information for a given list of EQs
GetEQNutritionInfo	●	●	●	Returns the Nutrient Items for a given list of EQs
GetEQBreakdownInfo	●	●	●	Returns percent breakdown information for a given list of EQs
GetEQNumbersForCriteria	●	●	●	Returns the EQ identifiers for EQs matching several input search criteria

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/EQ/v24/EQServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/EQ/v25/EQServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/EQ/v30/EQServices.svc

Get EQ Compliance Items

Use the GetEQComplianceItems web service to retrieve the EQ compliance for a given EQ. This service can be used for material, product, and trade questionnaire types.

Input

1. EQ number list

Table 11–1 Input

Name	Type	Description
eqNumbers	tEQNumber[]	An tEQNumber object

Output

The following EQ compliance data is returned for each EQ:

1. Questionnaire Number
2. Compliance values (Allergens, Additives, Intolerances (know to contain, does not contain))

Table 11–2 Output

Name	Type	Description
eqComplianceInfo	tEQComplianceInfo	EQ compliance details

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11–3 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See "Condition M - Invalid EQ Input Formats" on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See "Condition N - Invalid Security Privileges" on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

Notes

See Conditions M1, N1, and N2 in "Special Conditions" on page A-1.

Get EQ Summary Info

Use the GetEQSummaryInfo web service to retrieve the EQ summary for a given EQ. This service can be used for all available eQ types (material, product, printed packaging, packaging, and trade).

Input

1. EQ number list

Table 11–4 Input

Name	Type	Description
eqNumbers	tEQNumber[]	A tEQNumber object

Output

The following EQ summary data is returned for each EQ:

- Questionnaire Number
- Questionnaire Label
- Questionnaire Type
- Status
- Date Sent
- Due Date
- Date Received
- Supplier Initiated?
- Imported?
- Comments
- Primary Owner
- Additional Administrators
- Supplier Contact Information (Contact Name, Company Name, Prodika SCRM #, email address)
- Company Contact Information (Contact Name, email address)
- Material Name

Table 11–5 Output

Name	Type	Description
EQSummaryInfo	tEQSummaryInfo[]	EQ summary details

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11–6 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See "Condition C - Allow Only Approved Spec" on page A-1.
	INVALID_SECURITY_ PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See "Condition N - Invalid Security Privileges" on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

Notes

See Conditions M1, N1, and N2 in "Special Conditions" on page A-1.

Get EQ Nutrition Info

Use the GetEQNutritionInfo web service to retrieve the EQ nutrition for a given EQ. This service can be used for material, product, and trade questionnaire types.

Input

EQ number list

Table 11–7 Input

Name	Type	Description
eqNumbers	tEQNumber[]	A tEQNumber object

Output

The following EQ nutrition data is returned for each EQ:

1. Questionnaire Number
2. Nutrient Values

Table 11–8 Output

Name	Type	Description
NutrientInfo	tNutrientInfo[]	EQ nutrient details

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11–9 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See "Condition M - Invalid EQ Input Formats" on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See "Condition N - Invalid Security Privileges" on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

Notes

See Conditions M1, N1, and N2 in "Special Conditions" on page A-1.

Get EQ Breakdown Info

Use the GetEQBreakdownInfo web service to retrieve the EQ breakdown for a given EQ. This service can be used for material, product, and trade questionnaire types.

Input

EQ number list

Table 11–10 Input

Name	Type	Description
eqNumbers	tEQNumber[]	A tEQNumber object

Output

The following EQ breakdown data is returned for each EQ:

1. Questionnaire Number
2. Breakdown Message

Table 11–11 Output

Name	Type	Description
EQFormulaBreakdown	tEQFormulaBreakdown[]	EQ breakdown details

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11–12 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See "Condition M - Invalid EQ Input Formats" on page A-4.
	INVALID_SECURITY_ PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See "Condition N - Invalid Security Privileges" on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)

Notes

See Conditions M1, N1, and N2 in "Special Conditions" on page A-1.

Get EQ Numbers For Criteria

Use the GetEQByCriteria web service to retrieve the EQ numbers for a given EQ. This service can be used for all available eQ types (material, product, printed packaging, packaging, and trade).

Input

The following input criteria are available as search criteria

Table 11–13 Input

Name	Type	Description
eqInputCriteria	tEQInputCriteria	EQ input criteria

Output

The following EQ number data is returned for each EQ:

1. Questionnaire Number
2. EQ Types ID—Restricts results to questionnaire types in given list of questionnaire types

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 11–14 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	No valid parameters
	INVALID_EQ_NUMBER	EQ Number input format is invalid. See "Condition M - Invalid EQ Input Formats" on page A-4.
	INVALID_SECURITY_PRIVILEGES	If the API user has no read permission to EQ returned for the input criteria. See "Condition N - Invalid Security Privileges" on page A-4.
	NO_EQ_FOUND	Occurs if any EQ cannot be found for the input criteria (the service will continue to process remaining criteria)
	INVALID_EQ_STATUS	EQ status must be New, Sent, In Progress, Submitted
RESULT_WARNINGS	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.

Notes

See Conditions F1, M1, N1, and N2 in "Special Conditions" on page A-1.

12

Using the PQS Services Web Services

Overview of PQSServices

PQSServices provides operations that act on PQS lot samples. The following operations are supported:

Operation	v24	v25	v30	Description
SavePqsSamples	●	●	●	Creates PQS lot samples and returns a sample number for each new sample created

Service Endpoint Locations

v24 endpoint

http://<servername>/Integration/ProdikaContracts/PQS/v24/PQSServices.svc

v25 endpoint

http://<servername>/Integration/ProdikaContracts/PQS/v25/PQSServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/PQS/v30/PQSServices.svc

Save PQS Sample

Use the SavePqsSamples web service to import new PQS lot sample entries into PQS. Lot sample data includes the associated GSM specification, SCRM facilities (Source, Receiving, and Location Facilities), PQS sample type, and more.

Results of the web service call include an overall success indicator and a list of all lot samples that have been created. Each lot sample contains a system-generated SampleNumber and the specification used as input.

Input

1. Specification—SpecIdentifierCriterion. It can be SpecNumber or IssueNumber.
   a. Specification Number
      – SpecNumber—Required, must be seven digits. Specification names matching the entry are displayed to the right of the field.
      – IssueNumber—Required, must be three digits. IssueNumber should match SpecNumber entry.
2. SourceFacility—SCRMEntityIdentifier
   a. SCRMEntityNumber
      – EntityNumber—String, seven digits, facility or company number. Company/Facility name matching the entry are displayed to the right of the field.
3. ReceivingFacility—SCRMEntityIdentifier
4. SampleType—String, 32 characters or fewer
5. Location—SRCMEntityIdentifier
6. InternalAlias—String, 15 characters or fewer
7. CodeDate—String, 35 characters or fewer
8. GTINUPCEAN—String, 14 characters or fewer
9. ManufactureDate—Datetime
10. Use-ThroughDate—Datetime
11. LogReceiving#—String, 20 characters or fewer
12. WaybillInvoice#—String, 20 characters or fewer
13. Quantity—Float
14. QuantityLookup—String, 150 characters or fewer
15. Temperature—Float
16. ReceivingCondition—String, 400 characters or fewer
17. DateReceived—Datetime
18. ScheduledEvaluation—Datetime
19. Notes—String, 1024 characters or fewer

Output

The result will be an overall success indicator with a list of all lot samples that have been created.

1. IsSuccessful—True or False
2. Results—List of lot sample result objects. Each sample provides a system generated Sample#.
   a. Sample#—System generated number for the lot samples
   b. Specification Identifier—SpecNumber used as input to assign to the lot samples, along with any related cross references

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 12–1 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	INVALID_SPEC_NUMBER	Specification number input (specification number, issue number) format is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_SPEC_TYPE	Specification should be of type Material, Menu, Product, or Trade
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_SOURCE_ FACILITY	SCRM source facility input invalid: input format is invalid, facility is not found, or more than one facility is found
	INVALID_RECEIVING_ FACILITY	SCRM receiving facility input invalid: input format is invalid, facility is not found, or more than one facility is found
	INVALID_SAMPLETYPE	Sample type input invalid: Must be 15 alphanumeric characters or fewer Must be an existing Sample Type lookup value
	INVALID_LOCATION	SCRM location facility input invalid: input format is invalid, facility is not found, or more than one facility is found

Table 12–1 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_INTERNAL_ ALIAS	Internal alias input is invalid; must be 15 alphanumeric characters or fewer
	INVALID_CODE_DATE	Code date input is invalid; must be 35 alphanumeric characters or fewer
	INVALID_GTINUPCEAN	GTIN/UPC/EAN input is invalid; must be 14 alphanumeric characters or fewer
	INVALID_LOG_ RECEIVING_NUMBER	LogReceiving# input invalid; must be 20 alphanumeric characters or fewer
	INVALID_WAYBILL_ INVOICE_NUMBER	WaybillInvoice# input invalid; must be 20 alphanumeric characters or fewer
	INVALID_QUANTITY	Quantity value must be greater than 0
		Quantity is required when a Quantity UOM is specified
		Quantity UOM is required when a Quantity is specified
	INVALID_ QUANTITYLOOKUP	Quantity Lookup input invalid: must be 150 alphanumeric characters or fewer, or no PQS Quantity Lookup value is found for given input
	INVALID_TEMPERATURE	Temperature input invalid; temperature UOM must be Celsius or Fahrenheit (ISOCode value CE or FA)
	INVALID_UOM	Valid UOM format required, or UOM not found for given input data
	INVALID_UOM_STATUS	UOM must be in an assignable status
	INVALID_RECEIVING_ CONDITION	ReceivingCondition input invalid; must be 400 alphanumeric characters or fewer
	INVALID_NOTES	Notes input invalid; must be 1024 alphanumeric characters or fewer
	NO_SPEC_FOUND	No specification found for specification identifier or specification cross reference
	NOT_ENOUGH_ PRIVILEGES	User does not have permissions to add PQS samples. Doing so requires the [PQS_SAMPLE_ CREATOR] role.
	UNKNOWN_ERROR	Unknown error retrieving SCRM facility information

Table 12–1 Result Codes

Name	Type	Description
RESULT_FAILURE	SAVE_ERROR	Unexpected error occurred attempting to save PQS samples

Notes

See Conditions A, C, E, G, and L in "Special Conditions" on page A-1.

13

Using the PQM Services Web Services

Overview of PQMServices

PQMServices provides operations that act on PQM actions, audits, and issues. The following operations are supported:

Operation	v24	v25	v30	Description
GetPQMSummary			●	Returns summary information for PQM items
CreatePQMIssues			●	Adds new PQM issues
UpdatePQMIssues			●	Updates PQM issues
CreatePQMActions			●	Adds new PQM actions
UpdatePQMActions			●	Updates PQM actions
CreatePQMAudits			●	Adds new PQM audits
UpdatePQMAudits			●	Updates PQM audits
GetSuppliers			●	Returns suppliers for PQM items
AddSuppliers			●	Adds suppliers to PQM
DeleteSuppliers			●	Deletes suppliers from PQM
GetAffectedItems			●	Returns affected items for PQM items
AddAffectedItems			●	Adds affected items to a PQM item
DeleteAffectedItems			●	Deleted affected items from a PQM item
GetPQMItemByCriteria			●	Retrieves a list of PQM items
GetRelatedItems			●	Retrieves the various related items for specified PQM items
AddRelatedItems			●	Adds existing PQM Actions, Issues, and Audits as related items for given PQM items
DeleteRelatedItems			●	Removes the existing related items from given PQM items
GetSupportingDocumentIDs			●	Retrieves the supporting documents identifiers of specified PQM items, including supporting document attachments, URLs, rich text, DRL catalogs, and DRL documents

Operation	v24	v25	v30	Description
GetURLSupportingDocument			●	Retrieves a URL supporting document
AddURLSupportingDocument			●	Adds a URL supporting document to existing PQM items
DeleteURLSupportingDocuments			●	Deletes a URL supporting document from existing PQM items
AddSupportingDocumentAttachment			●	Adds an attachment file to an existing attachments procedure on a PQM item
DeleteSupportingDocumentAttachments			●	Delete existing supporting document attachments from a PQM item
GetRichTextSupportingDocument			●	Retrieves a rich text supporting document
AddRichTextSupportingDocument			●	Adds a rich text supporting document to existing PQM items
DeleteRichTextSupportingDocuments			●	Deletes existing rich text supporting documents from a PQM item
GetDRLDocument			●	Retrieves a DRL document
AddDRLDocument			●	Adds a DRL document to existing PQM items
DeleteDRLDocuments			●	Deletes existing DRL documents from a PQM item
AddDRLCatalog			●	Adds a DRL catalog to existing PQM items
DeleteDRLCatalogs			●	Deletes existing DRL catalogs from a PQM item
GetAttachment			●	Retrieves an attachment file of supporting document or DRL document.
AddAttachmentProcedure			●	Adds an attachment procedure to an existing PQM item
DeleteAttachmentProcedures			●	Deletes existing supporting documents from a PQM item
AddCrossReferences			●	Adds cross references to a PQM item
DeleteCrossReferences			●	Deletes cross references from a PQM item
UpdateCrossReferences			●	Updates cross references to a PQM item

Service Endpoint Locations

v30 endpoint

http://<servername>/Integration/ProdikaContracts/PQM/v30/PQMServices.svc

Get PQM Summary

Use the GetPQMSummary web service to retrieve a list of summary information for auctions, audits, and issues.

Input

1. PQMItemSearchIdentifiers—A list of tPQMItemSearchIdentifier
2. RestrictToStatusWithBehaviorIDs—A list of the workflow status behaviorIDs

Table 13–1 Input

Name	Type	Description
PQMItemSearchIdentifiers	tPQMItemSearchIdentifier[]	Array of tPQMItemSearchIdentifier
RestrictToStatusWithBehaviorIDs	Int[]	Array of workflow tag behavior IDs of allowed PQM object

Output

The result will be list of summary information objects.

1. GetPQMSummary—An array of tPqmSummaryWrapper objects.
2. tPqmSummaryWrapper is composed of the following 2 parts:

Table 13–2 Output, tPqmSummaryWrapper

Name	Type	Description
PqmCommonSummary	tPqmCommonSummary	PQM summary information shared by all PQM types
PqmSpecificSummary	■ tPqmIssueSpecificSummary ■ tPqmActionSpecificSummary or ■ tPqmAuditSpecificSummary	PQM summary information only related with specific PQM types. Data could be one of the following implementations: ■ ItPqmIssueSpecificSummary ■ ItPqmActionSpecificSummary ■ ItPqmAuditSpecificSummary

1. tPqmCommonSummary

- tPQMItemIdentifier PQMItemIdentifier
  - string Description
  - string Originator
  - string ProcessTemplate
  - tCommonLookup[] ProductLines
    - Name
    - OptionalValue
  - tCommonLookup [] Customers
    - Name

  - OptionalValue
- bool IsTemplate
- DateTime CreatedDate
- DateTime CompletedDate
- DateTime ReleasedDate
- DateTime SubmittedDate

2. tPqmIssueSpecificSummary

- DateTime OccurrenceDate
- DateTime ExpectedResolutionDate
- tCommonLookup Severity
- tCommonLookup Resolution

3. tPqmActionSpecificSummary

- string PreventativeAction
- string RootCauseAnalysis
- tPQMAssociatedProject AssociatedProject
  - string ProjectName
  - string ProjectOwner
  - string ProjectNumber

4. tPqmAuditSpecificSummary

- DateTime PlannedAuditDate
- DateTime ActualAuditDate
- tCommonLookup AuditResult

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–3 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–3 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference)
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type; must only be one of the four valid values: ALL, ACTION, AUDIT, ISSUE
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	PQM _RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading a PQM object's supplier information

Notes

See Conditions E, F, and Q in "Special Conditions" on page A-1.

Create PQM Issues

Use the CreatePQMIssues web service to add new PQM issues.

Input

The input is tCreatePQMIssueRequest, including the following properties:

Table 13–4 Input

Name	Type	Description
IssueSummaryCreateWrappers	tIssueSummaryCreateWrapper[]	List of basic PQM issue summary information and issue template identifier

tIssueSummaryCreateWrapper is composed of the following parts:

Table 13–5 tIssueSummaryCreateWrapper

Name	Type	Description
IssueDetail	tIssueDetails	Basic PQM issue summary information (issue number not included)
IsFromTemplate	boolean	Optional. Set this value as true to create from template; Default value is false
PQMTemplateIdentifier	tBasePQMItemSearchIdentifier	Optional. Issue template identifier If you create a PQM issue from template, the field is required in validation
CrossRefs	tExtCrossReference []	Optional. Important: When creating from template, if this value is not provided, the template cross reference setting is used. If this value is provided, this input is used to replace the value in the template.

tIssueDetails is composed of the following parts:

Table 13–6 tIssueDetails

Name	Type	Description
IssueTitle	string	Required; PQM item title
IssueDescription	string	PQM issue description
IssueType	string	Required Name of issue type as defined in ADMN>>PQM>>Issue
WorkflowTemplateName	string	Required

Table 13–6 tIssueDetails

Name	Type	Description
WorkflowStepBehaviorID	integer	Required Used with WorkflowTemplateName to retrieve the workflow status
Originator	tOriginatorIdentifier	User login name or external ID as defined in ADMN 1 of the 2 (user login name or external ID) is required and only 1is allowed
OccurenceDate	DateTime	
ExpectedResolutionDate	DateTime	
Severity	string	Name of severity. This should be an Active value defined in Admin>>PQM>>Severity
Resolution	string	Name of resolution. This should be an Active value defined in Admin>>PQM>> Resolution.
ProductLines	string[]	Name of product line. This should be an Active value defined in Admin>>PQM>> Product Lines
Customers	string[]	Customer name. This should be a Active value defined in Admin>>PQM>> Customers
CreateDate	DateTime	
CompleteDate	DateTime	
ReleasedDate	DateTime	
SubmittedDate	DateTime	

Output

CreatePQMIssues returns a status (bool) and array of tPQMItemidentifier

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–7 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–7 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type; must be only one of the four valid values: All, Action, Audit, Issue
	CANNOT_OVERRIDE_ TEMPLATE	Occurs if a user without the Override Template role attempts to create from template; cannot override the locked fields
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when user does not have create issue permission, or If a user without the Override Template role attempts to create from template; cannot override the locked fields
	INVALID_PQM_TEMPLATE	If IsFromTemplate is true, must have a PQMTemplateIdentifier, and should have 1(and only 1) issue template found based on PQMTemplateIdentifier
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_ DESCRIPTION	Issue/action/audit description should not exceed the max length 4000

Table 13–7 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_PQM_ISSUE_ TYPE	Issue type should not be empty and should be a value in system
	INVALID_PQM_ WORKFLOW_TEMPLATE_ NAME	WorkflowTemplateName can't be empty PQM issue workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_ WORKFLOW_STEP_ BEHAVIORID	WorkflowStepBehaviorID cannot be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	▪ Should be a value defined in system ▪ Originator should not be empty and can only accept 1 userName or 1 external ID ▪ This field is required
	INVALID_PQM_ISSUE_ SEVERITY	No Data found in commonlookup table for name:{Severity}
	INVALID_PQM_ISSUE_ RESOLUTION	No Data found in commonlookup table for name: {Resolution}
	INVALID_PQM_ PRODUCTLINES	No Data found in commonlookup table for name:{PRODUCT LINE}
	INVALID_PQM_ CUSTOMERS	No Data found in commonlookup table for name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
RESULT_FAILURE	SAVE_PQM_ISSUE_ERROR	Unexpected exception occurs when attempting to save PQM issue

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Update PQM Issues

Use the UpdatePQMIssues web service to update PQM issues.

