



FlexNet Publisher 2016 R2 SP2 (11.14.1.2) Release Notes

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Revision 00

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Note • These release notes are not cumulative. If you are upgrading from a release other than the most recent release, consult the release notes that accompany the intermediate releases. You can access the release notes archive from Flexera Software's Product and License Center:
<https://flexerasoftware.flexnetoperations.com>.

New Features

New INCLUDEALL_ENTITLEMENT and EXCLUDEALL_ENTITLEMENT options file keywords

The pre-existing INCLUDEALL and EXCLUDEALL options file keywords grant or deny concurrent access to all concurrent licenses, whether they come from certificate licenses or trusted storage.

The new INCLUDEALL_ENTITLEMENT and EXCLUDEALL_ENTITLEMENT keywords grant or deny activation of all activatable licenses in served trusted storage.

Note that trusted storage-based hybrid licenses can either be used concurrently or activated. Therefore, to grant or deny access to all concurrent licenses and activatable licenses made available from a hybrid, INCLUDEALL/EXCLUDEALL and INCLUDEALL_ENTITLEMENT/EXCLUDEALL_ENTITLEMENT need to be combined in the options file. (FNP-16464, Salesforce 00792327)

Security Updates

Updates in SP2

Imadmin httpd.conf file upgrade

The httpd.conf file generated with Imadmin has been updated to prevent previously reported security vulnerabilities. (FNP-16462; Salesforce cases 01045697, 01102780)

Addressed license server vulnerability

Improvements have been made in the resilience of the license server to fuzzing attacks (FNP-15986)

Update to Visual Studio 2010

Windows Imadmin and the third-party libraries on which it depends are now built with the Visual Studio 2010 compiler, instead of the deprecated 2008 compiler. Refer to the Non-Commercial Software Disclosures document for a list of third-party libraries on which Imadmin depends. (FNP-15324; Salesforce cases 01063445, 01137211, 01137211)

Addressed server.xml vulnerability

A member of the Windows Users group can no longer edit the server.xml file directly when Imadmin is run as a (Local User) Windows service. (FNP-16652)

Resolved risk of disclosure of sensitive information

A vulnerability existed in non-Windows Imadmin systems where setting the Vendor Daemon Log Location (via the Imadmin webportal's Vendor Daemon Configuration page) to point to a system file could expose the contents of that system file, via the [View file externally](#) link in the same configuration page.

Now, when using the webportal to configure a vendor daemon log file location, only paths relative to the logRoot (set through -logDir) can be set. (FNP-16311)

Updates in SP1

Resolved security vulnerability in lmadmin

A Denial of Service (DoS) vulnerability related to processing a GET /export request has been resolved. (Salesforce case 01113432)

OpenSSL upgrade

OpenSSL has been upgraded from version 1.0.2h to 1.0.2k in all dependent FlexNet Publisher components. (FNP-15715, Salesforce cases 01102297 and 01124094)

OpenSSL dependency

Previously the Linux activation library (libFNP.so) and FlexNet Licensing Service components had a dependency on OpenSSL. This dependency has been removed. Refer to the Non-Commercial Software Disclosure Document for all components that currently have a dependency on OpenSSL. (FNP-15965)

Addressed vulnerability in FlexNet Licensing Service

A vulnerability has been addressed which guards against the corrupted execution of the Windows FlexNet Licensing Service caused by the transmission of a crafted, invalid message block. (FNP-15635, Salesforce case 01093752)

lmadmin Apache upgrade

lmadmin has been upgraded to Apache 2.2.31. (FNP-15912, Salesforce case 01095191)

Dongle Updates

Updated FLEXID9 dongle drivers

The FLEXID9 dongle drivers have been upgraded to the version 7.54 on Windows, Linux, and macOS platforms. The shared libraries on all these platforms remain unchanged at version 7.50.

The following table lists FLEXID9 installers and shared objects. Shared objects are included in the FlexNet Publisher Licensing Toolkit in the same folder as the installer:

Table 1 • Updated FLEXID9 dongle drivers

Platform	Installers	Shared objects
Windows	32-bit:	32-bit:
	FLEXID9_windows_v7_54_i686.zip (Version 7.54)	haspsrm_win32.dll (Version 7.50)
	64-bit:	64-bit:
	FLEXID9_windows_v7_54_x64.zip (Version 7.54)	haspsrm_win64.dll (Version 7.50)

Table 1 • Updated FLEXID9 dongle drivers

Platform	Installers	Shared objects
Linux	32-bit and 64-bit: aksusbd-redhatsuse-7.54.tar.gz (Version 7.54)	32-bit: libhasp_linux_i686.so (Version 7.50) 64-bit: libhasp_linux_x86_64.so (Version 7.50)
OS X	Universal: FLEXID9_OSX_V7_54.dmg (Version 7.54)	Universal: hasp_darwin.dylib (Version 7.50)

FLEXID10 memory leak

A cumulative memory leak on license server which is node locked to FLEXID10 may occur on every heartbeat from the server, or at the client side on every checkout request. The upgrade of FLEXID10 drivers to v6.40 has not resolved this issue (FNP-13944).

FLEXID10 uninstaller issue

When uninstalling the FLEXID10 (Wibu) driver (v6.40) on Mac OS X platforms, the uninstaller does not remove **libwkextmac.dylib** from the default installer location (**/usr/local/lib**). (FNP-16654)

FLEXID10 extraction issue

6.40 drivers do not support extracting FLEXID10 from an OS X 32-bit process. (FNP-16413)

FLEXID9 extraction notes

On OS X platforms, 7.54 drivers do not support extracting FLEXID9 (HASP4 dongles). However, HASP4 dongles are working correctly with 7.54 drivers on Linux and Windows platforms. (7.52 and 7.53 drivers did not work with HASP4 dongles on these platforms.) (FNP-16870)

Additionally, the currently shipping HASP HL PRO dongle requires use of a third-party-provided updated API for FLEXID9 extraction. Since this 'SRM' API was adopted only from FlexNet Publisher 11.12.1, older FlexNet Publisher versions will be unable to extract FLEXID9 from the HASP HL PRO dongles. Older FlexNet Publisher versions remain compatible with HASP4 and HASP HL dongles. (FNP-16031, Salesforce case 01127984).



Figure -1: FLEXID9 dongles (from left to right): HASP4, HASP HL, and HASP HL PRO.

Platform Updates

11.14.1.2 Updates

There are no platform updates to be reported for FlexNet Publisher 11.14.1.2.

11.14.1.1 Updates

Windows

The FlexNet Publisher Licensing Toolkit for Windows now supports Visual Studio 2017. (FNP-16377, Salesforce case 01136613)

11.14.1 Updates

Windows

Windows Server 2016 has been tested in this release.

