

FlexNet Operations 2020 R1 Release Notes

February 2020

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Introduction

This Release Notes document summarizes the FlexNet Operations 2020 R1 updates delivered in February 2020. The document includes the following topics:

- [Features and Enhancements](#)
- [System Requirements](#)
- [Resolved Issues](#)
- [Known Issues](#)
- [Special Notes](#)
- [Legal Information](#)



Note • For additional details about the changes, contact Flexera support.

Resources

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

- To help you plan your staging activities, click **System > Latest News** in the **FlexNet Operations Producer Portal** for on-going updates to the engineering maintenance schedule.
- The [Flexera System Status Dashboard](#) provides current site availability and notifications. You can also subscribe to update notices and manage your subscription here.
- In addition to case management, the [Flexera Customer Community Portal](#) has resources such as the Knowledge Base, software end-of-life information, and more.
- On the [Flexera Customer Event Calendar](#), you can register for webinars on topics such as product orientation, office hours, and others.

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
Getting Started with Entitlement Management	Creating an account, a user, a product, and an entitlement.
Getting Started with FlexNet Embedded Licensing	Setting up a publisher, identity, and a licensed product. Creating a device and activating its license. Creating and provisioning FlexNet Embedded license servers.

Guide	Topics
Getting Started with Electronic Software Delivery	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.
Getting Started with Usage Management	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.
Getting Started with FlexNet Publisher License File-Based Licensing	Activating and returning a certificate license.
Getting Started with Cloud Licensing Service	Creating a cloud-hosted license server.
Getting Started with FlexNet Customer Growth	Customer growth concepts and configuring notifications for expiring entitlements and expired entitlements.

Features and Enhancements

The new features and enhancements included in FlexNet Operations 2020 R1 impact users of these modules:

- [User Experience](#)
- [SOAP Web Services](#)
- [Updates and Insights](#)
- [General Enhancements](#)

User Experience

This section describes user-experience enhancements included in this release.

Expiration Column for Entitlements Now Sortable

The **Expiration** column on the **List Entitlements** page is now sortable in the FlexNet Operations End User Portal. This enhancement is especially helpful when the expiration date range spans several years.

SOAP Web Services

This section describes the SOAP Web Services features and enhancements introduced in this release.

New Parameters for getDevice Web Service

The following parameters have been added to the element defining the getDevice Web Services function to return time-line information for add-ons to a device:

- addOnCreatedDate
- addOnLastModifiedDate

These parameters, when set to “true”, provide responses that include the time when the entitlement line was added to the device or the relationship was modified. For more information, see the *FlexNet Operations SOAP Web Services Reference Guide*.

Updates and Insights

This section describes the Updates and Insights features and enhancements introduced in this release:

- [Keys to Sign Update Responses and Validate Requests Now Stored at the Site Level](#)
- [Update Request Authorization](#)
- [Details Now Available to Explain the Update Status](#)



Important • *Updates and Insights is a paid module.*

Keys to Sign Update Responses and Validate Requests Now Stored at the Site Level

From this release forward, the keys used to sign update responses are stored differently. Only one key will be stored per site for signing, instead of per account.

As a result, the **Updates and Insights Signing Key** option used previously to download the public key for response-signature validation has been removed from the **Create an Account** page in the FlexNet Operations Producer Portal. Now, to download the public key, the producer must use the `/operations/api/updates/update-signing-key` REST API, located under the `updates-service-rest-controller` service in the Swagger documentation. (This API was previously under the `account-rest-controller` service.) As in the previous release, if the key does not already exist, this API will generate the private/public key pair for response validation before downloading the public key. The producer can then make the public key available at an appropriate location for use by devices.

Update Request Authorization

Updates and Insights now makes the authorization of requests mandatory. Authorization is achieved by means of a JSON Web Token (JWT) in the headers of requests, which authenticates (and hence authorizes) the device. The producer must create the JWT and sign it using the private key of a public/private key pair. The JWT must also include an expiration date to ensure that a device is not perpetually authorized.

This JWT must be made available to the device software, so that it can be included in the REST API header for every POST request sent by the device to the Notification Server. To validate the signature, the Notification Server requires the public key from the key pair used to create the JWT. The public key must therefore be uploaded to FlexNet Operations, which will then make it available to the Notification Server. The producer can upload the public key using the REST API `/operations/api/updates/update-authorization-key`, located under the `updates-service-rest-controller` service in the Swagger documentation. (Whenever a new public key used to verify request authorization is uploaded to FlexNet Operations, the history transaction log records the change, showing only the first and last 10 characters of the new key.)

If an Edge server is in use, the JWT must be installed on this server using one of these means:

- The placement of the JWT in a file as part of the Edge server installation
- The upload of the JWT using the Edge server REST API
- The upload of the JWT using the Edge server UI

For more in-depth information about request authorization, see “Getting Started with Updates and Insights” in the online help available with the Producer Portal.