Input

The input is tUpdatePQMIssueRequest, including the following properties:

Table 13–8 Input

Name	Type	Description
IssueSummaryUpdateWrappers	tIssueSummaryUpdateWrapper[]	List of basic PQM issue summary information and issue template identifier

tIssueSummaryUpdateWrapper is composed by following parts:

Table 13–9 tIssueSummaryUpdateWrapper

Name	Type	Description
IssueDetails	tIssueDetails	Basic PQM issue summary information (issue number not included)
PqmItemIdentifier	tBasePQMItemSearchIdentifier	Required Issue identifier
RestrictToStatusWithBehaviorIDs	int[]	An array of workflow tag behavior IDs of allowed PQM object

tIssueDetails is composed by following parts:

Table 13–10 tIssueDetails

Name	Type	Description
IssueTitle	string	Required; PQM item title
IssueDescription	string	PQM item description
IssueType	string	Required; name of Issue type defined in ADMN
WorkflowTemplateName	string	Required
WorkflowStepBehaviorID	integer	Required; used with WorkflowTemplateName to retrieve the workflow status
Originator	tOriginatorIdentifier	User login name or external ID Defined in ADMN 1 of the 2 (user login name or external ID) is required and only 1 is allowed
OccurenceDate	DateTime	
ExpectedResolutionDate	DateTime	
Severity	string	An Active value defined in Admin>>PQM>>Severity

Table 13–10 tIssueDetails

Name	Type	Description
Resolution	string	An Active value defined in Admin>>PQM>> Resolution
ProductLines	String[]	An Active value defined in Admin>>PQM>> Product Lines
Customers	String[]	An Active value defined in Admin>>PQM>> Customers
CreateDate	DateTime	
CompleteDate	DateTime	
ReleasedDate	DateTime	
SubmittedDate	DateTime	

Output

UpdatePQMIssues returns status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–11 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.

Table 13–11 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not Allowed.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when user does not have permission to update the issue
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_ DESCRIPTION	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_ISSUE_ TYPE	Issue type should not be empty and should be a value in system
	INVALID_PQM_ WORKFLOW_TEMPLATE_ NAME	WorkflowTemplateName can't be empty PQM issue workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_ WORKFLOW_STEP_ BEHAVIORID	WorkflowStepBehaviorID can't be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	■ Should be a value defined in system ■ Originator should not be empty and can only accept 1 userName or 1 external ID ■ This field is required
	INVALID_PQM_ISSUE_ SEVERITY	No Data found in commonlookup table for with name:{Severity}
	INVALID_PQM_ISSUE_ RESOLUTION	No Data found in commonlookup table for with name: {ResolutionDisposition}
	INVALID_PQM_ PRODUCTLINES	No Data found in commonlookup table for with name:{PRODUCT LINE}

Table 13–11 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_PQM_ CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
RESULT_ FAILUREFAILURE	SAVE_PQM_ISSUE_ERROR	Occurs when attempting to save PQM issue

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Create PQM Actions

Use the CreatePQMActions web service to add new PQM actions.

Input

The input is tCreatePQMActionRequest, including the following properties:

Table 13–12 Input

Name	Type	Description
ActionSummaryCreate Wrappers	tActionSummaryCreateWrapper []	List of basic PQM action summary information and action template identifier

tActionSummaryCreateWrapper is composed by following parts:

Table 13–13 tIssueSummaryUpdateWrapper

Name	Type	Description
ActionDetails	tActionDetails	Basic PQM action summary information (action number not included)
IsFromTemplate	boolean	▪ Optional ▪ Set this value as true if you want to create from template ▪ Default value is false
PQMTemplateIdentifier	tBasePQMItemSearchIdentifier	▪ Optional ▪ Action template identifier ▪ If you create a PQM action from a template, the field is required
CrossRefs	tExtCrossReference	Optional Important: When you create from template, if this value is not provided, the template cross reference setting is used. If this value is provided, this input is used to replace the value in the template.

tActionDetails composed by following parts:

Table 13–14 tActionDetails

Name	Type	Description
ProblemStatement	string	Required; PQM action title
ActionDescription	string	PQM action description
ActionType	string	Required; name of Action type defined in ADMN
WorkflowTemplateName	string	Required

Table 13–14 tActionDetails

Name	Type	Description
WorkflowStepBehaviorID	integer	Required; used with WorkflowTemplateName to retrieve the workflow status
Originator	tOriginatorIdentifier	User login name or external ID Defined in ADMN 1 of the 2 (user login name or external ID) is required and only 1 is allowed
ProductLines	String[]	An Active value defined in Admin>>PQM>> Product Lines
Customers	String[]	An Active value defined in Admin>>PQM>> Customers
PreventativeAction	string	
RootCauseAnalysis	string	
AssociatedNPDProject	tAssociatedNPDProject	Important: If the associated project is from our NPD system, then you must set SourceSystemID ='NPD', and set ItemInternalID as NPD project PKID or set NPDProjectNum as NPD project number
CreateDate	DateTime	
CompleteDate	DateTime	
ReleasedDate	DateTime	
SubmittedDate	DateTime	

Output

CreatePQMActions returns status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–15 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.

Table 13–15 Result Codes

Name	Type	Description
RESULT_INVALID_INPUT **(continued)**	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when user does not have create action permission or If a user without Override Template role attempts to create from template; cannot override the locked fields
	INVALID_PQM_TEMPLATE	If IsFromTemplate is true, it must have a PQMTemplateIdentifier, and should have 1(and only 1) action template found based on PQMTemplateIdentifier
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_DESCRIPTION	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_ACTION_TYPE	Action type should not be empty and should be a value in system
	INVALID_PQM_WORKFLOW_TEMPLATE_NAME	WorkflowTemplateName can't be empty PQM action workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_WORKFLOW_STEP_BEHAVIORID	WorkflowStepBehaviorID can't be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}

Table 13–15 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_ORIGINATOR	▪ Should be a value defined in system ▪ Originator should not be empty and can only accept 1 userName or 1 external ID ▪ Required
	INVALID_PQM_ PREVENTIVE_ACTION	Exceeds the max length 4000
	INVALID_PQM_ ROOTCAUSE_ANALYSIS	Exceeds the max length 4000
	INVALID_SOURCE_ SYSTEM_ID	Exceeds the max length
	INVALID_ITEM_ INTERNAL_ID	Exceeds the max length
	INVALID_ITEM_ EXTERNAL_ID	Exceeds the max length
	INVALID_ASSOCIATED_ NPD_PROJECT	IF SourceSystemID is NPD, either a valid ItemInternalID or a valid NPD Project Number should be provided
	INVALID_PQM_ PRODUCTLINES	No Data found in commonlookup table for with name:{PRODUCT LINE}
	INVALID_PQM_ CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
RESULT_FAILURE	SAVE_PQM_ACTION_ ERROR	Unexpected exception occurs when attempting to save PQM action

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Update PQM Actions

Use the UpdatePQMActions web service to update PQM actions.

Input

The input is tUpdatePQMActionRequest, including the following properties:

Table 13–16 Input

Name	Type	Description
ActionSummaryUpdateWrappers	tActionSummaryUpdateWrapper[]	List of basic PQM action summary information and action template identifier

tActionSummaryUpdateWrapper is composed by following parts:

Table 13–17 tActionSummaryUpdateWrapper

Name	Type	Description
ActionDetails	tActionDetails	Basic PQM action summary information (action number not included)
PQMItemIdentifier	tBasePQMItemSearchIdentifier	■ Required ■ Action identifier
RestrictToStatusWithBehaviorIDs	int[]	Array of workflow tag behavior IDs of allowed PQM object

Output

UpdatePQMActions returns status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–18 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–18 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not Allowed.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when user does not have permission to update the action
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_ DESCRIPTIO	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_ACTION_ TYPE	Action type should not be empty and should be a value in system
	INVALID_PQM_ WORKFLOW_TEMPLATE_ NAME	WorkflowTemplateName can't be empty PQM action workflow template name {WorkflowTemplateName} should be defined in system

Table 13–18 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_PQM_ WORKFLOW_STEP_ BEHAVIORID	WorkflowStepBehaviorID can't be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	■ Should be a value defined in system ■ Originator should not be empty and can only accept 1 userName or 1 external ID ■ Required
	INVALID_PQM_ PREVENTIVE_ACTION	Exceeds the max length 4000
	INVALID_PQM_ ROOTCAUSE_ANALYSIS	Exceeds the max length 4000
	INVALID_SOURCE_ SYSTEM_ID	Exceeds the max length
	INVALID_ITEM_ INTERNAL_ID	Exceeds the max length
	INVALID_ITEM_ EXTERNAL_ID	Exceeds the max length
	INVALID_PQM_ PRODUCTLINES	No Data found in commonlookup table for with name:{PRODUCT LINE}
	INVALID_PQM_ CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
RESULT_FAILURE	SAVE_PQM_ACTION_ ERROR	Unexpected exception occurs when attempting to save PQM action

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Create PQM Audits

Use the CreatePQMAudits web service to add new PQM audits.

Input

The input is tCreatePQMAuditRequest, including the following properties:

Table 13–19 Input

Name	Type	Description
AuditSummaryCreateWrappers	tAuditSummaryCreateWrapper[]	List of basic PQM audit summary information and audit template identifier

tAuditSummaryCreateWrapper is composed of the following parts:

Table 13–20 tAuditSummaryCreateWrapper

Name	Type	Description
AuditDetails	tAuditDetails	Basic PQM audit summary information (audit number not included)
IsFromTemplate	boolean	▪ Optional ▪ Set this value as true if you want to create from template ▪ Default value is false
PQMTemplateIdentifier	tBasePQMItemSearchIdentifier	▪ Optional ▪ Audit template identifier ▪ If creating PQM audit from template, the field is required in validation
CrossRefs	tExtCrossReference	Optional Important: When creating from template, if this value is not provided, will use the template cross reference setting. If this value is provided, will use this input to replace the value in the template.

tAuditDetails is composed by following parts:

Table 13–21 tAuditSummaryCreateWrapper

Name	Type	Description
AuditTitle	string	Required; PQM audit title
AuditDescription	string	PQM audit description
AuditType	string	Required; name of Audit type defined in ADMN
WorkflowTemplateName	string	Required

Table 13–21 tAuditSummaryCreateWrapper

Name	Type	Description
WorkflowStepBehaviorID	integer	■ Required ■ Used with WorkflowTemplateName to retrieve the workflow status ■ If multiple value returned, report error
Originator	tOriginatorIdentifier	■ User login name or external ID ■ Defined in ADMN ■ 1 of the 2 (user login name or external ID) is required and only 1 is allowed
PlanedAuditDate	DateTime	
ProductLines	string[]	An Active value defined in Admin>>PQM>> Product Lines
Customers	string[]	An Active value defined in Admin>>PQM>> Customers
AuditResult	string	An Active value defined in Admin>>PQM>> Audit Result
CreateDate	DateTime	
CompleteDate	DateTime	
ReleasedDate	DateTime	
SubmittedDate	DateTime	

Output

CreatePQMAudits returns status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–22 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–22 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when user does not have create audit permission Or If a user without Override Template role to create from template, cannot override the locked fields
	INVALID_PQM_TEMPLATE	If IsFromTemplate is true, must have a PQMTemplateIdentifier, and should have 1(and only 1) audit template found based on PQMTemplateIdentifier
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_ DESCRIPTIO	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_AUDIT_ TYPE	Audit type should not be empty and should be a value in system

Table 13–22 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_PQM_ WORKFLOW_TEMPLATE_ NAME	WorkflowTemplateName cannot be empty PQM audit workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_ WORKFLOW_STEP_ BEHAVIORID	WorkflowStepBehaviorID cannot be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	■ Should be a value defined in system ■ Originator should not be empty and can only accept 1 userName or 1 external ID ■ Required
	INVALID_PQM_AUDIT_ RESULT	No Data found in commonlookup table for with name: {audit result}
	INVALID_PQM_ PRODUCTLINES	No Data found in commonlookup table for with name:{PRODUCT LINE}
	INVALID_PQM_ CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
RESULT_FAILURE	SAVE_PQM_AUDIT_ERROR	Unexpected exception occurs when attempting to save PQM audit

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Update PQM Audits

Use the UpdatePQMAudits web service to update PQM audits.

Input

The input is tUpdatePQMAuditRequest, including the following properties:

Table 13–23 Input

Name	Type	Description
AuditSummaryUpdateWrappers	tAuditSummaryUpdateWrapper[]	List of basic PQM audit summary information and audit template identifier

tAuditSummaryUpdateWrapper composed by following parts:

Table 13–24 tAuditSummaryUpdateWrapper

Name	Type	Description
AuditDetails	tAuditDetails	Basic PQM audit summary information (audit number not included)
pqmItemIdentifier	tBasePQMItemSearchIdentifier	▪ Required ▪ Audit identifier
RestrictToStatusWithBehaviorIDs	int[]	Array of workflow tag behavior IDs of allowed PQM object

Output

CreatePQMAudits returns status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–25 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) IssueDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.

Table 13–25 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when user does not have permission to update the audit
	INVALID_PQM_TITLE	Issue/action/audit title should not be empty or exceed the max length 256
	INVALID_PQM_ DESCRIPTIO	Issue/action/audit description should not exceed the max length 4000
	INVALID_PQM_AUDIT_ TYPE	Audit type should not be empty and should be a value in system
	INVALID_PQM_ WORKFLOW_TEMPLATE_ NAME	WorkflowTemplateName cannot be empty PQM audit workflow template name {WorkflowTemplateName} should be defined in system
	INVALID_PQM_ WORKFLOW_STEP_ BEHAVIORID	WorkflowStepBehaviorID cannot be empty. No valid PQM template steps or multiple PQM template steps found with behavior: {WorkflowStepBehaviorID}
	INVALID_ORIGINATOR	■ Should be a value defined in system ■ Originator should not be empty and can only accept 1 userName or 1 external ID ■ Required
	INVALID_PQM_AUDIT_ RESULT	No Data found in commonlookup table for with name:{audit result}
	INVALID_PQM_ PRODUCTLINES	No Data found in commonlookup table for with name:{PRODUCT LINE}

Table 13–25 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_PQM_ CUSTOMERS	No Data found in commonlookup table for with name:{Customer}
	PQM_WORKFLOW_ERROR	Error occurs when running workflow, may be caused by invalid input/system crash
RESULT_FAILURE	SAVE_PQM_AUDIT_ERROR	Unexpected exception occurs when attempting to save PQM audit

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Get Suppliers

Use the GetSuppliers web service to retrieve suppliers for PQM items.

Input

1. PQMItemSearchIdentifiers—A list of tPQMItemSearchIdentifier
2. RestrictToStatusWithBehaviorIDs—A list of the workflow status behaviorID:

Table 13–26 Input

Name	Type	Description
PQMItemSearchIdentifiers	tPQMItemSearchIdentifier[]	Array of tPQMItemSearchIdentifier
RestrictToStatusWithBehaviorIDs	Int[]	Array of workflow tag behavior IDs of allowed PQM object

Output

GetSuppliers returns array of tPQMItemSupplierIdentifier

1. tPQMItemSupplierIdentifier
   - tPQMItemIdentifier PQMItemIdentifier
   - tPQMItemSupplier[] PQMItemSuppliers
2. tPQMItemSupplier
   - tSourceSystemPQMItemSupplierIdentifier SourceSystemIdentifier
   - string CompanyDescription
   - string FacilityDescription
3. tSourceSystemPQMItemSupplierIdentifier
   - string ItemInternalID
   - string ItemExternalID
   - string ItemType
   - string SourceSystemID
   - string FacilityInternalItemID
   - string FacilityExternalItemID
   - string FacilityItemType

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–27 Result Codes

RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference)
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type, could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	PQM _RETRIEVAL_ERROR	Returned if an unexpected exception occurs when loading a PQM object' summary information

Notes

See Conditions E, F, and Q in "Special Conditions" on page A-1.

Add Suppliers

Use the AddSuppliers web service to add PQM suppliers.

Input

The input contains an array of tAddDeleteSuppliersInputWrapper[].

tAddDeleteSuppliersInputWrapper is composed of the following fields:

Table 13–28 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	An input in a PQM web service to identifier a PQM item
RestrictToStatusWithBehaviorIDs	Int[]	Array of workflow tag behavior IDs of allowed PQM object
Suppliers	tPQMItemSupplierSearchIdentifier []	■ tSourceSystemPQMItemSupplierIdentifier ■ tSCRMEntityNumberPQMItemSupplierIdentifier ■ tSCRMEntityCrossRefPQMItemSupplierIdentifier Important: If the supplier is already in our system, it is strongly recommended to use tSCRMEntityNumberPQMItemSupplierIdentifier or tSCRMEntityCrossRefPQMItemSupplierIdentifier to add it. tSourceSystemPQMItemSupplierIdentifier is designed for third party systems data. Using it incorrectly to add a SCRM company/facility may cause a UI crash if using v611 default implementation.

1. tSourceSystemPQMItemSupplierIdentifier extends tPQMItemSupplierSearchIdentifier
2. tSCRMEntityNumberPQMItemSupplierIdentifier extends tPQMItemSupplierSearchIdentifier
   - tSCRMEntityNumber
3. tSCRMEntityCrossRefPQMItemSupplierIdentifier extends tPQMItemSupplierSearchIdentifier
   - tSCRMEntityCrossRef

Output

AddSuppliers service returns status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–29 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty(at least one field is required, Pkid, item number, crossreference) AffectedItemIdentifiers should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL,A CTION, AUDIT, ISSUE
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.

Table 13–29 Result Codes

Name	Type	Description
RESULT_INVALID_INPUT	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
(continued)	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_PQM_SUPPLIER_IDENTIFIER	Occurs when any field in SourceSystemIdentifier exceeds the max length, including: ItemType, ItemInternalID, ItemExternalID, SourceSystemID, FacilityExternalItemID, FacilityInternalItemID, and FacilityItemType. At least one field is ItemInternalID,ItemExternalID. The Supplier to be added has already been attached to the PQM item. Added a new scenario which also returns INVALID_SUPPLIER_IDENTIFIER: If using tSCRMEntityCrossRefPQMItemSupplierIdentifier or tSCRMEntityNumberPQMItemSupplierIdentifier to identify a supplier, a SCRM company/facility should be found.
RESULT_FAILURE	ADD_PQM_SUPPLIERS_ERROR	An unexpected exception occurs when attempting to add PQM suppliers

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Delete Suppliers

Use the DeleteSuppliers web service to delete PQM suppliers.

Input

The input contains an array of tAddDeleteSuppliersInputWrapper[].

tAddDeleteSuppliersInputWrapper is composed of the following fields:

Table 13–30 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	An input in a PQM web service to identify a PQM item
RestrictToStatusWithBehaviorIDs	Int[]	Array of workflow tag behavior IDs of allowed PQM object
Suppliers	tPQMItemSupplierSearchIdentifier []	▪ tSourceSystemPQMItemSupplierIdentifier ▪ tSCRMEntityNumberPQMItemSupplierIdentifier ▪ tSCRMEntityCrossRefPQMItemSupplierIdentifier

Output

DeleteSuppliers service returns status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–31 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty(at least one field is required, Pkid, item number, crossreference) AffectedItemIdentifiers should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.