Linux

We test recent versions of SUSE Enterprise Linux and Red Hat Enterprise Linux (see [C/C++ Toolkits](#) for specific versions). We do not test other Linux distributions, but would consider as minimum requirements for potential FlexNet Publisher compatibility on a Linux distribution the following: LSB 4.0 compliance and GLIBC-2.7 and Kernel 2.6.27 (FNP-15725).

OS X

FlexNet Publisher has now been tested on OS X 10.12.

Integrated Products and Tested Versions

Product	Tested Version
FlexNet Operations	FlexNet Operations 2016 R3 16.3.0
FlexNet Manager for Engineering Applications	FlexNet Manager for Engineering Applications 2016 R1 (15.6.0)
FlexNet Operations Cloud	FlexNet Operations Cloud (2016 R4)

Resolved Issues

This release of the FlexNet Publisher Licensing Toolkit resolves the following issues. (Numbers in parentheses indicate the Flexera Software issue reference number as well as the Salesforce reference number, if applicable.)

Issues Resolved in SP2

Resolved Imadmin and Imgrd Issues

New systemd-compatible startup script for Imadmin

A new systemd-compatible example startup script has been added to the Linux Imadmin toolkit. This script is available under **Imadmin/examples/systemd/Imadmin.service**.

(FNP-16419)

Data correctly written to vendor daemon log after importing an older vendor daemon

Previously, if the following two conditions were met, no data was written to the vendor daemon log file:

- An older vendor daemon (FlexNet Publisher 11.14.1 or earlier) was imported using the `lmadmin` license server manager of the latest FlexNet Publisher release 11.14.1.1.
- (Windows platforms) `lmadmin` was started as a service (created during installation by selecting the **Run as a service** option)

or

(all platforms) `lmadmin` was started from the command line with the option `-adminOnly yes` (the default).

This issue has now been resolved. (FNP-16539)

OS X lmadmin now correctly locates dynamic library

Previously, even if OS X `lmadmin` and the SSL dynamic libraries were in the same folder, `lmadmin` would be unable to find the dynamic library unless the SSL library was set in `DYLD_LIBRARY_PATH`. Now, OS X `lmadmin` will find SSL dynamic libraries if they are in the same folder. (FNP-15667; Salesforce case 01090042, 01102030)

Resolved Issues Specific to License File–Based Licensing

Resolved version comparison issue in borrow scenarios

In FlexNet Publisher 11.14.0, a bug was introduced where the borrow checkout failed if the version specified in the FlexEnabled application was not identical (did not have the same number of digits) to the version specified in the license file.

The following example illustrates this bug:

Feature definition line in served license file: `FEATURE f2 demo 10 permanent 50 DUP_GROUP=H BORROW=4320`

- If the version specified in the FlexEnabled application was `10.0`, the checkout erroneously failed.
- If the version specified in the FlexEnabled application was `2.0`, the checkout erroneously failed.

This bug has now been resolved. Features with a version lower than that specified in the license file are now correctly checked out from the local borrow cache. (FNP-16160, Salesforce case 01104911)

Improved expiry date display for permanent licenses in lmstat and lmdiag

For a permanent license, the `lmstat` and `lmdiag` output now displays “permanent (no expiration date)” instead of “expiry: 1-jan-0”. (FNP-16708, Salesforce cases 00920617, 01147767)

Filtering of physical Ethernet adapters from lc_hostid API

Adapter details are now retrieved correctly when setting or resetting the attribute `LM_A_PHYSICAL_ETHERNETID`. (FNP-16818, Salesforce case 01190008)

Resolved Issues Specific to Trusted Storage–Based Licensing

Enhancement to **tsreset** to clean up excess anchor copies without deleting trusted storage

There was a fault in FlexNet Publisher 11.11.1 and earlier on Windows platforms where anchors could be orphaned from the trusted storage file, resulting in additional unnecessary copies being created.

This typically occurs on machines used for FlexNet Publisher testing, for example where the **tsreset** utility is run repeatedly, or where trial anchors are reset.

If the copies build up to large numbers, for example, if resets are run repeatedly in scripts, they can lead to long delays in opening trusted storage for all versions of FlexNet Publisher. A typical symptom of this occurring is an incremental degradation in response time when running activation utilities (of the order of several seconds or longer).

In FlexNet Publisher 11.14.1.1, an experimental feature was added to the **tsreset** utility: the new **-anchors** option removed the orphaned anchors, reset trusted storage and deleted the *.sav files.

In FlexNet Publisher 11.14.1.2, **tsreset** has been enhanced to clean up orphaned anchors without deleting trusted storage. The experimental **-anchors** option that was introduced in 11.14.1.1 (FNP-16271) is now discontinued.

Syntax:

tsreset_app [option]

tsreset_svr [option]

The following options are available in FlexNet Publisher 11.14.1.2:

Option	Description
-reset	Deletes all fulfillment records in trusted storage. On Windows, also deletes orphaned anchors
-reset nottc	Same functionality as -reset , but does not delete the trusted configuration.
-delete	Deletes the trusted-storage data files, but retains the *.sav files. On Windows, also deletes orphaned anchors.
-delete all	Same functionality as -delete , but also deletes the *.sav files.
-logreport	Writes anchor counts to the event log, used to see if orphans are present. (Windows platforms only)
-logreport verbose	Writes details of individual anchors to the event log. (Windows platforms only)
-anchors orphan	Removes only excess anchor copies; it does not reset or delete trusted storage. This enables users to recover from issues related to orphaned anchors without having to re-establish licenses on a production server. (Windows platforms only)

(FNP-16585; Salesforce cases 01201693, 01152391)

Latency issue on Windows incurred after frequent trusted storage updates

An issue occurred where accessing trusted storage could result in a delay or a hang. This issue occurred only on Windows platforms that use registry anchors, and typically occurred after a sustained period of updating trusted storage, therefore was seen more often with server trusted storage.

A number of factors contributed to this delay, including a weakness in the algorithm for generating unique registry key names for anchor locations, and the inappropriate orphaning of registry based anchors.

The registry anchor algorithms have been substantially updated in this service pack to:

- improve anchor registry key name generation
- reduce the likelihood of anchors being orphaned
- automatically attempt removal of orphan anchors

(FNP-16400; Salesforce cases 01194103, 01253284, 01203074, 01228008, 01201693, 01191972, 01201693)

Issues Resolved in SP1

Resolved lmadmin and lmgrd Issues

lmadmin now installing as service when relevant option is selected

Previously, lmadmin was not installed as a service when the installer option **Run as a service** was selected in the 32-bit lmadmin installer. This has now been fixed. (FNP-15970)

Running lmadmin as a Windows service

Previously, the lmadmin installer for Windows installed the folders and subfolders by default in the **Program Files (x86)** directory, and created the lmadmin service of the type "Local Service", with start-up type "Automatic". As a result, the lmadmin service could fail to start, because it had insufficient privileges to create subfolders in the **Program Files (x86)** directory.

