FlexNet Publisher 2020 (11.17.1) Release Notes

August 2020
Revision 00

Enhancements

Efficient Reservations

The reservation on features can be applied remotely without editing and re-reading Options file. The reservation can be applied and cancelled runtime once the purpose of reservation is achieved.

Limitations:

- The reservation APIs are vendor specific.
- The support to set duration for the reservation is not possible in this release and it will be added in the future release.
- Reservations made with the use of APIs fails to exist after restart, mid-night rereads, or manual rereads. We may address the rereads in the future releases. No plans for supporting reservations to exist beyond restarts.
- User-group, host-group, or other group-based reservations are not qualified.
- In a single lc_reservation_create call, maximum of 50 reservation lines can be passed.

(FNP-22460)

Extension of LM_PROJECT

Environment variable LM_PROJECT has been extended to support 255 characters as against 30 characters now. This is to support enhanced reporting and it could aid in project based reservations.

(FNP-22158)

lmswitch with “-rollover” Argument

lmswitch utility has been enhanced to support an additional option -rollover. The lmswitch utility with "-rollover" option rolls over the debug log by moving the existing content to a new file, then starts writing server debug statements into original debug log.

(FNP-22398)

New Utility “lmobfslog”

A new utility “lmobfslog” is added, which processes the server log and obfuscates the user name occurrences in the log. This will aid end customers who want to ship their logs outside their IT for audits to hide username for better GDPR compliance.

(FNP-22398)

Enhancement of tsactdiags Utility

The tsactdiags utility has been enhanced to support additional option “-logreport” to capture orphan anchors in Trusted storage.

(FNP-20794)

Added Support in everRun Hypervisor

Virtualization support in FlexNet Publisher has been enhanced to support detection of Stratus everRun Hypervisor. With this enhanced support producers can implement licensing on provisioning done on Stratus everRun Hypervisor. everRun is fully supported on Windows platform. On Linux x86-64(64 bit), the scope of testing was limited for this release. Only important use cases has been tested. Linux x86-32(32 bit) is still not tested in this release.

(FNP-22258)

Single-User Access

Implemented a configuration option to restrict the Trusted Storage access to a single-user.

Limitations

If the nominated user/group runs an old client (i.e. one released prior to this change) it may restore the fully-open access permissions to some or all of the files and folders under the /usr/local/share hierarchy or the /tmp/FLEXnet hierarchy.

Where more than one FNP-enabled product/application is installed on a system, selecting Single-user Trusted Storage mode restricts all FlextNet Publisher-enabled products to use by that user/group. It will be the responsibility of Producers wishing to adopt Single-user Trusted Storage to provide an option to the customer to select the default behavior or otherwise handle this situation.

(FNP-22491)

lmstat to Report Project Details

lmstat has been enhanced to support an additional option -proj to report project details along with checkout information.

(FNP-22192)

Queueing support in Toolkit for Java

Java toolkit has been enhanced to support queueing functionality. This was not supported in the earlier versions of FlexNet Publisher.

(FNP-11414)

Security Updates

Third Party Library Updates

Apache HTTP Library Upgrade

The Apache http Library has been upgraded to v2.4.43.

(FNP-22888, FNP-22551)

Dongle Updates

FLEXID9 (Gemalto) has been updated to version v7.103 on Windows, Linux and MacOS/OS X.

(FNP-22414)

Platform Updates

11.17.1 Updates

Integrated Products and Tested Versions

Product	Tested Version
FlexNet Operations	FlexNet Operations 2020 R1 (20.1.0)
FlexNet Manager for Engineering Applications	FlexNet Manager for Engineering Applications 2019 R2 (15.10.0)
FlexNet Operations Cloud	FlexNet Operations Cloud 2020 R2 SP1 (20.2.0)

11.17.0 Updates

Integrated Products and Tested Versions

Product	Tested Version
FlexNet Operations	FlexNet Operations 2018 R1 (18.1.0)

Product	Tested Version
FlexNet Manager for Engineering Applications	FlexNet Manager for Engineering Applications 2019 R2 (15.10.0)
FlexNet Operations Cloud	FlexNet Operations Cloud 2020 R1 SP2 (20.1.0)

11.16.6 Updates

MacOS

Support for MacOS/OS X 10.15

In this release, FlexNet Publisher kit supports MacOS/OS X 10.15.

Integrated Products and Tested Versions

Product	Tested Version
FlexNet Operations	FlexNet Operations 2018 R1 (18.1.0)
FlexNet Manager for Engineering Applications	FlexNet Manager for Engineering Applications 2019 R2 (15.10.0)
FlexNet Operations Cloud	FlexNet Operations Cloud 2019 R2 (19.2.0)

11.16.5.1 Updates

There are no platform updates to report for FlexNet Publisher 11.16.5.1.

