

# FlexNet Operations 2024 ALM Release Notes

May 2024

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# Introduction

This Release Notes document summarizes the features, enhancements, and updates delivered with FlexNet Operations 2024.05 in May 2024. The document includes the following information:

- [Resources](#)
- [Features and Enhancements](#)
- [System Requirements](#)
- [Resolved Issues](#)
- [Known Issues](#)
- [Special Notes](#)
- [SOAP API Change Log](#)
- [Legal Information](#)

## Resources

These resources are available for more information about FlexNet Operations and other Revenera products:

- [Revenera Resources](#)
- [FlexNet Operations Videos](#)
- [Previous FlexNet Operations Release Notes](#)

## Revenera Resources

The following resources can help you stay up to date with FlexNet Operations news and product knowledge:

- In addition to providing case management, the [Revenera Community](#) site can help you quickly find answers to your questions by searching content from other customers, product experts, and thought leaders. You can also post questions on discussion forums for experts to answer. For each of Revenera's product solutions, you can access forums, blog posts, and knowledge base articles. You can also access the Product and License Center from the Community's **Other Resources** menu to download Revenera products.
- You can find documentation for FlexNet Operations and all other Revenera products on the [Revenera Product Documentation](#) site.

Note that any FlexNet Operations documentation published for UAT is subject to finalization until the Production release.

- The [Revenera Learning Center](#) offers free, self-guided, online videos to help you quickly get the most out of your Revenera products. You can find a complete list of these training videos in the Learning Center.

- Customers who have purchased a maintenance contract for their product(s) can submit a support case or check the status of an existing case by making selections on the **Get Support** menu of the Reverera Community:

<https://community.reverera.com>

## FlexNet Operations Videos

These brief, informative videos walk you through the getting-started exercises found in the FlexNet Operations User Guide (online help or PDF version). We recommend that you first read the appropriate “Getting Started” section in the *User Guide* to gain an understanding of the concepts it covers, and then click the section title in the table below to view the video.

| Guide   | Topics  |
|---|---|
| <a href="#">Getting Started with Entitlement Management</a>                         | Creating an account, a user, a product, and an entitlement.   |
| <a href="#">Getting Started with FlexNet Embedded Licensing</a>                     | Setting up a publisher, identity, and a licensed product. Creating a device and activating its license. Creating and provisioning FlexNet Embedded license servers.   |
| <a href="#">Getting Started with Electronic Software Delivery</a>                   | Creating a producer and download packages, associating download packages with a product, creating files, associating files with download packages, and viewing and downloading files from the FlexNet Operations End-User Portal. |
| <a href="#">Getting Started with Usage Management</a>                               | Creating a usage-based license model, a feature, a product, and an entitlement. Obtaining the license server URL to which the usage data is sent. Running a usage-capture client. Viewing usage information graphs and gauges.    |
| <a href="#">Getting Started with FlexNet Publisher License File-Based Licensing</a> | Activating and returning a certificate license.   |
| <a href="#">Getting Started with Cloud Licensing Service</a>                        | Creating a cloud-hosted license server.   |
| <a href="#">Getting Started with FlexNet Customer Growth</a>                        | Customer growth concepts and configuring notifications for expiring entitlements and expired entitlements.  |

## Previous FlexNet Operations Release Notes

To view the release notes associated with FlexNet Operations ALM releases from previous years, access <https://docs.reverera.com/?product=FlexNet%20Operations> and select the appropriate year from the **VERSION** list.

# Features and Enhancements

The following sections describe the new features and enhancements added to FlexNet Operations in 2024:

- [Features and Enhancements in 2024.05](#)
- [Features and Enhancements in 2024.04](#)
- [Features and Enhancements in 2024.03](#)
- [Features and Enhancements in 2024.02](#)
- [Features and Enhancements in 2024.01](#)

## Features and Enhancements in 2024.05

Features and enhancements were added to the following area of FlexNet Operations in the 2024.05 release:

- [Entitlement Management Enhancements in 2024.05](#)
- [Data Analytics Enhancements in 2024.05 \(Early Access\)](#)

## Entitlement Management Enhancements in 2024.05

The following enhancements to entitlement management were added in the 2024.05 release:

- [Automatic Renewal of Entitlement Line Items](#)
- [Reduced Requirements for Feature Count Aggregation](#)
- [Displaying Version Date for FlexNet Embedded Line Items](#)

### Automatic Renewal of Entitlement Line Items

This release introduces new functionality that enables producers to automatically renew line items using a job called Line Item Auto Renewal. The job gathers all line items that are marked for renewal and extends their expiration dates according to the renewal expiration date or duration that you set.

Producers can configure selected entitlement line items that can be automatically extended for an additional period that the customer can determine. Entitlement line items can be configured for renewal based on a specific renewal cycle (for example, the number of years) or a specific duration.

The automatic renewal of entitlement line items can be controlled via the Producer Port (see [Setting a line item's renewal date using the Producer Portal UI](#)) or the EntitlementOrderService web service, version 7 (see the [FlexNet Operations SOAP Web Services Guide](#)).

### Considerations

- A line item's expiration date is updated only if the item's **Renewal** check box is selected and the Line Item Auto Renewal job is active (see [Setting a line item's renewal date using the Producer Portal UI](#) and [Configuring the Line Item Auto Renewal job](#), respectively).

- Permanent entitlement line items and permanent maintenance line items will not be automatically renewed.
- The Line Item Auto Renewal job renews line items that have already expired, line items that will expire on the same day and line items that expire on the next day that the job runs.
- A line item cannot have a renewal date that is earlier than its expiration date.
- The Line Item Auto Renewal job only renews deployed line items. Line items with any other status are not renewed.

To use the new functionality, you need to select the **Renewal** check box and set the line item's renewal date, and activate the Line Item Auto Renewal job. Both steps are described below.

### Setting a line item's renewal date using the Producer Portal UI

The Configure Line Item wizard now includes a new **Renewal** check box (on the **Configure Product** page). Select the check box to indicate that the line item should be automatically renewed. The **Renewal Expiration** field is displayed, where you select one of the following options:

- **Specify Expiration Date**—Use the date picker or type the date when the line item should expire after it's been renewed.
- **Specify Duration**—Set the duration after which the line item expires after it's been renewed.

The renewal expiration date is calculated based on the line item's expiration date. For example, if the line item is set to expire on **May 20, 2025**, and the renewal expiration is set to a duration of **1 month**, the line item's expiration will be extended by 1 month, with a renewal expiration date of **June 20, 2025**.

### Configuring the Line Item Auto Renewal job

By default, the Line Item Auto Renewal job is set to **Inactive**.

You configure the Line Item Auto Renewal job on its **Configure Alert/Job Schedule** page (click **Administer > Configure Alerts/Jobs**, navigate to the Line Item Auto Renewal job and click **Configure**). Set the job status to **Active** and schedule the interval when the job should run (default: run daily). The job runs on the schedule until it is set to **Inactive**.

After you have set the behavior of the job, you can set up email subscriptions for the corresponding alert type.

### Changed SOAP Web Services Files

To control this new functionality using web services, this release introduces version 7 of the EntitlementOrderService SOAP web service. For a list of files that have been changed for this functionality, see [Change Log for 2024.05](#).

### Reduced Requirements for Feature Count Aggregation

The 2024.03 release introduced an enhancement which enables producers to aggregate feature counts using the aggregation types SUM and MAX to support various business models.

In this release, the list of entities that must have identical values to allow feature count aggregation has been reduced to make it easier to aggregate counts.