Details Now Available to Explain the Update Status

A new field, `statusReason`, has been added to the Updates and Insights `statusLog` REST API (used to log the status of an update with the Notification Server). This field allows devices to add extra details explaining the reason for a particular status.

For a given update listed on the **Updates** tab on the **Device** page, users can now click the link in the **Status** column to display a pop-up showing these “reason” details (only if the device has provided this information, as recorded in the log).

This enhancement is available in the FlexNet Operations Producer Portal and End User Portal.

General Enhancements

This section describes general enhancements included in this release.

Easier Accessibility to FlexNet Operations Documentation

The FlexNet Operations documentation has undergone the following changes to improve content accessibility:

- [Combined User Guide](#)
- [Other Merged Documentation](#)
- [Renamed Documentation](#)

- [Documentation Not Merged or Renamed](#)

Combined User Guide

The former *FlexNet Operations Administration Guide*, *End-User Portal Branding Guide*, *Reporter Quick Reference*, *Reporter Standard Reports*, and all *Getting Started* guides have been merged into a single *FlexNet Operations User Guide*. All content in the *User Guide* is searchable from one HTML help system available from the Producer Portal and on the Flexera HelpNet website (<https://helpnet.flexerasoftware.com/>). The PDF version of the *User Guide* is also available on the HelpNet website.

Other Merged Documentation

The following documentation has also been merged into fewer books. Note that the new books are available in PDF format only and are downloaded from the Flexera Product and Licensing Center (<https://flexerasoftware.flexnetoperations.com>).

Previous Documentation	Now Combined As...
FlexNet Operations Data Warehouse Guide Using Jasper Reports with FlexNet Operations	FlexNet Operations On-Premises Reporting Guide (PDF)
FlexNet Operations Implementation Guide FlexNet Operations Installation Guide Recommendations for FlexNet Operations Performance Improvement	FlexNet Operations On-Premises Installation & Implementation Guide (PDF)

Renamed Documentation



The former *FlexNet Operations Web Services Guide* has been renamed to *FlexNet Operations SOAP Web Services Reference Guide* to clarify its contents. It is available as a PDF for downloading from the Flexera Product and Licensing Center (<https://flexerasoftware.flexnetoperations.com>).

Documentation Not Merged or Renamed

The *FlexNet Operations Web Services Integration Guide*, downloaded from the Flexera Product and Licensing Center (<https://flexerasoftware.flexnetoperations.com>), and the *FlexNet Operations REST API Reference Guide* (available as Swagger documentation through a link) remain in their same format.

System Requirements

Detailed system requirements for FlexNet Operations 2020 R1 include the following.

Requirement	Description
Web browsers	<ul style="list-style-type: none">● Microsoft Edge● Microsoft Internet Explorer 11● Mozilla Firefox 60 ESR and 61.0.2● Google Chrome 68.0.3440
FlexNet licensing module	<ul style="list-style-type: none">● Updates and Insights Toolkits .Net 32-bit, .Net 64-bit, C XT-64, C SDK-64● FlexNet Publisher Toolkit 11.12.0 or later● FlexNet Embedded Toolkit 2015 R2 or later  <hr/> <p>Note • FlexNet Operations 2020 R1 supports these FlexNet Embedded host ID types: Ethernet, FlexID 9, FlexID 10, String, VM_UUID, User, Extended, PUBLISHER_DEFINED, Internet, and Internet6.</p>
Vendor certificate generator	<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">● Windows—Visual Studio 2010 Professional Edition● Linux—gcc 4.1.2 (RHEL 5.0)● Linux—gcc 4.4.4 (RHEL 6.0)  <hr/> <p>Note • 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>

Resolved Issues

Issues in these categories have been resolved:

- [Electronic Software Delivery](#)
- [Entitlement Management Issues Resolved](#)
- [Licensing Issues Resolved](#)
- [SOAP Web Services Issues Resolved](#)

Electronic Software Delivery

The following issues related to Electronic Software Delivery have been resolved.

- [MD5 Verification of Downloaded Files Now Performed](#)
- [Spaces in Download File Names No Longer an Issue](#)



Note • Due to these fixes, you will be prompted to download and install the Download Manager upgrade.

MD5 Verification of Downloaded Files Now Performed

Previously, the Download Manager had no mechanism in place to identify if a downloaded file was corrupted during the download. (For example, a file can become corrupt if communication is lost during the download.) The Download Manager now validates the MD5 checksums of downloaded files. Depending upon the verification results, the download-status popup in the Download Manager will mark a downloaded file with a green tick when the MD5 checksum matches correctly or with a red cross when MD5 checksum does not match. Additionally, a warning message is shown at the top of the download-status popup if any downloaded file has an MD5-checksum mismatch.

Spaces in Download File Names No Longer an Issue

Previously, when a file with spaces in its file name was downloaded, the Download Manager replaced each space in the name with a URL-encoded space character. This issue has been resolved.

Entitlement Management Issues Resolved

The following issues related to Entitlement Management have been resolved.

