

**FLEXera**

# Release Notes

FlexNet Manager Suite 2019 R1

August 2019, Version 1.10



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# 1

## Introduction

FlexNet Manager Suite provides software asset, hardware asset, and contract management for enterprises across over 17,000 publishers and more than 275,000 applications. It reports detailed information for installed software, application usage, purchases, and reconciles these to provide a license position.

It inventories virtual environments and Oracle databases, imports inventory from Microsoft System Center Configuration Manager (SCCM) and other inventory tools through configurable adapters, and seamlessly integrates with Enterprise Resource Planning (ERP), Human Resources (HR), Active Directory (AD), and Purchase Order (PO) systems. With its built-in library of more than 1,380,000 Stock Keeping Unit numbers (SKUs), for automated reconciliation of purchases with inventory, and support for the latest license models, FlexNet Manager Suite is used by enterprises to gain control of their software estate and optimize their software spend.

This document contains information about FlexNet Manager Suite, covering:

- FlexNet Manager for Clients
- FlexNet Manager for Datacenters
- FlexNet Manager for SAP Applications
- Service Life Data Pack.

The following products in the suite have their own separate release notes:

- FlexNet Manager for Engineering Applications
- Workflow Manager.

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## 2

## New Features

### Using FlexNet Manager Suite to replace ILMT

This release of FlexNet Manager Suite brings sweeping improvements in IBM PVU license management, for those who have a license variation from IBM allowing you to use FlexNet Manager Suite for sub-capacity license calculations *in place of* ILMT (or other IBM tools) — we'll call this "PVU mode". (If you are not in this group, and either not using IBM PVU licenses at all, or using them but relying on results imported from ILMT, you are unaffected by these changes, and may skip the remainder of this topic.)

If you are in the group running FlexNet Manager Suite in PVU mode, be aware that the upgrade to 2019 R1 brings significant changes:

1. In the brief hours between the upgrade and your next full compliance calculation (or license reconciliation), the results for IBM PVU licenses (including their compliance status) are *not to be used*. The change-over from old calculations to the new, nightly reassessment (described below) is only completed with that next reconciliation.
2. If you have created custom business adapters for importing data with the Business Importer, and any adapters reference the `PeakConsumed` property of IBM PVU licenses, each affected business adapter needs redevelopment before it can run again. That property is no longer available, because of changes in peak calculation (see below).
3. For correct consumption calculations, you will need to register your enterprise group *locations* within the three mandatory IBM regions, and make sure that each device consuming PVU points is 'owned' by the appropriate location.



**Tip:** "Correct consumption" here means consumption shown within the three mandatory IBM regions. Meantime, until you complete these preparations, remaining unassigned consumption is shown in a fourth "Unknown region", for which peak consumption calculations are also run and the results included in any reports you archive for IBM. So while your results have not gone backwards, you have the opportunity to improve the structure and detail of your reports archived for any future audit.

4. It's also valuable now to have a *single* IBM PVU license per product (or bundle), as below. This may mean some work to merge licenses if, for example, you have previously created separate licenses for each region (although these continue to function until you are ready to make improvements). Finally, IBM PVU license property sheets now look different.

In summary, here are the main changes for PVU mode. These notes will help you understand why the impacts are so far reaching:

- There is now built-in support for the three IBM-defined regions where peak consumption must be separately calculated (the Americas, Europe/Africa, and Asia Pacific). The existing `location` type of enterprise group can now be mapped to one of the IBM regions, and as always, locations may be used to mark the **Ownership** of each inventory device that runs software licensed under IBM PVU. Thereafter, devices contribute only to the separately-calculated peak consumption for their allotted region. Reports also include a separate result for any devices consuming from the license that are not yet linked to an IBM region.
- You can now set the cadence of your reporting to IBM (for example, once every 90 days from July 1st), and FlexNet Manager Suite automatically rolls over the reporting period to match your reporting cycle. Of course, the reworked IBM PVU License Consumption Report also allows adjusting the reporting period as required, such as for reporting on prior period(s). There's even a separate 'ignore before' setting for those switching to FlexNet inventory in the middle of a reporting period, so that you can use your ILMT reporting up to your switch-over date, and FlexNet results from that day forward. (You must use one or the other, and cannot combine both tools.)
- Gone is the old method of recording a peak value as a simple high-water mark (and with it, the old manual override of the peak result). Also gone are the separate IBM PVU reconciliations every 30 minutes to update that high-water mark. Hardware and virtualization changes are still discovered on the 30-minute schedule required by IBM, and saved in inventory. From this release, each overnight full compliance calculation completely reworks the regional peak values for the period, with recent changes *applied retroactively* throughout the reporting period. This means that you can make appropriate corrections, and the entire reporting period is reworked as though all your settings had always been correct. Retroactive changes can include (among other things):
  - Assigning a device to the correct location, so that it is linked to the right IBM region; or linking locations to the appropriate IBM region, which may affect many inventory devices (child locations inherit the region setting of their parent, but you can override any region value as required)
  - Correcting hardware inventory for a device (for example, overriding the number of cores reported)
  - Overriding the current consumption for an inventory device, using the **Consumption** tab of the license properties (and it would be good to track why with a note on the license!)
  - Adding the FlexNet inventory agent to a device, which makes it eligible for sub-capacity calculations in FlexNet Manager Suite *throughout* the period (although, of course, it only starts accumulating history from the start of FlexNet inventory, any previous full capacity values are ignored throughout the period)
  - Recording an exemption for a device used only for testing and the like, either by exempting the device role or exempting the device directly on the **Consumption** tab of the license properties
  - Allocating a license to a particular inventory device
  - Any changes to the license use rights, points tables, or other relevant settings
  - Any changes to the number of distinct products linked to a license (for example, changing from a single product license to a multi-product license, reflecting a software bundle).

The retrospective calculations also rely on all-new historical data saved from FlexNet inventory for PVU-related devices. This historical data covers hardware and software changes reported by the locally-installed FlexNet inventory agent. You can set how long historical data is retained, with the default being a rolling 180 days (typically two quarterly reporting cycles) – and of course, you should also be archiving your PVU consumption reports for the

minimum two years that IBM requires. If you are using a cloud-based implementation in one of the Flexera-hosted instances, historical details of your PVU-related devices and installed software have been logged for you since the previous release, around October 1, 2018. For on-premises implementations, the same history tracking started immediately after you upgraded to release 2018 R2; or, if you skipped that release, it starts after you upgrade to 2019 R1.

- With the need for historical data in compliance calculations comes the need to preserve historical records of decommissioned inventory devices. A new **Archived** status means the device acts in FlexNet Manager Suite as if it has been deleted, playing no further part in other license management; but its historical records remain available for retrospective PVU calculations covering the time before it was archived. There's also a new **Archived inventory** view where you can review all these devices. There are three ways for a device to be archived:
  - If, in PVU mode, a device that already has historical data disappears from all inventory sources, the normal automatic data cleanup now archives that device, rather than deleting it.
  - Similarly, if you delete an inventory connection that is the last source of imported inventory for a set of devices, then all those devices that are linked to asset records go into the **Awaiting** inventory state; ordinary devices that are neither linked to asset records nor linked to IBM PVU licenses are deleted; but those special, non-asset devices linked to IBM PVU licenses are **Archived**.
  - An operator can select the device in any listing of either *discovered* devices or *inventory* devices, and click **Delete**. Ordinary devices are deleted; but those with historical PVU data are instead archived.

Once archived, a device is automatically deleted after its archive date is outside your data retention period (default: 180 days), because at that stage its historical data no longer impacts peak consumption calculations. This prevents old and irrelevant data from cluttering up your database.