Table 13–31 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_PQM_SUPPLIER_ IDENTIFIER	Occurs when any field in SourceSystemIdentifier exceeds the max length, including: ItemType, ItemInternalID, ItemExternalID, SourceSystemID, FacilityExternalItemID, FacilityInternalItemID, and FacilityItemType. At least one field is ItemInternalID,ItemExternalID. The Supplier to be added has already been attached to the PQM item. Adds a new scenario which also returns INVALID_SUPPLIER_ IDENTIFIER If using tSCRMEntityCrossRefPQMItemSupplierIdentifier or tSCRMEntityNumberPQMItemSupplierIdentifier to identifier a supplier, a SCRM company/facility should be found.
RESULT_FAILURE	DELETE_PQM_SUPPLIERS_ ERROR	An unexpected exception occurs when attempting to remove PQM suppliers

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Get Affected Items

Use the GetAffectedItems web service to retrieve affected items for PQM items.

Input

1. PQMItemSearchIdentifiers—A list of tPQMItemSearchIdentifier
2. RestrictToStatusWithBehaviorIDs—A list of the workflow status behaviorIDs:

Table 13–32 Input

Name	Type	Description
PQMItemSearchIdentifiers	tPQMItemSearchIdentifier[]	Array of tPQMItemSearchIdentifier
RestrictToStatusWithBehaviorIDs	Int[]	Array of workflow tag behavior IDs of allowed PQM object

Output

1. GetAffectedItems returns array of tPQMItemAffectedItemsResult.
2. tPQMItemAffectedItemsResult composed by the following 2 parts:

Table 13–33 Output

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	Represents a PQM item identifying information used as output, includes the Pqm number and a list of cross references (SystemId and Equivalent), etc.
AffectedItems	tPQMAffectedItem[]	PQM affected item detail information only related with specific PQM types. Could be one of the following implementations: ▪ tPQMAffectedItem ▪ tIssueAffectedItem

1. tPQMItemAffectedItemsResult
   - tPQMItemIdentifier PQMItemIdentifier
   - tPQMAffectedItem []AffectedItems
2. tPQMAffectedItem
   - string RevisionFoundItemNumber
   - string RevisionFoundItemRevision
   - string RevisionFoundComment
   - string RevisionFixedItemNumber
   - string RevisionFixedItemRevision
   - string RevisionFoundItemInternalID

- string RevisionFoundItemExternalID
- string RevisionFixedItemInternalID
- string RevisionFixedItemExternalID
- string ItemType
- string SourceSystemID
- string Description

3. ItIssueAffectedItem extends ItPQMAffectedItem
   - tcommonlookup FailureType
   - tMeasurement QuantityAffected
   - string AdditionalDisplayIdentifier
   - PQMItemSupplier siteAffected
   - string ConformanceItemDescription
   - string ConformanceItemID
   - string ConformanceItemDescriptionExtended
   - tMeasurement QtySuspected
   - string SerialLotNum
   - tMeasurement QtyChecked
   - string ContainmentActions
   - string RMANum
   - Date ConformingMaterialDate

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–34 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference)
	INVALID_PQM_ITEM_PKID	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	PQM _RETRIEVAL_ERROR	An unexpected exception occurs when loading a PQM object's affected items information

Notes

See Conditions E, F, and Q in "Special Conditions" on page A-1.

Add Affected Items

Use the AddAffectedItems web service to add affected items to a PQM item.

Input

The input is an array of tAddAffectedItemInputWrapper.

tAddAffectedItemInputWrapper is composed of the following three fields:

Table 13–35 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	An input in a PQM web service to identifier a PQM item
RestrictToStatusWithBehaviorIDs	Int[]	Array of workflow tag behavior IDs of allowed PQM object
AffectedItems	tAffectedItemInput []	Could be the 3 types: ■ tAffectedItemInput: used for general purpose ■ tIssueAffectedInpt: used to add more fields for PQM issue ■ tNCRAffectedInpt: used to add more field for PQM issue NCR type

tAffectedItemInput is composed of the following fields:

Table 13–36 Input

Name	Type	Description
AffectedItemIdentifier	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: ■ tPQMAffectedItemSourceSystemIdentifier is used to identify affected items from third party system It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec. Incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. ■ tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion
RevisionFoundComment	string	Comments of the affected item

tPQMAffectedItemGSMIdentifier is composed of the 2 fields:

Table 13–37 tPQMAffectedItemGSMIdentifier

Name	Type	Description
AffectedGSMSpecFound	tSpecIdentifierCriterion	Identifies the affected GSM specification that was found
AffectedGSMSpecFixed	tSpecIdentifierCriterion	Identifies the affected GSM specification that was fixed

tPQMAffectedItemSourceSystemIdentifieris composed of the following fields:

Table 13–38 tPQMAffectedItemSourceSystemIdentifier

Name	Type	Description
SourceSystemID	string	SourceSystemID of the affected item
RevisionFoundItemNumber	string	ItemNumber of the affected item found
RevisionFoundItemRevision	string	Revision of the affected item found
RevisionFixedItemNumber	string	ItemNumber of the affected item fixed
RevisionFixedItemRevision	string	Revision of the affected item fixed
RevisionFoundItemInternalID	string	ItemInternalID of the affected item found
RevisionFoundItemExternalID	string	ExternalID of the affected item found
RevisionFixedItemInternalID	string	ItemInternalID of the affected item fixed
RevisionFixedItemExternalID	string	ExternalID of the affected item fixed
ItemType	string	ItemType of the affected item

tIssueAffectedItemInputis composed of the following fields:

Table 13–39 tIssueAffectedItemInput

Name	Type	Description
AffectedItemIdentifier	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: ■ tPQMAffectedItemSourceSystemIdentifier is used to identify affected items from third party system. It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec. Incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. ■ tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion.
RevisionFoundComment	string	Comments of the affected item
FailureType	string	FailureType of the issue affected item
QuantityAffected	tMeasurement	QuantityAffected of the issue affected item
SiteAffected	tPQMItemSupplierSearchIdentifier	SiteAffected of the issue affected item

tNCRAffectedItemInput is composed of the following fields:

Table 13–40 tNCRAffectedItemInput

Name	Type	Description
AffectedItemIdentifier	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: ■ tPQMAffectedItemSourceSystemIdentifier is used to identify affected items from third party system. It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec. Incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. ■ tPQMAffectedItemGSMIdentifier is used to identifier the affected item using GSM Spec Identifier Criterion.

Table 13–40 tNCRAffectedItemInput

Name	Type	Description
RevisionFoundComment	string	Comments of the affected item
FailureType	string	FailureType of the issue affected item
QuantityAffected	tMeasurement	QuantityAffected of the issue affected item
SiteAffected	tPQMItemSupplierSearchIdentifier	SiteAffected of the issue affected item
ConformanceItemIdentifier	tConformanceItemIdentifier	ConformanceItemIdentifier of the NCR issue affected item
QtySuspected	tMeasurement	QtySuspected of the NCR issue affected item
SerialLotNum	string	SerialLotNum of the NCR issue affected item
QtyChecked	tMeasurement	QtyChecked of the NCR issue affected item
ContainmentAction	string	ContainmentActions of the NCR issue affected item
RMANum	string	RMANum of the NCR issue affected item
ConformingMaterialDate	DateTime	ConformingMaterialDate of the NCR issue affected item

Output

AddAffectedItems service returns status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–41 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference)
		IssueDetails should not be empty
	INVALID_PQM_ITEM_PKID	PQM Item PKID input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT,ISSUE
	UPDATE_DUPLICATE_PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}

Table 13–41 Result Codes

Name	Type	Description
RESULT_INVALID_INPUT **(continued)**	INVALID_PQM_AFFECTED_ITEM_SOURCE_SYSTEM_IDENTIFIER	Occurs when any field in AffectedItemIdentifier exceeds the max length,including: ■ ItemType ■ RevisionFixedItemExternalID ■ RevisionFixedItemInternalID ■ RevisionFixedItemNumber ■ RevisionFixedItemRevision ■ RevisionFoundItemExternalID ■ RevisionFoundItemInternalID ■ RevisionFoundItemNumber ■ RevisionFoundItemRevision ■ SourceSystemID
	INVALID_PQM_SUPPLIER_IDENTIFIER	Any fields in Site affected exceed the max length.
	INVALID_FailureType	FailureType exceeds the maxlength
	INVALID_ContainmentActions	ContainmentActions exceeds the maxlength
	INVALID_RMANum	RMANum exceeds the maxlength
	INVALID_SerialLotNum	SerialLotNum exceeds the maxlength
	INVALID_ConformanceItemInternalID	ConformanceItemInternalID exceeds the maxlength
	INVALID_MEASUREMENT	UOM should not be empty
	INVALID_PQM_AFFECTED_ITEM_INPUT	No GSM Spec Found for AffectedGSMSpecFound:+ AffectedGSMSpecFound Multiple GSM Specs Found for AffectedGSMSpecFixed:+ AffectedGSMSpecFixed No GSM Spec Found for ConformanceItemIdentifier:{ConformanceItemIdentifier} Multiple GSM Specs Found for ConformanceItemIdentifier:{ConformanceItemIdentifier}
	INVALID_PQM_AFFECTED_ITEM_INPUT_TYPE	Pass in tIssueAffectedInput type to a non PQM-issue object Or Pass in tNCRAffectedInput type to a non PQM -issue_Non Conformance object
	INVALID_PQM_SITE_AFFECTED	

Table 13–41 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	INVALID_PQM_FAILURE_ TYPE	No Data found in commonlookup table for name: {PQMFailureType}
(continued)	ADD_PQM_SUPPLIERS_ ERROR	An unexpected exception occurs when attempting to add PQM suppliers
RESULT_FAILURE	ADD_PQM_AFFECTED_ ITEMS_ERROR	Unexpected exception occurs when attempting to add PQM affected items

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Delete Affected Items

Use the DeleteAffectedItems web service to delete affected items from a PQM item.

Input

Table 13–42 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	An input in a PQM web service to identify a PQM item
RestrictToStatusWithBehaviorIDs	Int[]	Array of workflow tag behavior IDs of allowed PQM object
AffectedItemIdentifiers	tPQMAffectedItemIdentifier[]	▪ tPQMAffectedItemSourceSystemIdentifier ▪ tPQMAffectedItemGSMIdentifier

Output

DeleteAffectedItems service returns the status (bool) and array of tPQMItemidentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–43 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty(at least one field is required, Pkid, item number, crossreference) AffectedItemIdentifiers should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.

Table 13–43 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT (continued)	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type; could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_PQM_ AFFECTED_ITEM_ SOURCE_SYSTEM_ IDENTIFIER	Any field in AffectedItemIdentifier exceed the max length, including: ItemType ■ RevisionFixedItemExternalID ■ RevisionFixedItemInternalID ■ RevisionFixedItemNumber ■ RevisionFixedItemRevision ■ RevisionFoundItemExternalID ■ RevisionFoundItemInternalID ■ RevisionFoundItemNumber ■ RevisionFoundItemRevision ■ SourceSystemID At least one field is required: RevisionFoundItemInternalID,RevisionFoundItemExternalID,RevisionFoundItemNumber
	INVALID_PQM_ AFFECTED_ITEM_INPUT	No GSM Spec Found for AffectedGSMSpecFound:+ AffectedGSMSpecFound
RESULT_FAILURE	DELETE_PQM_AFFECTED_ ITEMS_ERROR	An unexpected exception occurs when attempting to add PQM affected items

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Get PQM Item By Criteria

Use the GetPQMItemByCriteria to retrieve a list of PQM items.

Input

The input is tGetPQMItemByCriteriaRequest, including the following properties:

Table 13–44 Input

Name	Type	Description
IncludePQMActions	boolean	
ActionTypes	string[]	Valid action type names defined in ADMN>PQM>Action Type
IncludePQMAudits	boolean	
AuditTypes	string[]	Valid audit type names defined in ADMN>PQM>Audit Type
IncludePQMIssues	boolean	
IssueTypes	string[]	Should be valid issue type names defined in ADMN>PQM>Issue Type
Title	string	PQM item title
Description	string	The whole or part of PQM item description
ProductLines	string[]	Valid product line names defined in Admin>PQM> Product Lines
Customers	string[]	Should be valid customer names defined in ADMN>PQM>Customers
Originators	tUser[]	Array of originators
Owners	tUser[]	Array of owners
IssueSeverity	string	Should be a valid severity value for issue items
Suppliers	tSupplierSearchIdentifier []	Array of supplier search identifiers
Status	string[]	PQM workflow status names
RestrictToStatusWithIDs	integer[]	Array of workflow tag behavior IDs

tSupplierSearchIdentifier contains the following properties:

- tExternalSupplierSearchIdentifier ExternalSearchIdentifier
  - string InternalItemID
  - string ExternalItemID
  - string SourceSystemID
  - string ItemType

- tSCRMSupplierSearchIdentifier SCRMSearchIdentifier
  - tSCRMEntityNumber SCRMEntityNum
  - tSCRMEntityCrossRef SCRMEntityCrossRef
  - string SCRMEntityPKID

tUser contains following properties which are defined in Nutrition Services:

- string Name —The UserName used for login
- string ExternalId

Output

GetPQMItemByCriteria returns array of tPQMItemIdentifier objects.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–45 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	INVALID_SUPPLIER_ IDENTIFIER	Each supplier search identifier should only contain either external supplier search identifier or SCRM supplier search identifier
	INVALID_USER_ IDENTIFIER	Each tUser object should only contain either UserName or ExternalId
RESULT_WARNINGS	MAX_RECORDS_ RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	PQM_ITEM_RETRIEVAL_ ERROR	Returned if an unexpected exception occurs when loading a PQM item

Notes

See Condition F in "Special Conditions" on page A-1.

Get Related Items

Use the GetRelatedItems web service to retrieve the various related items for specified PQM items.

Input

A list of PQM item identifiers and one or more workflow status tag behavior IDs.

Table 13–46 Input

Name	Type	Description
PQMItemIdentifiers	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
RestrictToStatusWithIDs	int[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

Output

The GetRelatedItems web service returns list of tRelatedPQMItemsWrapper objects.

Table 13–47 Output

Name	Type	Description
RelatedPQMItemsWrappers	tRelatedPQMItemsWrapper[]	Array of one or more tRelatedPQMItemsWrapper objects

tRelatedPQMItemsWrapper contains a PQM item's identifier and its related items depending on the item type:

- Related items of action returned: related issues, related actions, and related audits
- Related items of issue returned: related actions, related audits
- Related items of audit returned: related issues, related actions

Here are the definitions:

1. tRelatedPQMItemsWrapper
   - tPQMItemIdentifier PQMItemIdentifier
   - tRelatedPQMItem[] RelatedIssues
   - tRelatedPQMItem[] RelatedActions
   - tRelatedPQMItem[] RelatedAudits
2. tRelatedPQMItem
   - tPQMItemIdentifier PQMItemIdentifier
   - string ExtendedDescription
3. tRelatedPQMAuditItem: tRelatedPQMItem
   - Date PlannedAuditDate
4. tRelatedPQMActionItem: tRelatedPQMItem

- string Relationship//Relationship of Child or Parent

5. tRelatedPQMIssueItem: tRelatedPQMItem

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–48 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	Missing PQM item identifier
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.
RESULT_FAILURE	PQM_ITEM_RETRIEVAL_ERROR	Unhandled error happened when loading PQM items
	NO_PQM_ITEM_FOUND	Returned if no PQM item was found for the input identifier

Notes

User must have [PQM_ADMIN] role or WFA read permission to retrieve the PQM item.

See "Condition F - Max Records Retrieved" on page A-2.

Add Related Items

Use the AddRelatedItems web service to add existing PQM Actions, Issues, and Audits as related items for given PQM items.

Input

Table 13–49 Input

Name	Type	Description
PQMItemIdentifiers	tPQMItemSearchIdentifier[]	Specify the PQM items to edit
RelatedItemIdentifiers	tPQMItemSearchIdentifier[]	Specify the existing related PQM items to add
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

Table 13–50 Output

Name	Type	Description
IsSuccessful	boolean	
PQMItemsAffected	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–51 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing PQM item identifier or related item identifiers
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid
	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded

Table 13–51 Result Codes

Name	Type	Description
RESULT_FAILURE	CANNOT_ADD_RELATED_ITEM	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

Notes

1. AddRelatedItems web service adds related items depending on the type of input item.
   - Related items add to issue: none
   - Related items add to action: issue, action, and audit
   - Related items add to audit: issue, action
2. User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

Delete Related Items

Use the DeleteRelatedItems web service to remove the existing related items from given PQM items.

Input

Table 13–52 Input

Name	Type	Description
PQMItemIdentifiers	tPQMItemSearchIdentifier[]	Specify the PQM items to edit
RelatedItemIdentifiers	tPQMItemSearchIdentifier[]	Specify the existing related PQM items to remove
RestrictToStatusWithIDs	Integer	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

Output

An overall success indicator and a list of tPQMItemIdentifier objects representing the PQM items changed will be returned.

Table 13–53 Output

Name	Type	Description
IsSuccessful	boolean	
PQMItemsAffected	tPQMItemIdentifier[]	Array of one or more PQM items which have been changed

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–54 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	Missing PQM item identifier or related item identifiers
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid
	MAX_RECORDS_SAVED	Maximum records count allowed for save exceeded

Table 13–54 Result Codes

Name	Type	Description
RESULT_FAILURE	CANNOT_REMOVE_ RELATED_ITEM	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input identifier

Notes

1. DeleteRelatedItems web service removes related items depending on the type of input item.
   - Related items remove from issue: none
   - Related items remove from action: issue, action (only action items with Child relationship can be removed)
   - Related items remove from audit: issue, action
2. User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

Get Supporting Document IDs

Use the GetSupportingDocumentIDs web service to retrieve the supporting documents identifiers of specified PQM items, including supporting document attachments, URLs, rich text, DRL catalogs, and DRL documents.

Input

A list of PQM item identifiers and one or more workflow status tag behavior IDs.

Table 13–55 Input

Name	Type	Description
PQMItemIdentifiers	tPQMItemSearchIdentifier[]	Array of one or more tPQMItemSearchIdentifier objects
RestrictToStatusWithIDs	int[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier

Output

A list of tPQMSupportingDocWrapper will be returned. Each tPQMSupportingDocWrapper contains:

1. tPQMItemIdentifier PQMItemIdentifier
2. tAttachmentsWrapper[] SupportingDocuments
3. tCommonIdentifier[] RichTextIdentifiers
4. tCommonIdentifier[] URLSourceIdentifiers
5. tDRLDocumentIdentifiers[] DRLDocumentIdentifiers
6. tDRLCatalog[] DRLCatalogs

tCommonIdentifier contains following members:

- string PKID
- string Title

tDRLDocumentIdentifier: tCommonIdentifier

- ItSpecificationNumber DocumentID

tDRLCatalogIdentifier: tCommonIdentifier

- String ExternalID

1. tAttachmentsWrapper

Table 13–56 tAttachmentsWrapper

Name	Type	Description
Identifier	tCommonIdentifier	
SecurityClassification	string	
CreationDate	DateTime	
Attachments	tCommonIdentifier[]	

2. tDRLCatalog

Table 13–57 tDRLCatalog

Name	Type	Description
CatalogIdentifier	tDRLCatalogIdentifier	
DRLDocuments	tDRLDocumentIdentifier[]	Returned if DRL catalog is visible to user

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–58 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	Missing PQM item identifiers
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	MAX_RECORDS_RETRIEVED	Occurs if the number of records retrieved exceeds the maximum records allowed. See "Condition F - Max Records Retrieved" on page A-2.