From the 2024.05 release onwards, all of the following entities must have identical values:

- Name
- Version
- Vendor String
- Notice
- Serial Number
- Expiration Date
- Issuer
- Version Date



**Note** - For more information about the feature count aggregation functionality, see [Feature Count Aggregation Support](#).

## Displaying Version Date for FlexNet Embedded Line Items

When a publisher creates and activates a FlexNet Embedded line item with the field **Version date when choice** populated using the option **Use Activation Date to compute Version Date**, the **Line Item Details** pane in the Producer Portal and the End-User Portal now display the **Version Date** (computed using the entered duration and the activation date).

## Data Analytics Enhancements in 2024.05 (Early Access)

The Analytics Dashboard—available from the **Analytics** tab in the Producer Portal—has been updated to provide new insights into customer retention and churn risk.

The new visualizations include:

- **Metric Tile “Devices”**—Shows the total number of devices. This includes Cloud License Server (CLS) instances, local license servers, and standalone devices (devices that directly connect to FlexNet Operations).
- **Metric Tile “Served Devices”**—The total number of served devices (devices that request licenses from a license server).
- **Renewal: Active Accounts by Business Region**—Tracks and visualizes renewal and churn based on subscription license models, thereby helping producers gain insights into their customer retention KPI. It helps identify patterns and trends associated with customer departures, which impact their overall Annual Recurring Revenue (ARR) goals.
- **Top Products by Devices**—Shows how many devices use a particular product and visualizes changes in the device status over time, thereby providing clarity of how customers engage with your products. Devices include standalone devices, Cloud Licensing Service (CLS) instances and local license servers.

# Features and Enhancements in 2024.04

Features and enhancements were added to the following area of FlexNet Operations in the 2024.04 release:

- [User Experience Enhancements in 2024.04](#)

## User Experience Enhancements in 2024.04

The following user experience enhancement was added in the 2024.04 release.

### QuickSearch Menu Now Including Site Name

On the Producer Portal home page, the **QuickSearch** menu now includes an option to search for devices by site name. This enables producers to quickly display all devices for a specific site.

# Features and Enhancements in 2024.03

Features and enhancements were added to the following areas of FlexNet Operations in the 2024.03 release:

- [Entitlement Management Enhancements in 2024.03](#)
- [User Experience Enhancements in 2024.03](#)
- [Snowflake Data Share Enhancements in 2024.03](#)

## Entitlement Management Enhancements in 2024.03

The following enhancements to entitlement management were added in the 2024.03 release:

- [New Configuration Option Allowing Entitlement Emails To Be Sent Only For Deployed Entitlements](#)
- [Feature Count Aggregation Support](#)

### New Configuration Option Allowing Entitlement Emails To Be Sent Only For Deployed Entitlements

A new configuration option **Send entitlement email only for deployed entitlements** (under **System > Configure > FlexNet Operations > General Options**) has been introduced which enables producers to specify that entitlement emails are only sent if the entitlement and its line item(s) are in a Deployed state. If a deployed entitlement has line items in any other state (Inactive, Draft, Obsolete, or Test), only the deployed line items are included in the entitlement email.

By default, the new configuration option is disabled, preserving the existing functionality.

### Feature Count Aggregation Support

This release introduces an enhancement which enables producers to aggregate feature counts to support various business models.

The aggregation types SUM and MAX are supported:



- **SUM**—The sum of all feature counts captured over the aggregation interval.
- **MAX**—The largest feature count captured over the aggregation interval.

### Use Case Example for Feature Count Aggregation

Assume that a producer offers the following product packages:

| Product Package | Features   |
|-----------------|--|
| <b>Premium</b>  | <ul style="list-style-type: none"> <li>● <b>FeatureA</b> with a count of 1,000</li> <li>● <b>FeatureB</b> with a count of 1,000</li> </ul>   |
| <b>Volume</b>   | <ul style="list-style-type: none"> <li>● <b>FeatureA</b> with a count of 200,000</li> <li>● <b>FeatureB</b> with a count of 5,000</li> </ul> |

Customers can purchase the **Premium** package and later add a **Volume** package. The resulting feature counts differ depending on the selected aggregation type:

| Feature         | Aggregation Type | Feature Count |
|-----------------|------------------|---------------|
| <b>FeatureA</b> | <b>SUM</b>       | 201,000       |
|                 | <b>MAX</b>       | 200,000       |
| <b>FeatureB</b> | <b>SUM</b>       | 6,000         |
|                 | <b>MAX</b>       | 5,000         |

### Prerequisites for Feature Count Aggregation

The configuration option **Enable feature count aggregation** must be selected and features to be aggregated must have an aggregation type set.

FlexNet Operations aggregates feature counts only if the following conditions are met:

- All license model attributes are identical
- All of the following entities have identical values:
  - Name
  - Version
  - Start Date Option
  - Start Date
  - Expiration Date
  - Add-On Expiration Date
  - Grace Period

- Aggregation Type

### Activating Feature Count Aggregation

The feature aggregation functionality can be enabled and disabled using the new configuration option **Enable feature count aggregation** (under **System > Configure > FlexNet Operations > Embedded Device Settings**). By default, the configuration option is unselected.

If the functionality is enabled, producers define the feature aggregation type when they add a new feature on the **Package Products | Create a Feature** page (under **Products > Feature > Add new Feature**) by setting the **Aggregation Type** field. Available values are **NONE**, **SUM**, and **MAX**.

### SOAP Support for Feature Count Aggregation

The ProductPackagingService web service, version 2, includes a new optional parameter **AggregationType** for the **createFeatureRequest** operation. Producers can use this parameter to specify a feature count aggregation type. Valid values are **NONE**, **SUM**, and **MAX**.

### Important Note about Disabling Feature Count Aggregation

The configuration option **Enable feature count aggregation** merely shows or hides the **Aggregation Type** field. It does not enable or disable the feature count aggregation functionality itself.

Therefore, if you specified aggregation types for certain features but then decide not to use the feature count aggregation functionality, you must set the **Aggregation Type** field to **NONE** for each feature. If the **Aggregation Type** field remains set to **SUM** or **MAX**, FlexNet Operations will continue to aggregate feature counts, even if you disable the configuration option **Enable feature count aggregation**.

### Feature Count Aggregation Vs. License Consolidation

Publishers are advised not to enable the configuration options **Consolidate Licenses** (under **System > Configure > Embedded Devices > Host Options**) and **Enable feature count aggregation** at the same time. **Consolidate Licenses** only applies to standalone devices and local license servers, whereas the feature count aggregation functionality is available for standalone devices, local license servers and Cloud License Server instances. Enabling **Consolidate Licenses** and **Enable feature count aggregation** may result in unexpected behavior.

### Known Issue

A known issue exists in relation to this functionality. For details, see [SWM-19052: Feature Count Aggregation Not Working As Expected](#).

### Changed SOAP Web Services Files

For a list of files that have been changed for this functionality, see [Change Log for 2024.03](#).

## User Experience Enhancements in 2024.03

The following user experience enhancement was added in the 2024.03 release.

## Configuration Option for Extract Dates/Times in ISO 8601 Format Now Available for Usage Extracts

The configuration option **Use ISO 8601 time format in extracts** (under **System > Configure > FlexNet Operations > General Options**), which was introduced in the 2023.10 release, now also applies to usage data extract jobs.

The new option enables producers to present the date/time information for data extract jobs in the ISO 8601 time format and UTC timezone.

## Snowflake Data Share Enhancements in 2024.03



**Note** - Changes made to the Snowflake data share are made available in the UAT and Production environments close to the release dates of FlexNet Operations, but might not directly coincide with the release dates.