11.16.5 Updates

Integrated Products and Tested Versions

Product	Tested Version
FlexNet Operations	FlexNet Operations 2018 R1 (18.1.0)
FlexNet Manager for Engineering Applications	FlexNet Manager for Engineering Applications 2019 R1 (15.9.0)
FlexNet Operations Cloud	FlexNet Operations Cloud 2019 R1 (19.1.1)

Resolved Issues

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

Resolved lmadmin, lmgrd, and Utility Issue

Unsuccessful lmadmin License File Import

lmadmin license import was failing when the CAPACITY keyword has been used in the INCREMENT line.

(FNP-21451)

HP-UX Issue with lmutils

lmstat and other utilities derived from lmutil while running on HP-UX version 11.31 platform returns error while communicating with the license server. The utilities are now working and displays the expected results.

(FNP-22630)

lmflex crash in lc_checkout

Setting the environmental variable FLEXLM_DIAGNOSTICS=3 was causing crash with lc_checkout. This issue has been fixed.

(FNP-22308)

Server Overload

The message “DPLT: waiting for logger to connect” overloaded by logging multiple times in the server log and it was consuming the machine memory. This issue has been fixed.

(FNP-22887)

Known Issues

Known Dongle Issues

Flexid10 Dongle Driver Issue

FLEXID10 dongles may not work correctly with the latest v6.50 driver on VMware hypervisors. This issue has been identified on both Windows and Linux platforms with a dongle connected using a USB passthrough on VMware ESXi and on VMware Workstation. The problem has been reported to Wibu. As a temporary workaround, use the previous version v6.32 driver on VMware hypervisors.

(FNP-17284, FNP-16819)

Wibu Dongle Driver Issue

An error occurs on SUSE 11 SP4 Linux machine while installing a new Wibu dongle driver (V6.50). The problem has been reported to Wibu. As a temporary workaround, use the previous version v6.40 driver.

(FNP-20298)

Issues on Windows 10 Version 2004

There may be some issues seen on Windows 10 Version 2004 when Sentinel LDK Run-time Environment version 7.100 or earlier is already installed or will be installed. FlexNet Publisher toolkit latest releases (since 11.17.0) have already been upgraded to LDK version 7.103 and issue might not occur on upgraded kits. The issue is not yet tested as FlexNet Publisher has not introduced the support for Windows 10 Version 2004 in this release.

(FNP-23418)

Known lmadmin Issues

Lmadmin Silent Installer not Displaying Required Error Message

When a non-root user attempts to install `lmadmin` in the default location, the installer may hang.

(FNP-6942)

Known Issues Specific to License File–Based Licensing

lmdiag Displaying Incorrect Output when Multiple Vendors are Served by a Single License Server Manager

If multiple vendor daemons are served by a single license server manager (such as lmgrd), lmdiag shows an incorrect error message “No such feature exists” for features that are served by one of the valid daemons.

(FNP-19617; Salesforce case 01202287)

"MAX_CONNECTIONS" Option File Keyword

If a software publisher upgrades only lmgrd and vendor daemon to version 11.16.3 or above, but not the client, the error code that would be received by an older version (version < 11.16.3) client, when MAX_CONNECTIONS limit is exceeded is as follows:

“LM_BADCOMMAND” Error code: “-140” - “A bad command was found in a message”.

(FNP-20537)

Platforms not Supported for lmobfslog Utility

The new utility lmobfslog is not available for ARM, HPUX, AIX and FreeBSD platforms.

(FNP-23522)

Known Issues Specific to Trusted Storage–Based Licensing

Borrow Activation to a Linux Client Causes a Crash

The **flxActBorrowActivate** function crashes when server trusted storage contains an INCREMENT line before a PACKAGE line. However, FlexNet Operations does not produce licenses in this configuration.

(FNP-10437; Salesforce case 00506917)

Known Java Issues

There is no known Java issues in the release 11.17.1.0.

System Requirements

Tested Platforms

The following sections describe the platforms tested with the FlexNet Publisher 2020 (11.17.1) 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:
https://docs.revenera.com/eol/

C/C++ Toolkits

The following platforms are tested. See the Detailed Platform Information section for more information about each platform.