- To display all the regional results, the **Compliance** tab for IBM PVU licenses takes on a flexible new appearance tailored to your situation:
  - If you are *not* using FlexNet inventory for sub-capacity calculations, it looks pretty much like any other license compliance summary.
  - Once FlexNet Manager Suite has completed a full license reconciliation while in PVU mode, it shows the three regional consumption peaks, and the independent dates when these occurred.
  - If you have devices not yet assigned to any IBM regions, a separate sub-capacity result is shown for that set, both as a default report and as a kind of error bar against the regional results (since that extra number of consumed but unassigned points really belongs somewhere within the IBM regions).
  - If you also have inventory devices on the license that are *ineligible* for sub-capacity calculations (typically because they do not have the FlexNet inventory agent installed), additional *full* capacity results are also displayed for the three regions, with another line item possible for unassigned full-capacity devices (if any).
  - Finally, the total of all available rows is shown as the estimated exposure for PVU points consumed. As always, the same tab also shows the worldwide total of recorded purchases of license entitlements, together with the net surplus or deficit.
  - For comparison purposes, the *current* consumption (as at the most recent reconciliation) is also shown summarized for each region/group, so that line-by-line you can compare the current figure against the peak. (You can check current consumption from each device attached to this license in the **Consumption** tab.)



**Tip:** Both sub-capacity peaks and current consumption figures are now scoped by the data access rights of the operator. For example, an operator permitted to see data from only certain locations sees the same peak dates, but for each date sees only the contributions to the peak from inventory devices owned in those same permitted locations. (Of course, those contributions in other regions may well be zero, if the operator does not have access to data from the appropriate locations.)

- The **Consumption** tab for IBM PVU licenses also gets new features:
  - New columns in the column chooser can be added to the list of consuming devices, to show the **IBM region**, **Device status**, and **Sub-capacity eligibility** for each device.
  - The search for inventory devices to which to allocate license entitlements now also displays archived devices (in case you need to correct a historical allocation).
  - Archived devices that were previously attached to the license (before they were deleted) remain visible in the list of consuming devices; but since this tab displays *current* consumption, an archived device always shows zero points currently consumed, just as you expect.
- You'll also like the revamped IBM PVU License Consumption report. As well as archiving standard reports for review by IBM, you can now customize the report for your own special investigations:
  - Report on any period
  - Filter to individual licenses
  - Check details for each of the IBM-defined regions
  - See the contributions both from devices eligible for sub-capacity calculations and those that must be calculated at full capacity (which means there's no need for a separate spreadsheet of full capacity devices, as you used to submit back in the ILMT-only days)
  - Identify not only the guest VMs contributing to peak values, but also their hosts; as well as the PVU-licensed software on those devices
  - Understand the full capacity of each host that may be capping the calculation of points consumed by the VMs on that host.

With consumption calculations spread across the three mandatory IBM regions, it's best practice to have just *one* IBM PVU license for each product (or bundle). This allows for correct calculation of peaks in each region, and the necessary summing operations to get your final consumption figure. One PVU specialization to be aware of is that, in the reconciliation process, the availability of unused entitlements is no longer a factor in prioritizing the choice of one license among many IBM PVU licenses for the same product(s). This is another reason that it's best to have just one PVU license per product set. If you have a strong reason to use multiple PVU licenses for the same product(s) – for example, your history of mergers and acquisitions results in separate billings from IBM – make wise use of either license **Restrictions** or allocations to scope each license appropriately.

One other corner case may cause a decrease in your PVU consumption at this release. If you have this unusual situation:

- Device(s) attached to IBM PVU licenses have an Ignored status
- Nevertheless, you have *allocated* those ignored devices to their PVU license
- The allocation should *force* license consumption for normal devices (either because you chose a Permanent allocation on the **Consumption** tab of the license, or because you set **Allocations consume license entitlements** on



the **Use rights & rules** tab of the relevant license)

then from release 2019 R1, IBM PVU licenses correctly honor the Ignored setting for the devices, and prevent them consuming. Since, in earlier releases, the allocation forced consumption from *all* devices, this correction reduces the consumption result by discounting any devices in this unusual situation. (For other license types, the best correction is to remove the allocation from ignored devices.)

## New Microsoft 365 connector

FlexNet Manager Suite 2019 R1 introduces the new **Microsoft 365** connector, a replacement for the existing **Microsoft Office 365** connector. The legacy **Microsoft Office 365** connector now appears in FlexNet Beacon as **Microsoft Office 365 (deprecated)** and at a future time, will no longer be supported.

We recommend that you now use the new **Microsoft 365** connector as it provides the following benefits and improvements over the existing connector:

- Yields more accurate and robust data through the use of the Microsoft Graph API that is designed specifically to extract usage patterns.
- Provides greater control over access tokens thereby facilitating better issue resolution.
- Supports Microsoft 365's multi-factor authentication for tenants that have it enabled.
- Eliminates the ability of the connector from making any changes to your Microsoft account because the permissions used in this connector are read-only. An Active Directory administrator grants consent to the application to use the read-only permissions.
- Provides greater usage information. The following usage information is collected from the Microsoft 365 connector:
  - Exchange
  - Skype for Business
  - OneDrive
  - SharePoint
  - Yammer
  - Teams



**Note:** To help during the transition period, both connectors are still available.

For more information, see the *FlexNet Manager Suite Inventory Adapters and Connectors Reference* accessible from the title page of the online help.

## Import cloud service provider data for Microsoft Azure virtual machines

A new Microsoft Azure inventory connector partially automates the process of gathering Microsoft Azure virtual machine inventory data, managed by Azure Resource Manager.

Microsoft Azure virtual machine inventory must still be collected using the FlexNet inventory agent (recommended) or third party inventory tools. Supplementary information is retrieved by calling Azure PowerShell modules, and then mapped to inventory devices using the universal unique identifier (UUID) of the virtual machine (also known as the Azure VM Unique ID or vmId). The imported properties of matched inventory devices are then displayed on the **Cloud hosting** tab of the inventory device properties page.

All data imported using the new Microsoft Azure adapter is displayed on the **Cloud Service Provider Inventory** page. From here you can find any gaps between the cloud inventory and inventory collected by FlexNet inventory agent or third party inventory tools. For example, if someone stands up a VM in the cloud without an installed FlexNet inventory agent, the missing inventory is highlighted on this page.

As of FlexNet Manager Suite 2018 R2, cloud instance properties are available in business import, inventory spreadsheet upload, and in custom reports, and can be used with data related to Microsoft Azure VMs.



**Tip:** If you are using the Microsoft Azure adapter, matching inventory can be collected with FlexNet inventory agent release 2018 R1 (13.0.0) or later. The 2019 R1 version of FlexNet inventory agent (13.2.0) has been further enhanced to collect the full set of Microsoft Azure VM data, and this version does not require use of the Microsoft Azure adapter to provide complete inventory. (However, the Microsoft Azure adapter is still required to identify inventory gaps in the **Cloud Service Provider Inventory** page.) It is best practice to deploy the current version of FlexNet inventory agent whenever possible.

After June 30, 2019, Microsoft is retiring the APIs for its classic deployment model. The Microsoft Azure inventory connector does not collect virtual machine inventory for virtual machines managed by this model. The latest FlexNet inventory agent may be installed on these virtual machines to collect inventory, but because of the classic deployment model, it cannot differentiate between Azure in the cloud and Azure on-premises. For these VMs, we recommend you use an alternative such as the inventory spreadsheet upload, or simply modify records manually, to correct any missing information.

## Inventory and license optimization support for SAP S/4HANA

This release introduces new features which continue to improve your ability to manage SAP S/4HANA using FlexNet Manager for SAP Applications.

FlexNet Manager Suite now provides you with accurate inventory for S/4HANA-dependent SAP systems in your SAP system landscape. You may choose to model these S/4HANA systems using either FlexNet Manager for SAP Applications, or directly in SAP and importing results using an inventory beacon. Once modeled, the license optimization for these S/4HANA systems can be managed within FlexNet Manager Suite. As a software asset manager, you can now choose to:

1. Import and synchronize system landscapes that include S/4HANA systems into the SAP Admin module
2. Import S/4HANA inventory for Named User and Package license consumption
3. Configure license reconciliation rules for S/4HANA.

After this process, your optimization recommendations and license position include your S/4HANA systems.

In addition, you can now utilize license optimization recommendations for S/4HANA using a similar optimization workflow to SAP ECC. FlexNet Manager for SAP Applications now enables you to view the optimization recommendations for S/4HANA licenses and then process these recommendations using the SAP admin module.

Finally, the Consumption Analysis, Role Utilization, and Indirect Access Evidence analysis tools now include S/4HANA data as well.