In FlexNet Publisher 11.14.1.2, the folders that are updated at run time (**conf, logs, cache, licenses**) are installed by default under **ProgramData**. The files, folders, executables, and DLLs that are not modified at run time are installed under **Program Files**.

To perform any operation related to lmadmin, where the **conf** directory is not a subdirectory of the lmadmin installation directory, the **conf** directory must be indicated using the -configDir switch, for example:

```
lmadmin.exe -import counted.lic -configDir "C:\ProgramData\FLEXlm\lmadmin\conf"
```

In addition, new options have been added to the lmadmin installer GUI for Windows:

- The panel **Choose Run-Time Updated Folder** enables the user to set the path for the folders that are created and updated during runtime. The default path is **C:\ProgramData FLEXlm\lmadmin**.

- The panel **Import Files from Previous Installation** is relevant only if an older installation of `lmadmin` is present. The new option **Previous Data Folder Path** can be used to import run time data from `lmadmin` installations where the run time data was installed in a different location than the installation directory. (FNP-14864)

This fix also resolves outstanding Microsoft Attack Surface Analyser issues and enables `lmadmin` to run as a service. (FNP-15971)

lmadmin installer updates

In FlexNet Publisher 11.14.1, the `lmadmin` InstallAnywhere installer no longer bundles the JVM. As a consequence, for Windows, there is now only one `lmadmin` installer (previously there were two, one for 32-bit bundled JVM, one for 64-bit bundled JVM). (FNP-16086)

On OS X, an error no longer occurs where the `lmadmin` installer prompts the user to install legacy Java software. Now, the `lmadmin` installer uses the JVM that is installed on the machine (OS X requires JVM 1.7 or later). To use a different JRE version while installing/uninstalling, the desired version can be specified using the `LAX_VM` command. (FNP-15913, FNP-16086, Salesforce case 01112990)

Improved behavior when starting lmgrd with option “-2 -p”

On Windows systems, if `lmgrd` is started with `-2 -p -local`, command-line utilities (**lmreread**, **lmnewlog**, **lmdown**, **lmremove**, and **lmswitch**) can now interact with `lmgrd` and the vendor daemon, provided the command-line utilities run from the same machine and have LOCALSYSTEM privilege. That is, a local system-privilege Windows service (that calls these command-line utilities) is required when running `lmgrd` with `-2 -p -local`. Previously, these command-line utilities would be prevented from interacting with `lmgrd` when it was started with `-2 -p -local`. (FNP-11388, Salesforce case 00824990)

New license expiration date format in lmadmin dashboard

On non-English operating systems, the license expiration dates in the FlexNet License Administrator console had not been localized into the relevant locale but were displayed in English format instead (for example, 30-Dec-2016). Now, the expiration date for all languages is displayed in the format `yyyy-mm-dd`. (FNP-15988)

Resolved Issues Specific to License File-Based Licensing

Inconsistent licensing behaviour when borrowing with PACKAGE

When a package license is borrowed using either `OPTIONS=SUIE` or `SUIE_RESERVED` with `DUP_GROUP=UH`, only one license is now consumed for the parent package. Previously, two licenses were inappropriately consumed. The fix is specific to the vendor daemon. (FNP-11597, Salesforce cases 00801063, 00860898, 01084980)

Behavior of LOCALTEST checkouts when using multiple servers on the license path

In 11.14.0.0, a bug was introduced that prevented an `LM_CO_LOCALTEST` checkout with client checkout filter from succeeding when using multiple servers on the license path. The following example illustrates the bug.

Scenario

- License path: 27000@Server1;27000@Server2
- Server1 is not running and Server2 serves feature f1

Steps

1. `lc_set_attr(LM_A_CHECKOUTFILTER_EX)`
2. `lc_checkout(LM_CO_LOCALTEST or LM_CO_NOWAIT, f1)` succeeds (license checked out from Server2)
3. `lc_checkout(LM_CO_LOCALTEST, f1)` should now succeed but fails with an error (can't connect to license server).

Correct behavior is restored in 11.14.1.1. The fix requires a client update. (FNP-16171, Salesforce case 01150698)

Note that a consequence of the fix for this issue is a change in the CONFIG and in the error code for the following scenarios.

Scenario 1:

- License path: 27000@Server1;27000@Server2
- Both servers serve feature f1
- Both servers are initially running

Steps

1. Client checkout filter not set
2. `lc_checkout(LM_CO_LOCALTEST, f1)` succeeds (license checked out from Server1)
3. Shut down Server1
4. `lc_checkout(LM_CO_LOCALTEST, f1)` succeeds (license is checked out from Server2). The `lc_test_conf` API returns the CONFIG from Server2, whereas prior to 11.14.0.0, the CONFIG from Server1 was returned incorrectly even though Server1 was down.

Scenario 2:

- License path: 27000@Server1;27000@Server2
- Both servers serve feature f1, but only Server1 is running

Steps

1. Client checkout filter not set
2. `lc_checkout(LM_CO_LOCALTEST, f1)` succeeds (license checked out from Server1)
3. Shut down Server1
4. `lc_checkout(LM_CO_LOCALTEST, f1)` should now fail. Prior to 11.14.0.0, it inappropriately succeeded. In 11.14.0.0 and later, the error code of the checkout with the first license server in the license path is returned. In 11.14.1.1, the checkout attempt is made with the next available server in the license path.

lc_checkin() fails to cancel queued checkout request

A bug was introduced in 11.14.0.0 where `lc_checkin()` from a client fails to cancel a queued checkout request from the same client. This client-side bug has been fixed. (FNP-15991, Salesforce cases 01129573 and 01147599)

Client with certificate borrowed license does not enter reconnection state

For served licenses that are borrowable: when a client borrowed a floating license and the borrow period expired, it should have but did not enter a reconnection state. An updated client will now enter a reconnection state, then re-checkout licenses from the server until the user checks in their licenses, and the `LM_A_USER_EXITCALL` callback will be called if defined. (FNP-15800, Salesforce case 00904244)

Fixed incorrect lmrnd messages

The generation of spurious 'File not found' messages when running **lmrnd** has been removed. (FNP-15711)

Queued licenses and LM_A_CHECKOUT_DATA

The following example illustrates a long-standing bug with queuing that has been resolved in this service pack.