Table 1 • Tested Platforms—C/C++ Toolkits

Platform Type	Hardware Type	Operating System
AIX 32-bit	PowerPC	AIX 7.1 and 7.2
AIX 64-bit	PowerPC	AIX 7.1 and 7.2
HP-UX 64-bit	Intel Itanium	HP-UX B.11.31 U ia64
Linux 32-bit	x86	RHEL 6 and 7
Linux 32-bit	x64	RHEL 8 RHEL 7 SLES 11 SP4
Linux 64-bit	x64	RHEL 6, 7 and 8 SLES 11 SP4, SLES 12 SP4, SLES 15, and SUSE 15 SP1 Ubuntu 16.04, 18.04, and 18.10
Linux 64-bit	ARMv8-A (AArch64)	RHEL 7 and 8 SLES 15
macOS/OS X 64-bit	x64	MacOS 10.15 MacOS 10.14
Microsoft Windows 32-bit	x86	Windows 10 Windows 7 SP1 It is a best practice to run license servers on a server-based OS.
Microsoft Windows 32-bit	x64	Windows Server 2019 Windows Server 2016

Table 1 • Tested Platforms—C/C++ Toolkits

Platform Type	Hardware Type	Operating System
Microsoft Windows 64-bit	x64	Windows 10 Windows 8.1 Windows 7 SP1 Windows Server 2019 Windows Server 2016 It is a best practice to run license servers on a server-based OS.
Solaris 32-bit	SPARC 32-bit x86	Solaris 10 and 11
Solaris 64-bit	SPARC 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.

Table 2 • Tested Platforms—Java Toolkits

Platform Type	Hardware Type	Version
Oracle Java Development Kit	• Solaris x86 • Solaris x64	Java Standard Edition 1.8
	• Solaris SPARC 32-bit • Solaris SPARC 64-bit • Windows x86 • Windows x64 • Linux x86 • Linux x64 • macOS x64	Java Standard Edition 1.8 and 1.11

Detailed Platform Information

The following sections list the operating systems and their associated hardware platforms tested with FlexNet Publisher 2020 (11.17.1). 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'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:

  - Microsoft Windows 32-bit
  - Linux 32-bit
  - ARMv8-A (AArch64)
  - Solaris 32-bit
  - AIX 32-bit
  - Java Standard Edition
  - Microsoft Windows 64-bit
  - Linux 64-bit
  - macOS/OS X 64-bit
  - Solaris 64-bit
  - AIX 64-bit
  - HP-UX 64-bit

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	• Visual Studio 2019 (16.6.2) • Visual Studio 2017 (15.9.24) • Visual Studio 2015 Update 3 • Visual Studio 2013 Update 5

Notes	• `lmadmin` 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: VMware Workstation 15.1.0 VMware ESXi 6.5 and 6.7 Microsoft Windows Server 2019 Hyper-V Microsoft Windows 10 Hyper-V Citrix XenServer 8.0 Oracle Virtual Box 5.2.18 Parallels Desktop 15.1.2 for MAC 10.15.4
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as *standard*.

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	• Visual Studio 2019 (16.6.2) • Visual Studio 2017 (15.9.24) • Visual Studio 2015 Update 3 • Visual Studio 2013 Update 5

Notes	• `lmadmin` is supported using its 64-bit binary. While the 32-bit `lmadmin` binary (contained in the x86_n3 toolkit) continues to be supported on 64-bit systems, Flexera recommends using the 64-bit binary on 64-bit systems. • Multiple Ethernet hostids are supported. • Short-code transactions are supported. • Prepped Trusted Configuration is supported. • The `lmtools` utility cannot interact with the license server manager (`lmgrd`) when `lmgrd` is run as a service. • Tested virtual machine platforms include: VMware Workstation 15.1.0 VMware ESXi 6.5 and 6.7 Microsoft Windows Server 2019 Hyper-V Microsoft Windows 10 Hyper-V Citrix XenServer 8.0 Oracle Virtual Box 5.2.18 Parallels Desktop 15.1.2 for MAC 10.15.4
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as *standard*.

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
Package Identifier	i86_lsb
Tested Compiler	For x86: • gcc 8.2.1 (RHEL 8) • gcc 4.8.5 (RHEL 7) • gcc 4.4.7 (RHEL 6) • gcc 4.3.4 (SLES 11 SP4)

Notes	• `lmadmin` is supported using its 32-bit binary. • Multiple Ethernet hostids are supported. • Short-code transactions are supported. • Prepped Trusted Configuration is supported. • Tested virtual machine platforms include: VMware ESXi 6.5 and 6.7 VMware Workstation 15.1.0 Microsoft Windows Server 2019 Hyper-V Microsoft Windows 10 Hyper-V Citrix XenServer 8.0 Oracle Virtual Box 5.2.18 Parallels Desktop 15.1.2 for MAC 10.15.4
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as *standard*.