## Deploying and upgrading FlexNet inventory agents

The **Inventory Settings** page has been enhanced to help you manage the versions of FlexNet inventory agent deployed to those inventory devices where the agent is managed by downloaded policy (that is, where FlexNet inventory agent communicates automatically with an inventory beacon, both for inventory uploads and policy or configuration downloads).



**Tip:** The same version of FlexNet inventory agent that you specify for automatic upgrades is also used for all adoptions (automatic deployment of the FlexNet inventory agent to newly-discovered devices).

This new control enables you to:

- Prevent any automatic upgrades of FlexNet inventory agent (for example, because you are managing upgrades with third-party tools), or
- Choose one of the versions available from the application server, and specify any combination of the supported platforms that should self-update to your approved version.

You can also choose whether the FlexNet inventory agent will upgrade automatically, or whether you prefer to use a manual upgrade process, which is the default option. To help you decide whether automatic deployment of upgrades is suitable for your organization, a help link provides information on situations where automatic deployment is not recommended.

On platforms that you do not select at this time, operational FlexNet inventory agents are completely unaffected by the current setting, and continue using their existing version of FlexNet inventory agent for the time being. This means that *in a stable environment*, it is *possible* to use (and re-use) these controls to work through scenarios such as:

- Releasing versions to specific platforms as you complete testing; and have a different timing for other platforms.
- Where you may have approved one version globally, but then find an issue affecting one platform (for example Solaris). Choosing only Solaris platforms, and assigning an earlier (known good) version of FlexNet inventory agent, automatically rolls back the FlexNet inventory agent on all devices running Solaris. Later, when a repaired version is available, you can authorize that repaired version for the Solaris platforms, as well as for any other platforms you wish.

However, be mindful about scenarios like this one:

1. You specify 13.1.1 as the upgrade version for AIX and Windows platforms. This policy is distributed, and the installed FlexNet inventory agents self-update to this version on the two specified platforms.
2. Next, you *deselect* AIX, and specify 13.2.0 for Windows platforms only. The new policy is distributed. On Windows devices, the FlexNet inventory agent self-upgrades, but the AIX agents do nothing (because they are not mentioned in the current policy).
3. A new AIX device is deployed, and falls within a target that specifies adoption. Because the version specified for all adoptions (as well as selected upgrades) is currently 13.2.0, the newly adopted AIX device gets version 13.2.0, unlike all other AIX devices that (by previous policy) are stable at 13.1.1.

Therefore, in a more dynamic environment where new devices are deployed and discovered relatively frequently, it is safer and easier to use this control as intended:

- Specify the *version* to be used both for all adoptions and for self-upgrades on selected platforms
- Identify the *platforms* where you allow self-updates, and use your third-party tools to manage upgrades on all other, unselected platforms
- Keep the settings stable until you are ready to deploy, and update to, a new version of FlexNet inventory agent .

A new management view called **FlexNet Inventory Agent Status** has also been added (accessible from **Discovery & Inventory > FlexNet Inventory Agent Status**, in the **Inventory** group). This shows you all of your inventory devices that have been identified as either:

- Having the FlexNet inventory agent installed
- Being specified in a target (for a discovery and inventory rule) that includes the option of adoption (note that simply being *included* in the target is enough, and it is not necessary for the target to be in use within any rule).

The list excludes any inventory devices that have been ignored.



**Note:** Due to a known issue in FlexNet Manager Suite where the version of the FlexNet inventory agent cannot be identified on Mac OS X devices, these devices do not appear in this list.

Installations of FlexNet inventory agent in custom locations on either AIX or Linux operating systems now support automatic upgrades and downgrades, once the 13.2.0 (or later) FlexNet inventory agent is installed and running (and a later version is the intended upgrade).

## Version control for FlexNet inventory agent recognition rules

FlexNet Manager Suite now enables you to select the version of the FlexNet inventory agent recognition rules to be used by the inventory agent. By default, these rules will continue to update automatically via the Application Recognition Library update process, however you now have the ability to prevent further updates being deployed to your inventory agents by authorizing a specific version of these rules.

In addition, you are now able to download and test a specific version of the rules first before approving that version to be deployed to all inventory agents if you have chosen not to automatically remain up to date. This provides you with full control over your organization's change management process.

You can only approve versions which are the same or higher than the version currently in use. Once a version has been approved you cannot roll back to a lower version.

## ServiceNow integration application certification

FlexNet Manager Suite has updated its ServiceNow integration application (FlexNet Manager Suite for Enterprises) to version 4.0. The application, which has received ServiceNow certification, adds the following new and improved

functionality:

- **Support for ServiceNow versions Jakarta, Kingston, and London.**
- **Removed requirement to use the Software Asset Management Foundation plugin** — Prior to integration application v4.0, application records were stored into Software Asset Management (SAM) Foundation plugin tables. With v4.0, you now have the option to store imported application records into Configuration Management Database (CMDB) tables, SAM tables, or both. A new integration property, **Use CMDB and/or SAM tables for installation**, has been added to the **Integration Properties** page. As a result of this enhancement, the SAM Foundation plugin is no longer a requirement for using the integration application.
- **Hardware inventory exports from FlexNet Manager Suite now create virtual machine records giving a better picture of your hardware estate** — Hardware Inventory exports from FlexNet Manager Suite now create virtual machine records in ServiceNow and classifies them as a Hyper-V, VMware, Solaris, EC2, or for all others, Virtual Machine Instance. A new integration property, **Updating inventory class name (sys\_class\_name)**, lets you choose whether FlexNet Manager Suite or ServiceNow is to be used as the source of truth when updating the inventory class name.
- **Hardware inventory exports from FlexNet Manager Suite further classify computer records for more accurate reporting** — Additional classification details are included with data exported from FlexNet Manager Suite to ServiceNow. Computer records are further classified as Virtualization Server (Hyper-V/ESX) and Linux, Unix (Solaris, AIX, HP-UX) and Windows Server. A new integration property, **Updating inventory class name (sys\_class\_name)**, lets you choose whether FlexNet Manager Suite or ServiceNow is to be used as the source of truth when updating the inventory class name.
- **Database views can now be easily customized** — Database views used in exporting contracts and assets from ServiceNow to FlexNet Manager Suite can now be easily customized to export additional—or remove existing—fields. A new integration property, **Exclude virtual machine assets**, has been added to allow you to easily exclude virtual machine assets when exporting data from ServiceNow.
- **Reduced import times and faster loading of Import Transaction views** — Multiple data chunk imports (**Import Transactions**) can now be processed simultaneously, reducing overall import time. In addition, imported chunks of data are now cleared after they are successfully imported, which reduces storage usage and significantly optimizes the loading of **Import Transactions** views.
- **Redesigned integration application menu provides more intuitive navigation** — The FlexNet Manager Suite integration application menu in ServiceNow has been reordered into a more logical grouping of options resulting in easier and more intuitive navigation.
- **Added new views to provide quick access to integrated records** — New views have been added under **FlexNet Manager Suite > Imported Records** to provide a quick view of integrated records for: **Computers, Virtual Machine, Software Installed, and Contracts.**
- **Greatly reduced processing times when importing to ServiceNow using a full export from FlexNet Manager Suite** — When you perform a full export in FlexNet Manager Suite (on the **ServiceNow** tab in **System Settings**), the only records that are now exported are active records. Previously, a full export sent deleted records as well, resulting in an unnecessarily large exported dataset as well as long processing times in ServiceNow. With the optimization of the full export to only include active records, it is now easier to keep data synchronized between FlexNet Manager Suite and ServiceNow.

For more information, see the *FlexNet Manager Suite Inventory Adapters and Connectors Reference* accessible from the

title page of the online help.

# 3

## Changes from Previous Releases

### Changes to FlexNet Manager Suite products

The FlexNet Manager Suite license model has been simplified by combining all server based products (for IBM, Microsoft, Oracle, Symantec, VMware) as optional components of the new FlexNet Manager for Datacenters product.

The **FlexNet Manager Suite License** page reflects these changes by displaying a single card for the FlexNet Manager for Datacenters product with a link which you can click to view a list of the server based products that you have purchased and can manage under the current license, and any additional products that are supported by this license but which you are not currently licensed for.



**Note:** This change does not affect the FlexNet Manager for Clients base product on which FlexNet Manager Suite is built.