Notes

User must have [PQM_ADMIN] role or WFA read permission to retrieve the PQM item.

User must have [DRL_VIEWER] role to retrieve the sub-nodes (including DRL catalogs and documents) of DRL catalog.

See "Condition F - Max Records Retrieved" on page A-2.

Get URL Supporting Document

Use the GetURLSupportingDocument service to retrieve a URL supporting document.

Input

Table 13–59 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
PKID	string	The PKID of URL supporting document is required

Output

A tPQMItemIdentifier object and tURLSource object with following members would be returned.

Table 13–60 Output

Name	Type	Description
Identifier	tCommonIdentifier	
EffectiveDate	DateTime	
InactiveDate	DateTime	
UploadDate	DateTime	
URLPath	string	
PubToSupplierPortal	boolean	
IsProprietary	boolean	
ExpireDateNotify	boolean	
ExpireDateNotifyNumDays	integer	

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–61 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–61 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier or PKID input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PKID_INPUT	The URL source PKID input is invalid
RESULT_WARNINGS	PQM_ITEM_RETRIEVAL_ ERROR	Return if unhandled error happened when processing the request

Notes

User must have [PQM_ADMIN] role or WFA read permission to retrieve the PQM item.

See Conditions E and Q in "Special Conditions" on page A-1.

Add URL Supporting Documents

Use the AddURLSupportingDocument service to add a URL supporting document to existing PQM items.

Input

Table 13–62 Input

Name	Type	Description
PQMSearchIdentifiers	tPQMItemSearchIdentifier[]	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
NewURLSource	tNewURLSource	

tNewURLSource contains following members:

Table 13–63 tNewURLSource

Name	Type	Description
Title	string	Required
EffectiveDate	DateTime	
InactiveDate	DateTime	Should not be earlier than the effective date
URLPath	string	Required. Should start with http://
PubToSupplierPortal	boolean	
IsProprietary	boolean	
ExpireDateNotify	boolean	
ExpireDateNotifyNumDays	integer	

Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–64 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–64 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier objects or tNewURLSource object input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_URL_SOURCE	The tNewURLSource object input is invalid
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
RESULT_FAILURE	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	CANNOT_ADD_ SUPPORTING_DOC	Return if unhandled error happened when processing the request

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

See Conditions E and Q in "Special Conditions" on page A-1.

Delete URL Supporting Documents

Use the DeleteURLSupportingDocuments to delete existing URL supporting documents from a PQM item.

Input

Table 13–65 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithIDs	Int[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
PKIDs	string[]	The PKID(s) of URL supporting documents to remove

Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Else, the overall result is fail and the changes will not be saved.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–66 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The URL source PKID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save

Table 13–66 Result Codes

Name	Type	Description
RESULT_FAILURE	CANNOT_REMOVE_ SUPPORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have read access to the URL supporting documents input.

See "Condition Q - PQM Item Identifier Formats" on page A-4.

Add Supporting Document Attachment

Use the AddSupportingDocumentAttachment web service to add an attachment file to an existing attachments procedure on a PQM item.

Input

Table 13–67 Input

Name	Type	Description
PQMSearchIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
ProcedureID	string	The PKID of attachments procedure
NewAttachment	tNewAttachment	

Each tNewAttachment contains following members:

Table 13–68 tNewAttachment

Name	Type	Description
BlobStream	type[]	Required
Title	string	Required
FileName	string	Required
FileType	string	Required
Owner	tUser	
EffectiveDate	DateTime	
InactiveDate	DateTime	Should not be earlier than the effective date
PubToSupplierPortal	boolean	
IsProprietary	boolean	
ExpireDateNotify	boolean	
ExpireDateNotifyNumDays	integer	

Output

The output data includes a success indicator, a tPQMItemIdentifier object, and a tAttachmentsWrapper object representing the attachments procedure changed will be returned.

The attachment is not added successfully, the changes will not be saved.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–69 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier objects or tDRLCatalogIdentifier object input is missing
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The procedure ID input is invalid
	INVALID_ATTACHMENT	The supporting document attachment input is invalid
RESULT_FAILURE	INVALID_SECURITY_PRIVILEGES	See additional notes below
	CANNOT_ADD_SUPPORTING_DOC	Return if unhandled error happened when processing the request

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

See "Condition Q - PQM Item Identifier Formats" on page A-4.

Delete Supporting Document Attachment

Use the DeleteSupportingDocumentAttachments web service to delete existing supporting document attachments from a PQM item.

Input

Table 13–70 Input

Name	Type	Description
PPQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
PKIDs	string[]	The PKID(s) of supporting document attachments to remove

Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Otherwise, the overall result is fail and the changes will not be saved.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–71 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The supporting document attachment PKID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save

Table 13–71 Result Codes

Name	Type	Description
RESULT_FAILURE	CANNOT_REMOVE_ SUPPORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have read access to the parent attachment procedures which hold the supporting document attachments input.

See "Condition Q - PQM Item Identifier Formats" on page A-4.

Get Rich Text Supporting Document

Use the GetRichTextSupportingDocument web service to retrieve a rich text supporting document.

Input

Table 13–72 Input

Name	Type	Description
PPQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
PKID	string	The PKID of rich text supporting document is required

Output

A tPQMItemIdentifier object and a tRichTextDoc object with following members would be returned.

Table 13–73 Output

Name	Type	Description
Identifier	tCommonIdentifier	Including PKID and title
CreationDate	DateTime	The creation date of this rich text supporting document
Content	string	The html data content of the rich text supporting document

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–74 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–74 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The PQMItemSearchIdentifier or PKID input is missing
	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The rich text PKID input is invalid
RESULT_WARNINGS	PQM_ITEM_RETRIEVAL_ ERROR	Returned if unhandled error happened when processing the request

Notes

See "Condition Q - PQM Item Identifier Formats" on page A-4.

Add Rich Text Supporting Document

Use the AddRichTextSupportingDocument service to add a rich text supporting document to existing PQM items.

Input

Table 13–75 Input

Name	Type	Description
PQMSearchIdentifiers	tPQMItemSearchIdentifier	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
NewRichTextDoc	tNewRichTextDoc	

tNewRichTextDoc contains following members:

Table 13–76 tNewRichTextDoc

Name	Type	Description
Title	string	Required
Content	string	
KeyWords	string	

Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–77 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–77 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier objects or tNewRichTextDoc object input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_RICH_TEXT_DOC	The tNewRichTextDoc object input is invalid
	MAX_RECORDS_SAVED	Returned when the number of custom section instances input exceeds the max number allowed to save
RESULT_FAILURE	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	CANNOT_ADD_ SUPPORTING_DOC	Return if unhandled error happened when processing the request

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

Delete Rich Text Supporting Documents

Use the DeleteRichTextSupportingDocuments to delete existing rich text supporting documents from a PQM item.

Input

Table 13–78 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
PKIDs	string[]	The PKID(s) of rich text supporting documents to remove

Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Otherwise, the overall result is fail and the changes will not be saved.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–79 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The rich text PKID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save

Table 13–79 Result Codes

Name	Type	Description
RESULT_FAILURE	CANNOT_REMOVE_ SUPPORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have read access to the rich text supporting documents input.

Get DRL Document

Use the GetDRLDocument service to retrieve a DRL document.

Input

Table 13–80 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
PKID	string	The PKID of DRL Document

Output

A tPQMItemIdentifier object and a tDRLDocument object with following members would be returned.

Table 13–81 Output

Name	Type	Description
DocumentIdentifier	tDRLDocumentIdentifier	
Description	string	
Classifications	string	
Version	string	
Originator	tUser	
DocumentDate	DateTime	
ExpirationDate	DateTime	
PubToSupplierPortal	boolean	
ExpireDateNotify	boolean	
ExpireDateNotifyNumDays	integer	
Attachments	tCommonIdentifier[]	

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–82 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–82 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier or PKID input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_SECURITY_ PRIVILEGES	User has no permission to view the PQM item or DRL document
	INVALID_PKID_INPUT	The DRL document PKID input is invalid
RESULT_WARNINGS	PQM_ITEM_RETRIEVAL_ ERROR	Return if unhandled error happened when processing the request

Notes

User must have [PQM_ADMIN] role or WFA read permission to retrieve the PQM item.

User must have [DRL_VIEWER] role to retrieve the DRL document.

Add DRL Document

Use the AddDRLDocument service to add a DRL document to existing PQM items.

Input

Table 13–83 Input

Name	Type	Description
PQMSearchIdentifiers	tPQMItemSearchIdentifier[]	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
DRLDocumentIdentifier	tDRLDocumentIdentifier	

Each tDRLDocumentIdentifier specifies DRL documents according to following rules:

1. If the PKID value is given, the DRL document with the same PKID would be added;
2. When the DocumentID is given,
   a. If both DocumentNumber and IssueNumber are given, the DRL document with the same DocumentID will be added;
   b. If DocumentNumber is given while IssueNumber is not, all DRL documents with the same DocumentNumber will be added;
3. When the Title is given, all DRL documents with the same title will be added.

Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–84 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–84 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier objects or tDRLDocumentIdentifier object input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The DRL document PKID input is invalid
	INVALID_DOCUMENT_ID	The DRL document ID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save
RESULT_FAILURE	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	CANNOT_ADD_ SUPPORTING_DOC	Return if unhandled error happened when processing the request

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

Delete DRL Documents

Use the DeleteDRLDocuments service to delete existing DRL documents from a PQM item.

Input

Table 13–85 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier[]	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
DRLDocumentIdentifiers	tDRLDocumentIdentifier[]	The identifier of DRL document to remove

Each tDRLDocumentIdentifier specifies DRL documents according to following rules:

1. If the PKID value is given, the DRL document with the same PKID would be removed;
2. When the DocumentID is given,
   a. If both DocumentNumber and IssueNumber are given, the DRL document with the same DocumentID will be removed;
   b. If DocumentNumber is given while IssueNumber is not, all DRL documents with the same DocumentNumber will be removed;
3. When the Title is given, all DRL documents with the same title will be removed.

Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Else, the overall result is fail and the changes will not be saved.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–86 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–86 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The DRL document PKID input is invalid
	INVALID_DOCUMENT_ID	The DRL document ID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of rich text PKID input exceeds the max number allowed to save
RESULT_FAILURE	CANNOT_REMOVE_ SUPPORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

Add DRL Catalog

Use the AddDRLCatalog service to add a DRL catalog to existing PQM items.

Input

Table 13–87 Input

Name	Type	Description
PQMSearchIdentifiers	tPQMItemSearchIdentifier[]	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
DRLCatalogIdentifier	tDRLCatalogIdentifier	

Each tDRLCatalogIdentifier object specifies DRL catalogs according to following rules:

1. When the PKID is given, the DRL catalog with the same PKID will be added;
2. When the external ID is given, the DRL catalog with the same external ID will be added;
3. When the title is given, all DRL catalogs with the same title will be added.

Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–88 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–88 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier objects or tDRLCatalogIdentifier object input is missing
	INVALID_PQM_PKID	The DRL catalog PKID input is invalid
	INVALID_EXTERNAL_ID	The DRL catalog external ID input is invalid
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The DRL document PKID input is invalid
	INVALID_EXTERNAL_ID	The DRL catalog external ID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of PQMSearchIdentifiers input exceeds the max number allowed to save
RESULT_FAILURE	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	CANNOT_ADD_ SUPPORTING_DOC	Returned if unhandled error happened when processing the request

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

Delete DRL Catalogs

Use the DeleteDRLCatalogs to delete existing DRL catalogs from a PQM item.

Input

Table 13–89 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier[]	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
DRLCatalogIdentifiers	tDRLCatalogIdentifier[]	The identifiers of DRL catalog to remove

Each tDRLCatalogIdentifier object specifies DRL catalogs according to following rules:

1. When the PKID is given, the DRL catalog with the same PKID will be removed;
2. When the external ID is given, the DRL catalog with the same external ID will be removed;
3. When the title is given, all DRL catalogs with the same title will be removed.

Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Else, the overall result is fail and the changes will not be saved.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–90 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–90 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The PQMItemIdentifier or DRL catalog identifiers input is missing
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The DRL catalog PKID input is invalid
	INVALID_EXTERNAL_ID	The DRL catalog external ID input is invalid
	MAX_RECORDS_SAVED	Returned when the number of DRL catalog identifiers input exceeds the max number allowed to save
RESULT_FAILURE	CANNOT_REMOVE_ SUPPORTING_DOC	Unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

Get Attachment

Use the GetAttachment service to retrieve an attachment file of supporting document or DRL document.

Input

Table 13–91 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier[]	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
PKID	string	The PKID of attachment document

Output

A tPQMItemIdentifier object along with a tAttachment object or tSupportingDocumentAttachment object would be returned.

Each tAttachment object contains following members:

Table 13–92 tAttachment

Name	Type	Description
Identifier	tCommonIdentifier	
Path	string	
PKID	string	The PKID of attachment document
FileSize	long	
FileName	string	
BlobStream	Byte[]	

tSupportingDocumentAttachment: tAttachment is defined as:

Table 13–93 tSupportingDocumentAttachment

Name	Type	Description
FileType	string	
Owner	tUser	
EffectiveDate	DateTime	
InactiveDate	DateTime	
UploadDate	DateTime	
PubToSupplierPortal	boolean	
IsProprietary	boolean	
ExpireDateNotify	boolean	

Table 13–93 tSupportingDocumentAttachment

Name	Type	Description
ExpireDateNotifyNumDays	integer	

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–94 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	The PKID or tPQMItemSearchIdentifier input is missing
	INVALID_PKID_INPUT	The attachment PKID input is invalid
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_SECURITY_PRIVILEGES	User has no permission to view the PQM item or attachment document
RESULT_WARNINGS	PQM_ITEM_RETRIEVAL_ERROR	Return if unhandled error happened when processing the request

Add Attachment Procedure

Use the AddAttachmentProcedure service to add a attachment procedure to an existing PQM item.

Input

Table 13–95 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier[]	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
NewAttachmentProcedure	tNewAttachmentsWrapper	

Each tNewAttachmentsWrapper object contains following members:

Table 13–96 tNewAttachmentsWrapper

Name	Type	Description
SecurityClassification	EnumSecurityClassfications	Required. Could be UnDefined, Contextual, or NonContextual
NewAttachments	tNewAttachment[]	

Output

An overall success indicator and a list of tPQMItemIdentifier objects will be returned.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–97 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	The tPQMItemSearchIdentifier object or tNewAttachmentsWrapper object input is missing
	INVALID_PQM_PKID	PQM item PKID input is invalid
	INVALID_PQM_ITEM_NUMBER	PQM item number input is invalid
	INVALID_PQM_CROSS_REFERENCE	Cross reference input is invalid
	INVALID_ATTACHMENT	The tNewAttachmentsWrapper input is invalid

Table 13–97 Result Codes

Name	Type	Description
RESULT_FAILURE	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	CANNOT_ADD_ SUPPORTING_DOC	Return if unhandled error happened when processing the request

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

Delete Attachment Procedures

Use the DeleteAttachmentProcedures web service to delete existing supporting documents from a PQM item.

Input

Table 13–98 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier[]	
RestrictToStatusWithIDs	integer[]	Array of one or more workflow status tag behavior IDs to restrict the PQM items found using the PQMItemIdentifier
PKIDs	string[]	The PKID(s) of attachments procedures to remove

Output

An overall success indicator and a tPQMItemIdentifier object will be returned.

If all the supporting documents input are successfully removed, the overall result is success. Otherwise, the overall result is fail and the changes will not be saved.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–99 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	The PQMItemIdentifier or PKIDs input is missing
	INVALID_PQM_ITEM_ NUMBER	PQM item number input is invalid
	INVALID_PQM_ITEM_PKID	PQM item PKID input is invalid
	INVALID_PQM_CROSS_ REFERENCE	Cross reference input is invalid
	INVALID_PKID_INPUT	The attachments procedure PKID input is invalid
	MAX_RECORDS_SAVED	The tNewAttachmentsWrapper input is invalid

Table 13–99 Result Codes

Name	Type	Description
RESULT_FAILURE	CANNOT_REMOVE_ SUPPORTING_DOC	An unexpected exception occurs when attempting to processing request
	INVALID_SECURITY_ PRIVILEGES	See additional notes below
	NO_PQM_ITEM_FOUND	Returned if no PQM item found for the input

Notes

User must have [PQM_ADMIN] role or WFA read and write permissions to edit the PQM item.

User must have read access to the attachment procedures input.

Add Cross References

Use the AddCrossReferences web service to add cross references to a PQM item.

Input

The input is an array of tAddCrossReferencesInputWrapper.

tAddCrossReferencesInputWrapper is composed of the following three fields:

Table 13–100 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithBehaviorIDs	int []	An array of workflow tag behavior IDs of allowed PQM object
CrossRefs	tExtCrossReference[]	

Output

The result will be status (bool) and a list of PQMs (tPQMItemIdentifier) affected by the cross reference changes. For each PQM affected, the results include the full cross reference list.

AddCrossReferences returns array of tPQMItemIdentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–101 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–101 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	NPQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference). CrossReferenceInputs should not be empty.
	INVALID_PQM_ITEM_PK ID	PQM Item pkid input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_N UMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	NO_PQM_CROSS_ REFERENCE_FOUND	The cross reference to be added must contain a System ID and Equipment and a valid status defined in system
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.
	NO_PQM_CROSS_ REFERENCE_FOUND	Trying to add Duplicate Cross Reference {0} to the PQM item: {1}
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_SECURITY_ PRIVILEGES	User must have role [EXTERNALLY_MANAGED_ CROSS_REF_ADMIN] to modify externally managed cross references
RESULT_FAILURE	ADD_PQM_CROSS_ REFERENCES_ERROR	Occurs when an unexpected exception occurs adding cross references to a PQM

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Delete Cross References

Use the DeleteCrossReferences web service to delete cross references from a PQM item.

Input

The input is an array of tDeleteCrossReferencesInput.

tDeleteCrossReferencesInput is composed of the following three fields:

Table 13–102 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithBehaviorIDs	int[]	An array of workflow tag behavior IDs of allowed PQM object
CrossRefs	tCrossReference []	

Output

The result will be status (bool) and a list of PQMs (tPQMItemIdentifier) affected by the cross reference changes. For each PQM affected, the results include the full cross reference list.