The following enhancement was made to the Snowflake data share:

### Entitlement and Fulfillment View Updates

In the Snowflake data share, the Entitlement and Fulfillment views have undergone the following changes, resulting in improved query performance:

- **VW\_ENTITLEMENT**—Maintains all current entitlements.
- **VW\_ENTITLEMENT\_HISTORY**—New view which maintains the entitlement history.
- **VW\_FULFILLMENT**—Maintains all current fulfillments.
- **VW\_FULFILLMENT\_HISTORY**—New view which maintains the fulfillment history.

## Features and Enhancements in 2024.02

Features and enhancements were added to the following areas of FlexNet Operations in the 2024.02 release:

- [SOAP and REST Web Services Enhancements in 2024.02](#)
- [Entitlement Management Enhancements in 2024.02](#)

## SOAP and REST Web Services Enhancements in 2024.02

The following enhancements were added to the SOAP and REST Web Services module in the 2024.02 release:

- [New Endpoint in Software Container Delivery REST API](#)
- [Ability to Search for Entitlements by Custom Attribute of Data Type “Boolean”](#)

## New Endpoint in Software Container Delivery REST API

In the Software Container Delivery REST API, producer users can now call the new **/event/{entity\_name}/status** endpoint using GET to understand if the registry service instance has processed a specified entity. If processing of an entity was not successful, the producer can then take appropriate steps.

In this release, only entities of type USER are supported.

Required parameters:

- **entity\_name** (path parameter)—The user ID of the user whose status is queried.
- **entity\_type** (query parameter)—USER (the only entity type that is currently supported)

The response returns one of the following status values:

- **Processed**—The entity has been processed successfully.
- **In-Progress**—Processing of the entity is ongoing.
- **Cancelled**—Processing of the entity did not complete due to an error.

## Ability to Search for Entitlements by Custom Attribute of Data Type “Boolean”

Producers can now search for entitlements that have a specified custom attribute of data type **Boolean** applied. The search functionality is available in the Producer Portal and in the EntitlementOrderService SOAP web service (version 6).



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**Important** ▪ *This enhancement only applies to entitlements that were created after the custom attribute was created. Older entitlements need to be updated to enable filtering (for example, by adding a value to the custom attribute or saving the entitlement).*

### Searching for Boolean Custom Entitlement Attributes in the Producer Portal

Boolean custom attributes for entitlements are now listed in the dropdown list in the **Search On Custom Entitlement Attributes** section of the **Advanced Search** panel. (To access the **Advanced Search** panel, click **Entitlements > List Entitlements By Order**. On the **List Entitlements By Order** page, click **Advanced Search**.)

Upon selection of a Boolean custom attribute for entitlements from the dropdown list, producers can choose one of the following options:

- **Yes**—Display only entitlements that had the selected custom attribute applied during creation.
- **No**—Display only entitlements that did not have the selected custom attribute applied during creation.
- **Any**—Display all entitlements, regardless of whether they had the selected custom attribute applied during creation.

## Searching for Boolean Custom Entitlement Attributes Using the EntitlementOrderService Web Service

The ability to search for a specified Boolean custom attribute with the entity type **Entitlement** was added to the **getEntitlementsQuery** method of the EntitlementOrderService web service (version 6).

The **getEntitlementsQuery** method now accepts the optional search parameter **booleanValue**, with the valid values **true** and **false**:

- **true**—Display only entitlements that had the specified custom attribute applied during creation.
- **false**—Display only entitlements that did not have the specified custom attribute applied during creation.

## Entitlement Management Enhancements in 2024.02

The following enhancement to entitlement management was added in the 2024.02 release:

- [Mapping Expired Activation IDs to Devices](#)

### Mapping Expired Activation IDs to Devices

Two new configuration options have been introduced which allow producers to map expired activation IDs to devices. The facility to map expired activation IDs to devices enables customers to quickly identify which activation IDs have expired and require renewal.

To allow expired activation IDs to be mapped to devices, the following configuration options must be selected:

- **Allow mapping of expired entitlements** (under **System > Configure > FlexNet Operations > Embedded Device Settings**)—Select this option to allow expired activation IDs to pass the validation so that they can be sent to the License Fulfillment Service for mapping.  
Default: Unselected.
- **Allow expired line items to be mapped to devices or servers** (under **System > Configure > Embedded Devices > Host Options**)—Select this option to allow the activation ID to be mapped in the License Fulfillment Service.  
Default: Unselected.

## Features and Enhancements in 2024.01

Features and enhancements were added to the following areas of FlexNet Operations in the 2024.01 release:

- [Entitlement Management Enhancements in 2024.01](#)
- [License Management Enhancements in 2024.01](#)
- [SOAP Web Services Enhancements in 2024.01](#)
- [User Experience Enhancements in 2024.01](#)
- [Miscellaneous Enhancements in 2024.01](#)

# Entitlement Management Enhancements in 2024.01

The following enhancements to entitlement management were added in the 2024.01 release:

- [Feature Bundle Changes Updated to Cloud Licensing Service Instance](#)
- [Ability to Edit Custom Attributes](#)
- [New Option to Control Inclusion of Entitlement Certificate in Emails](#)

## Feature Bundle Changes Updated to Cloud Licensing Service Instance

A new configuration option **Allow feature bundle changes to be published to a License Server** has been added, which enables publishers to control whether changes to feature bundles are reflected on the relevant instance of the FlexNet Cloud Licensing Service.

The configuration option is located under **System > Configure > FlexNet Operations > Embedded Device Settings**. By default, the option is unselected, that is, feature bundle changes are not automatically fed through to the Cloud Licensing Service instance.

Feature bundle changes are updated to the Cloud Licensing Service instance whenever one of the following events happen through the UI or via a SOAP request:

- A feature is added to the feature bundle
- A feature is removed from the feature bundle
- The quantity of one or more features in a bundle changes.

## Ability to Edit Custom Attributes

Users can now edit custom attributes. Specifically, users can add and remove values for text types **Single select** and **Multi-valued text**.



**Note** - In the 2024.01 release, this enhancement does not apply to custom attributes of type **File** and **Download Package**. For these custom attributes, the enhancement was implemented in the 2024.05 release (see [Editing Custom Attributes of Certain Types](#)).

In addition, the behavior that occurs after creating a custom attribute has now been made consistent with that of similar pages. After the user clicks **Save** on the **Create Custom Attribute** page, the user stays on the **Create Custom Attribute** page, and a suitable message is displayed (for example, confirming that the custom attribute was successfully added). Previously, clicking **Save** returned the user to the **Custom Attributes** page (which shows a list of all custom attributes). Now, to leave the page and to return to the **Custom Attributes** page, the user clicks **Cancel**.

## New Option to Control Inclusion of Entitlement Certificate in Emails

A new option for the email template type Entitlement has been introduced which allows producers to selectively include or exclude an entitlement certificate when sending out an entitlement email to customers.

The new option, called **Attach Entitlement Certificate**, is located on the **Edit Email Template Definition** page (available when clicking a template ID under **Administer > Templates** and selecting **Edit > Edit Definition** on the **View Email Template** page).

Producers who want to use the new option **Attach Entitlement Certificate** must ensure that the system configuration setting **Always Attach Entitlement Certificate in Email** be unselected (under **System > Configure > FlexNet Operations > General Options**). This is because the system configuration setting takes precedence. If it is selected, the option **Attach Entitlement Certificate** is ignored.

For each template of type Entitlement, producers can set the option **Attach Entitlement Certificate** to **Yes** or **No**:

- **Yes:** An Entitlement Certificate will be attached to emails that are based on the Entitlement template.
- **No:** No Entitlement Certificate will be attached to emails that are based on the Entitlement template.

By default, **Attach Entitlement Certificate** is set to **No**.