### Relocation of FlexNet inventory agent download

FlexNet inventory agents are now downloadable from the **Discovery & Inventory > Settings** page. Previously these agents were downloaded by clicking the **Download inventory agent** button on the **Data Inputs** page. This button is now renamed **Manage inventory agent** and it redirects you to the new location.

### Improvements to license consumption optimization

This release improves the way that upgrade rights are managed when application release dates are unavailable. When an application recorded in the Application Recognition Library (ARL) does not contain a release date, the application is considered to have been released at some time in the past, so that, provided the license includes maintenance, the application is available for use as an upgrade.

Additionally, FlexNet Manager Suite 2019 R1 improves the way that upgrade and downgrade rights are managed in a

specific case when:

- An operator has manually linked an application to a license that allows upgrades or downgrades of either the version or edition of the application
- Two applications (from the same product) are available, one with a newer version but a lower edition, and the other with an older version but a higher edition.

Previously in this unusual case, the upgrade and downgrade functionality may have linked application installations with a less-than-optimal license, or it may have left the installation unlicensed. The current improvements link installations to an appropriate license; but this may mean some minor changes to your consumption results, if this case exists in your environment.

## License compliance position based on assignment at scoped user level

When your organization uses group assignments on licenses without any group level purchases, your license position is now calculated based on assigned licenses compared to consumed licenses. This information displays in the compliance tab of license properties. This enhancement only applies when there are no group level purchases; otherwise, the calculated license position remains unchanged.

## Oracle Server Worksheet report improvements

Changes to the Oracle Server Worksheet for Oracle Database report (previously the Oracle Server Worksheet report) make it easier and faster for you to complete the Oracle Server Worksheet (OSW). This is the file that Oracle License Management Services (LMS) sends to organizations during the first stages of an audit. The OSW template provided by Oracle is a macro-enabled Microsoft Excel spreadsheet that is populated for your official self-declaration. Based on the information you provide in the OSW, Oracle LMS will perform script checks (during an audit), or calculate your usage (if declaration-only).


To transfer data from the Oracle Server Worksheet for Database report you must create and export the report, and then copy and paste the data into your OSW. This transfer process has been simplified by modifying the column titles and column order of the Oracle Server Worksheet for Databases report to match Oracle's OSW.



**Note:** Please update your existing Oracle Server Worksheet files to the new format or your next import may result in an import error.

Here is a breakdown of these changes:



New/Modified Columns	Column name
New columns	<ul style="list-style-type: none"> <li>• <b>Cores per processor</b></li> <li>• <b>Pluggable DB name (PDB)</b></li> <li>• <b>Processor model</b></li> <li>• <b>Notes</b></li> <li>• <b>Virtual server name</b></li> <li>• <b>Virtualization/Partitioning technology</b></li> </ul>
Columns with corrected data	<ul style="list-style-type: none"> <li>• <b>License metric (NUP/Processor)</b></li> <li>• <b>Number of licenses in use</b> — The number of licenses being consumed by this Oracle database instance. This value differs depending on the license metric as follows: <ul style="list-style-type: none"> <li>◦ If the database is consuming from an Oracle Named User Plus (NUP) license, then this value is the number of users connecting to the database.</li> <li>◦ If the database is consuming from an Oracle Processor license (Processor) then this value is based on the properties of the physical server such as the number of cores and processor type. For cases where the physical server is hosting multiple virtual servers, the number of licenses in use will be equal to the number of virtual servers. In this case, a value is only displayed for this physical server, and the remaining results will display a value of zero.</li> </ul> </li> <li>• <b>Options &amp; Mgmt packs in use</b> — Oracle Databases and Options/Management packs are only displayed when they satisfy the following conditions: <ul style="list-style-type: none"> <li>◦ They are linked to a license where they are not supplementary applications and counted for consumption</li> <li>◦ They are linked to a license from which they, or their device (Including VM Ware/ Hyper V) consume a license</li> <li>◦ They are not linked to ignored devices</li> <li>◦ They are installed and in use.</li> </ul> <hr/> <p> <b>Note:</b> Oracle Databases and Options/Management packs are currently displayed in the same column, and therefore this data must be manually divided into two separate columns, when transferring into the OSW.</p> </li> <li>• <b>Server name</b> — this column previously displayed collected data for both physical servers and virtual servers. It is now renamed as <b>Physical server name</b> and it only contains data for physical servers. The new column <b>Virtual server name</b> contains virtual server data.</li> </ul>

New/Modified Columns	Column name
Removed columns	<ul style="list-style-type: none"> <li>• <b>Application name</b></li> <li>• <b>Application vendor</b></li> <li>• <b>AppType</b></li> <li>• <b>Architecture</b></li> <li>• <b>Batching to/from</b></li> <li>• <b>Connection string</b></li> <li>• <b>CSI number</b></li> <li>• <b>Hyper-threading</b></li> <li>• <b>Only licensable installations</b></li> <li>• <b>Web/App server name</b></li> </ul>

## SAP license position calculation

Improvements to the method used to calculate your SAP license position and/or your license position simulation enable you to continue using the FlexNet Manager for SAP Applications user interface while the calculation is running.

In previous versions of FlexNet Manager for SAP Applications, when you were running a calculation, the user interface prevented you from using FlexNet Manager for SAP Applications until after the calculation was completed.

The new method performs the calculation in the background using the batch processor. Now when you choose to run the calculation a message displays notifying you that a license position calculation is in progress and another message displays notifying you when the calculation is completed.

## Other Documentation Improvements

The following have been added to the online help:

- The new *Software License Optimization Practice Guide* PDF which guides you through the process of planning and implementing your Software License Optimization (SLO) program is available from the home page of online help. This document helps you to quickly establish your initial license position and then incrementally refine and optimize your position.
- A new section detailing how to generate and read FlexNet Manager Suite reports has been added to the online help under **FlexNet Manager Suite Help > Reports**.

# VMware inventory enhancement withdrawn

Originally, for FlexNet Manager Suite 2018 R2, we had announced an enhancement that reported vCenter Site Recovery Manager and VMware vSAN software within VMware inventory. Regrettably, experience showed that the API used did not reliably return sufficient information for licensing purposes. On the advice of early adopters, and in the spirit of continuous improvement, from this release we have withdrawn this functionality until it can be made effective and reliable.

## 4

# General Information

## License Agreement

If your company has purchased a license and signed a software license agreement with Flexera or an authorized Flexera reseller, the terms and conditions of that agreement govern all use of this software. Otherwise, use of this software, on either an evaluation or a fully-paid license basis, is subject to the terms and conditions of the FlexNet Manager Suite "click-through" End User License Agreement, which can be found in the downloaded installation package.

If you do not agree with the terms of the applicable software license agreement, you may not install FlexNet Manager Suite onto any of your computers or, if already installed, you must remove it from all computers on which it is installed. You must also return or destroy all copies of the software in your possession.

### License Compatibility

This release does not require an updated license when upgrading from FlexNet Manager Suite 2017 R3 or later. Performing an upgrade from any earlier release will require an updated license to install FlexNet Manager Suite.

If, for any reason, you require a new license key for your on-premises installation, please contact [support@flexera.com](mailto:support@flexera.com). Once the license has been created, it will be emailed to the requester, and a copy stored in the [Product and License Center](#). The updated license must then be imported into FlexNet Manager Suite.

## Resolved Issues

The following issues have been resolved in FlexNet Manager Suite 2019 R1 release since the release of FlexNet Manager Suite 2018 R2.