DeleteCrossReferences returns array of tPQMItemIdentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–103 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request

Table 13–103 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference). CrossReferenceInputs should not be empty.
	INVALID_PQM_ITEM_PK ID	PQM Item pkid input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_PQM_ITEM_N UMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type, could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	NO_PQM_CROSS_ REFERENCE_FOUND	The cross reference to be removed must contain a System ID and Equipment
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed
	NO_PQM_CROSS_ REFERENCE_FOUND	Trying to remove Duplicate Cross Reference {0} from the PQM item: {1}
		Cross Reference ({0}) to be removed didn't exist on PQM item({1})
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INSUFFICIENT_PQM_ ROLE_ERROR	Occurs when the user does not have permission to update the PQM object: {pqm identifier}
	INVALID_SECURITY_ PRIVILEGES	User must have role [EXTERNALLY_MANAGED_ CROSS_ REF_ADMIN] to modify externally managed cross references
RESULT_FAILURE	DELETE_PQM_CROSS_ REFERENCES_ERROR	Occurs when an unexpected exception occurs removing cross references from a PQM item

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

Update Cross References

Use the UpdateCrossReferences web service to update cross references to a PQM item.

Input

The input is an array of tUpdateCrossReferencesInputWrapper.

tUpdateCrossReferencesInputWrapperis composed of the following three fields:

Table 13–104 Input

Name	Type	Description
PQMItemIdentifier	tPQMItemSearchIdentifier	
RestrictToStatusWithBehaviorIDs	int[]	An array of workflow tag behavior IDs of allowed PQM object
UpdateCrossRefDetails	tUpdateCrossRefDetail []	

tUpdateCrossRefDetail contains:

- tCrossReference OriginalCrossRef
- tExtCrossReference NewCrossRef

Output

The result will be status (bool) and a list of PQMs (tPQMItemIdentifier) affected by the cross reference changes. For each PQM affected, the results include the full cross reference list.

UpdateCrossReferences returns array of tPQMItemIdentifier.

Possible Result Codes

The response header will contain a result code, indicating the overall status of the web service call. A list of detailed messages will also be provided, with individual message codes, severities, and descriptions. The following result codes may occur:

Table 13–105 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request
RESULT_INVALID_INPUT	NO_VALID_PARAMETERS	PQMItemIdentifier is empty (at least one field is required, Pkid, item number, crossreference) UpdateCrossReferenceInputs should not be empty. UpdateCrossRefDetails should not be empty.
	INVALID_PQM_ITEM_PKID	PQM Item pkid input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.

Table 13–105 Result Codes

Name	Type	Description
RESULT_INVALID_ INPUT **(continued)**	INVALID_PQM_ITEM_ NUMBER	PQM Item number input (issue number/action number/audit number) format is invalid. See "Condition Q - PQM Item Identifier Formats" on page A-4.
	INVALID_CROSS_ REFERENCE	Cross Reference input (SystemID, Equivalent) is required. When adding or updating a cross reference, SystemID and Status must be defined in system. See "Condition E - Specification Identifier Input Formats" on page A-2.
	INVALID_PQM_ITEM_TYPE	Invalid item type,could only be one of the 4 values: ALL, ACTION, AUDIT, ISSUE
	NO_PQM_CROSS_ REFERENCE_FOUND	The cross reference to be removed must contain a System ID and Equipment.
		The cross reference to be added must contain a System ID and Equipment and a valid status defined in system.
		Cross Reference [{0} and {1}] must contain the same System ID and Equivalent.
	UPDATE_DUPLICATE_ PQM_ITEM_ERROR	Update a PQM item: {0} Multiple times is not allowed.
	NO_PQM_CROSS_ REFERENCE_FOUND	Trying to add Duplicate Cross Reference {0} to the PQM item: {1}
	MAX_RECORDS_SAVED	Occurs if the number of records to be created exceeds the maximum records allowed
	INVALID_SECURITY_ PRIVILEGES	User must have role [EXTERNALLY_MANAGED_ CROSS_ REF_ADMIN] to modify externally managed cross references
RESULT_FAILURE	UPDATE_PQM_CROSS_ REFERENCES_ERROR	Occurs when an unexpected exception occurs updating cross references of a PQM item

Notes

See Conditions E and Q in "Special Conditions" on page A-1.

14

Using the CSS Services Web Services

Overview of CSSServices

CSS Services provide capabilities related to a Transactive Item Publication (TIP). The following operations are supported:

Operation	v24	v25	v30	Description
SendResponse		●	●	Used to asynchronously update a syndicated TIP's status, and provide a Cross Reference to add to the TIP

Service Endpoint Locations

v25 endpoint

http://<servername>/Integration/ProdikaContracts/CSS/CSSServices.svc

v30 endpoint

http://<servername>/Integration/ProdikaContracts/CSS/CSSServices.svc

SendResponse

The CSS Send Response web service allows external systems to asynchronously update the status of syndicated TIP. A list of Cross References can be included in the message to be added to the specification that contains the TIP. The web service message is serialized and saved as an XML file in the relevant CSS directory for the CSS Reconciler to process.

Input

The following input criteria are available:

Table 14–1 Input

Name	Type	Description
crossReference	tLegacySystem	Array of tLegacySystem, as described in "tLegacySystem" on page A-27
header	tHeader	Message header, as described below
message	tMessage	Array of tMessage, as described below

tHeader

Represents header information for the TIP

Table 14–2 Objects

Name	Description
dateSent	The time stamp of the TIP sent out by CSS
messageIdentifier	The unique identifier and correlation of the message sent out by CSS
receiver	The registered syndicate target system identifier
sender	The registered syndicate source system (Agile PLM for Process) identifier

tMessage

Represents a syndicate message

Table 14–3 Objects

Name	Description
code	Identifies the syndicate result status, following this rule: 1: New 2: Pending 4: Successful 8 or 600: Failed
description	Syndicate result message from the target system
severity	Extendable field for customer; not used by core functionality

15

Using the Attachment Service Web Services

Overview of AttachmentService

AttachmentService provides operations to get attachment files and rich texts of GSM specifications, and SCRM companies, facilities, and sourcing approvals.

AttachmentService is different from previous web services in that it takes advantage of WCF RESTful Service framework in .NET 3.5. Unlike SOAP-based web services, RESTful services are called directly by HTTP requests and the results are returned as HTTP responses.

The following operations are supported by AttachmentService:

Operation	v24	v25	v30	v37	Description
GetAttachment				●	Returns the specified attachment file as raw stream.
GetAttachmentJson				●	Returns the specified attachment file in JSON format.
GetRichText				●	Returns the specified rich text as an HTML page.
GetRichTextJson				●	Returns the specified rich text in JSON format.

Reference Implementation

See the following file in the extensibility pack package for an example of using the attachment service:

```
<EP_Pack_
Root>\ReferenceImplementations\ReferenceReportPacks\GSM\GetAttachment.html
```

The GetAttachment.html web page accepts three parameters passed in by the query string:

- id—PKID of an attachment file or rich text, or the encoded content of a URL attachment
- ownerid—PKID of the owner spec/company/facility/sac
- host—host name of the web services

The page will call corresponding web services based on the "id" parameter.

This file is used in our out of the box reports when we allow users to download/view attachments. To see an example of how this file can be used refer to the *Agile Product*

Lifecycle Management for Process Reporting Guide, GSM Report Pack Supporting Document Review Report.

Service Endpoint Location

v37 endpoint

http://<servername>/Integration/ProdikaContracts/REST/v37/AttachmentService.svc

Get Attachment

Use the GetAttachment web service to retrieve the attachment file for a given attachment PKID and the owner's PKID.

The GetAttachment operation can be called via the following URL:

http://<servername>/Integration/ProdikaContracts/REST/v37/AttachmentService.svc/GetAttachment?OwnerID=<owner PKID>&AttachmentID=<attachment PKID>

Replace <servername>, < owner PKID> and <attachment PKID> with the appropriate values.

Input

1. The PKID of the attachment's owner. The owner refers to the GSM specification, SCRM company, facility or sourcing approval that has a supporting document or supplier document to which the attachment file is attached.
2. The PKID of the attachment.

Table 15–1 Input

Name	Type	Description
OwnerID	string	The owner's PKID
AttachmentID	string	The attachment's PKID

Output

The attachment file is returned as raw stream in the HTTP response. The user will be prompted to open or save the file if calling the web service through a web browser.

Possible Result Codes

If the operation fails, the result code and error messages will be returned and displayed in an HTML page. The following result codes may occur:

Table 15–2 Result Codes

Name	Type	Description
RESULT_INVALID_INPUT	INVALID_PKID	The specified attachment PKID or owner PKID is invalid.
	INVALID_SECURITY_PRIVILEGES	The user has no permission to view the attachment.
	ERROR_RETRIEVING_ATTACHMENT	Error occurred when retrieving the attachment for the specified PKID.

Notes

See Conditions E, F, and Q in "Special Conditions" on page A-1.

Get Attachment Json

Use the GetAttachmentJson web service to retrieve the attachment file information for a given attachment PKID and the owner's PKID.

The GetAttachmentJson operation can be called via the following URL:

http://<servername>/Integration/ProdikaContracts/REST/v37/AttachmentService.svc/GetAttachmentJson?OwnerID=<owner PKID>&AttachmentID=<attachment PKID>

Replace <servername>, < owner PKID> and <attachment PKID> with the appropriate values.

Input

1. The PKID of the attachment's owner. The owner refers to the GSM specification, or SCRM company, facility or sourcing approval that has a supporting document to which the attachment file is attached.
2. The PKID of the attachment.

Table 15–3 Input

Name	Type	Description
OwnerID	string	The owner's PKID
AttachmentID	string	The attachment's PKID

Output

The result will be a tJsonAttachment object containing information about the requested attachment file.

tJsonAttachment is composed of the following parts:

Table 15–4 tJsonAttachment

Name	Type	Description
Status	ItJsonStatus	Status about the operation
PKID	string	PKID of the attachment file
Title	string	Title of the attachment file
FileName	string	The name of the attachment file
FileSize	int	File size in byte
FileType	string	The type of the attachment file
MimeType	string	Mime type of the attachment
FileBase64	string	Base64 representation of the attachment file

The Status field serves the same purpose as the common response header in a SOAP-based web service. ItJsonStatus is defined as:

Table 15–5 ItJsonStatus

Name	Type	Description
ResultCode	string	The result code of the operation.
IMessages	ItMessage[]	List of warning or error messages. Each message has three fields: MessageCode, Severity and Description.

Possible Result Codes

If the operation fails, the result code and error messages will be recorded in the JSON response. They can be extracted from the Status field of the returned tJsonAttachment object. The following result codes may occur:

Table 15–6 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.
RESULT_INVALID_ INPUT	INVALID_PKID	The specified attachment PKID or owner PKID is invalid.
	INVALID_SECURITY_ PRIVILEGES	The user has no permission to view the attachment.
	ERROR_RETRIEVING_ ATTACHMENT	Error occurred when retrieving the attachment for the specified PKID.

Notes

See Conditions E, F, and Q in "Special Conditions" on page A-1.

Get Rich Text

Use the GetRichText web service to retrieve the rich text for a given attachment PKID and the owner's PKID.

The GetRichText operation can be called via the following URL:

http://<servername>/Integration/ProdikaContracts/REST/v37/AttachmentService.svc/ GetRichText?OwnerID=<owner PKID>& RichTextID =<rich text PKID>

Replace <servername>, < owner PKID> and <rich text PKID> with the appropriate values.

Input

1. The PKID of the rich text's owner. The owner refers to the GSM specification that has a supporting document to which the attachment file is attached.
2. The PKID of the rich text.

Table 15–7 Input

Name	Type	Description
OwnerID	string	The owner's PKID
RichTextID	string	The rich text's PKID

Output

The rich text is returned as an HTML page.

Possible Result Codes

If the operation fails, the result code and error messages will be returned and displayed in an HTML page. The following result codes may occur:

Table 15–8 Result Codes

Name	Type	Description
RESULT_INVALID_INPUT	INVALID_PKID	The specified rich text PKID or spec PKID is invalid.

Notes

See Conditions E, F, and Q in "Special Conditions" on page A-1.

GetRichTextJson

Use the GetRichTextJson web service to retrieve the rich text information for a given rich text's PKID and the owner's PKID.

The GetRichTextJson operation can be called via the following URL:

http://<servername>/Integration/ProdikaContracts/REST/v37/AttachmentService.svc/GetRichTextJson?OwnerID=<owner PKID>&RichTextID =<rich text PKID>

Replace <servername>, <owner PKID> and <rich text PKID> with the appropriate values.

Input

1. The PKID of the rich text's owner. The owner refers to the GSM specification that has a supporting document to which the rich text is attached.
2. The PKID of the rich text.

Table 15–9 Input

Name	Type	Description
OwnerID	string	The owner spec's PKID
AttachmentID	string	The rich text's PKID

Output

The result will be a tJsonRichText object containing information about the requested rich text. tJsonRichText is composed of the following parts:

Table 15–10 tJsonAttachment

Name	Type	Description
Status	ItJsonStatus	Status about the operation
PKID	string	PKID of the attachment file
Title	string	Title of the attachment file
HtmlContent	string	The HTML content of the rich text
Keywords	string	The keywords of the rich text
CreationDate	string	The string representation of the creation date of the rich text. (Date format: "yyyy-MM-dd HH:mm:ss tt")

Possible Result Codes

If the operation fails, the result code and error messages will be recorded in the JSON response. They can be extracted from the Status field of the returned tJsonAttachment object. The following result codes may occur:

Table 15–11 Result Codes

Name	Type	Description
RESULT_NO_ERRORS	N/A	No errors occurred while processing request.
RESULT_INVALID_INPUT	INVALID_PKID	The specified PKID for the rich text or the owner is invalid.

Notes

See Conditions E, F, and Q in "Special Conditions" on page A-1.

A

Special Conditions, Status Codes, and Core Objects

This appendix contains a list of special conditions, status codes, and core objects.

Special Conditions

Condition A - No Issue Specified in Input Criteria

1. Because multiple specifications may reference the same Cross Reference, calling this service using a Cross Reference may return more than one specification.
2. If a Cross Reference (or a Spec Number without an Issue Number) is used as input, the latest Issue Number is retrieved. Additionally, if AllowOnlyApprovedSpec is set to "True," only the latest Approved issue number is retrieved, if one exists (see Condition C, below).

Condition B - Business Unit Visibility

1. Business unit visibility rules are enforced to restrict access to specifications. The user calling the web service will not be able to retrieve specification information for specifications outside of his/her business unit access.

Condition C - Allow Only Approved Spec

1. Restricts results to only return specifications that are in an Approved workflow status. Uses a configurable SystemAction name that can be modified through configuration settings. Validates this system action is associated to the workflow status of the specification.

   Note: This requires workflow tags to be set up on workflows indicating which workflow status should be considered as Approved.

2. If a Spec Input criterion includes the Spec Number and Issue Number, and Allow Only Approved Spec is set to "True," the specification will only be returned if the workflow status it is in has the associated system action.

Condition D - Specification Types

1. Possible specification type values:

   1004—Material specification

   1005—Master specifications

   1006 —Labeling specification

   1009—Packaging material specification

   1010—Delivered material packing specification

   2076—Packing configuration

   2121—Printed packaging specification

   2147—Trade specification

   2280—Equipment specification

   5750—Nutrient profile

   5816—Formulation specification

   6500—Menu Item specification

   6501—Product specification

Condition E - Specification Identifier Input Formats

1. SpecificationNumber
   - SpecNumber—**Required**; must be seven digits
   - IssueNumber—**Optional**; if provided must be three digits
2. Cross Reference format allowed
   - SystemId—**Required**
   - Equivalent Value—**Required**

Condition F - Max Records Retrieved

1. Maximum record count was exceeded. Additional records may be available, but only the maximum record count of records will be returned. Maximum record count settings are configurable.

Condition G - Max Records Allowed For Save

1. Allowable maximum record count for Saves was exceeded. Maximum record count settings are configurable.

Condition H - InFoodsCode

Run the following SQL query to retrieve the list of InFoods IDs:

```
select ml.Name, p.InFoodsID, p.UNID, p.SequenceNumber
from
       comStandardNutrientProperties p
       inner join comStdNutrientPropertiesML ml
       on ml.fkStandardNutrientProperties = p.pkid
            and langID = 0 and Status = 1
order by ml.name
```

Figure A–1 Some common InFoods IDs

Name	InFoods ID	UNID	Sequence
Calcium	CA	CA	350
Calories	ENERC_KCAL	ENERC_KCAL	10
Carbohydrate (Available)	CHOAVL	CHOAVL	45
Carbohydrates	CHOCDF	CHOCDF	40
Cholesterol	CHOLE	CHOLE	190
Dietary Fiber	FIBTS	FIBTS	50
Energy kJ	ENERC_KJ	ENERC_KJ	20
Iron	FE	FE	370
Polyunsaturated Fat	FAPU	FAPU	150
Potassium	K	K	400
Protein	PROCNT	PROCNT	30
Protein (Nx6.25)	PROCNT_NX625	PROCNTx625	32
Saturated Fat	FASAT	FASAT	130
Sodium	NA	NA	410
Total Fat	FAT	FAT	120
Total solids	TTLSOLID	TTLSOLID	205
Total Sugar	SUGAR	SUGAR	70
Trans Fatty Acid	FATRN	FATRN	180
Vitamin A - IU	VITA_IU	VITA_IU	223
Vitamin A - Total	VITA-	VITA-	220
Vitamin C	VITC	VITC	290
Vitamin D	VITD-	VITD-	300
Vitamin E	VITE	VITE	310
Vitamin K	VITK	VITK	330
Zinc	ZN	ZN	420

Condition I - SCRM Entity Input

1. tSCRMEntity must be a tSCRMFacility
   a. tSCRMFacility
      – tSCRMEntityIdentifier facilityIdentifier
2. tSCRMEntityIdentifier must be a tSCRMEntityNumber or tSCRMEntityCrossRef
   a. tSCRMEntityNumber
      – EntityNumber (string, seven characters) - Oracle Agile PLM facility or company number
   b. tSCRMEntityCrossRef
      – SystemID (string, 100 characters)
      – EquivalentValue (string, 100 characters)

Condition J - Allow Only Approved Entity

1. Setting value to true restricts the results to only return specification-related sourcing approvals that are in an approved workflow status. Non specification-related sourcing approvals are not affected by this setting.
2. Uses a configurable workflow tag name that can be modified through a configuration setting (see Chapter 2, Configuration File Changes section, using the SCRMApprovedWorkflowName variable). Validates this workflow tag is associated to the workflow status of the sourcing approval.

Note: Note this requires workflow tags to be set up on workflows indicating which workflow status should be considered as approved.

Condition K - Invalid Company Input Formats

1. Company Number format allowed: Required; must be 7 digits
2. Cross Reference format allowed: SystemId and EquivalentValue are required

Condition L - Invalid Facility Input Formats

1. Facility Number format allowed: Required; must be 7 digits
2. Cross Reference format allowed: SystemId and EquivalentValue are required

Condition M - Invalid EQ Input Formats

1. EQ Number format allowed: Required; must be 7 digits

Condition N - Invalid Security Privileges

1. Must be EQ owner or Additional Administrators
2. All EQ types are accepted except Get Compliance Items, Get Breakdown Info, and Get Nutrition info, which are only accepted for material, product, and trade questionnaires

Condition O - Invalid Custom Sections MetaData Input Formats

1. Custom Section ID format allowed: Optional; not more than 24 digits
2. Custom Section Number format allowed: Optional; not more than 8 digits

Condition P - Invalid Extended Attributes MetaData Input Formats

1. Extended Attribute ID format allowed: Required; not more than 24 digits

Condition Q - PQM Item Identifier Formats

1. ItemNumber: Issue Number, Action Number, or Audit Number; 8 digits
2. ItemPKID: Issue PKID, Action PKID, or Audit PKID; 10 characters
3. CrossReference: CrossReference values on issue, action, or audit

Status Codes

Status codes determine how the user interface displays an item. The codes are detailed in the table below:

Table 15–12 Status Codes

Code	Status	Description
0	Inactive	The item may not be assigned but may be searched
1	Active	The item is assignable and searchable
-1	Archived	The item is neither assignable nor searchable

Core Objects

This section provides a list of some of the core objects exposed in the API. Please refer to the XSDs for more detail.