Served license file contains:

```
INCREMENT f1 demo 1.0 permanent 2 SIGN=0
```

Steps

1. Client1 checks out 2 counts of f1 (all f1 now checked out)
2. Client2 sets `LM_A_CHECKOUT_DATA` to 'aa'
3. Client2 calls `lc_checkout(f1, ..., LM_CO_QUEUE)` and receives `LM_FEATQUEUE` (as expected)
4. Client2 sets `LM_A_CHECKOUT_DATA` to 'bb' (different checkout data set for the second checkout)
5. Client2 calls `lc_checkout(f1, ..., LM_CO_QUEUE)` and receives `LM_FEATQUEUE` (as expected)
6. Client1 checks in 2 counts of f1
7. Client2 calls **lc_status** with different checkout data and inappropriately receives "Success" for one of the checkouts and `LM_USERSQUEUED(-35)` for other checkout requests. Now, **lc_status** correctly returns "Success" for all checkouts.

(FNP-14496, Salesforce case 00943234)

Resolved issues related to BORROW_LOWWATER keyword

Two bugs related to use of the `BORROW_LOWWATER` keyword have been resolved, as shown in the following examples.

Pooling bug

From served license file:

```
INCREMENT f1 demo 1.0 permanent 1 BORROW SIGN=0
INCREMENT f1 demo 1.0 permanent 1 SIGN=0
```

From options file:

```
BORROW_LOWWATER f1 1
```

Options file parsing bug

From served license file:

```
INCREMENT f1 demo 1.0 permanent 1 asset_info=123 BORROW SIGN=0
```

From options file:

```
BORROW_LOWWATER f1:asset_info=123 1
```

In both examples, the options file setting should prevent any borrow of f1, but a client could previously inappropriately borrow f1. (FNP-9630)

Resolved Issues Specific to Java SDK

Fixed issue related to loading of Certicom module

Previously, use of the Java SDK might intermittently generate a "Wrong or Incomplete Certicom Module (-515,4030)" error, for example during reload or redeploy of a web page that invokes the LicenseString constructor. This has now been resolved. (FNP-15953, Salesforce case 01114132)

Known Issues

Known General Issues

Issue when installing older FlexNet Licensing Service

If a FlexNet Publisher Licensing Toolkit version 11.14.1 for Linux is installed subsequent to the installation of a version 11.14.1.1 toolkit, it is necessary to rerun the **install_fnp.sh** script from the 11.14.1.1 toolkit to reinstall the latest version of the FlexNet Licensing Service. (FNP-16379)

Use of hyphens in features names discouraged

While hyphens in feature names are not supported (refer to the *Programming Reference for License File-Based Licensing* and *Programming Reference for Trusted Storage-Based Licensing* for valid feature name characters), Flexera Software has historically allowed hyphens. Hyphens in feature names are still not explicitly disallowed, but certain inappropriate behaviour may occur when hyphens are used. One example is that a borrow checkout of a feature containing a hyphen may consume additional licenses on the server (FNP-16752).

Flexera Software recommends using the underscore character instead of hyphens.

Known Imadmin Issues

Imadmin silent installer not displaying required error message

When a non-root user attempts to install Imadmin in the default location, the installer can hang (FNP-6942).

Error when installing Imadmin as a service on Windows with multibyte characters in the install path

Imadmin may not run correctly if installed as a service to a path with multibyte characters (FNP-11879, Salesforce case 00830014).

Known Issues Specific to License File-Based Licensing

Issues when a long-running client's floating license expires

When a client checks out a license using the COAVAIL checkout flag from a pool with multiple licenses, and if one of the feature lines in the license pool expires on the server and is replaced by a feature definition line with a newer license, the client reconnects as expected but may consume more licenses than expected. (FNP-15862)

Imdiag displaying incorrect output in case of multiple vendors

If multiple vendor daemons are served by a single license server manager (such as Imgrd), Imdiag shows an incorrect error message "No such feature exists" for features that are served by one of the valid daemons (FNP-15661).

Imstat and the linger period displayed for a component of a package

An issue can occur in a package license such as the following:

```
PACKAGE pkg1 demo 1.0 COMPONENTS="f1 f2" OPTIONS=SUITE_RESERVED SIGN=
INCREMENT pkg1 demo 1.0 permanent 2 SUITE_DUP_GROUP=U BORROW SIGN=
```

On successful return of a borrowed f1, Imstat can inappropriately show an active linger period for f1. There has been no effective workaround recommended yet.

In case of license checkouts from multiple clients by the same user, the combination of normal and borrowed checkouts could lead to the inappropriate deletion of the wrong userlist from the server. This could result in incorrect Imstat output. (FNP-14398)

Features not checked in correctly after using Imremove utility

If Imremove is used to remove features that have been checked out, and the order in which the features are removed is different from the order in which the features have been checked out, the features are not checked in correctly. (FNP-16451)

License leakage when using DUP_GROUP parameter, with PACKAGE and return of borrowed licenses

The following issue can occur in scenarios where package licenses are used with the DUP_GROUP parameter: If the same feature is checked out by two clients on two different machines, returning the borrowed license early from the first client, without specifying the feature version, incorrectly results in both licenses being returned to the server. On the second client, the feature can still be checked out until the borrow period expires (a license leakage scenario). Best practice (and the workaround for this bug) is to specify the feature version when returning a borrowed license. (FNP-16417)

Known Issues Specific to Trusted Storage-Based Licensing

Borrow activation to a Linux client causes crash

The **flxActBorrowActivate** function crashes when server Trusted Storage contains an INCREMENT line before a PACKAGE line (FNP-10437).



Note • Only producer-customized back offices can provide licenses with this configuration.

Known Java Issues

Limitation of Queuing in Java Clients

When a Java client is set to queuing with Synch_queue option, the clients get queued even when there are no licenses available while it waits for SOCKET_READ_TIMEOUT for 20 seconds. The licenses get dequeued in case there is no response from the server, then exits throwing LM_CANTRECEIVE FlexlmException (FNP-11414).

System Requirements

Tested Platforms

The following sections describe the platforms tested with the FlexNet Publisher 2016 R2 SP2 (11.14.1.2) Licensing Toolkits.

- [C/C++ Toolkits](#)
- [Java Toolkits](#)
- [Detailed Platform Information](#)
- [Toolkits That Support Prepped Trusted Configuration](#)
- [Virtualization](#)

- [Tested Cloud Environments](#)

A list of supported platforms can be found here:

<http://www.flexerasoftware.com/support/additional-support/end-of-life/flexnet-publisher.html>

C/C++ Toolkits

The following platforms are tested. See the [Detailed Platform Information](#) section for more information about each platform.