Issue Number	Summary
IOJ-1900220	"Input string was not in a correct format" error on "Recommended License Changes" view
IOJ-1912877	Reconcile fails with FOREIGN KEY violation "FK_VMHostDatastore_HostComplianceComputerID" if an imported computer and store point to a nonexistant ComplianceComputerID & ConnectionID
IOJ-1895583	Licenses using the Upgrade until option may not contain expected applications when application release date is unavailable

Issue Number	Summary
IOJ-1904017	An upgrade to FlexNet Manager Suite 2016 may result in Licenses losing their upgrade and downgrade rights settings
IOJ-1877178	Active Directory fails to import user data if user with same name and domain already exists in the Inventory database
IOJ-1905701	Multi-edit of licenses may result in the loss of Points rule set association
IOJ-1907168	Upgrade and downgrade rights may be removed from a license when an attached application is moved to a different Product family
IOJ-1904134	Inventory import may fail if Oracle LMS audit data is more than 2 GB
IOJ-1894940	Incorrect consumption count is displayed for Microsoft Server Processor license
IOJ-1895712	Processor Points license may provide incorrect license consumption count
IOJ-1879362	Imported PVU points from ILMT does not consider primary/supplementary while consuming license.
IOJ-1907160	Points based licenses over consume when multiple installations on one virtual machine
IOJ-1908014	ADDM import failure when multiple CPU or Hardware Evidence records exist for a single Host
IOJ-1904030	Deleting a host with VMs where a VM is a parent instance or an OEM can result in Foreign key constraint error
IOJ-1903803	Cloud provider blob data may not fit in the column size
IOJ-1903791	License upgrade and downgrade rights are lost when unrelated applications are deleted
IOJ-1909109	Deleting an application which is manually associated with a license removes upgrade and downgrade rights and causes error when trying to edit license
IOJ-1890255	Purchase Use Right Library (PURL) update may fail if linked SKU to license software definition is deleted
IOJ-1905567	Reference to CloudServiceInstance is not removed before deleting dummy computer
IOJ-1907791	SAP Simulation may time out when performed on a large volume of roles
IOJ-1896616	Hosts may be merged into a single instance when serial number and names are the same causing incorrect license position
IOJ-1902920	Tenant specific Precalc jobs hanging because of bad query plan for SaaS license
IOJ-1907452	Upgrade and downgrade rights are lost and cannot be defined on a license after all applications are disassociated
IOJ-1908161	Import may fail with "System.ArgumentException: An item with the same key has already been added."
IOJ-1915084	ADDM adapter should run in x64 mode on x64 operating system
IOJ-1811429	Covers number of VM use right is not working correctly device and processor license type
IOJ-1910506	Beacon fails to download policy due to duplicate in Key column of BeaconTargetSite
IOJ-1849233	Additional applications are added to license when they share the same version weight

Issue Number	Summary
IOJ-1907170	Upgrade and downgrade rights may exclude validly licensed applications when multiple applications from the same product family are manually linked to a license
IOJ-1863596	Unable to import Oracle option data when using CSV inventory spreadsheets
IOJ-1907816	IM hardware reader may take hours
IOJ-1898032	An Amazon Web Services import will fail when the Inventory Beacon uses a proxy server
IOJ-1889241	Cannot exempt devices from MS Device CAL license consumption
IOJ-1907205	License reconcile may not reset license consumption when contributing product is removed from a license
IOJ-1778559	FlexNet Beacon may not serve policy to inventory agent when IBM PVU mode is enabled
IOJ-1850917	FlexNet Inventory agent-based Oracle inventory fails when home path has a trailing slash
IOJ-1903667	SaaS usage summary report can take a long time to run or even time out
IOJ-1896760	When installing FlexNet Manager Suite in an environment with SQL Server Availability Groups, PowerShell fails with a SQL connection timeout
IOJ-1902833	Inventory import performance may be poor when importing (CAL) Client Access License from SCCM servers
IOJ-1903253	Multi-edit would not let user to select empty value for a drop down customer property
IOJ-1864736	No reporting of hosts with overridden consumption on IBM PVU licenses for IBM audit reporting
IOJ-1905215	Out of the box Oracle Server Worksheet report may timeout
IOJ-1894888	Powershell based adapters can insert data into FlexNet Manager Suite that exceeds the defined column length
IOJ-1906324	Syntax error may occur when migrating from FlexNet Manager Suite 2017 R1 to 2017 R2 because of use of SQL reserved word
IOJ-1904014	Adding and removing applications from license may fail
IOJ-1827747	Office 365 inventory import is not reliably collecting all usage information
IOJ-1816936	Unable to process a purchase and apply entitlement to license of the same scoped group using scoped operator
IOJ-1890279	Compliance Status of licenses does not match in All Licenses grid and License Summary grid
IOJ-1894188	Obsolete Oracle instances may not be automatically cleaned if duplicate record exists in Flexera Inventory database
IOJ-1910504	Inventory agent may hang if oracle database is not in healthy state
IOJ-1889441	Hosts belonging to different clusters with the same name sometimes appear under the incorrect cluster
IOJ-1828556	IBM PVU License Consumption Report excludes devices that are not inventoried by FlexNet Manager Suite or ILMT
IOJ-1836012	Solaris host would not consume points if global zone inventory is missing

Issue Number	Summary
IOJ-1876320	On platforms that support TLS 1.2, the Beacon does not use it by default
IOJ-1905900	Assets not in Inventory Report displays an Archived option in the filter for the (Inventory Device) Status property
IOJ-1875934	List of reports in the Report Index tab are not sorted in alphabetical order
IOJ-1835633	FlexNet Manager Suite does not consider a potential ServiceNow instance change when exporting differential data
IOJ-1895951	Assigned User and Calculated User is Empty on Devices Tab
IOJ-1895204	Inconsistent naming - Lifecycle column on Cloud service provider inventory page must be called "Purchased option"
IOJ-1810303	A red bar error may appear when clicking on 'Move Maintenance and entitlements'
IOJ-1904395	ARL import failed with ARLUpdateEvidenceLinks Violation of PRIMARY KEY constraint 'PK_SoftwareTitleInstallerEvidence'
IOJ-1907588	Inventory which is not from an OEM server can sometimes set InventorySource=OEM
IOJ-1904149	"Recommended change" column shows garbled characters in Japanese
IOJ-1907285	Default schedule "AWS imports" is not created if schedule.xml already exists during upgrade

## Known Issues

A list of known issues for the FlexNet Manager Suite 2019 R1 release is available from the Flexera support site at the time of release. Please refer to Knowledge Base article [Known Issues for FlexNet Manager Suite 2019 R1](#) for details.

## Documentation

Documentation for FlexNet Manager Suite 2019 R1 is provided as online help. From the web user interface, click the question mark icon to launch the help. Additional documents are available from the title page of the online help. Note that both the online help and additional documents are customized for their different contexts, so that appropriate differences exist between the on-premises and cloud versions of all documentation. You can also access the documentation files from Flexera HelpNet .

Documentation Component	Language
Online help	English
	German
	French — for FlexNet Manager for SAP Applications functionality.
Additional PDF documents	English
	German — for FlexNet Manager for SAP Applications user and installation guides.

For installation and upgrade documentation, please refer to the section in this document called [Installation and](#)

## General Information

Upgrade Advice.



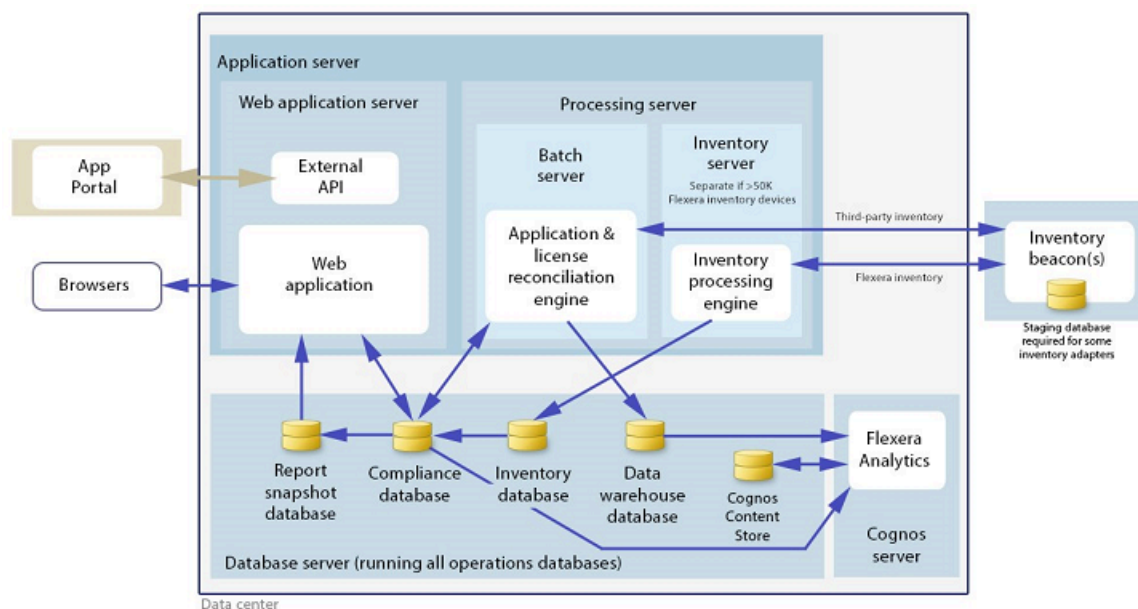
## 5

# System Requirements

The system requirements are based on typical implementations in the range of 10,000 to 200,000 devices. For larger implementations, it is recommended you engage the Flexera Global Consulting Services team or a Flexera partner experienced in large scale FlexNet Manager Suite deployments.