"tSpecIdentifierCriterion" on page A-9

"tSpecificationNumber" on page A-9

"tCrossReference" on page A-9

"tExtCrossReference" on page A-10

"tSpecificationIdentifier" on page A-10

"tQueryOptions" on page A-10

"DateRange" on page A-11

"ModifiedBetweenDateRange" on page A-11

"CreatedBetweenDateRange" on page A-12

"tSpecificationSummaryWrapper" on page A-12

"tSpecificationSummary" on page A-12

"tCostItem" on page A-13

"tSCRMEntity" on page A-13

"tSCRMCompany" on page A-13

"tSCRMFacility" on page A-13

"tSCRMEntityIdentifier" on page A-13

"tSCRMEntityNumber" on page A-14

"tSCRMEntityCrossRef" on page A-14

"tExtSCRMEntityCrossRef" on page A-14

"tSCRMEntityIdentifier" on page A-15

"tSCRMEntityNumber" on page A-15

"tSCRMEntityCrossRef" on page A-15

"tFacility" on page A-16

"tFacilityInfo" on page A-16

"tCompany" on page A-16
"tCompanyInfo" on page A-17
"tSCRMAddress" on page A-17
"tSCRMAdministrativeInfo" on page A-18
"tSCRMBusinessUnits" on page A-18
"tSpecRelatedSourcingApprovalInfo" on page A-18
"tSCRMSourcingApprovalInfo" on page A-19
"tCustomLookup" on page A-19
"tNutrientDataWrapper" on page A-19
"tNutrientItem" on page A-20
"tActivityInfo" on page A-20
"tActivitySummary" on page A-20
"tPrimaryActionItemInfo" on page A-21
"tRelatedItemInfo" on page A-21
"tIDName" on page A-21
"tCustomSectionMetaDataInputCriteria" on page A-21
"tCustomSectionID" on page A-21
"tCustomSectionNumber" on page A-22
"tCustomSection" on page A-22
"tCustomSectionRow" on page A-22
"tCustomSectionColumn" on page A-23
"tExtendedAttribute" on page A-23
"tSpecIngredientStatementInfo" on page A-23
"tEQNumber" on page A-23
"tEQExtendedAttribute" on page A-23
"tExtension" on page A-24
"tEQComplianceInfo" on page A-24
"tEQIdentifier" on page A-25
"tComplianceItem" on page A-25
"tComplianceItemContained" on page A-25
"tEQSummary" on page A-25
"tSupplierContactInfo" on page A-26
"tCompanyContactInfo" on page A-26
"tEQIdentifier" on page A-26
"tNutrientInfo" on page A-27
"tEQCriteriaItem" on page A-27
"tLegacySystem" on page A-27

"tPQMItemIdentifier" on page A-27
"tExtCrossReference" on page A-28
"tPQMItemType" on page A-28
"tCommonLookup" on page A-28
"tPqmCommonSummary" on page A-28
"tPqmIssueSpecificSummary" on page A-29
"tPqmActionSpecificSummary" on page A-29
"tPqmAuditSpecificSummary" on page A-29
"tPQMAssociatedProject" on page A-30
"tBasePQMItemSearchIdentifier" on page A-30
"tCrossReference" on page A-30
"tPQMItemSearchIdentifier" on page A-30
"tIssueDetails" on page A-31
"tActionDetails" on page A-32
"tAssociatedNPDProject" on page A-33
"tAuditDetails" on page A-34
"tPQMItemSupplierIdentifier" on page A-35
"tPQMItemSupplier" on page A-35
"tSourceSystemIdentifier" on page A-35
"tPQMItemSupplierSearchIdentifier" on page A-35
"tSourceSystemPQMItemSupplierIdentifier" on page A-36
"tSCRMEntityCrossRefPQMItemSupplierIdentifier" on page A-36
"tSCRMEntityNumberPQMItemSupplierIdentifier" on page A-36
"tPQMItemAffectedItemsResult" on page A-37
"tPQMAffectedItem" on page A-37
"tIssueAffectedItem" on page A-389
"tAffectedItemInput" on page A-39
"tPQMAffectedItemIdentifier" on page A-39
"tPQMAffectedItemGSMIdentifier" on page A-40
"tPQMAffectedItemSourceSystemIdentifier" on page A-40
"tIssueAffectedItemInput" on page A-41
"tNCRAffectedItemInput" on page A-41
"tPQMSearchCriteria" on page A-43
"tSupplierSearchIdentifier" on page A-43
"tExternalSupplierSearchIdentifier" on page A-44
"tSCRMSupplierSearchIdentifier" on page A-44
"tRelatedPQMItemsWrapper" on page A-44

"tRelatedPQMItem" on page A-45
"tRelatedPQMActionItem" on page A-45
"tRelatedPQMAuditItem" on page A-45
"tCommonIdentifier" on page A-45
"tDRLDocumentIdentifier" on page A-467
"tDRLCatalogIdentifier" on page A-46
"tAttachmentsWrapper" on page A-46
"tDRLCatalog" on page A-47
"tPQMSupportingDocWrapper" on page A-47
"tRichTextDoc" on page A-47
"tNewRichTextDoc" on page A-47
"tURLSource" on page A-48
"tNewURLSource" on page A-48
"tDRLDocument" on page A-49
"tAttachment" on page A-49
"tSupportingDocAttachment" on page A-50
"tNewAttachment" on page A-50
"tNewAttachmentsWrapper" on page A-51
"tCustomSectionInstance" on page A-51

tSpecIdentifierCriterion

Abstract object that represents specification identifying information used as input criteria, such as the specification number and issue number or a cross reference (SystemId and Equivalent)

Subtypes

- tSpecificationNumber
- tCrossReference

tSpecificationNumber

Represents a specification's Spec Number and the (optional) Issue Number

Supertype

tSpecIdentifierCriterion

Table 15–13 Objects

Name	Type	Description
SpecNumber	string	Specification number; 7 digits
IssueNumber	string	Issue number; optional; 3 digits

tCrossReference

Represents a specification's cross references (SystemId and Equivalent) and is used in input to identify a GSM specification.

Supertype

tSpecIdentifierCriterion

Table 15–14 Objects

Name	Type	Description
SystemId	string	ID of a third-party system; 50 characters
EquivalentValue	string	ID of a GSM specification in a third-party system; 50 characters

Schema Component Representation

```
<xs:complexType name="tCrossReference">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:tSpecIdentifierCriterion">
            <xs:sequence>
                <xs:element name="SystemId" type="xs:string" nillable="true"/>
                <xs:element name="EquivalentValue" type="xs:string"
nillable="true"/>
                <xs:element name="Extension" type="q1:tExtension" minOccurs="0"
nillable="true"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
```

tExtCrossReference

Represents a specification's cross references (SystemId and Equivalent) and is used in output.

Supertype

tCrossReference

Table 15–15 Objects

Name	Type	Description
SystemId	string	ID of a third-party system; 50 characters
EquivalentValue	string	ID of a GSM specification in a third-party system; 50 characters
Description	string	Description of third-party system; 256 characters
Status	string	A valid status defined in system; 40 characters
UOMs	tUOM[]	An array of valid UOMs defined in system

tSpecificationIdentifier

Represents specification identifying information used as output, includes the specification number and issue number, and a list of cross references (SystemId and Equivalent)

Table 15–16 Objects

Name	Type	Description
SpecificationNumber	tSpecificationNumber (See "tSpecificationNumber" on page A-9)	SpecNumber IssueNumber
CrossReferences	tExtCrossReference[] (See "tExtCrossReference" on page A-10)	SystemId, EquivalentValue, Status, Description, and UOMs

tQueryOptions

Represents search criteria options

Table 15–17 Objects

Name	Type	Description
AllowOnlyApprovedSpec	boolean	See "Condition C - Allow Only Approved Spec" on page A-1
CrossReference	tCrossReference (See "tCrossReference" on page A-9)	Specification cross reference
DateRange	DateRange (See "DateRange" on page A-11)	CreatedBetweenDateRange or ModifiedBetweenDateRange
IncludeSpecTemplates (v25 and v30 only)	boolean	Search results include specification templates. (For v24, by default, excludes templates from search results.)
Originators	Originators	List of usernames or user external IDs. These are login names.
SpecName	string	Name of specification

Table 15–17 Objects

Name	Type	Description
ShortName	string	Short name of specification. Only returned if ShortName is enabled through the core application FeatureConfig.
SpecStatus	string[]	List of specification workflow statuses
SpecTypes	string[]	List of four digit specification type values. See "Condition D - Specification Types" on page A-2.

DateRange

Abstract object that represents a date range (Start Date and End Date)

Subtypes

- ModifiedBetweenDateRange
- CreatedBetweenDateRange

Table 15–18 Objects

Name	Type	Description
StartDate	datetime	Start date for search; required
EndDate	datetime	Optional

Schema Component Representation

```
<xs:complexType name="DateRange">
    <xs:sequence>
        <xs:element name="StartDate" type="xs:dateTime" />
        <xs:element minOccurs="0" name="EndDate" type="xs:dateTime" />
     </xs:sequence>
</xs:complexType>
```

ModifiedBetweenDateRange

Date range used to evaluate a specification's modified date

Supertype

DateRange

Table 15–19 Objects

Name	Type	Description
StartDate	datetime	Start date for search; required
EndDate	datetime	Optional

CreatedBetweenDateRange

Date range used to evaluate a specification's created date

Supertype

DateRange

Table 15–20 Objects

Name	Type	Description
StartDate	datetime	Start date for search; required
EndDate	datetime	Optional

tSpecificationSummaryWrapper

Wrapper object that contains a tSpecificationSummary

Table 15–21 Objects

Name	Type	Description
SpecSummary	tSpecificationSummary (See "tSpecificationSummary" on page A-12)	Specification Summary object

tSpecificationSummary

Represents common Specification Summary data

Table 15–22 Objects

Name	Type	Description
Name	string	Specification name
ShortName	string	Specification short name; will not be included if feature configuration for short name is disabled
specificationIdentifier	tSpecificationIdentifier (See "tSpecificationIdentifier" on page A-10)	Spec Number, Issue Number, and list of cross references
SpecType	integer	Specification type (4 digit code)
Status	string	Workflow status
Category	string	Specification taxonomy category
SubCategory	string	Specification taxonomy subcategory
Group	string	Specification taxonomy group
Originator	string	Specification originator's last name and first name
EffectiveDate	datetime	Specification's Effective Date
InactiveDate	datetime	Specification's Inactive Date
Supercedes	string	Specification supercedes value
ReasonForChange	string	Specification Reason for change value

Table 15–22 Objects

Name	Type	Description
IsTemplate (v25 and v30 only)	boolean	Indicates if the specification is a template

tCostItem

This represents a cost item displayed in GSM

Table 15–23 Objects

Name	Type	Description
SpecCostCrossReference	tCrossReference (See "tCrossReference" on page A-9)	Cross reference of the specification to modify
Currency	string	ISO code for the currency to use
CostType	string	
SCRMEntity	tSCRMEntity (See "tSCRMEntity" on page A-13)	SCRM Facility to associate the specification cost to; required
Cost	double	The new cost value; required
CostUOM	string	ISO code
EffectiveDate	dateTime	When the value goes into effect; required

tSCRMEntity

This is an abstract base class for SCRM items

tSCRMCompany

This is a tSCRMEntity that identifies an SCRM company

Table 15–24 Objects

Name	Type	Description
companyIdentifier	tSCRMEntityIdentifier (See "tSCRMEntityIdentifier" on page A-13)	Identifies one company

tSCRMFacility

This is a tSCRMEntity that identifies an SCRM facility

Table 15–25 Objects

Name	Type	Description
companyIdentifier	tSCRMEntityIdentifier (See "tSCRMEntityIdentifier" on page A-13)	Identifies one facility

tSCRMEntityIdentifier

Abstract object that represents entity identifying information used as input criteria, such as a facility number OR a cross reference (SystemId and Equivalent)

Subtypes

- tSCRMEntityNumber
- tSCRMEntityCrossRef

tSCRMEntityNumber

This is a tSCRMEntityIdentifier that identifies an entity number, such as facility number

Table 15–26 Objects

Name	Type	Description
EntityNumber	string	Facility profile number

tSCRMEntityCrossRef

This is a facility's cross references (SystemId and Equivalent) and is used in input to identify a SCRM specification

Supertype

tSCRMEntityIdentifier

Table 15–27 Objects

Name	Type	Description
SystemId	string	ID of a third-party
EquivalentValue	string	ID of an SCRM item in a third-party system

Schema Component Representation

```
<xs:complexType name="tSCRMEntityCrossRef">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:tSCRMEntityIdentifier">
            <xs:sequence>
                <xs:element name="SystemId" type="xs:string" nillable="true"/>
                <xs:element name="EquivalentValue" type="xs:string"
nillable="true"/>
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>
```

tExtSCRMEntityCrossRef

This is a facility's cross references (SystemId and Equivalent) and is used in output

Supertype

tSCRMEntityCross Ref

Table 15–28 Objects

Name	Type	Description
SystemId	string	ID of a third-party

Table 15–28 Objects

Name	Type	Description
EquivalentValue	string	ID of an SCRM item in a third-party system
Status	string	Valid status defined in system; 40 characters

tSCRMEntityIdentifier

Abstract object that represents entity identifying information used as input criteria, such as a facility number OR a cross reference (SystemId and Equivalent)

Subtypes

- tSCRMEntityNumber
- tSCRMEntityCrossRef

tSCRMEntityNumber

Represents an entity number, such as a facility or company number

Supertype

tSCRMEntityIdentifier

Table 15–29 Objects

Name	Type	Description
EntityNumber	string	Facility or company profile number

tSCRMEntityCrossRef

Represents a facility's or company's cross references (SystemId and Equivalent)

Supertype

tSCRMEntityIdentifier

Table 15–30 Objects

Name	Type	Description
SystemId	string	ID of a third-party
EquivalentValue	string	ID of an SCRM item in a third-party system

Schema Component Representation

```
<xs:complexType name="tSCRMEntityCrossRef">
    <xs:complexContent mixed="false">
        <xs:extension base="tns:tSCRMEntityIdentifier">
            <xs:sequence>
                <xs:element name="SystemId" type="xs:string" nillable="true"/>
                <xs:element name="EquivalentValue" type="xs:string"
nillable="true"/>
            </xs:sequence>
        </xs:extension>
```

```
    </xs:complexContent>
</xs:complexType>
```

tFacility

Represents a facility used by output

Table 15–31 Objects

Name	Type	Description
SystemId	string	ID of a third-party
EquivalentValue	string	ID of an SCRM item in a third-party system
FacilityInfo	tFacilityInfo	See"tFacilityInfo" on page A-16
AdministrativeInfo	tSCRMAdministrativeInfo	See "tSCRMAdministrativeInfo" on page A-18
BusinessUnits	tSCRMBusinessUnits[]	See "tSCRMBusinessUnits" on page A-18
CrossRefs	tExtSCRMEntityCrossRef[]	See "tSCRMEntityCrossRef" on page A-14
SpecRelatedSourcingApprovals	tSpecRelatedSourcingApprovalInfo []	See "tSpecRelatedSourcingApprovalInfo" on page A-18
NonSpecRelatedSourcingApprovals	tSCRMSourcingApprovalInfo	See "tSCRMSourcingApprovalInfo" on page A-19

tFacilityInfo

Represents general facility Summary data

Table 15–32 Objects

Name	Type	Description
Number	string	Facility profile number
Name	string	Facility name
WebSite	string	Facility website
Phone	string	Facility phone
Fax	string	Facility fax
StreetAddress	tSCRMAddress	Facility street address
PostalAddress	tSCRMAddress	Facility postal address

tCompany

Represents a company used by output

Table 15–33 Objects

Name	Type	Description
Number	string	Facility profile number
Name	string	Facility name
WebSite	string	Facility website

Table 15–33 Objects

Name	Type	Description
Phone	string	Facility phone
Fax	string	Facility fax
StreetAddress	tSCRMAddress	Facility street address
PostalAddress	tSCRMAddress	Facility postal address
CompanyInfo	tCompanyInfo	See "tCompanyInfo" on page A-17
AdministrativeInfo	tSCRMAdministrativeInfo	See "tSCRMAdministrativeInfo" on page A-18
BusinessUnits	tSCRMBusinessUnits[]	See "tSCRMBusinessUnits" on page A-18
ParentCompanies	tSCRMEntityNumber[]	A collection of parent companies for a company
ChildCompanies	tSCRMEntityNumber[]	A collection of child companies for a company
CrossRefs	tExtSCRMEntityCrossRef[]	A collection of cross references for a company
Facilities	tSCRMEntityNumber[]	A collection of facilities associated with a company

tCompanyInfo

Represents general company Summary data

Table 15–34 Objects

Name	Type	Description
Number	string	Company profile number
Name	string	Company name
WebSite	string	Company website
Phone	string	Company phone
Fax	string	Company fax
StreetAddress	tSCRMAddress	Company street address
PostalAddress	tSCRMAddress	Company postal address

tSCRMAddress

Represents an address

Table 15–35 Objects

Name	Type	Description
Street1	string	Street address or a postal address
Street2	string	Street address or a postal address
City	string	City of a street address or a postal address
State	string	State or province of a street address or a postal address

Table 15–35 Objects

Name	Type	Description
PostalCode	string	Postal code of a street address or a postal address
Country	string	Country of a street address or a postal address

tSCRMAdministrativeInfo

Represents entity administrative information

Table 15–36 Objects

Name	Type	Description
specialAttributes	string[]	Special attributes for a facility or company
specialNotes	string	Special notes for a facility or company

tSCRMBusinessUnits

Represents business units associated with an entity

Table 15–37 Objects

Name	Type	Description
Names	string[]	Business unit names
Status	string	Status for business units

tSpecRelatedSourcingApprovalInfo

Represents specification-related sourcing approval information for a facility

Table 15–38 Objects

Name	Type	Description
Number	string	Sourcing approval number
PKID	string	Sourcing approval PKID
SpecNumber	string	Related specification number

tSCRMSourcingApprovalInfo

Represents non-specification related sourcing approval information for a facility

Table 15–39 Objects

Name	Type	Description
Number	string	Sourcing approval number
PKID	string	Sourcing approval PKID

tCustomLookup

This describes one custom lookup option used by qualitative lookup extended attributes