Platform Type	Hardware Type	Operating System
AIX 32-bit	PowerPC	AIX 6.1 ML 006 AIX 7.1 ML 000
AIX 64-bit	PowerPC	AIX 6.1 ML 006 AIX 7.1 ML 000
Linux 32-bit	x86	Certified with the following: RedHat Enterprise Linux 6 and 7 SUSE Linux Enterprise 11 and 12
Linux 64-bit	x86-64	Certified with the following: RedHat Enterprise Linux 6 and 7 SUSE Linux Enterprise 11 and 12
Apple OS X 32-bit and 64-bit	x86 x64	Apple OSX 10.12 Apple OSX 10.11 Apple OSX 10.10 Apple OSX 10.9
Microsoft Windows 32-bit	x86	Windows 10 Windows 8.1 Windows 7 SP1 Windows Server 2016 Windows Server 2012 and 2012 R2 It is a best practice to run license servers on a server-based OS.

Platform Type	Hardware Type	Operating System
Microsoft Windows 64-bit	x64	Windows 10 Windows 8.1 Windows 7 SP1 Windows Server 2016 Windows Server 2012 and 2012 R2 It is a best practice to run license servers on a server-based OS.
Solaris 32-bit	SPARC 32-bit	Solaris 10 and 11
Solaris 32-bit	x86	Solaris 10 and 11
Solaris 64-bit	SPARC 64-bit	Solaris 10 and 11
Solaris 64-bit	x86-x64	Solaris 10 and 11

Java Toolkits

The following platforms have been tested. See [Java Standard Edition](#) in [Detailed Platform Information](#) for more information about this platform.

Platform Type	Hardware Type	Version
Oracle Java Development Kit	• Solaris SPARC 32-bit	Java Standard Edition 1.8
	• Solaris SPARC 64-bit	
	• Solaris x86	
	• Solaris x64	
	• Windows x86	
	• Windows x64	
	• Linux x86	
	• Linux x64	

Detailed Platform Information

The following sections list the operating systems and their associated hardware platforms tested with FlexNet Publisher 2016 R2 SP2 (11.14.1.2). Each platform entry contains the following information:

- **Platform name**—The name that identifies this platform when used with the PLATFORMS keyword in a license file.
- **Package identifier**—The name of the toolkit package on Flexera Software's download site.

- **Tested compiler**—The compiler and version with which this package was tested. Choose a compiler for your development and build environment that is compatible with the one listed.
- **Notes**—Additional platform-specific notes that are useful for developing your FlexEnabled product.
- **Security functionality**—Denotes the level of security functionality your toolkit supports. This information is useful when you implement trusted storage-based licensing in your product. See *Programming Reference for Trusted Storage-Based Licensing* for details.
- Click a link to access platform details:

AIX 32-bit	Linux 32-bit	Solaris 32-bit
AIX 64-bit	Linux 64-bit	Solaris 64-bit
Apple OS 32-bit and 64-bit	Microsoft Windows 32-bit	
Java Standard Edition	Microsoft Windows 64-bit	

AIX 32-bit

The following table lists information about the AIX 32-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	ppc_u
Package Identifier	ppc_u5 (on PowerPC™)
Tested Compiler	PowerPC cc (IBM XLC): 9.0 (AIX 6.1) and 11.1 (AIX 7.1)
Notes	<ul style="list-style-type: none"> ● 1madmin is supported in this toolkit. ● Short-code transactions are not supported. ● Prepped Trusted Configuration is not supported. ● The AIX FlexNet Publisher client libraries are PIC by default; therefore, only one version of these libraries is provided in the toolkit. ● Java SDK is not supported.
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	No support for tamper-resistant applications. The toolkit is labeled as <i>notr</i> .

AIX 64-bit

The following table lists information about the AIX 64-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	rs64_u
Package Identifier	rs64_u5 (on PowerPC™)
Tested Compiler	PowerPC cc (IBM XLC): 9.0 (AIX 6.1) and 11.1(AIX 7.1)
Notes	<ul style="list-style-type: none">● lmadm is supported using its 32-bit binary. (No lmadm 64-bit binary is available.)● Short-code transactions are not supported.● Prepped Trusted Configuration is not supported.● You must use ar -X64 and strip -X64 on this platform.● The AIX FlexNet Publisher client libraries are PIC by default; therefore only one version of these libraries is provided in the toolkit.● Java SDK is not supported.
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	No support for tamper-resistant applications. The toolkit is labeled as <i>notr</i> .

Java Standard Edition

The following table lists information about the Java Standard Edition systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	java
Package Identifier	Not applicable
Tested Compiler	JDK 1.8
Notes	<ul style="list-style-type: none">● Implements the FlexNet Licensing for Java client library only.● Requires a C development environment.● Requires tamper-resistant licenses (TRL) to be enabled.
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	No support for tamper-resistant applications. The toolkit is labeled as <i>notr</i> .

Linux 32-bit

The following table lists information about the Linux 32-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	i86_lsb (on x86)
Package Identifier	i86_lsb (on x86)
Tested Compiler	For x86: <ul style="list-style-type: none">• gcc 4.4.4 (RHEL 6.0)• gcc 4.8.5 (RHEL 7.0)• gcc 4.1.2 (SUSE 11)• gcc 4.3.4 (SUSE 11)• gcc 4.8.3 (SUSE 12)
Notes	<ul style="list-style-type: none">• lmadm is supported on x86 only.• Multiple Ethernet hostids are supported.• Short-code transactions are supported.• Prepped Trusted Configuration is supported.• Tested virtual machine platforms include:<ul style="list-style-type: none">VMware ESXi 5.5, 6.0VMware Workstation 11 and 12Microsoft Windows Server 2012 R2 Hyper-VMicrosoft Windows 10 Hyper-VCitrix XenServer 6.2, 6.5, and 7.0Oracle Virtual Box 5.0.24QEMU-KVM (Host OS: CentOS 7.1)<ul style="list-style-type: none">• Hypervisor: qemu-kvm-ev-2.3.0-31• Hypervisor Services: libvirt-daemon-kvm-1.2.17-13• Virtual Machine Manager: vmm v1.2.1-8Parallels Desktop 11.2.2 for MAC 10.9.5
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as <i>standard</i> .

Linux 64-bit

The following table lists information about the Linux 64-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	x64_lsb (on x64)
Package Identifier	x64_lsb (on x64)
Tested Compiler	For x64: <ul style="list-style-type: none">• gcc 4.4.4 (RHEL 6.0)• gcc 4.8.5 (RHEL 7.0)• gcc 4.1.2 (SUSE 11)• gcc 4.3.4 (SUSE 11)• gcc 4.8.5 (RHEL7)• gcc 4.8.3 (SUSE 12)
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as <i>standard</i> .