The following diagram shows the structure of a typical implementation:

**Figure 1:** Structure of a typical implementation



See the *Installing FlexNet Manager Suite 2019 R1 On-Premises* guide for recommendations on how many servers are appropriate for your implementation.

Please consult the *FNМ-SAP Sizing Guidelines 2019 R1* guide, available from the *Installation Documentation for FlexNet Manager Suite 2019 R1* download file, for recommendations on sizing an implementation that uses only FlexNet Manager for SAP Applications functionality.

# Hardware Requirements

The following tables describe the hardware requirements for your application server and database server based on a given number of records (such as operators, devices, and software licenses) within your FlexNet Manager Suite 2019 R1 installations, as well as Flexera Analytics (Cognos) server, FlexNet Beacon and FlexNet inventory agent.

## Application Server

Category	Requirement
Processors	4 cores, with up to 8 cores if more than 100 operators
Memory	8 GB
System drive	60 GB This includes an allowance of 8GB for the DataImport folder used for ARL, PURLs, SKU library, and EOSL library updates.

## Database Server

Category	Requirement	
Processors	4 cores per 100 operators	
Memory available for SQL Server	16 GB per 50,000 devices	
System drive	40 GB	
Data drives (Typical figures based on “simple” database recovery model)	Compliance database data	Per 10,000 devices: 30 GB in first year + 15 GB growth per year
	Compliance database logs	25 GB per 10,000 devices
	Inventory database data	20 GB per 10,000 devices with FlexNet Inventory
	Inventory database logs	10 GB per 10,000 devices with FlexNet Inventory
	Report snapshot database data	10 GB
	Report snapshot database logs	10 GB
	Data warehouse database data	20 GB per 1,000 licenses
	Data warehouse database logs	20 GB
	tempdb data	5 GB per 10,000 devices
	tempdb logs	1 GB per 10,000 devices

Category	Requirement
	Cognos content store data + logs
	1 GB
	<b>Total</b>
	60 GB + 80 GB per 10,000 devices
	<b>Annual Growth Rate</b>
	15 GB per 10,000 devices

### Flexera Analytics (Cognos) Server

Category	Requirement
Processors	4 cores
Memory	16 GB + recommended
System drive	100 GB


### FlexNet Beacon

Category	Requirement
Processors	2 cores
Memory	4 GB minimum, 8 GB or higher recommended
Minimum free disk space	1 GB per 10,000 devices

### FlexNet inventory agent

Category	Requirement
Processors	1 core
Memory	512 MB minimum, 2 GB or higher recommended
Minimum free disk space	25 MB installation + 100 MB workspace

# Network Requirements

Category	Requirement	
Internet Protocol version	IPv4, IPv6 and dual-stack	<p>Remote execution (such as remote discovery and inventory collection) requires IPv4.</p> <p>Communication between FlexNet Manager Suite in the cloud and the top-level inventory beacon server(s) requires IPv4.</p> <p>Microsoft CAL device license calculations require IPv4 for CAL evidence collection and computer inventory.</p>
Ports	Minimally, 80 (for HTTP) or 443 (for HTTPS) to access the central application server(s).	 <b>Note:</b> Other optional inventory sources may require additional ports. For further details, refer to the topic <i>Ports and URLs for inventory beacons</i> in the online help.
Transport Layer Security (TLS)	1.1, 1.2	TLS 1.1 or 1.2 (recommended) are required for communication between the inventory beacon and the application server, and between the application server and the Flexera Analytics server (powered by Cognos).

## Compatibility with Other Products

This section describes the compatibility of FlexNet Manager Suite 2019 R1 with other products at the time of release.

### Installation on the Same Server

The following table lists the supported versions of components that can be installed on the same server as a FlexNet Manager Suite 2019 R1 application server.

Component	Version that can be installed on the same server as FlexNet Manager Suite 2019 R1
FlexNet inventory agent	2019 R1
FlexNet Beacon	2019 R1
Flexera Analytics	2018 R2





**Note:** The release of FlexNet Manager Suite 2019 R1 does not include an update for Flexera Analytics.


### Integration with Other Products

FlexNet Manager Suite integrates with the following products and components. Support for third-party products is

based on the original software vendors publicly stated support dates. If an environment is no longer supported by the original software producer, Flexera will provide "as is" support, meaning troubleshooting issues, without committing to any defect fixes or enhancements. This table details the currently supported versions:

Product/Component	Version that can be imported from
App Portal	2013 R2–2019 R1
BDNA Normalize (Data Platform)	5
BMC Atrium	BMC Atrium CMDB version 8.1 through 19.02 (together with Atrium Integrator version 8.1 through 9.1)
BMC BladeLogic Client Automation (Marimba)	8.2
BMC Discovery (previously ADDM)	9.0, 10.0–10.2 (ADDM), 11.0–11.5
BMC Remedy ITSM	7.6.04 SP4–9.1
EdgeSight for Citrix Virtual Apps (previously XenApp EdgeSight)	5.4, 7.6, 7.14–7.16 (requires a Platinum license), 7.17 (XenApp), 7.18–7.1906 (Virtual Apps)
Citrix Virtual Apps server (previously referred to as XenApp Server)	6.0, 6.5, 7.5–7.9, 7.11–7.17 (XenApp), 7.18–1906 (Virtual Apps)
Citrix Virtual Desktops (previously Citrix XenDesktop)	5.6, 6.0, 6.5, 7.5–7.9, 7.11–7.17 (XenDesktop), 7.18–1906 (Virtual Desktops)
FlexNet Manager for Engineering Applications	15.5, 2016 R1–2019 R1
HP Discovery and Dependency Mapping Inventory (DDMI)	9.3
HPE Universal Discovery (HP-UD)	10.10, 10.11, 10.33–11.5
BigFix platform (previously Tivoli Endpoint Manager and IBM BigFix) on Microsoft SQL Server	8.2–9.5.13
	 <b>Tip:</b> Do not confuse the individual BigFix names. BigFix platform (often referred to as simply "BigFix") is the underlying framework, and BigFix Inventory is one of its main add-on components. You may import inventory from BigFix platform if this is your only BigFix product. However, if you also have BigFix Inventory, you normally need import inventory only from BigFix Inventory (see below). BigFix and all its components were acquired from IBM by HCL Technologies on June 30, 2019.