In addition, when creating an entitlement, producers need to select the relevant Entitlement email template or select **DEFAULT** for the **Email Template Variation** field (on the **Entitle Customers To Licenses** page). This behavior was tracked as a known issue in 2023.01, but has since been resolved (see [No Additional Step Required for Selectively Including Entitlement Certificate in Emails](#)).

## License Management Enhancements in 2024.01

The following enhancement for the management of licenses was added in the 2024.01 release.

### FlexNet Embedded URL Configuration Now Set By Revenera

Setting the URL of the FlexNet Embedded server endpoint is a one-time activity which only needs to be performed at the initial setup of FlexNet Operations. Therefore, from the 2024.01 release onwards, the FlexNet Operations system administrator will no longer be able to set or modify the URL of the FlexNet Embedded server endpoint (previously accessible under **System > Configure > Licensing > FlexNet Embedded URL**). Instead, the URL will be set by Revenera during tenant provisioning. This change aims to avoid any unintentional modifications of the FlexNet Embedded URL.

## SOAP Web Services Enhancements in 2024.01

The following enhancements were added to the SOAP Web Services module in the 2024.01 release:

- [DownloadPackagingService Returns Download Package Details](#)
- [Create and Retrieve Account and Country Restrictions for Download Packages](#)

### DownloadPackagingService Returns Download Package Details

The **getDownloadPackageQuery** and **getDownloadPackageCount** methods of the **DownloadPackagingService** web service, versions 3 and 4, now support querying download packages based on custom attribute values. To achieve this, a new optional filter, **AttributeDescriptor**, has been added.

## Create and Retrieve Account and Country Restrictions for Download Packages

You can now use the newly introduced version 4 of the SOAP web service DownloadPackagingService to create and retrieve information about account and country restrictions for download packages:

- A new endpoint called **CreateRestrict** has been introduced which enables you to incorporate account and country restrictions or both into a download package.
- The existing endpoint, **getDownloadPackageQuery**, has been enhanced to facilitate the retrieval of both types of restrictions.

## User Experience Enhancements in 2024.01

The following user experience enhancement was added in the 2024.01 release.

### View Restrictions Page Now Lists Restrictions Based on Geographical Location

In the Producer Portal, the **View Restrictions** page now also shows if a download package is restricted to a specific country or region.

Previously, the **View Restrictions** page only listed the specific accounts that are permitted or denied access to the current download package.

## Miscellaneous Enhancements in 2024.01

The following general enhancement was added to the 2024.01 release:

### New Country Name Türkiye Replaces Turkey



In the countries list, the English name “Turkey” has been changed to “Türkiye”, to reflect the official name change.

## System Requirements

Detailed system requirements for FlexNet Operations include the following.

| Requirement         | Description   |
|---------------------|---|
| <b>Web browsers</b> | <ul style="list-style-type: none"><li>● Microsoft Edge</li><li>● Mozilla Firefox 75.0</li><li>● Google Chrome 80.0.3987.163</li></ul> |



| Requirement                         | Description   |
|-------------------------------------|---|
| <b>FlexNet licensing module</b>     | <ul style="list-style-type: none"> <li>FlexNet Publisher Toolkit 11.12.0 or later</li> <li>FlexNet Embedded Toolkit 2015 R2 or later</li> </ul>  <p><b>Note</b> ▪ FlexNet Operations supports these FlexNet Embedded host ID types: ETHERNET, INTERNET, INTERNET_6, FLEXID9, FLEXID10, STRING, USER, VM_UUID, EXTENDED, PUBLISHER_DEFINED, and CONTAINER_ID.</p>   |
| <b>Vendor certificate generator</b> | <p>The current versions of the VCG kit are 12.11.0 and 16.2.2.0.</p> <p>These VCGs were tested with the following compilers:</p> <ul style="list-style-type: none"> <li>Windows—Visual Studio 2010 Professional Edition</li> <li>Linux—gcc 4.1.2 (RHEL 5.0)</li> <li>Linux—gcc 4.4.4 (RHEL 6.0)</li> </ul>  <p><b>Note</b> ▪ The 12.11.0 VCG is built with FlexNet Publisher 11.11.1 and shares the same minimum C compiler requirements on each supported platform. (See the FlexNet Publisher 11.11.1 release notes for C/C++ compiler support.)</p> |
| <b>High Speed File Upload</b>       | <p>If you intend to use the <b>High Speed Upload</b> option to upload files, the following plug-in is required:</p> <p>Aspera Connect 3.10.0 or later</p>   |

## Resolved Issues

The following sections describe the issues that have been resolved in the FlexNet Operations 2024 releases to date:

- [Issues Resolved in 2024.05](#)
- [Issues Resolved in 2024.04](#)
- [Issues Resolved in 2024.03](#)
- [Issues Resolved in 2024.02](#)
- [Issues Resolved in 2024.01](#)

## Issues Resolved in 2024.05

Issues in the following area were resolved in the FlexNet Operations 2024.05 release:

- [Export and Import Issues Resolved in 2024.05](#)

- [REST Web Services Issue Resolved in 2024.05](#)
- [Security Issue Resolved in 2024.05](#)
- [Entitlement Management Issues Resolved in 2024.05](#)

## Export and Import Issues Resolved in 2024.05

The following issue related to the Data Export and Import functionality was resolved in the 2024.05 release.

- [Resolved Limitation When Exporting Custom Attributes of Products to .JAR](#)

### Resolved Limitation When Exporting Custom Attributes of Products to .JAR

When custom attributes were introduced, the export/import functionality was not updated to include custom attributes in the .jar file generated for export/import.

This release addresses this shortcoming, and the generated .jar includes product data and product custom attributes.

## REST Web Services Issue Resolved in 2024.05

The following issue related to FlexNet Operations Web Services was addressed in the 2024.05 release.

- [Resolved Issue with Configuration Option “Use ISO 8601 time format in extracts” in Served Device Data Extract](#)

### Resolved Issue with Configuration Option “Use ISO 8601 time format in extracts” in Served Device Data Extract

Previously, if the configuration option **Use ISO 8601 time format in extracts** was enabled, the Served Device Data extract would fail. This issue no longer occurs.

## Security Issue Resolved in 2024.05

The following issue related to FlexNet Operations security was addressed in the 2024.05 release.

- [Sanitizing HTML Strings](#)

### Sanitizing HTML Strings

To prevent or limit the impact of cross-site scripting (XSS) attacks on FlexNet Operations, custom content HTML strings that could be used to perform XSS attacks are sanitized. Strings that could be exploited are removed from the HTML script.

## Entitlement Management Issues Resolved in 2024.05

The following issues were resolved for entitlement management in the 2024.05 release.

- [Editing Custom Attributes of Certain Types](#)

## Editing Custom Attributes of Certain Types

Previously, on the **Create Custom Attribute** page, it was not possible to remove or edit the valid values for custom attributes of type **Single select** and **Multi-valued text** for the entity types **File** and **Download Package**. This issue has now been resolved.

## Issues Resolved in 2024.04

Issues in the following area were resolved in the FlexNet Operations 2024.04 release:

- [User Management Issues Resolved in 2024.04](#)

## User Management Issues Resolved in 2024.04

The following issue related to user management was addressed in the 2024.04 release.

### Dots in Email Address

Previously, email validation failed when a user was created through the Producer Portal and the email address contained more than one dot. For example, the email address **my..name@company.com** was not allowed.

In this release, multiple dots are allowed in the email address when creating a user through the Producer Portal.

This fix creates parity in behavior between the Producer Portal and web services when creating a user (see also [Special Characters in Email Address](#)).