Notes	<ul style="list-style-type: none"> • For the x64_lsb toolkit, lmadm is supported using its 32-bit binary. (No lmadm 64-bit binary is available.) • As a requirement, manually install the Linux 32-bit libraries on RHEL 6.0 (64-bit) or RHEL 7.0(64-bit). (They are not automatically installed with the operating system.) Certain FlexNet Publisher components, such as lmadm, require these libraries. Refer to the RedHat Enterprise Linux documentation for details. • Multiple Ethernet hostids are supported. • Short-code transactions are supported. • Prepped Trusted Configuration is supported (x64_lsb only). • Tested virtual machine platforms include: <ul style="list-style-type: none"> VMware ESXi 5.5, 6.0 VMware Workstation 11 and 12 Microsoft Windows Server 2012 R2 Hyper-V Microsoft Windows 10 Hyper-V Citrix XenServer 6.2, 6.5, and 7.0 Oracle Virtual Box 5.0.24 QEMU-KVM (Host OS: CentOS 7.1) <ul style="list-style-type: none"> • Hypervisor: qemu-kvm-ev-2.3.0-31 • Hypervisor Services: libvirt-daemon-kvm-1.2.17-13 • Virtual Machine Manager: vmm v1.2.1-8 Parallels Desktop 11.2.2 for MAC 10.9.5
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as <i>standard</i> .

Apple OS 32-bit and 64-bit

The following table lists information about the Apple OS 32- and 64-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	<ul style="list-style-type: none"> • x86 - i86_mac • x64 - x64_mac
Package Identifier	<ul style="list-style-type: none"> • universal_mac10_applelibc++

Tested Compiler	<ul style="list-style-type: none"> • Xcode 7.0.1 • Xcode 6.0.1 • Xcode 5.1.1 • gcc 4.2.1 • For 10.9 Apple LLVM version 5.0 (clang-500.2.79) (based on LLVM 3.3svn) • Apple LLVM version 7.0.0 (clang-700.0.72) • Apple LLVM version 8.0.0 (clang-800.0.38)
Notes	<ul style="list-style-type: none"> • <code>lmadmin</code> runs under both the x86 and the x64 Apple architectures using its 32-bit binary. (No <code>lmadmin</code> 64-bit binary is available.) • Multiple Ethernet hostids are not supported. • Short-code transactions are supported. • Prepped Trusted Configuration is supported. • For building requirements, see Requirements for Building the Apple OS X Licensing Toolkit.
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as <i>standard</i> .

Requirements for Building the Apple OS X Licensing Toolkit

When building the FlexNet Publisher Licensing Toolkit on Apple OS X platforms, use the appropriate Apple development environment:

- For OS X 10.9, use Xcode 5.0.2
- For OS X 10.10, use Xcode 6.0.1
- For OS X 10.11, use Xcode 7.0.1
- For OS X 10.12, use Xcode 8.0

The supplied makefiles build a universal Licensing Toolkit that can be used to produce FlexEnabled applications of the following types (all contained within a single FAT binary):

- 32-bit Intel—Runs on OS X 10.9 or later on Intel platforms
- 64-bit Intel—Runs on OS X 10.9 or later on Intel 64-bit platforms

Required Apple SDKs

The SDK appropriate to the Apple OS X version must be available on the machine where you are building the Licensing Toolkit:

- For OS X 10.9, use `xcode-select --print-path` to obtain the correct path and choose 10.8 or 10.9 SDK path

- For OS X 10.10, use **xcode-select --print-path** to obtain the correct path and choose 10.8, 10.9, or 10.10 SDK path
- For OS X 10.11, use **xcode-select --print-path** to obtain the correct path and choose 10.11 SDK path
- For OS X 10.12, use **xcode-select --print-path** to obtain the correct path and choose 10.12 SDK path

Microsoft Windows 32-bit

The following table lists information about the Microsoft Windows 32-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	i86_n
Package Identifier	i86_n3
Tested Compiler	<ul style="list-style-type: none"> • Visual Studio 2017 • Visual Studio 2015 • Visual Studio 2013 • Visual Studio 2012 • Visual Studio 2010 Professional Edition
Notes	<ul style="list-style-type: none"> • Imadmin is supported in this toolkit. • Multiple Ethernet hostids are supported. • Short-code transactions are supported. • Prepped Trusted Configuration is supported. • Tested virtual machine platforms include: <ul style="list-style-type: none"> VMware Workstation 11 and 12 VMware ESXi 5.5, 6.0, and 6.5 Microsoft Windows Server 2016 Hyper-V Microsoft Windows Server 2012 R2 Hyper-V Microsoft Windows 10 Hyper-V Citrix XenServer 6.2, 6.5, and 7.0 Oracle Virtual Box 5.0.24 QEMU-KVM (Host OS: CentOS 7.1) <ul style="list-style-type: none"> • Hypervisor: qemu-kvm-ev-2.3.0-31 • Hypervisor Services: libvirt-daemon-kvm-1.2.17-13 • Virtual Machine Manager: vmm v1.2.1-8 Parallels Desktop 11.2.2 for MAC 10.9.5
Toolkit Functionality	Licensing based on license files or trusted storage.

Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as <i>standard</i> .
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Microsoft Windows 64-bit

The following table lists information about the Microsoft Windows 64-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	x64_n
Package Identifier	x64_n6
Tested Compiler	<ul style="list-style-type: none"> • Visual Studio 2017 • Visual Studio 2015 • Visual Studio 2013 • Visual Studio 2012 • Visual Studio 2010 Professional Edition
Notes	<ul style="list-style-type: none"> • 1madmin is supported using its 32-bit binary. (No 1madmin 64-bit binary is available.) • Multiple Ethernet hostids are supported. • Short-code transactions are supported. • Prepped Trusted Configuration is supported. • The 1mtools utility cannot interact with the license server manager (1mgrd) when 1mgrd is run as a service. • Tested virtual machine platforms include: <ul style="list-style-type: none"> VMware Workstation 11 and 12 VMware ESXi 5.5, 6.0, and 6.5 Microsoft Windows Server 2016 Hyper-V Microsoft Windows Server 2012 R2 Hyper-V Microsoft Windows 10 Hyper-V Citrix XenServer 6.2, 6.5, and 7.0 Oracle Virtual Box 5.0.24 QEMU-KVM (Host OS: CentOS 7.1) <ul style="list-style-type: none"> • Hypervisor: qemu-kvm-ev-2.3.0-31 • Hypervisor Services: libvirt-daemon-kvm-1.2.17-13 • Virtual Machine Manager: vmm v1.2.1-8 Parallels Desktop 11.2.2 for MAC 10.9.5

Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as <i>standard</i> .