Product/Component	Version that can be imported from
IBM License Metric Tool (ILMT) or IBM BigFix Inventory on IBM DB2	Supported on: <ul style="list-style-type: none"> <li>IBM BigFix Inventory was previously known as IBM Software Usage Analysis (SUA), and SUA is supported (on IBM DB2) for versions 9.0, 9.1</li> <li>Rebranded from version 9.2.1, IBM BigFix Inventory on IBM DB2 is supported for versions 9.2.5–9.2.15.</li> </ul>
IBM License Metric Tool (ILMT) or IBM BigFix Inventory on Microsoft SQL Server	Supported on: <ul style="list-style-type: none"> <li>IBM BigFix Inventory on Microsoft SQL Server: 9.2.5–9.5.15</li> <li>IBM License Metric Tool (ILMT) on Microsoft SQL Server: 9.2.5–9.2.15</li> </ul>
IBM Passport Advantage	as of November 2014
Microsoft App-V Integration Server	4.6, 5.0, 5.1.85
Microsoft Exchange ActiveSync	2010-2013
Microsoft Hyper-V	Running on: <ul style="list-style-type: none"> <li>Windows Server 2008 x64</li> <li>Windows Server 2008 x64 Server Core</li> <li>Windows Server 2008 R2 x64</li> <li>Windows Server 2008 R2 x64 Server Core</li> <li>Windows Server 2012</li> <li>Windows Server 2012 R2</li> <li>Windows Server 2016</li> <li>Windows Server 2019.</li> </ul>
Microsoft SCCM (previously SMS)	2007, 2012, 2012 R2, 1511–1902
Oracle Database	8i, 9i, 10g, 11g, 11g Release 2, 12c, 19c
	 <b>Note:</b> <ul style="list-style-type: none"> <li><i>8i</i> — requires a direct inventory beacon connection</li> <li><i>9i</i> — requires a named account on Windows or a direct inventory beacon connection</li> <li><i>12c</i> — the Oracle Multitenant option is not supported using a local agent.</li> </ul>



Product/Component	Version that can be imported from
Oracle Enterprise Manager	12.1–13.3
Oracle VM Server for x86	3.2–3.4.6.1
ServiceNow	<ul style="list-style-type: none"> <li>Kingston</li> <li>London</li> <li>Madrid.</li> </ul>
Symantec IT Management Suite (Altiris)	6.5, 7.1, 7.5
VMware vSphere/vCenter/ESXi	5.0–6.7
	 <b>Note:</b> Remote inventory is not possible on the free license versions of ESXi.
Workflow Manager	2014–2016

 **Note:** Further detail is available from the Gathering FlexNet Inventory guide, listed in the opening page of the online help.

## Inventory Components

The following table lists the versions of the FlexNet Beacon and FlexNet inventory agent that can be managed by FlexNet Manager Suite 2019 R1.



Component	Compatible versions
FlexNet inventory agent (Windows)	8.5–9.2, 2014–2019 R1
FlexNet inventory agent (Linux)	 <b>Note:</b> Earlier versions are compatible in that they receive default policy and collect inventory on schedule. They cannot support more recent agent functionality, such as: <ul style="list-style-type: none"> <li>Internet Protocol version 6 (IPv6)</li> <li>Control of usage tracking through UI settings (rather than .ini files and registry controls), from 2014 (R1)</li> <li>Settings targeted by IP addresses, from 2014 (R1)</li> <li>CAL inventory, from 2016 R1.</li> </ul>
FlexNet inventory agent (Solaris)	
FlexNet inventory agent (Mac OS X)	
FlexNet inventory agent (AIX)	
FlexNet inventory agent (HP-UX)	


Component	Compatible versions
Citrix XenApp Server Agent	2014 R3–2019 R1
	 <b>Note:</b> Although the XenApp product is renamed as Virtual Apps, the name of this agent remains unchanged
FlexNet Beacon	2017 R2–2019 R1
	 <b>Tip:</b> Older inventory beacons continue to function with this release, but Flexera strongly recommends that you update to at least the range shown. <ul style="list-style-type: none"> <li>• Citrix Virtual Apps inventory requires FlexNet Beacon 2014 R2 or later</li> <li>• AWS EC2 connector requires FlexNet Beacon 2018 R2 (13.1.x) or later.</li> </ul>



## Prerequisite Software


The table below describes the supported operating systems and software prerequisites of FlexNet Manager Suite 2019 R1 at the time of release. Unless otherwise noted, support for a release includes support for all official service packs issued against the same release.



Component	Operating System	Prerequisite Software
Application Server	<ul style="list-style-type: none"> <li>• Windows Server 2008 R2 x64 SP1-SP2</li> <li>• Windows Server 2012</li> <li>• Windows Server 2012 R2</li> <li>• Windows Server 2016</li> <li>• Windows Server 2019.</li> </ul>	<p>The following three prerequisites apply to <i>each</i> server in a multi-server implementation:</p> <ul style="list-style-type: none"> <li>• Microsoft .NET Framework 4.5–4.7.2 (registration of ASP.NET is documented in <i>Configure .NET and IIS</i>, in either the <i>Installation</i> or <i>Upgrading</i> PDF files)</li> <li>• Microsoft Internet Information Services 7.0–10.0</li> <li>• Microsoft Message Queuing (MSMQ).</li> </ul> <p>The following additional prerequisites apply <i>only</i> when the batch server components are installed.</p> <hr/> <p> <b>Important:</b> <i>There must be one and only one batch server in your environment. The batch server may be installed on its own server; or it may be co-located on either your web application server or your inventory server; or all components may be installed on a single application server. Wherever the batch server is installed, the following additional prerequisites apply.</i></p> <ul style="list-style-type: none"> <li>• Microsoft Access Database Engine (32-bit)</li> <li>• SQL Server features: Client Tools Connectivity, Management Tools.</li> </ul> <hr/> <p> <b>Note:</b> <i>Microsoft Windows Server Core editions are not supported.</i></p>

Component	Operating System	Prerequisite Software
Database Server (including Cognos Database Server)	<ul style="list-style-type: none"> <li>Windows Server 2008 R2 x64 SP1</li> <li>Windows Server 2012</li> <li>Windows Server 2012 R2</li> <li>Windows Server 2016</li> <li>Windows Server 2019.</li> </ul>	<ul style="list-style-type: none"> <li>SQL Server 2012</li> <li>SQL Server 2014</li> <li>SQL Server 2016 SP1</li> <li>SQL Server Client Tools, of the same version.</li> </ul>
<hr/> <div data-bbox="911 541 954 590" style="display: inline-block; vertical-align: middle;"></div> <div data-bbox="959 562 1024 590" style="display: inline-block; vertical-align: middle;"><b>Note:</b></div> <ul style="list-style-type: none"> <li><i>Microsoft SQL CLR integration must be enabled.</i></li> <li><i>All FlexNet Manager Suite databases, including the Cognos content store database, should be run with compatibility level set to SQL Server 2012 (110) when running on SQL Server 2014 or later.</i></li> <li><i>For SQL Server 2016, ensure that at least SP1 has been applied, as this update repaired a fatal error.</i></li> <li><i>Multi-tenant installations require the Enterprise Edition of SQL Server. Single-tenant installations can use any edition of SQL Server.</i></li> <li><i><b>Flexera Analytics</b> requires that Microsoft SQL Server be configured to have the TCP/IP protocol enabled, and has network permissions to communicate with the database server (this may be prevented by firewall restrictions).</i></li> </ul> <hr/>		

Component	Operating System	Prerequisite Software
Flexera Analytics / Cognos Server	<ul style="list-style-type: none"> <li>Windows Server 2012</li> <li>Windows Server 2012 R2</li> <li>Windows Server 2016</li> <li>Windows Server 2019.</li> </ul>	.NET Framework 4.5–4.7.2 (registration of ASP.NET is documented in <i>Configure .NET and IIS</i> , in either the <i>Installation</i> or <i>Upgrading PDF</i> files)
 <p><b>Note:</b> Flexera Analytics Server is not supported in <b>multi-tenant</b> installations.</p>		 <p><b>Important:</b> When Flexera Analytics is installed on a server other than the database server running the content store database, Microsoft SQL Server Native Client 2012 must be installed on the server hosting Flexera Analytics (this 2012 version of the Native Client interoperates successfully when the remote database is SQL Server 2016 SP1 with the correct compatibility mode set, as noted above).</p>
Admin Module Transport for FlexNet Manager for SAP Applications	<ul style="list-style-type: none"> <li>SAP Basis release from 7.0 to 7.52.</li> </ul>	The SAP GUI matching the SAP release must be installed.
Satellite Transport for FlexNet Manager for SAP Applications	<ul style="list-style-type: none"> <li>SAP Basis release from 4.6C to 7.52.</li> </ul>	No prerequisites.
Web Browser	<ul style="list-style-type: none"> <li>Microsoft Internet Explorer 10–11</li> <li>Microsoft Edge for Windows 12 - 18</li> <li>Google Chrome 64–72</li> <li>Mozilla Firefox 57–64</li> <li>Apple Safari 9–12.1.3</li> </ul> <p>Some Flexera Analytics menu options are not available in the Chrome browser. For further information refer to this <a href="#">IBM Knowledge Center article</a>.</p> <p>Support for future web browser releases cannot be verified, however there are no anticipated issues for future releases.</p>	<p>Flexera Analytics is not compatible with Microsoft Edge.</p> <p>A minimum screen resolution of 1024 horizontal pixels is required.</p>