## Issues Resolved in 2024.03

- [Account Management Issues Resolved in 2024.03](#)
- [Entitlement Management Issues Resolved in 2024.03](#)
- [SOAP and REST Web Services Issues Resolved in 2024.03](#)

## Account Management Issues Resolved in 2024.03

The following issue involving the management of accounts was resolved in the 2024.03 release.

### New Option to Control Entitlements Listed on Map Entitlements Page in End-User Portal

In the End-User Portal, the **Map Entitlements** page for a device shows all the entitlements of the logged-in user belonging to multiple accounts, irrespective of whether the **Skip Account Check** configuration option is selected or unselected.

A new configuration option has been introduced which enables producers to specify that the **Map Entitlements** page should only list entitlements that belong to the owner of the device. The configuration option applies to Producer Portal users and End-User Portal users when they are logged in at the End-User Portal.

The configuration option is called **Show entitlements owned by the Device Owner Account** (under **System > Configure > End-User Portal Setup > Devices Page**).

By default, the option is unselected, meaning that all entitlements belonging to all accounts of the logged-in user are displayed (existing behavior).

## Entitlement Management Issues Resolved in 2024.03

The following issues were resolved for entitlement management in the 2024.03 release.

- [Deleting Test Activation IDs Mapped to Devices Generates Error Message](#)
- [Exporting All Entitlements From End-User Portal](#)
- [Deselecting Custom Attributes of Certain Types](#)

### Deleting Test Activation IDs Mapped to Devices Generates Error Message

Producers can no longer delete test activation IDs that are associated with a device. When a producer attempts to delete a test activation ID that is mapped to a device, FlexNet Operations now displays an error message: Cannot delete line item <Activation ID>. It was used in one or more entitlement mappings. To delete such activation IDs, a producer must first unmap the activation ID from the device.

This behavior is controlled by a new flag, `deleteTestLineItemMappedWithDeviceConfig`, which can be set by Reverera support. By default, the flag is set to enabled (deletion of test activation IDs mapped to devices is not allowed). Producers who require the previous behavior (deletion of test activation IDs is allowed even if those IDs are mapped to a device) should contact Reverera Support to have the necessary modification made.

### Exporting All Entitlements From End-User Portal

Previously, attempts by a producer user to export all entitlements from the End-User Portal could fail. This issue no longer occurs.

### Deselecting Custom Attributes of Certain Types

In previous releases, certain custom attributes could not be deselected through the Producer Portal once they had been set for an entitlement line item or maintenance line item. The issue occurred in the following scenarios:

- When creating maintenance line items with entitlement line item attributes of type **Boolean** and/or **Multi-valued text**.
- When creating entitlement line items with entitlement line item attributes of type **Multi-valued text**.
- When creating entitlement line items with custom license model attributes of type **Boolean** and/or **Multi-valued text**.

This issue has now been resolved and producers can deselect the above-mentioned custom attributes through the Producer Portal.

## SOAP and REST Web Services Issues Resolved in 2024.03

The following issue related to FlexNet Operations Web Services was addressed in the 2024.03 release.

### Special Characters in Email Address

Previously, email validation failed when a user was created using the **createUser** request of the User Account Hierarchy web service and the email address contained one of the following special characters:

' & \* \$ %

This issue has now been resolved and the user is created as expected if the email address contains one of the above mentioned special characters.

## Issues Resolved in 2024.02

Issues in the following areas were resolved in the FlexNet Operations 2024.02 release:

- [Entitlement Management Issues Resolved in 2024.02](#)
- [Export and Import Issues Resolved in 2024.02](#)

## Entitlement Management Issues Resolved in 2024.02

The following issues were resolved for entitlement management in the 2024.02 release.

- [New Configuration Option to Disallow Activation of Parent Line Items Using FlexNet Embedded SDK](#)
- [No Additional Step Required for Selectively Including Entitlement Certificate in Emails](#)

### New Configuration Option to Disallow Activation of Parent Line Items Using FlexNet Embedded SDK

Previously, the following behavior could be observed when mapping and activating line items to standalone devices using a FlexNet Embedded client SDK:

A producer could create a parent line item and activate it using a FlexNet Embedded client SDK. This action correctly created a device and mapped the parent line item. When the producer then created an upgrade line item and activated the line item on the same device, the parent line item was removed, as expected. If the producer then attempted to map the same parent line item to a different device, the mapping erroneously succeeded.

This behavior could only be seen when mapping and activating such line items using a FlexNet Embedded client SDK. It could not be observed when using the Producer Portal to map and activate line items.

This has now been addressed in FlexNet Operations by introducing a new configuration option **Allow an upgrade line item to be mapped to a device via the FlexNet Embedded client SDK** (under **System > Configure > FlexNet Operations > Embedded Device Settings**).

By default, this configuration option is selected, meaning that mapping a parent activation ID to a standalone device if there are no line items remaining would erroneously succeed (previous behavior). Producers who wish to switch to the new behavior should deselect the configuration option.

## No Additional Step Required for Selectively Including Entitlement Certificate in Emails

In 2024.01, new functionality was introduced which enables producers to selectively include or exclude an entitlement certificate when sending out an entitlement email to customers (see [New Option to Control Inclusion of Entitlement Certificate in Emails](#)). For this feature to work as expected, producers also needed to set the **Email Template Variation** field (on the **Entitle Customers To Licenses** page) to the relevant Entitlement email template or select **DEFAULT**. If producers kept the default option, **Select...**, emails were sent without an entitlement certificate.

In the 2024.02 release, producers no longer need to edit the **Email Template Variation** field. Entitlement certificates are sent even if the default option, **Select...**, is selected.

## Export and Import Issues Resolved in 2024.02

The following issue related to the Data Export and Import functionality was resolved in the 2024.02 release.

- [Configuration “Enable Product Lines for Products, Users, and Accounts” No Longer Causing Issues During Data Import](#)

### Configuration “Enable Product Lines for Products, Users, and Accounts” No Longer Causing Issues During Data Import

Previously, even if the configuration option **Enable Product Lines for Products, Users, and Accounts** was unselected, product line and account information was included during an export using a JAR file. This could lead to errors related to accounts when the exported data was imported into a different system.

This issue has now been addressed. Information about accounts is only part of a JAR export if the option **Enable Product Lines for Products, Users, and Accounts** is selected.

## Issues Resolved in 2024.01

Issues in the following areas were resolved in the FlexNet Operations 2024.01 release:

- [Entitlement Management Issues Resolved in 2024.01](#)
- [Account Management Issues Resolved in 2024.01](#)
- [Export and Import Issues Resolved in 2024.01](#)
- [User Experience Issues Resolved in 2024.01](#)
- [SOAP and REST Web Services Issues Resolved in 2024.01](#)

# Entitlement Management Issues Resolved in 2024.01

The following issues were resolved for entitlement management in the 2024.01 release.

- [Mapping Entitlements to Devices No Longer Timing Out](#)
- [Boolean Custom Attributes Can Now Be Deselected Using Producer Portal](#)
- [Borrow Interval Now Honored](#)
- [Activation ID Field for Maintenance Line Items Now Saved](#)

## Mapping Entitlements to Devices No Longer Timing Out

Previously, in some scenarios, the **Map Entitlements** page in the End-User Portal (accessible from a device's default view by clicking **Action > Map Entitlements**) timed out with a 504 gateway time-out error. This error occurred when the End-User Portal had to retrieve and display a large amount of data on the **Map Entitlements** page.

To resolve the issue, the data on the **Map Entitlements** page is now paginated, which speeds up loading the data and avoids a time-out error.

In addition, end-users can now also filter data on the **Map Entitlements** page by activation ID and product name.