Solaris 32-bit

The following table lists information about the Solaris 32-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	<ul style="list-style-type: none"> • x86_sol (on x86) • sun4_u (on SPARC 32-bit)
Package Identifier	<ul style="list-style-type: none"> • x86_sol10 (on x86) • sun4_u10 (on SPARC 32-bit)
Tested Compiler	<p>For x86:</p> <ul style="list-style-type: none"> • cc (Sun C) 5.8 • cc (Sun C) 5.10 • cc (Sun C) 5.12 • cc (Sun C) 5.13 <p>For SPARC 32-bit:</p> <ul style="list-style-type: none"> • cc (Sun C) 5.8 • cc (Forte Dev 7) 5.4 • cc (Sun C) 5.12 • cc (Sun C) 5.13
Notes	<ul style="list-style-type: none"> • lmadm is supported in this toolkit. • Synchronous I/O multiplexing, via select, is supported for up to 65,535 file descriptors. • The number of system semaphore arrays can become exhausted. • Shared objects might not run when compiled with gcc on SPARC 32-bit. • Multiple Ethernet hostids are not supported. • Prepped Trusted Configuration is supported.
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as <i>standard</i> .

Solaris 64-bit

The following table lists information about the Solaris 64-bit systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	<ul style="list-style-type: none">• x64_sun (on x64)• sun64_u (on SPARC 64-bit)
Package Identifier	<ul style="list-style-type: none">• x64_sun10 (on x64)• sun64_u10 (on SPARC 64-bit)
Tested Compiler	For x86-64: <ul style="list-style-type: none">• cc (Sun C) 5.8• cc (Sun C) 5.10• cc (Sun C) 5.12• cc (Sun C) 5.13 For SPARC 64-bit: <ul style="list-style-type: none">• cc (Sun C) 5.8• cc (Sun C) 5.12• cc (Sun C) 5.13
Notes	<ul style="list-style-type: none">• 1madmin is supported using its 32-bit binary. (No 1madmin 64-bit binary is available.)• Shared objects might not run when compiled with gcc on SPARC 64-bit.• Multiple Ethernet hostids are not supported.• Prepped Trusted Configuration is supported.
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as <i>standard</i> .

Toolkits That Support Prepped Trusted Configuration

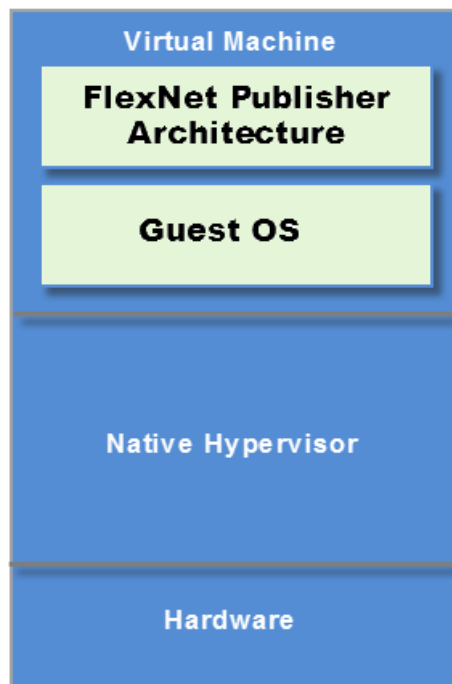
Toolkit platforms that support prepped Trusted Configuration (and therefore server-side local trial ASRs) include the following:

- i86_lsb
- i86_n3
- x64_lsb
- x64_n6

- sun4_u10
- sun64_u10
- universal_mac10
- x64_sun10
- x86_sol10

Virtualization

The following picture illustrates how the FlexNet licensing server or a FlexEnabled application operates within a Virtualization stack. The table below the picture lists the Virtualization stacks that have been tested with FlexNet Publisher.



Use the following table to determine the tested Virtualization stacks.

FlexNet Publisher Architecture	Guest OS	Hypervisor	Host ID
i86_n, x64_n	Windows 8.1	VMware ESXi 5.5, 6.0, and 6.5	VM_UUID ETHER
		Citrix XenServer 6.2, 6.5, and 7.0	VM_GENID
		VMware Workstation 11 and 12	
		PARALLELS	ETHER
		QEMU-KVM	VM_UUID ETHER
	Windows 7 SP1	VMware ESXi 5.5, 6.0, and 6.5	VM_UUID ETHER
		Citrix XenServer 6.2, 6.5, and 7.0	
		VMware Workstation 11 and 12	
		Oracle VirtualBox 5.0.24	
		QEMU-KVM	
		PARALLELS	ETHER

FlexNet Publisher Architecture	Guest OS	Hypervisor	Host ID
i86_n, x64_n	Windows 10	VMware ESXi 5.5, 6.0, and 6.5	VM_GENID ETHER
		Citrix XenServer 6.2, 6.5, and 7.0	
		VMware Workstation 11 and 12	
		Oracle VirtualBox 5.0.24	
	Windows 10 Windows 8.1 Windows 7 SP1	QEMU_KVM	VM_UUID ETHER
		PARALLELS	ETHER
		Microsoft Hyper-V from Windows Server 2016	VM_GENID ETHER
		Microsoft Hyper-V from Windows Server 2012 R2	
		Microsoft Hyper-V from Windows Server 2012	
		Microsoft Hyper-V from Windows 10 Pro	
	Windows Server 2012	VMware ESXi 5.5, 6.0, and 6.5	VM_UUID ETHER
		Citrix XenServer 6.2, 6.5, and 7.0	VM_GENID
		PARALLELS	ETHER
		QEMU-KVM	VM_UUID ETHER
	Windows Server 2012 R2 Windows Server 2012	Microsoft Hyper-V from Windows Server 2016	VM_GENID ETHER
		Microsoft Hyper-V from Windows Server 2012 R2	
		Microsoft Hyper-V from Windows Server 2012	
		Microsoft Hyper-V from Windows 10 Pro	

FlexNet Publisher Architecture	Guest OS	Hypervisor	Host ID
i86_lsb, x64_lsb	RedHat Enterprise Linux 6 and 7	VMware ESXi 5.5, 6.0, and 6.5	VM_UUID ETHER
	SUSE Linux Enterprise 11 and 12	VMware Workstation 11 and 12	
		Citrix XenServer 6.2, 6.5, and 7.0	
		QEMU-KVM	
		Microsoft Hyper-V from Windows Server 2016	
		Microsoft Hyper-V from Windows Server 2012 R2	
		Microsoft Hyper-V from Windows Server 2012	
		Microsoft Hyper-V from Windows 10 Pro	
		PARALLELS	
		Oracle VirtualBox 5.0.24	




Note • VM_GENID is available from the lc_hostid API, but is not available as a hostid keyword on the SERVER or FEATURE line

Tested Cloud Environments

Use the following table to determine guest operating systems and hostids that have been tested with FlexNet Publisher in an Amazon EC2 environment.