Table 15–40 Objects

Name	Type	Description
Category	string	Each extended attribute displays one category of options. This is the name of one category. The name does not have to already exist.
Value	string	The text displayed for this custom lookup option
ExternalId	string	A key for this option from a third-party system
Sequence	integer	The user interface displays options by sequence number. Lower numbers display before higher ones.
Status	integer	See "Status Codes" on page A-5

tNutrientDataWrapper

This describes the nutrient items for one specification

Table 15–41 Objects

Name	Type	Description
specificationIdentifier	tSpecificationIdentifier (See "tSpecificationIdentifier" on page A-10)	Specification number, issue number, and list of cross references
SpecType	integer	A specification type code. See "Condition D - Specification Types" on page A-2.
NutrientItems	tNutrientItem[] (See "tNutrientItem" on page A-20)	Nutrient items for the specification

tNutrientItem

This describes one nutrient item for one specification

Table 15–42 Objects

Name	Type	Description
InfoodsCode	string	INFOODS tag name for the type of nutrient
ValuePer100Gms	double	The amount of the nutrient per 100g of the item
UOM	tUOM	ISO code, ID, and abbreviated name for the unit for ValuePer100Gms
Source	string	Source description
Comments	string	Additional notes

tActivityInfo

Represents activity information used as output

Table 15–43 Objects

Name	Type	Description
ActivitySummary	tActivitySummary	Activity summary
PrimaryActionItemInfo	tPrimaryActionItemInfo	Activity primary action item
RelatedItemInfos	tRelatedItemInfo[]	An array of activity related items

tActivitySummary

Represents an activity summary information

Table 15–44 Objects

Name	Type	Description
Title	string	Activity title
Number	tSpecificationNumber	Activity number
Type	tIDName	Activity type
Originator	string	Activity originator
Status	string	Activity status
SpecialNotes	string	Special notes
SpecReaderNotificationFlag	boolean	Notify specification reader of this activity
EffectiveDate	DateTime	Effective date
InactiveDate	DateTime	Inactive date
LastEditDate	DateTime	Last edit date

tPrimaryActionItemInfo

Represents an activity primary action item

Table 15–45 Objects

Name	Type	Description
ItemName	string	Primary action item name
ItemNumber	tSpecificationNumber	Primary action item number
ItemStatusDependentFlag	boolean	Specification status is dependent on the status of this activity.

tRelatedItemInfo

Represents an activity related item

Table 15–46 Objects

Name	Type	Description
Type	tIDName	Related item type
Name	string	Related item name
Number	tSpecificationNumber	Related item number
Status	string	Related item status
Comments	string	Related item comments

tIDName

Represents a combination of ID and Name (value)

Table 15–47 Objects

Name	Type	Description
ID	string	ID part of a list item
Name	string	Name/Value part of a list item

tCustomSectionMetaDataInputCriteria

Abstract object that represents custom section identifying information used as input criteria, such as the custom section id OR custom section number

Subtypes

- tCustomSectionID
- tCustomSectionNumber

tCustomSectionID

Represents an entity ID, such as custom section ID

Supertype

tCustomSectionMetaDataInputCriteria

Table 15–48 Objects

Name	Type	Description
customSectionID	string	Custom section profile ID

tCustomSectionNumber

Represents an entity number, such as custom section number

Supertype

tCustomSectionMetaDataInputCriteria

Table 15–49 Objects

Name	Type	Description
customSectionNumber	string	Custom section profile number

tCustomSection

Represents a custom section used by output

Table 15–50 Objects

Name	Type	Description
Number	string	Custom section number
ID	string	Custom section ID
DynamicTags	string[]	Custom section dynamic tags
HideHeader	boolean	Custom section Hide Header
customSectionRows	tCustomSectionRow[]	See "tCustomSectionRow" on page A-22
customSectionColumns	tCustomSectionColumn[]	See "tCustomSectionColumn" on page A-23

tCustomSectionRow

Represents general custom section row summary data

Table 15–51 Objects

Name	Type	Description
Sequence	int	Custom section row sequence
ID	string	Custom section row ID
DynamicTags	string[]	Custom section row dynamic tags

tCustomSectionColumn

Represents general custom section column summary data

Table 15–52 Objects

Name	Type	Description
Sequence	int	Custom section column sequence
ID	string	Custom section column ID
Width	int	Custom section column width
PrintWidth	double	Custom section column print width
DynamicTags	string[]	Custom section column dynamic tags

tExtendedAttribute

Represents an extended attribute used by output

Table 15–53 Objects

Name	Type	Description
ID	string	Extended attribute ID
DynamicTags	string[]	Extended attribute dynamic tags

tSpecIngredientStatementInfo

Represents specification material statement information used as output

Table 15–54 Objects

Name	Type	Description
SpecificationIdentifier	tSpecificationIdentifier (See "tSpecificationIdentifier" on page A-10)	A specification identifier
IngredientStatement	string	A material statement for the specification
CombinedStatement	string	A combined statement for the specification

tEQNumber

Represents an entity ID, such as custom section ID or extended attribute ID

Table 15–55 Objects

Name	Type	Description
EQNumber	string	EQ number

tEQExtendedAttribute

Represents an eQ extended attribute used by output

Table 15–56 Objects

Name	Type	Description
eqNumber	tEQNumber	EQ number
extension	tExtension	See "tExtension" on page A-24

tExtension

Represents general eQ extended attribute summary data

Table 15–57 Objects

Name	Type	Description
Any	XmlElement	See "Extended Attribute Types Schema" on page A-24
MustUnderstand	int	
MustUnderstandSpecified	boolean	

Extended Attribute Types Schema

Please see the Extended Attribute type schema document, ExtendedAttributeTypes.xsd, located in the Web\Integration\Contracts\Prodika\Schema folder for details.

tEQComplianceInfo

Represents an EQ compliance data

Table 15–58 Objects

Name	Type	Description
eqIdentifier	tEQIdentifier	EQ Number and type
ComplianceWith	tComplianceItem	Compliance name and external ID
AllergensContained	tComplianceItemContained	Compliance name and Measurement and Source
AdditivesContained	tComplianceItemContained	Compliance name and Measurement and Source
IntolerancesContained	tComplianceItemContained	Compliance name and Measurement and Source
AllergensNotContained	tComplianceItem	Compliance name and external ID
AdditivesNotContained	tComplianceItem	Compliance name and external ID
IntoleranceNotContained	tComplianceItem	Compliance name and external ID
AllergensPossiblyContained	tComplianceItemContained	Compliance name and Measurement and Source
AdditivesPossiblyContained	tComplianceItemContained	Compliance name and Measurement and Source

Table 15–58 Objects

Name	Type	Description
IntolerancesPossibly Contained	tComplianceItemContained	Compliance name and Measurement and Source
AllergensFreeText	String	Allergens free text
IntolerancesFreeText	String	Intolerance free text
AdditivesFreeText	String	Additives free text

tEQIdentifier

Represents EQ number and type information used by output

Table 15–59 Objects

Name	Type	Description
EQNumber	string	EQ number
ModelTypeID	string	EQ type

tComplianceItem

Represents EQ compliance name information used by output

Table 15–60 Objects

Name	Type	Description
Name	string	Compliance with value
ExternalID	string	External ID

tComplianceItemContained

Represents EQ compliance items information used by output

Table 15–61 Objects

Name	Type	Description
ComplianceItem	tComplianceItem	Allergen or Intolerance or Additive value
MaxPer100Grams	tMeasurement	Allergen or Intolerance or Additive measurement
Source	string	Allergen or Intolerance or Additive Source

tEQSummary

Represents EQ summary data

Table 15–62 Objects

Name	Type	Description
EQNumber	string	EQ number
EQLabel	string	EQ label
EQType	string	EQ type

Table 15–62 Objects

Name	Type	Description
Status	string	EQ status
DateSent	DateTime	EQ send data to supplier
DueDate	DateTime	EQ due date
DateReceived	DateTime	EQ receive data from supplier
IsSupplierInitiated	boolean	Is or not supplier initiated
IsImported	boolean	Is or not imported to GSM
Comments	string	EQ comments
PrimaryOwner	String	EQ primary owner
AdditionalAdmins	String	EQ additional administrators
SupplierContactInfo	tSupplierContactInfo	Supplier contact information
CompanyContactInfo	tCompanyContactInfo	Supplier contact information
MaterialName	string	Imported specification value

tSupplierContactInfo

Represents EQ supplier contact information used by output

Table 15–63 Objects

Name	Type	Description
ContactName	string	Contact name
CompanyName	string	Company name
ProdikaSCRMNo	string	Prodika SCRM#
EMailAddress	string	Email address

tCompanyContactInfo

Represents EQ supplier company contact information used by output

Table 15–64 Objects

Name	Type	Description
ContactName	string	Supplier contact name
CompanyName	string	Supplier company name

tEQIdentifier

Represent EQ number and type information used by output

Table 15–65 Objects

Name	Type	Description
EQNumber	string	EQ number
ModelTypeID	string	EQ type

tNutrientInfo

Represent an EQ nutrient data

Table 15–66 Objects

Name	Type	Description
EQIdentifier	tEQIdentifier	EQ number and type
NutrientItems	tNutrientItem[]	EQ nutrient details

tEQCriteriaItem

Represents an EQ criteria item data

Table 15–67 Objects

Name	Type	Description
EQIdentifier	tEQIdentifier	EQ number and type

tLegacySystem

Represents a syndicate target system

Table 15–68 Objects

Name	Description
externallyManaged	Identifies whether this cross reference value is managed externally.
referenceNumber	Identifies the reference number of the TIP item in the syndicate target system.
systemName	Identifies the syndicate target system code in Agile PLM for Process.

tPQMItemIdentifier

Represents PQM item identifying information used as output; includes the PQM number and a list of cross references (SystemId and Equivalent)

Table 15–69 Objects

Name	Type	Description
ItemNumber	string	PQM item number
ItemPKID	string	PQM item pkid
CrossReferences	tExtCrossReference	PQM item cross references
Title	string	PQM item title
WorkflowStatus	string	PQM item workflow status description
PqmType	string	Indicate the PQM item type (issue/action/audit)
PqmSubType	PQMItemType	PQM item sub type

tExtCrossReference

Represents a PQM item's cross references (SystemId and Equivalent, Status) in output and also in the input of Adding PQM Cross Reference

Supertype

tCrossReference

Table 15–70 Objects

Name	Type	Description
SystemId	string	ID of a third-party system; 50 characters
EquivalentValue	string	ID of a PQM item in a third-party system; 50 characters
Status	string	The status of the item
ExtManaged	boolean	Indicates whether it is managed by external system

tPQMItemType

Represents a PQM item's sub type

Table 15–71 Objects

Name	Type	Description
Name	string	Sub type name
Abbreviation	string	ID of a PQM item in a third-party system; 50 characters
SystemType	tCommonLookup	See tCommonLookup, below

tCommonLookup

Contains two fields (Name and Optional Value)

Table 15–72 Objects

Name	Type	Description
Name	string	
OptionalValue	string	

tPqmCommonSummary

Represents PQM item summary information which existed in all 3 types (issue, action, audit)

Table 15–73 Objects

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	PQM item identifier
Description	string	PQM item description
Originator	string	PQM item originator
ProcessTemplate	string	PQM item workflow template

Table 15–73 Objects

Name	Type	Description
ProductLines	tCommonLookup[]	PQM item product lines
Customers	tCommonLookup[]	PQM item customers
IsTemplate	bool	True if it is a PQM item template
CreatedDate	DateTime	PQM item CreatedDate
CompletedDate	DateTime	PQM item CompletedDate
ReleasedDate	DateTime	PQM item ReleasedDate
SubmittedDate	DateTime	PQM item SubmittedDate

tPqmIssueSpecificSummary

Represents PQM item summary information which only existed in a PQM issue

Table 15–74 Objects

Name	Type	Description
OccurrenceDate	DateTime	PQM item OccurrenceDate
ExpectedResolution Date	DateTime	PQM item ExpectedResolutionDate
Severity	tCommonLookup	PQM item Severity
Resolution	tCommonLookup	PQM item Resolution

tPqmActionSpecificSummary

Represents PQM item summary information which only existed in a PQM action

Table 15–75 Objects

Name	Type	Description
PreventativeAction	string	PQM item PreventativeAction
RootCauseAnalysis	string	PQM item RootCauseAnalysis
AssociatedProject	tPQMAssociatedProject	PQM item AssociatedProject
Resolution	tCommonLookup	PQM item Resolution

tPqmAuditSpecificSummary

Represents PQM item summary information which only existed in a PAM audit

Table 15–76 Objects

Name	Type	Description
PlannedAuditDate	DateTime	PQM item PlannedAuditDate
ActualAuditDate	DateTime	PQM item ActualAuditDate
AuditResult	tCommonLookup	PQM item AuditResult

tPQMAssociatedProject

Represents an Associated Project of a PQM action

Table 15–77 Objects

Name	Type	Description
ProjectNumber	string	Associated Project Number
ProjectName	string	Associated Project Name
ProjectOwner	string	Associated Project Owner

tBasePQMItemSearchIdentifier

An input in a PQM web service used to identify a PQM item

Table 15–78 Objects

Name	Type	Description
ItemNumber	integer	PQM item number
ItemPKID	string	PQM item pkid
ProjectOwner	tCrossReference	Associated Project Owner

tCrossReference

Represents a PQM's cross references (SystemId and Equivalent,) in input

Supertype

tCrossReference

Table 15–79 Objects

Name	Type	Description
SystemId	string	ID of a third-party system; 50 characters
EquivalentValue	string	ID of a PQM item in a third-party system; 50 characters

tPQMItemSearchIdentifier

An input in a PQM web service to identify a PQM item

Supertype

tBasePQMItemSearchIdentifier

Table 15–80 Objects

Name	Type	Description
SystemId	string	ID of a third-party system; 50 characters
EquivalentValue	string	ID of a PQM item in a third-party system; 50 characters
Status	string	The status of the item

Table 15–80 Objects

Name	Type	Description
ExtManaged	boolean	Indicated whether it is managed by an external system
ItemType	string	Only 4 values allowed: ISSUE, ACTION, AUDIT, ALL

tIssueDetails

Contains all the issue summary details information used for create/update issue summary

Table 15–81 Objects

Name	Type	Description
IssueTitle	string	PQM item title max 256 characters; required
IssueDescription	string	PQM item description max 4000 characters
IssueType	string	Name of Issue type defined in admin; required
WorkflowTemplateName	string	A value in the system; required
WorkflowStepBehaviorID	int	A value in the system; required Use this value and WorkflowTemplateName to retrieve the workflow status. If multiple values are returned, report error.
Originator	tOriginatorIdentifier	User login name or external ID, defined in admin 1 of the 2 (user login name and external id) is required and only one is allowed
OccurenceDate	DateTime	
ExpectedResolutionDate	DateTime	
Severity	string	Severity name An Active value defined in Admin>>PQM>>Severity
Resolution	string	Resolution name An Active value defined in Admin>>PQM>> Resolution
ProductLines	String[]	Product Line Names An Active value defined in Admin>>PQM>> ProductLines

Table 15–81 Objects

Name	Type	Description
Customers	String[]	Customers names An Active value defined in Admin>>PQM>> Customers
CreateDate	DateTime	Optional, If provided, should override after save
CompleteDate	DateTime	Optional, If provided, should override after save
ReleasedDate	DateTime	Optional, If provided, should override after save
SubmittedDate	DateTime	Optional, If provided, should override after save

tActionDetails

Contains all the action summary details information used for create/update action summary

Table 15–82 Objects

Name	Type	Description
ProblemStatement	string	PQM item title max 256 required
ActionDescription	string	PQM item description max 4000 characters
ActionType	string	Name of Issue type defined in admin; required
WorkflowTemplateName	string	A value in the system; required
WorkflowStepBehaviorID	int	A value in the system; required Use this value and WorkflowTemplateName to retrieve the workflow status. If multiple values are returned, report error.
Originator	tOriginatorIdentifier	User login name or external ID,defined in admin 1 of the 2 (user login name and external id) is required and only one is allowed
ProductLines	String[]	Product Line Names An Active value defined in Admin>>PQM>> ProductLines

Table 15–82 Objects

Name	Type	Description
Customers	String[]	Customer names An Active value defined in Admin>>PQM>> Customers
PreventativeAction	string	Preventative action description Max: 4000 characters
RootCauseAnalysis	string	Root Cause Analysis Description Max: 4000 characters
AssociatedNPDProject	tAssociatedNPDProject	Used to identifier the associated NPD project
CreateDate	DateTime	Optional, If provided, should override after save
CompleteDate	DateTime	Optional, If provided, should override after save
ReleasedDate	DateTime	Optional, If provided, should override after save
SubmittedDate	DateTime	Optional, If provided, should override after save

tAssociatedNPDProject

Used to identifier the Associated NPD project

Table 15–83 Objects

Name	Type	Description
ItemInternalID	string	NPD project internal ID
NPDProjectNum	string	NPD project number
ItemExternalID	string	NPD project external ID
SourceSystemID	string	"NPD" if it is from v6.1.1 or any other external system ID

tAuditDetails

Contains all the audit summary details information used for create/update audit summary

Table 15–84 Objects

Name	Type	Description
AuditTitle	string	PQM item title max 256 required
AuditDescription	string	PQM item description max 4000 characters
AuditType	string	Name of Issue type defined in admin; required
WorkflowTemplateName	string	A value in the system; required
WorkflowStepBehaviorID	int	A value in the system; required Use this value and WorkflowTemplateName to retrieve the workflow status. If multiple values are returned, report error.
Originator	tOriginatorIdentifier	User login name or external ID,defined in admin 1 of the 2 (user login name and external id) is required and only one is allowed
PlanedAuditDate	DateTime	Valid date
ProductLines	String[]	Product Line Names An Active value defined in Admin>>PQM>> ProductLines
Customers	String[]	Customer names An Active value defined in Admin>>PQM>> Customers
AuditResult	string	Audit Result Description An Active value defined in Admin>>PQM>> Audit Result
CreateDate	DateTime	Optional, If provided, should override after save
CompleteDate	DateTime	Optional, If provided, should override after save
ReleasedDate	DateTime	Optional, If provided, should override after save
SubmittedDate	DateTime	Optional, If provided, should override after save

tPQMItemSupplierIdentifier

Output of get Supplier API, contains a tPQMItemIdentifier and an array of tPQMItemSupplier[]

Table 15–85 Objects

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	See "tPQMItemIdentifier" on page A-27
PQMItemSuppliers	tPQMItemSupplier[]	An array of PQM Item Supplier Object which belongs to the PQM item

tPQMItemSupplier

Represents a PQM supplier info, as an output

Table 15–86 Objects

Name	Type	Description
SourceSystemIdentifier	tSourceSystemPQMItemSupplierIdentifier	See "tSourceSystemPQMItemSupplierIdentifier" on page A-36
CompanyDescription	string	PQM supplier company description
FacilityDescription	string	PQM supplier facility description

tSourceSystemIdentifier

Represents a PQM supplier info, as an output

Table 15–87 Objects

Name	Type	Description
ItemInternalID	string	An item's (could be GSM specification or SCRM company/facility) internal ID
ItemExternalID	string	A item's external ID
ItemType	string	A item's item type
SourceSystemID	string	The source system ID; if from SCRM, the value should be "SCRM"

tPQMItemSupplierSearchIdentifier

Abstract object that represents PQM supplier identifying information used as input criteria, such as the SCRM entity number or a cross reference (System ID and Equivalent) or source system information.