## Boolean Custom Attributes Can Now Be Deselected Using Producer Portal

Previously, when a custom attribute of type Boolean was set for an entitlement line item (in the **Custom Attributes** panel of the Configure Line Item wizard), it was impossible to deselect the custom attribute for that line item at a later point in time.

This issue only occurred when trying to select and deselect a Boolean custom attribute in the Producer Portal. The same operation (changing a Boolean custom attribute from true to false) was successful when using the SOAP API or the data import template.

This issue has now been resolved and custom attributes of type Boolean for entitlement line items can be changed.

Producers who do not require the fix and prefer the previous behavior should contact Reverera Support to have the necessary modification made.

## Borrow Interval Now Honored

In previous releases, if the borrow interval for a feature was set to 0 in the license model, it was considered as not configured, and the borrow interval set in `licensing.borrowInterval` (defined in `producer-settings.xml`) was erroneously considered when calculating the effective borrow interval.

Now, if the borrow interval for a feature is set to 0 (unlimited) or any other value in the license model, the borrow interval is the lowest of the following values:

- feature borrow interval (set in the back office)
- client borrow interval (set in a client capability request)
- admin borrow interval (set using `licensing.borrowIntervalMax`)

## Activation ID Field for Maintenance Line Items Now Saved

In this release, an issue related to a maintenance line item's activation ID has been resolved. When a user created a maintenance line item, the activation ID for the maintenance was not displayed. If the user edited the maintenance activation ID, this custom maintenance activation ID was not saved. Instead, upon deploying the maintenance line item, the auto-generated maintenance activation ID was displayed.

This issue no longer occurs. When a maintenance line item is created and saved in Draft state, the auto-generated maintenance activation ID is displayed. If the user edits the maintenance activation ID, this custom ID is also saved when the maintenance line item is in Draft state. Deploying the maintenance line item will retain the activation ID, whether custom or system generated.

## Account Management Issues Resolved in 2024.01

The following issue involving the management of accounts was resolved in the 2024.01 release.

### View Expiring Entitlements Permission Now Enforced For Users Sharing Accounts

Previously, if a user was associated with multiple accounts, and one of the accounts had the **View Expiring Entitlements** permission, the user could see the expiring entitlements for all accounts.

This has been fixed. In the 2024.01 release, the user can only see the expiring entitlements for the account that has the **View Expiring Entitlements** permission.

## Export and Import Issues Resolved in 2024.01

The following issue related to the Data Export and Import functionality was resolved in the 2024.01 release.

### Resolved Import Issue for Products Associated with Suites

When importing suites using the data import functionality (under **Administer > Import Data Objects**), products associated with suites are now correctly imported. Previously, the import failed even if the suite was in Draft mode (the only mode allowed for updating suite data via import).

## User Experience Issues Resolved in 2024.01

The following issue involving user experience was resolved in the 2024.01 release.

### Resolved End-User Portal Home Page Display Issue

When a specific combination of configuration options was selected (under **System > Configure > End User Portal Setup > Portal Navigation**), the End-User Portal did not display its regular home page. Instead, a page was displayed that only showed the string "2023". This issue no longer occurs.



## SOAP and REST Web Services Issues Resolved in 2024.01

The following issue related to FlexNet Operations Web Services was addressed in the 2024.01 release.

### Resolved Issue with Configuration Option “Use ISO 8601 time format in extracts” in Entitlement Data Extract and Device Data Extract

The configuration option **Use ISO 8601 time format in extracts**, which allows producers to present the date/time information for data extract jobs in the ISO 8601 time format and UTC timezone, now works as expected for the following fields and jobs (part of the Data Extract REST APIs):

- **DateFirstActivated**, **LastSyncTime**, and **ExpirationDate** fields from the Device Data Extract job
- **VersionDate** field for the Entitlement Data Extract job

## Known Issues

The following describes known issues in the current FlexNet Operations release.

### SWM-19052: Feature Count Aggregation Not Working As Expected

If a feature’s aggregation type is changed, the relevant instance of the Cloud Licensing Service might not update the aggregated feature counts according to the new aggregation type.

However, if the entitlement for the product that contains the features is mapped to a new Cloud Licensing Service instance, the feature counts are aggregated correctly as per the new aggregation type.

### FNO-69836: Variables in Vendor String Causing License Activation Issues

License activation fails for product upgrades or normal license activation when the product to be upgraded or activated is associated with a feature that has a vendor string which contains substitution variables that are enclosed in double quotes (for example, `"activationId": "{EntitlementLineItem.activationId}"`).

### FNO-69338: Navigation in Package Products Pages Skipping Review Features Page

When the user navigates through the Package Products pages (under **Products > Features**) using the **Next** button at the bottom of each page, the Review Features and Review Feature Bundles pages are erroneously skipped.

As a workaround, users who want to review the features and feature bundles that they just added can click the **Review Features** and **Review Feature Bundles** links, respectively, in the Packaging Guide section at the bottom of the page to access the Review Features page.

## SWM-15870: Mismatch Between User Name and Email Address Causing Issues with ESD (UserOrgHierarchyService)

When creating a user via the UserOrgHierarchyService web service (the predecessor of the User Account Hierarchy Service web service), it is possible to have different values for user name and email address. However, users whose user name and email address do not match cannot access downloads in the End-User Portal.

Producers who use the UserOrgHierarchyService should use the methods from the User Account Hierarchy Service web service to avoid a mismatch between the user name and email address.



**Note** - The following changes have recently been made to the User Account Hierarchy Service web service:

- From the 2023.07 release onwards, it is not possible to create users with a mismatched user name and email address. See “createUser Operation in User Account Hierarchy Service Web Service No Longer Allows Mismatch Between User Name and Email Address” in the [FlexNet Operations 2023 Release Notes](#).
- From the 2023.10 release onwards, users cannot update their email address to be different from their user name. See “updateUser Operation in User Account Hierarchy Service Web Service No Longer Allows Mismatch Between User Name and Email Address” in the [FlexNet Operations 2023 Release Notes](#).

## FNO-69182: Incorrect Email Format Accepted When Creating User Via Import Template

It is possible to create or update a user with an invalid email address format by importing user information using the Account and User import template (downloadable from **Administer > Import Data Objects > Data Import Templates** in the Producer Portal). Email addresses of the format abcd@ef (that is, an email address consisting of a recipient name, @ symbol and domain name but without top-level domain) are erroneously accepted.

## FNO-68962: Invalid Characters in Device ID Causing Issues

When the FlexNet Embedded toolkit creates a device ID that contains an invalid character, an error occurs.

The following control characters are not allowed in device names or the device ID:

^B ^D ^E ^G ^N ^O ^P ^Q ^R ^S ^T ^U ^W ^X ^Y ^[ ^\ ^]

## SWM-10701: Search Functionality in End-User Portal Erroneously Displays Download Link

In the End-User Portal, users who should be denied access to a file based on their geographical location are able to display the download link for a restricted file when searching for the file name (using the Search function with the **Files** option on the **Download Search** page). However, users are not able to download the restricted file.

## SWM-8779: Feature Names With “SERVER” Truncated in Trusted Storage

Feature names containing the string “SERVER” are truncated when the features are activated in trusted storage.

## FNO-66018: Errors in UI Updated for Download Package Selection Across Multiple Pages

In 2021.09, the **Download Packages** window was updated to allow package selection across multiple pages. The following errors currently exist for the updated UI.