FlexNet Publisher Architecture	Tested OS	Cloud Platform	Host ID
i86_n, x64_n	• Windows Server 2012 R2	Google cloud	License servers:
	• Windows Server 2012	Microsoft Azure	VM_UUID
	• Windows 10		FlexEnabled clients:
			ETHER

FlexNet Publisher Architecture	Tested OS	Cloud Platform	Host ID
i86_n, x64_n	<ul style="list-style-type: none"> Windows Server 2016 Windows Server 2012 R2 Windows Server 2012 Windows 10 	Amazon EC2	License servers: VM UUID (previously AMZN_IID) AMZN_EIP FlexEnabled clients: VM_UUID (previously AMZN_IID)
i86_lsb (on x86), x64_lsb (on x64)	<ul style="list-style-type: none"> RedHat Enterprise Linux 6 and 7 SUSE Linux Enterprise 11 and 12 	Google cloud Microsoft Azure	License servers: VM_UUID FlexEnabled clients: ETHER
 Note • <ul style="list-style-type: none"> Google Cloud is an experimental feature, and is detected as <code>GOOGLE COMPUTE</code> Google Cloud, Amazon EC2 and Microsoft Azure can all use <code>VM_UUID</code>. <code>VM_UUID</code> is equivalent to <code>AMZN_IID</code> on EC2, <code>Google Instance ID</code> on Google and <code>SMBIOS UUID</code> on Azure For Linux certificate applications, the <code>Linux FlexNet Licensing Service</code> needs to be installed for Azure detection to occur. 			
i86_lsb (on x86), x64_lsb (on x64)	<ul style="list-style-type: none"> RedHat Enterprise Linux 6 and 7 SUSE Linux Enterprise 11 and 12 	Amazon EC2	License servers: AMZN_EIP or VM_UUID FlexEnabled clients: VM_UUID

System Requirements for Imadmin

The following sections describe tested platforms and requirements for `Imadmin`:

- [Tested Platforms](#)
- [Additional System Requirements](#)
- [Tested Browsers](#)



Note • *Imadmin* installers are no longer packaged within FlexNet Publisher kit archives, and must be downloaded separately.

Tested Platforms

lmadmin can be run on the following platforms.

Platform Architecture	Processor Type	Operating System
AIX 32-bit	PowerPC	AIX 6.1 and 7.1
AIX 64-bit	PowerPC	AIX 6.1 and 7.1
Linux 32-bit	x86	Certified with the following: <ul style="list-style-type: none">• RedHat Enterprise Linux 6 and 7• SUSE Linux Enterprise 11 and 12
Linux 64-bit	x86-64	Certified with the following: <ul style="list-style-type: none">• RedHat Enterprise Linux 6 and 7• SUSE Linux Enterprise 11 and 12
Microsoft Windows 32-bit	x86	<ul style="list-style-type: none">• Windows 10• Windows 8.1• Windows 7• Windows Server 2016• Windows Server 2012 R2• Windows Server 2012
Microsoft Windows 64-bit	x64	<ul style="list-style-type: none">• Windows 10• Windows 8.1• Windows 7• Windows Server 2016• Windows Server 2012 R2• Windows Server 2012
Apple OS 32-bit	x86	Apple OS X 10.9, 10.10, 10.11, and 10.12
Apple OS 64-bit	x64	Apple OS X 10.9, 10.10, 10.11, and 10.12
Solaris 32-bit	<ul style="list-style-type: none">• x86• SPARC 32-bit	Solaris 10, and 11
Solaris 64-bit	<ul style="list-style-type: none">• x64• SPARC 64-bit	<ul style="list-style-type: none">• Solaris 10 and 11 (on SPARC 64)• Solaris 10 and 11 (on x64)



Note • For non-Windows 64-bit platforms use the 32-bit `lmadmin` installers provided in the `lmadmin` folder of the toolkits. For Windows 64-bit, use the 64-bit Windows `lmadmin` installer.

Additional System Requirements

`lmadmin` has these additional requirements:

- Linux 32-bit libraries, required by `lmadmin`, are not automatically installed with RedHat Enterprise Linux 6 (64-bit). You must manually install these libraries on this operating system. Refer to the RedHat Enterprise Linux documentation for details.
- To use `lmadmin` on Windows platforms, the Microsoft Visual C++ 2008 Redistributable Package (x86) must be installed. You have an option to install this package during the FlexNet Publisher License Server Installer process.
- The `lmadmin` installer requires that JRE 1.6 or later (for OS X: JRE 1.7 or later) is installed. If the JRE is not already present on the machine, it must be installed separately, because it is not bundled with the `lmadmin` installer.
- Visual Studio 2008 SP1 C++ redistributable for Windows `lmadmin`

Tested Browsers

`lmadmin` is tested on the following Web browsers:

- RedHat Linux, Mozilla Firefox 54.0, Google Chrome 24.x
- Windows, Microsoft Internet Explorer 11
- Apple OS X, Apple Safari 5.0 and 5.1.7
- Microsoft Edge

Deprecated Features and Commands

Deprecated Features and Commands	Comments
License Generator toolkit	License Generator toolkit is deprecated. Instead, the responsegen shared object API has been exposed; see the example .\examples\activation\responsegen\ResponseGenApi.c.
VM_PLATFORMS keyword and ls_allow_vm vendor variable	These are deprecated.
AMZN_IID, HPV_UUID, VMW_UUID	Replaced by VM_UUID
Imbind & LMB_* hostids	Imbind is no longer packaged with FlexNet Publisher archives. Imbind sections have been removed from 11.13.0 documentation
VMW_*, HPV_ & PHY_* hostids	It is better to have a hostid that is effective in both Physical and virtual systems. As an example, we would recommend ETHER instead of VMW_ETHER (on VMware guests), or HPV_ETHER (on Hyper-V guests), or PHY_ETHER (requiring a physical platform)
Non trial-id trial ASRs	ASRs which do not use a trial-id are subject to an issue where deleting trusted storage means no further (non trial-id) ASRs can be loaded. Trial-id ASRs were invented to solve this issue.
License keys and default strength signatures	License keys have been documented as obsolete for several years. Signatures of type LM_STRENGTH_LICENSE_KEY and LM_STRENGTH_LICENSE_DEFAULT are easily cracked. Flexera Software strongly recommends that new license files use TRL-strength signatures and that updated clients link with the 'trl-only' (Imgr_trl.lib) library.
CVD (Common Vendor Daemon)	Other than for producers who have legacy licensing applications using CVD, this feature is no longer supported. Consequently CVD sections have been removed from 11.13.0 documentation.

Deprecated Features and Commands	Comments
Decimal licenses and lc_convert API	Decimal licenses are deprecated. Consequently sections on decimal licenses and the lc_convert API have been removed from 11.13.0 documentation.

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