Subtypes

- tSourceSystemPQMItemSupplierIdentifier
- tSCRMEntityCrossRefPQMItemSupplierIdentifier
- tSCRMEntityNumberPQMItemSupplierIdentifier

tSourceSystemPQMItemSupplierIdentifier

Represents a PQM supplier's source system information

Supertype

tPQMItemSupplierSearchIdentifier

Table 15–88 Objects

Name	Type	Description
ItemInternalID	string	An item's internal ID
ItemExternalID	string	An item's external ID
ItemType	string	An item's item type
SourceSystemID	string	The source system ID; if from SCRM, the value should be "SCRM"
FacilityInternalItemID	string	A facility's internal ID
FacilityExternalItemID	string	A facility's external ID
FacilityItemType	string	A facility's item type

tSCRMEntityCrossRefPQMItemSupplierIdentifier

Represents a PQM supplier using company/facility cross reference

Supertype

tPQMItemSupplierSearchIdentifier

Table 15–89 Objects

Name	Type	Description
ScrmEntityCrossRef	tSCRMEntityCrossRef	Company/facility cross reference

tSCRMEntityNumberPQMItemSupplierIdentifier

Represents a PQM supplier using company/facility entity number

Supertype

tPQMItemSupplierSearchIdentifier

Table 15–90 Objects

Name	Type	Description
ScrmEntityNumber	tSCRMEntityNumber	Entity number

tPQMItemAffectedItemsResult

Output of get Affected Items API, contains a tPQMItemIdentifier and an array of tPQMAffectedItem []

Table 15–91 Objects

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	See "tPQMItemIdentifier" on page A-27
AffectedItems	tPQMAffectedItem []	An array of PQM Item affected items Object which belongs to the PQM item

tPQMAffectedItem

Represents a PQM affected item info, as an output

Subtypes

tIssueAffectedItem

Table 15–92 Objects

Name	Type	Description
SourceSystemID	string	PQM affected item source system Id. If it is a GSM specification, should be 'GSM'
RevisionFoundItemNumber	string	Item Number of the affected item found
RevisionFoundItemRevision	string	Item revision of the affected item found
RevisionFixedItemNumber	string	Item Number of the affected item fixed
RevisionFixedItemRevision	string	Item revision of the affected item fixed
RevisionFoundItemInternalID	string	Item internal ID of the affected item found
RevisionFoundItemExternalID	string	Item external ID of the affected item found
RevisionFixedItemInternalID	string	Item internal ID of the affected item fixed
RevisionFixedItemExternalID	string	Item external ID of the affected item fixed
ItemType	string	Item type of the affected item
RevisionFoundComment	string	Comments

tIssueAffectedItem

Represents a PQM issue affected item info, as an output

Supertype

tPQMAffectedItem

Table 15–93 Objects

Name	Type	Description
SourceSystemID	string	PQM affected item source system ID. If it is a GSM specification, should be 'GSM'
RevisionFoundItemNumber	string	Item Number of the affected item found
RevisionFoundItemRevision	string	Item revision of the affected item found
RevisionFixedItemNumber	string	Item Number of the affected item fixed
RevisionFixedItemRevision	string	Item revision of the affected item fixed
RevisionFoundItemInternalID	string	Item internal ID of the affected item found
RevisionFoundItemExternalID	string	Item external ID of the affected item found
RevisionFixedItemInternalID	string	Item internal ID of the affected item fixed
RevisionFixedItemExternalID	string	Item external ID of the affected item fixed
ItemType	string	Item type of the affected item
RevisionFoundComment	string	Comments
FailureType	tCommonLookup	Failure type of the affected item
AdditionalDisplayIdentifier	string	AdditionalDisplayIdentifier of the affected item
SiteAffected	tPQMItemSupplier	Site Affected of the affected item
QuantityAffected	tMeasurement	Quantity Affected of the affected item
ConformanceItemDescription	string	Conformance Item Description of the affected item
ConformanceItemID	string	Conformance Item ID of the affected item
ConformanceItemDescriptionExtended	string	Conformance Item Description Extended of the affected item
QtySuspected	tMeasurement	Qty Suspected of the affected item
SerialLotNum	string	Serial Lot Num of the affected item

Table 15–93 Objects

Name	Type	Description
QtyChecked	tMeasurement	QtyChecked of the affected item
ContainmentActions	string	Containment Actions of the affected item
RMANum	string	RMA Num of the affected item
ConformingMaterial Date	DateTime	Conforming Material Date of the affected item

tAffectedItemInput

Represents an affected item; used in Add Affected Item as a input

Supertypes

- tIssueAffectedItemInput
- tNCRAffectedItemInput

Table 15–94 Objects

Name	Type	Description
AffectedItemIdentifier	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: ■ tPQMAffectedItemSourceSystemIdentifier is major used to identify affected items from third party system. It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec, incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. ■ tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion
RevisionFoundComment	string	Comments of the affected item

tPQMAffectedItemIdentifier

Affected item identifier, as a input

Subtypes

- tPQMAffectedItemGSMIdentifier
- tPQMAffectedItemSourceSystemIdentifieris

tPQMAffectedItemGSMIdentifier

tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion

Supertype

tPQMAffectedItemIdentifier

Table 15–95 Objects

Name	Type	Description
AffectedGSMSpecFound	tSpecIdentifierCriterion	Identify the Affected GSM spec found
AffectedGSMSpecFixed	tSpecIdentifierCriterion	Identify the Affected GSM spec fixed

tPQMAffectedItemSourceSystemIdentifier

tPQMAffectedItemSourceSystemIdentifier is used to identify affected items from third party systems

It is strongly recommended that you use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec. Incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to a UI crash if using default configuration in version 6.1.1.

Supertype

tPQMAffectedItemIdentifier

Table 15–96 Objects

Name	Type	Description
SourceSystemID	string	SourceSystemID of the affected item
RevisionFoundItemNumber	string	ItemNumber of the affected item found
RevisionFoundItemRevision	string	Revision of the affected item found
RevisionFixedItemNumber	string	ItemNumber of the affected item fixed
RevisionFixedItemRevision	string	Revision of the affected item fixed
RevisionFoundItemInternalID	string	ItemInternalID of the affected item found
RevisionFoundItemExternalID	string	ExternalID of the affected item found
RevisionFixedItemInternalID	string	ItemInternalID of the affected item fixed
RevisionFixedItemExternalID	string	ExternalID of the affected item fixed
ItemType	string	ItemType of the affected item

tIssueAffectedItemInput

Issue Affected item input, as an input

Supertype

tAffectedItemInput

Subtypes

tNCRAffectedItemInput

Table 15–97 Objects

Name	Type	Description
AffectedItemIdentifier	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: ■ tPQMAffectedItemSourceSystemIdentifier is major used to identify affected items from third party system. It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec,incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. ■ tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion
RevisionFoundComment	string	Comments of the affected item
FailureType	string	FailureType of the issue affected item
QuantityAffected	tMeasurement	QuantityAffected of the issue affected item
SiteAffected	tPQMItemSupplierSearchIdentifier	SiteAffected of the issue affected item

tNCRAffectedItemInput

NCR Issue Affected item input, as an input

Supertype

- tAffectedItemInput
- tIssueAffectedItemInput

Table 15–98 Objects

Name	Type	Description
AffectedItemIdentifier	tPQMAffectedItemIdentifier	Affected item identifier Could be 2 sub types: ■ tPQMAffectedItemSourceSystemIdentifier is major used to identify affected items from third party system. It is strongly recommended to use tPQMAffectedItemGSMIdentifier if the affected item is GSM Spec,incorrect use of tPQMAffectedItemSourceSystemIdentifier may lead to UI crash if using default config in v6.1.1. ■ tPQMAffectedItemGSMIdentifier is used to identify the affected item using GSM Spec Identifier Criterion
RevisionFoundComment	string	Comments of the affected item
FailureType	string	FailureType of the issue affected item
QuantityAffected	tMeasurement	QuantityAffected of the issue affected item
SiteAffected	tPQMItemSupplierSearchIdentifier	SiteAffected of the issue affected item
ConformanceItemIdentifier	tConformanceItemIdentifier	ConformanceItemIdentifier of the NCR issue affected item
QtySuspected	tMeasurement	QtySuspected of the NCR issue affected item
SerialLotNum	string	SerialLotNum of the NCR issue affected item
QtyChecked	tMeasurement	QtyChecked of the NCR issue affected item
ContainmentAction	string	ContainmentActions of the NCR issue affected item
RMANum	string	RMANum of the NCR issue affected item
ConformingMaterialDate	DateTime	ConformingMaterialDate of the NCR issue affected item

tPQMSearchCriteria

- Represents the search criteria of PQM items

Table 15–99 Objects

Name	Type	Description
IncludePQMActions	bool	Include PQM actions or not
ActionTypes	string[]	Should be valid action type names defined in ADMN>>PQM>>Action Type
IncludePQMAudits	bool	Include PQM audits or not
AuditTypes	string[]	Should be valid audit type names defined in ADMN>>PQM>>Audit Type
IncludePQMIssues	bool	Include PQM issues or not
IssueTypes	string[]	Should be valid issue type names defined in ADMN>>PQM>>Issue Type
Title	string	PQM item title
Description	string	The whole or part of PQM item description
ProductLines	string[]	Should be valid product line names defined in Admin>>PQM>> Product Lines
Customers	string[]	Should be valid customer names defined in ADMN>>PQM>>Customers
Originators	tUser[]	Array of originators
Owners	tUser[]	Array of owners
IssueSeverity	string	Should be a valid severity value for issue items
Suppliers	tSupplierSearchIdentifier []	Array of supplier search identifiers
Status	string[]	PQM workflow status names
RestrictToStatusWithIDs	int[]	Array of workflow tag behavior IDs

tSupplierSearchIdentifier

Represents the supplier identifying information used as input. A supplier could be either an external supplier (represented by tExternalSupplierSearchIdentifier) or a SCRM supplier (represented by tSCRMSupplierSearchIdentifier).

Table 15–100 Objects

Name	Type	Description
ExternalSearchIdentifier	tExternalSupplierSearchIdentifier	Identifies a supplier from external system

Table 15–100 Objects

Name	Type	Description
SCRMSearchIdentifier	tSCRMSupplierSearchIdentifier	Identifies a supplier from SCRM

tExternalSupplierSearchIdentifier

Represents the identifying information of supplier from external system

Table 15–101 Objects

Name	Type	Description
InternalItemID	string	Internal ID defined for the supplier
ExternalItemID	string	ID of the supplier in the source system
SourceSystemID	string	ID of the source system
ItemType	string	Item type of the supplier

tSCRMSupplierSearchIdentifier

Represents the identifying information of supplier from SCRM. The supplier could be a company or a facility.

Table 15–102 Objects

Name	Type	Description
SCRMEntityPKID	string	PKID of SCRM company or facility
SCRMEntityNum	tSCRMEntityNumber	Number of SCRM company or facility
SCRMEntityCrossRef	tSCRMEntityCrossRef	Including system ID and equivalent value

tRelatedPQMItemsWrapper

Represents the information about the related items of PQM item used as output

Table 15–103 Objects

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	Identifier of PQM item
RelatedIssues	tRelatedPQMIssueItem[]	Array of one or more relates issue items
RelatedActions	tRelatedPQMActionItem[]	Array of one or more related action items
RelatedAudits	tRelatedPQMAuditItem[]	Array of one or more related audit items

tRelatedPQMItem

Represents a related PQM item

Subtypes

- tRelatedPQMIssueItem
- tRelatedPQMActionItem
- tRelatedPQMAuditItem

Table 15–104 Objects

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	Identifier of PQM item
ExtendedDescription	string	This is the value retrieved from the PQMRelatedItemFormatPlugin

tRelatedPQMActionItem

Represents a related PQM action item

Supertype

tRelatedPQMItem

Table 15–105 Objects

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	Inherited
ExtendedDescription	string	Inherited
Relationship	string	The relationship of PQM items, could be Child or Parent

tRelatedPQMAuditItem

Represents a related PQM audit item

Supertype

tRelatedPQMItem

Table 15–106 Objects

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	Inherited
ExtendedDescription	string	Inherited
PlannedAuditDate	DateTime	The planned audit date

tCommonIdentifier

Represents the common identifying information of supporting document item

Subtypes

- tDRLDocumentIdentifier

- tDRLCatalogIdentifier

Table 15–107 Objects

Name	Type	Description
PKID	string	The PKID of supporting document item
Title	string	The title of supporting document item

tDRLDocumentIdentifier

Represents the identifying information of DRL document

Supertype

tCommonIdentifier

Table 15–108 Objects

Name	Type	Description
PKID	string	Inherited
Title	string	Inherited
DocumentID	tSpecificationNumber	The document ID of DRL document, including the SpecNumber and IssueNumber

tDRLCatalogIdentifier

Represents the identifying information of DRL catalog

Supertype

tCommonIdentifier

Table 15–109 Objects

Name	Type	Description
PKID	string	Inherited
Title	string	Inherited
ExternalD	string	The external ID of DRL catalog

tAttachmentsWrapper

Represents the information of an attachment procedure used as output

Table 15–110 Objects

Name	Type	Description
Identifier	tCommonIdentifier	Identifier of attachment procedure
CreationDate	DateTime	Creation date of attachment procedure
SecurityClassification	string	Security classification name of attachment procedure
Attachments	tCommonIdentifier[]	Identifiers of the attachments in the procedure

tDRLCatalog

Represents the information of DRL catalog used as output

Table 15–111 Objects

Name	Type	Description
CatalogIdentifier	tDRLCatalogIdentifier	Identifier of DRL catalog
DRLDocuments	tDRLDocumentIdentifier[]	Identifiers of DRL documents in the catalog

tPQMSupportingDocWrapper

Represents the supporting documents of a PQM item used as output

Table 15–112 Objects

Name	Type	Description
PQMItemIdentifier	tPQMItemIdentifier	Identifier of PQM item
SupportingDocuments	tAttachmentsWrapper[]	Attachment procedures added to the PQM item
RichTextIdentifiers	tCommonIdentifier[]	Identifiers of rich text supporting documents added to the PQM item
URLSourceIdentifiers	tCommonIdentifier[]	Identifiers of URL supporting documents added to the PQM item
DRLDocumentIdentifiers	tDRLDocumentIdentifier[]	Identifiers of DRL documents added to the PQM item
DRLCatalogs	tDRLCatalog[]	DRL catalogs added to the PQM item

tRichTextDoc

Represents a rich text supporting document used as output

Table 15–113 Objects

Name	Type	Description
Identifier	tCommonIdentifier	Identifier of the rich text supporting document
CreationDate	DateTime	Creation date of the rich text supporting document
Content	string	The HTML data of the rich text supporting

tNewRichTextDoc

Represents a new rich text supporting document used as input

Table 15–114 Objects

Name	Type	Description
Title	string	Title of the rich text supporting document, required
Content	string	HTML data of the rich text supporting document

Table 15–114 Objects

Name	Type	Description
KeyWords	string	Keywords of the rich text supporting document

tURLSource

Represents a URL supporting document used as output

Table 15–115 Objects

Name	Type	Description
Identifier	tCommonIdentifier	Identifier of the URL supporting document
EffectiveDate	DateTime	URL supporting document effective date
InactiveDate	DateTime	URL supporting document inactive date
UploadDate	DateTime	URL supporting document upload date
URLPath	string	URL path value of the supporting document
PubToSupplierPortal	boolean	This supporting document is published to Supplier Portal or not
IsProprietary	boolean	This supporting document is proprietary or not
ExpireDateNotify	boolean	Send notification before the expire date or not
ExpireDateNotifyNumDays	int	Specify the number of days in advance the expire notification will be sent

tNewURLSource

Represents a new URL supporting document used as input

Table 15–116 Objects

Name	Type	Description
Title	string	URL supporting document title, required
EffectiveDate	DateTime	URL supporting document effective date
InactiveDate	DateTime	URL supporting document inactive date, no earlier than the effective date
URLPath	string	URL path value, required
PubToSupplierPortal	boolean	This supporting document is published to Supplier Portal or not
IsProprietary	boolean	This supporting document is proprietary or not
ExpireDateNotify	boolean	Send notification before the expire date or not

Table 15–116 Objects

Name	Type	Description
ExpireDateNotifyNumDays	int	Specify the number of days in advance the expire notification will be sent

tDRLDocument

Represents a DRL document used as output

Table 15–117 Objects

Name	Type	Description
DocumentIdentifier	tDRLDocumentIdentifier	DRL document identifier
Description	string	DRL document description
Classifications	string[]	Classifications of the DRL document
Version	string	DRL document version
Originator	tUser	Originator of the DRL document
DocumentDate	DateTime	DRL document creation date
ExpirationDate	DateTime	DRL document expiration date
PubToSupplierPortal	boolean	This supporting document is published to Supplier Portal or not
ExpireDateNotify	boolean	Send notification before the expire date or not
ExpireDateNotifyNumDays	int	Specify the number of days in advance the expire notification will be sent
Attachments	tCommonIdentifier[]	Attachment identifiers of the DRL document

tAttachment

Represents an attachment document

Subtype

tSupportingDocAttachment

Table 15–118 Objects

Name	Type	Description
Identifier	tCommonIdentifier	Attachment identifier
FileName	string	File name of the attachment
FileSize	long	File size of the attachment
Path	string	File path of the attachment
BlobStream	Byte[]	Content data of the attachment

tSupportingDocAttachment

Represents an attachment document of procedure

Supertype

tAttachment

Table 15–119 Objects

Name	Type	Description
Identifier	tCommonIdentifier	Inherited
FileName	string	Inherited
FileSize	long	Inherited
Path	string	Inherited
BlobStream	Byte[]	Inherited
FileType	string	File type of the attachment
Owner	tUser	Owner of the attachment
EffectiveDate	DateTime	Attachment effective date
InactiveDate	DateTime	Attachment inactive date
UploadDate	DateTime	Attachment upload date
PubToSupplierPortal	boolean	This attachment is published to Supplier Portal or not
IsProprietary	boolean	This attachment is proprietary or not
ExpireDateNotify	boolean	Send notification before the expire date or not
ExpireDateNotifyNumDays	int	Specify the number of days in advance the expire notification will be sent

tNewAttachment

Represents a new attachment document as input

Table 15–120 Objects

Name	Type	Description
Title	string	Attachment title, required
FileName	string	File name of the attachment, required
FileType	string	File type of the attachment, required
Owner	tUser	Attachment owner
EffectiveDate	DateTime	Attachment effective date
InactiveDate	DateTime	Attachment inactive date
IsProprietary	boolean	This supporting document is proprietary or not
PubToSupplierPortal	boolean	This DRL document is published to supplier portal or not

Table 15–120 Objects

Name	Type	Description
ExpireDateNotify	boolean	Send notification before the expire date or not
ExpireDateNotifyNumDays	int	Specify the number of days in advance the expire notification will be sent
BlobStream	Byte[]	Content data of the attachment, required

tNewAttachmentsWrapper

Represents a new attachment procedure used as input

Table 15–121 Objects

Name	Type	Description
SecurityClassification	EnumSecurityClassfications	Security classification of attachment procedure
NewAttachments	tNewAttachment[]	Array of one or more new attachment documents

tCustomSectionInstance

Represents an instance of custom section

Table 15–122 Objects

Name	Type	Description
CustomSectionNumber	string	Custom section number
Content	tExtension	The xml data represents the custom section instance