Permissions Now Correctly Applied to Merge-Entitlements Operations

Previously, a producer with just read-only permissions could merge entitlements and fulfillments. In this release, only producers with sufficient permissions can perform these operations. As a result, the following restrictions now apply to the **Merge Entitlements** page in the FlexNet Operations Producer Portal:

- In the **Assets to be Merged** section, the **Entitlements and Fulfillments** option is available for selection only if the producer is assigned the “Update Entitlements” role.
- In this same section, the **Users** option is available for selection only if the producer is assigned the “View and Manage Users” role.
- If the producer is not assigned either role, the **Complete** button on the **Merge Entitlements** page is disabled to prohibit any entitlement merging.

These same permission restrictions apply to the Web Services `mergeEntitlements` function in the `EntitlementOrderService` interface.

Licensing Issues Resolved

The following issues related to Licensing have been resolved.

Invalid Capability Request Now Providing Appropriate Response

A capability request sent through the Offline Device Management facility can either fully succeed, partially succeed, or not succeed at all. Previously, the response for such a request simply indicated that the license file was created but provided no indication of possible error. Only when users attempted to download the response did they discover whether it was usable.

Now, any message reported in the Status field of the downloadable response is also shown in the **Offline Device Management** page in the UI.

SOAP Web Services Issues Resolved

The following issues related to SOAP Web Services have been resolved:

- [“getFulfillmentsQuery” Omitting Fulfillments Associated with Inactive Line Items](#)
- [Account ID Updated](#)

“getFulfillmentsQuery” Omitting Fulfillments Associated with Inactive Line Items

The results of the Web Services function `getFulfillmentsQuery` now omits any fulfillment associated with an inactive line item (even if the fulfillment itself is still active) and consequently shows only those fulfillments with active line items. (Previously, an error occurred if the function encountered any fulfillment with an inactive line item.)

This fix is applied to the `getFulfillmentsQuery` function only, not to the corresponding FlexNet Operations Web UI functionality. In the UI, a search for active fulfillments from the **List Fulfillments** page returns all such fulfillments regardless of the state of their associated line items.

Account ID Updated

Previously, the Account ID was not getting updated through the `updateAccountRequest` Web Services function if the request contained only the Account ID. However, if the Account Name is also included in the request, the Account ID is updated.

Known Issues

The following are known issues in FlexNet Operations:

- **Custom attribute search limitations**—Currently, you cannot search custom attributes that were created with either of these properties:
 - **Long text** value for the **Type** field
 - **Multi-valued text** value for the **Text type** field
- **Browser restart after Download Manager installation**—After you install the Download Manager, you must restart the browser in which the Download Manager runs before you can perform file downloads.

Special Notes

This section contains special information pertaining to FlexNet Operations.

Communication Between Download Manager and FlexNet Operations

The NetSession-based Akamai download manager has been replaced with a Flexera solution. Using the Flexera Download Manager requires that the port 45786 is open, as the Download Manager will use this port. (The Akamai download manager also required an open port, but the port number was different.) The following topics provide more information about the communication between the Download Manager and FlexNet Operations:

- [Technical Details](#)
- [Communication Using JSON Web Token](#)
- [Process](#)
- [Summary](#)

Technical Details

The following provides some background information.

- The Download Manager is a Node.js Express application that is installed and runs on the client machine. A Node web server is created on the client machine; the Download Manager process runs on this web server listening on port 45786.
- The Download Manager uses port 45786 (<https://127.0.0.1:45786>) for communication with a client and FlexNet Operations server components. Port 45786 was chosen predominantly because it is currently listed as “Unassigned” in the Service Name and Transport Protocol Port Number Registry, indicating that it is not widely used.

Communication Using JSON Web Token

Information between the Download Manager and FlexNet Operations is exchanged using the JSON Web Token (JWT) standard. Information is securely transmitted between the parties as a JSON object. JWTs are digitally signed using a public/private key pair. FlexNet Operations signs the JWT using the private key, and the Download Manager verifies the digital signature using the public key. Once secure communication has been established, files can be downloaded. Communication between FlexNet Operations server components and the Download Manager is unicast only.

Process

The communication between FlexNet Operations and the Download manager can be broken down into the following phases:

Phase 1: FlexNet Operations performs the following steps:

1. Prepares a list of URLs that the Download Manager needs to download
2. Calculates the MD5 digest of the URLs
3. Using the MD5 digest, prepares a JWT and signs it with the corresponding private key
4. Securely sends the signed JWT to the Download Manager

Phase 2: On receiving the list of URLs, the Download Manager does the following:

1. Recalculates the MD5 digest and validates it against the JWT using the public key
2. If it finds the JWT to be valid, proceeds with the download

Phase 3: The Download Manager reports the status of the download progress back to FlexNet Operations.

Summary

Port 45786 is used for both inbound and outbound communication between the Download Manager and FlexNet Operations server components. Information exchanged between the Download Manager and FlexNet Operations can be verified and trusted because it is digitally signed, using the JSON Web Token standard. Port 45786 is an integral part of the client-server architecture and must be open to enable communication between FlexNet Operations and the Download Manager.

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