- [Incorrect error message for EULA license on Review & Resolve page](#)
- [Search string not properly clearing](#)
- [No option to return to full \(unfiltered\) Download Package list when “failed validation” message displays](#)
- [Failed validation error displayed for search results](#)
- [Pagination control fields not showing correct information](#)
- [Inappropriate message displayed for already downloaded packages](#)

### **Incorrect error message for EULA license on Review & Resolve page**

When you attempt to download packages that fail validation, the following message is displayed: “Some of the selected packages failed validation. You need to review and resolve the validation errors.” Then, on the **Failed Packages** window that is displayed if you click the “review and resolve” link in the message, the error for an unaccepted EULA incorrectly shows the following:

“EULA has not been accepted. To accept EULA, click on the Download package ID.”

Instead of “click on the Download Package ID”, the message should instruct the user to “...click ‘I Agree’”.

### **Search string not properly clearing**

After you filter the package list on the **Download Packages** window, the message “Results for Download package name: <name>” is appropriately displayed. However, if you then click the **Clear** link at the end of message, the search string used to filter the package list remains, the list remains filtered (even if you move to the next page), and the “Results for the Download package name...” message is still displayed. You must manually delete the search string and click **Search** to clear the filter.

### **No option to return to full (unfiltered) Download Package list when “failed validation” message displays**

If the “failed validation” message is displayed after you attempt to download packages from a filtered list on the **Download Packages** window, no mechanism exists to clear the filter to display all packages. You must manually delete the search field contents and click **Search**.

### **Failed validation error displayed for search results**

After searching for and attempting to download a package containing an unaccepted EULA, the expected message “Some of the selected packages failed validation...” is displayed on the **Download Packages** window. However, if you then search for a package that does not contain an EULA (but do not attempt to download the package), you received the “failed validation” message instead of the correct message describing the filter results: “Results for Download package name: <name>”.

### **Pagination control fields not showing correct information**

The pagination control fields on the **Download Packages** window are not displaying the correct totals for a filtered list of packages.

### **Inappropriate message displayed for already downloaded packages**

When you select an entitlement line item whose packages have already been downloaded, the **Download Packages** window is displayed with incorrect message “Files sent for download. Please monitor the download manager pop up”. The message should be removed altogether or displayed only as package files are being sent to the Download Manager (before the actual **Download Manager** window is displayed).

### **SWM-7952: Not All Applicable Download Links Available on “List Downloads” Page in End-User Portal**

When end-users are logged in with an activation ID for an entitlement line item that is associated with multiple products, the **Downloads** page (accessed from **Downloads > List Downloads**) in the End-User Portal does not always show links to all applicable product downloads.

### **SWM-7786: SHA2 Checksum Value of Previous File Shown**

If a user has provided a file’s expected SHA2 checksum value for an upload and the file image is subsequently deleted, the **Upload File** page, when opened again, might show the SHA2 checksum value of the previously loaded file image.

### **FNO-65909: Download Files Not Visible For Self-registered And Trial Users**

Download files might not be visible in the End-User Portal for self-registered users and those users registered through the “Try Before You Buy” registration.

### **FNO-61266: Translation Issues with Localization**

Per a previous enhancement in 2020 R3 to add more language support for End-User Portal localization, certain strings—such as alerts and validation messages—are not being translated properly when localization is in effect. These issues will be addressed in an upcoming release.

# Special Notes

This section contains special information pertaining to FlexNet Operations.

## Plug-in Upgrade Needed for High-Speed File Uploads

If you intend to use the high-speed upload option to upload files, upgrade the Aspera plug-in to Aspera Connect 3.10.0 or later.

## Best Practice for Uploading New File Versions for Software Delivery

The following practice helps to prevent the delivery of “stale” file content to your customers.

When you upload a new version of a file (or package) whose previous version exists in the Software Delivery system, best practice is to give the new file version a unique name, different from the name of the existing file version. (For example, use a version number in the file name.) Try to avoid uploading a file using the same name as the existing file so that the existing file is overwritten.

If you must upload a new file using the same name as the existing file, delete the existing file and wait 10-15 minutes before uploading the new version. This process will reduce the probability of re-caching the old content.

## Handling UI Conflicts When Using a Custom CSS for the End-User Portal

When you use your own CSS to customize the look of the End-User Portal, sometimes your custom CSS code conflicts with existing Revenera CSS code that is used to define certain buttons, pages, and other UI elements. When conflicts occur, handle each case individually, determining the basis of the conflict and adjusting the custom CSS as needed. If you require assistance, contact Revenera Technical Support (see [Revenera Resources](#)).

# SOAP API Change Log

The following sections describe the changes that have been made to the FlexNet Operations SOAP API in the FlexNet Operations 2024 releases to date:

- [Change Log for 2024.05](#)
- [Change Log for 2024.03](#)

## Change Log for 2024.05

### API Support for Automatic Renewal of Entitlement Line Items

Changes were made to the EntitlementOrderService.wsdl file and its associated .xsd files to enable the new [Automatic Renewal of Entitlement Line Items](#) feature.

The EntitlementOrderService.wsdl file and its associated .xsd files have been upgraded to v7:

```
/schema-public/v7/EntitlementOrderService.wsdl  
/schema-public/v7/bulkEntitlementTypes.xsd  
/schema-public/v7/commonEntitlementTypes.xsd
```

/schema-public/v7/commonIdentifierTypes.xsd  
/schema-public/v7/commonTypes.xsd  
/schema-public/v7/entitlementLifeCycleTypes.xsd  
/schema-public/v7/entitlementLineItemTypes.xsd  
/schema-public/v7/entitlementOrderTypes.xsd

In addition to updating the version, additions were made to the following files:

- [commonEntitlementTypes.xsd](#)
- [entitlementLineItemTypes.xsd](#)

### commonEntitlementTypes.xsd

The following table shows what changes were made to the commonEntitlementTypes.xsd file. Additions are highlighted.

| # | Change  |
|---|---|
| 1 | <pre>&lt;xs:complexType name="searchEntitlementDataType"&gt;   &lt;xs:sequence&gt;     &lt;xs:element name="entitlementId" type="tns:SimpleQueryType" minOccurs="0"/&gt;     &lt;xs:element name="entDescription" type="tns:SimpleQueryType" minOccurs="0"/&gt;     .     .     .     &lt;xs:element name="isPermanent" type="xs:boolean" minOccurs="0"/&gt;     &lt;xs:element name="expirationDate" type="tns:DateQueryType" minOccurs="0"/&gt;     &lt;xs:element name="isAutoRenewal" type="xs:boolean" minOccurs="0"/&gt;     &lt;xs:element name="renewalInterval" type="tns:DurationType" minOccurs="0"/&gt;     &lt;xs:element name="renewalExpirationDate" type="tns:DateQueryType" minOccurs="0"/&gt;     &lt;xs:element name="createdOn" type="tns:DateQueryType" minOccurs="0"/&gt;     &lt;xs:element name="versionDate" type="tns:DateQueryType" minOccurs="0"/&gt;     .     .     .     &lt;xs:element name="maintIsPermanent" type="xs:boolean" minOccurs="0"/&gt;     &lt;xs:element name="maintExpirationDate" type="tns:DateQueryType" minOccurs="0"/&gt;     &lt;xs:element name="entitlementAttributes" type="tns:entCustomAttributesQueryListType" minOccurs="0"/&gt;   &lt;/xs:sequence&gt; &lt;/xs:complexType&gt;</pre> |

## entitlementLineItemTypes.xsd

The following table shows what changes were made to the entitlementLineItemTypes.xsd file. Additions are highlighted.