Component	Operating System	Prerequisite Software
FlexNet inventory agent	<ul style="list-style-type: none"> <li>Windows Server 2003 SP1 and SP2, 2008 R2 x64, 2012, 2012 R2, 2012 R2 SP1, 2016, 2019</li> <li>Windows Server Core 2008, 2008 R2 x64, 2012, 2012 R2</li> <li>Windows Server Standard (previously known as Windows Server Core) 2016, 2019</li> <li>Windows Vista x64, 7 x64, 8 x64, 10 x64</li> <li>Windows Vista, 7, 8, 10.</li> <li>AIX 7.1 LPARs, 7.2</li> <li>Amazon Linux 2</li> <li>CentOS 6–7.5 (x86, 32-bit and 64-bit), 7.6 (x86 64-bit only)</li> <li>Debian Linux 7–10 (x86, 32-bit and 64-bit)</li> </ul>	No prerequisites.
	<p> <b>Note:</b> For Debian Linux 9.4, 9.5 and 10 (both 32-bit and 64-bit), minimal installations of the OS core omit the <code>ifconfig</code> command. This prevents collection of the IP address and MAC address in inventory. The root user can use the following command to restore this functionality:</p>	
	<pre data-bbox="511 1283 883 1373">apt-get install net-tools -y</pre> <ul style="list-style-type: none"> <li>Fedora Linux 25-30 (x86, 32-bit and 64-bit); 27-29 (x86 64-bit only)</li> <li>HP-UX 11i v3, vPars/nPars</li> <li>Mac OS X 10.6–10.10; 10.11–10.14 (Gatekeeper needs to be disabled for the duration of the installation, and can be re-enabled thereafter)</li> <li>OpenSuSE Leap 42.2, 42.3 (x86, 32-bit and 64-bit); 15-15.1 (x86 64-bit only)</li> <li>Oracle Linux 4.5–6.10 (x86, 32-bit and</li> </ul>	

Component	Operating System	Prerequisite Software
	64-bit); 7.0-7.6 (x86 64-bit only)	
	<ul style="list-style-type: none"><li>• Red Hat Enterprise Linux 5.0–6.10 (x86, 32-bit and 64-bit); 7.0-8.0 (x86 64-bit only)</li><li>• Red Hat Linux 8–9 (x86 only)</li><li>• Solaris 8–11 (SPARC), Zones for versions 10–11</li><li>• Solaris 9–11 (x86), Zones for versions 10–11</li><li>• SuSE Linux Enterprise Server 11 (x86, 32-bit and 64-bit); 12.3, 12.4, 15-15.1 (x86 64-bit only)</li><li>• Ubuntu 12–17.04 (x86, 32-bit and 64-bit); 18.04-18.10 (x86 64-bit only).</li></ul>	

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Component	Operating System	Prerequisite Software
FlexNet Beacon	<ul style="list-style-type: none"> <li>• Windows Server 2008 R2 x64, 2012, 2012 R2, 2016, 2019</li> <li>• Windows 7 x64, 8 x64, 10 x64</li> <li>• Window 7, 8, 10.</li> </ul>	<ul style="list-style-type: none"> <li>• .NET Framework versions 4.5.2–4.7.2.</li> <li>• Any supported web browser.</li> <li>• For Oracle Database inventory, Oracle OLE DB Provider (32-bit), version 10.2.0.3 or later.</li> <li>• For connections to import data from DB2 databases, IBM OLE DB Provider (32-bit or 64-bit). Whether the driver is 32-bit or 64-bit is determined by the operating system, so that for 64-bit operating systems the 64-bit drivers are required.</li> <li>• PowerShell 3.0+.</li> <li>• For connection to AWS, you also require AWS Tools for PowerShell version 3.3.283.0 or later.</li> <li>• For connection to Microsoft Azure you will require PowerShell version 5.1 or later, as well as the Microsoft Azure Resource Manager module version 6.8.1 or later.</li> <li>• For connection to Microsoft Office 365 Online Service, the following are also required: <ul style="list-style-type: none"> <li>◦ 64-bit server operating system</li> <li>◦ PowerShell 5.1 or later</li> <li>◦ <a href="#">Microsoft Online Services Sign-in Assistant</a> (64-bit version)</li> <li>◦ <a href="#">Microsoft Azure Active Directory Module for Windows PowerShell</a></li> <li>◦ <a href="#">Skype for Business Online PowerShell Module</a></li> <li>◦ Microsoft Visual C++ 2017 Redistributable (note that this is installed automatically by the above PowerShell modules).</li> </ul> </li> </ul>

# 6

## Installation and Upgrade Advice

If you are upgrading your on-premises implementation from FlexNet Manager Suite release 2017 R1 or later, you may follow normal upgrade procedures (using the *Upgrading* document from the list below).

If you are upgrading from any earlier release (2014–2016 R2), you should be sure to upgrade *all* components:

- Your application server(s) (naturally only for on-premises implementations, using the normal upgrade processes)
- All forms of FlexNet inventory tools, including the full FlexNet inventory agent, the lightweight FlexNet Inventory Scanner, and FlexNet core inventory components, wherever you may have installed them
- FlexNet Beacon installed on all your inventory beacons.

This strong recommendation follows from the ongoing security improvements touching all these components that were released from version 2017 R1 and later versions.



**Tip:** *If you are using the cloud (SaaS) implementation, you are also strongly advised to ensure that all FlexNet inventory tools and installed inventory beacons are updated to the latest versions, for the same reasons.*

If you are using an on-premises installation, there are three documents that provide instructions for installing and upgrading to the current release, FlexNet Manager Suite 2019 R1.

- *Installing FlexNet Manager Suite 2019 R1 On-Premises.* This includes the option of installing Flexera Analytics 2018 R2.
- *Installing FlexNet Manager Suite 2019 R1 for a Managed Service.*
- *Upgrading FlexNet Manager Suite from 2014 Rx to 2019 R1 On-Premises.* This is designed for upgrades from FlexNet Manager Suite version 2014 or later.

These are contained in the **Installation Documentation for FlexNet Manager Suite 2019 R1** archive that is available from the [Product and License Center](#) and the [Customer Community Documentation](#) site. They are also available through the title page of online help for on-premises implementations.

## 7

# Documentation

Documentation for FlexNet Manager Suite 2019 R1 is provided as online help. From the web user interface, click the question mark icon to launch the help. Additional documents are available from the title page of the online help. Note that both the online help and additional documents are customized for their different contexts, so that appropriate differences exist between the on-premises and cloud versions of all documentation. You can also access the documentation files from Flexera HelpNet .

Documentation Component	Language
Online help	English
	German
	French — for FlexNet Manager for SAP Applications functionality.
Additional PDF documents	English
	German — for FlexNet Manager for SAP Applications user and installation guides.

For installation and upgrade documentation, please refer to the section in this document called [Installation and Upgrade Advice](#).



## 8

## More Information

Item	Description
Flexera Community	The Community includes the Flexera Knowledge Base, FlexNet Manager Blog as well as providing product downloads. <a href="https://community.flexera.com">https://community.flexera.com</a>
Product Documentation	The latest release of FlexNet Manager Suite documentation is available from Flexera HelpNet. <a href="https://helpnet.flexerasoftware.com">https://helpnet.flexerasoftware.com</a>
Flexera System Status Dashboard	Displays the current availability information for Flexera's cloud products. <a href="https://status.flexera.com">https://status.flexera.com</a>
Flexera website	Information about Flexera. <a href="http://www.flexera.com">http://www.flexera.com</a> <a href="https://www.flexerasoftware.com">https://www.flexerasoftware.com</a> - for Software and IoT companies
Flexera Learning Center	Location for courses and best practice guides for FlexNet Manager Suite (and other Flexera products). <i>Requires a login for the <a href="#">Flexera Community</a>.</i> <a href="https://learn.flexera.com/">https://learn.flexera.com/</a>

# 9

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