### # Changes

- ```
<xs:complexType name="createEntitlementLineItemDataType">
  <xs:sequence>
    <xs:element name="activationId" type="tns:idType"/>
    <xs:element name="description" type="xs:string" minOccurs="0"/>
    .
    .
    .
    <xs:element name="term" type="tns:DurationType" minOccurs="0"/>
    <xs:element name="expirationDate" type="xs:date" minOccurs="0"/>
    <xs:element name="isAutoRenewal" type="xs:boolean" minOccurs="0"/>
    <xs:element name="renewalInterval" type="tns:DurationType" minOccurs="0"/>
    <xs:element name="renewalExpirationDate" type="xs:date" minOccurs="0"/>
    <xs:element name="versionDate" type="xs:date" minOccurs="0"/>
    <xs:element name="versionDateAttributes" type="tns:versionDateAttributesType" minOccurs="0"/>
    <xs:element name="lineItemType" type="tns:LineItemType" minOccurs="0"/>
    <xs:element name="entitledProducts" type="tns:entitledProductDataListType" minOccurs="0"/>
    <xs:element name="lineItemAttributes" type="tns:attributeDescriptorDataType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```
- ```
<xs:complexType name="updateLineItemDataType">
  <xs:sequence>
    <xs:element name="lineItemIdentifier" type="tns:entitlementLineItemIdentifierType"/>
    <xs:element name="activationId" type="tns:idType" minOccurs="0"/>
    .
    .
    .
    <xs:element name="term" type="tns:DurationType" minOccurs="0"/>
    <xs:element name="expirationDate" type="xs:date" minOccurs="0"/>
    <xs:element name="isAutoRenewal" type="xs:boolean" minOccurs="0"/>
    <xs:element name="renewalInterval" type="tns:DurationType" minOccurs="0"/>
    <xs:element name="renewalExpirationDate" type="xs:date" minOccurs="0"/>
    <xs:element name="versionDate" type="xs:date" minOccurs="0"/>
    <xs:element name="versionDateAttributes" type="tns:versionDateAttributesType" minOccurs="0"/>
    <xs:element name="parentLineItem" type="tns:entitlementLineItemIdentifierType" minOccurs="0"/>
    <xs:element name="updatedEntitledProducts" type="tns:updateEntitledProductDataListType"
minOccurs="0"/>
    <xs:element name="entitledProducts" type="tns:entitledProductDataListType" minOccurs="0"/>
    <xs:element name="lineItemAttributes" type="tns:attributeDescriptorDataType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```

## # Changes

```
4 <xs:complexType name="searchActivatableItemDataType">
  <xs:sequence>
    <xs:element name="parentBulkEntitlementId" type="tns:SimpleQueryType" minOccurs="0"/>
    <xs:element name="entitlementId" type="tns:SimpleQueryType" minOccurs="0"/>
    .
    .
    .
    <xs:element name="isPermanent" type="xs:boolean" minOccurs="0"/>
    <xs:element name="expirationDate" type="tns:DateQueryType" minOccurs="0"/>
    <xs:element name="isAutoRenewal" type="xs:boolean" minOccurs="0"/>
    <xs:element name="renewalInterval" type="tns:DurationType" minOccurs="0"/>
    <xs:element name="renewalExpirationDate" type="tns:DateQueryType" minOccurs="0"/>
    <xs:element name="versionDate" type="tns:DateQueryType" minOccurs="0"/>
    <xs:element name="licenseTechnology" type="tns:SimpleQueryType" minOccurs="0"/>
    .
    .
    .
    <xs:element name="isEmbeddedLicenseModel" type="xs:boolean" minOccurs="0"/>
    <xs:element name="lineItemState" type="tns:StateQueryType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```

```
5 <xs:complexType name="entitlementLineItemResponseConfigRequestType">
  <xs:sequence>
    <xs:element name="activationId" type="xs:boolean" minOccurs="0"/>
    <xs:element name="description" type="xs:boolean" minOccurs="0"/>
    .
    .
    .
    <xs:element name="term" type="xs:boolean" minOccurs="0"/>
    <xs:element name="expirationDate" type="xs:boolean" minOccurs="0"/>
    <xs:element name="isAutoRenewal" type="xs:boolean" minOccurs="0"/>
    <xs:element name="renewalInterval" type="xs:boolean" minOccurs="0"/>
    <xs:element name="renewalExpirationDate" type="xs:boolean" minOccurs="0"/>
    <xs:element name="versionDate" type="xs:boolean" minOccurs="0"/>
    <xs:element name="versionDateAttributes" type="xs:boolean" minOccurs="0"/>
    .
    .
    .
    <xs:element name="fetchCreatedBy" type="xs:boolean" minOccurs="0"/>
    <xs:element name="fetchLastModifiedBy" type="xs:boolean" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```



## # Changes

```
6 <xs:complexType name="entitlementLineItemPropertiesType">
  <xs:sequence>
    <xs:element name="activationId" type="tns:entitlementLineItemIdentifierType" minOccurs="0"/>
    <xs:element name="description" type="xs:string" minOccurs="0"/>
    .
    .
    .
    <xs:element name="term" type="tns:DurationType" minOccurs="0"/>
    <xs:element name="expirationDate" type="xs:date" minOccurs="0"/>
    <xs:element name="isAutoRenewal" type="xs:boolean" minOccurs="0"/>
    <xs:element name="renewalInterval" type="tns:DurationType" minOccurs="0"/>
    <xs:element name="renewalExpirationDate" type="xs:date" minOccurs="0"/>
    <xs:element name="versionDate" type="xs:date" minOccurs="0"/>
    <xs:element name="versionDateAttributes" type="tns:versionDateAttributesType" minOccurs="0"/>
    .
    .
    .
    <xs:element name="lineItemAttributes" type="tns:attributeDescriptorDataType" minOccurs="0"/>
    <xs:element name="transferredFromLineItem" type="xs:string" minOccurs="0"/>
    <xs:element name="splitFromLineItem" type="xs:string" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```



**Note** • This issue was tracked in SWM-18085.

## Change Log for 2024.03

### Feature Count Aggregation Support

Changes were made to the following three files to enable the new [Feature Count Aggregation Support](#):

```
/schema-public/featureTypes.xsd
/schema-public/v1/featureTypes.xsd
/schema-public/v2/featureTypes.xsd
```

The following table shows what changes were made to the featureTypes.xsd files. Additions are highlighted.

## # Changes

- ```
<!-- Feature Type -->
<xs:complexType name="featureDataType">
  <xs:sequence>
    <xs:element name="featureName" type="xs:string"/>
    <xs:element name="versionFormat" type="tns:VersionFormatType"/>
    <xs:element name="version" type="xs:string" minOccurs="0"/>
    <xs:element name="description" type="xs:string" minOccurs="0"/>
    <xs:element name="aggregationType" type="tns:AggregationType" minOccurs="0"/>
    <xs:element name="featureOverrideParams" type="tns:featureOverrideParamsType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
<xs:simpleType name="AggregationType">
  <xs:restriction base="xs:NMTOKEN">
    <xs:enumeration value="NONE"/>
    <xs:enumeration value="SUM"/>
    <xs:enumeration value="MAX"/>
  </xs:restriction>
</xs:simpleType>
```
- ```
<xs:complexType name="updateFeatureDataType">
  <xs:sequence>
    <xs:element name="featureIdentifier" type="tns:featureIdentifierType" />
    <xs:element name="featureName" type="xs:string" minOccurs="0"/>
    <xs:element name="versionFormat" type="tns:VersionFormatType" minOccurs="0"/>
    <xs:element name="version" type="xs:string" minOccurs="0"/>
    <xs:element name="description" type="xs:string" minOccurs="0"/>
    <xs:element name="aggregationType" type="tns:AggregationType" minOccurs="0"/>
    <xs:element name="featureOverrideParams" type="tns:featureOverrideParamsType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```



**Note** - This issue was tracked in SWM-18612.

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