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
Package Identifier	x64_lsb
Tested Compiler	For x64: • gcc 4.8.5 (RHEL 7) • gcc 4.4.7 (RHEL 6) • gcc 8.2.1 (RHEL 8.0) • gcc 7.3.1 (SLES 15) • gcc 4.8.5 (SLES 12 SP4) • gcc 4.3.4 (SLES 11 SP4) • gcc 7.3.0 (Ubuntu 18.04) • gcc 5.4.0 (Ubuntu 16.04)

Notes	• `lmadmin` is supported using its 64-bit binary. • Multiple Ethernet hostids are supported. • Short-code transactions are supported. • Prepped Trusted Configuration is supported (x64_lsb only). • No dongle support on SLES 15 • Tested virtual machine platforms include: VMware ESXi 6.5 and 6.7 VMware Workstation 15.1.0 Microsoft Windows Server 2019 Hyper-V Microsoft Windows 10 Hyper-V Citrix XenServer 8.0 Oracle Virtual Box 5.2.18 Parallels Desktop 15.1.2 for MAC 10.15.4
Toolkit Functionality	Licensing based on license files or trusted storage.
Security Functionality	Support for tamper-resistant applications. The toolkit is labeled as *standard*.

ARMv8-A (AArch64)

The following table lists information about the ARMv8-A (AArch64) systems tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	arm64_linux
Package Identifier	arm64_linux
Tested Compiler	• gcc 8.2.1 (RHEL 8) • gcc 7.3.1 (SLES 15)
Notes	• `lmadmin` is not supported in this toolkit • No VM detection or VMID hostid support • No dongle support • No trusted storage support
Toolkit Functionality	Licensing based on license files.
Security Functionality	No support for tamper-resistant applications. The toolkit is labeled as *notr*.

macOS/OS X 64-bit

The following table lists information about the macOS/OS 64-bit system tested with the FlexNet Publisher Licensing Toolkit:

Platform Name	• x64_mac
Package Identifier	• universal_mac10_applelibcpp • x64_mac10
Tested Compiler	• Xcode 11.0 • Xcode 10.3 • Apple clang version 11.0.0 (clang-1100.0.33.5) • Apple LLVM version 10.0.1 (clang-1001.0.46.4)
Notes	• The universal toolkit contains both the x86 and x64 `lmadmin` binaries and their installers. An x64-only `lmadmin` installer and archive are available separately. • lmadmin and its installer will not be shipped along with x64_mac10 toolkit. • Multiple Ethernet hostids are not supported. • Short-code transactions are supported. • Prepped Trusted Configuration is supported. • For building requirements, see Requirements for Building the macOS/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 *standard*.

Requirements for Building the macOS/OS X Licensing Toolkit

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

- For macOS 10.15, use Xcode 11.0
- For macOS 10.14, use Xcode 10.3

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):

- 64-bit Intel—Runs on OS X 10.14 Intel 64-bit platforms

Required macOS/OS X SDKs

An SDK appropriate to the macOS/OS X version must be available on the machine where you are building the Licensing Toolkit:

- For macOS 10.15, use **`xcode-select --print-path`** to obtain the correct path and choose 10.15 SDK path
- For macOS 10.14, use **`xcode-select --print-path`** to obtain the correct path and choose 10.14 SDK path

Solaris 32-bit

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

Platform Name	• x86_sol (on x86) • sun4_u (on SPARC 32-bit)
Package Identifier	• x86_sol10 (on x86) • sun4_u10 (on SPARC 32-bit)
Tested Compiler	For x86: • cc (Sun C) 5.11 • cc (Sun C) 5.15 For SPARC 32-bit: • cc (Sun C) 5.14 • cc (Sun C) 5.15
Notes	• `lmadmin` 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 *standard*.

Solaris 64-bit

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

Platform Name	• x64_sun (on x64) • sun64_u (on SPARC 64-bit)

Package Identifier	• x64_sun10 (on x64) • sun64_u10 (on SPARC 64-bit)
Tested Compiler	For x64: • cc (Sun C) 5.11 • cc (Sun C) 5.15 For SPARC 64-bit: • cc (Sun C) 5.14 • cc (Sun C) 5.15
Notes	• `lmadmin` is supported using its 64-bit binary. While the 32-bit `lmadmin` binary (contained in the x86_sun and sun64_u toolkits) continues to be supported on 64-bit systems, Flexera recommends using the 64-bit binary on 64-bit systems. • 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 *standard*.

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): 11.1 (AIX 7.1) and 13.1.3 (AIX 7.2)
Notes	• `lmadmin` is supported in this toolkit. • 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.

Security Functionality	No support for tamper-resistant applications. The toolkit is labeled as *notr*.

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): 11.1 (AIX 7.1) and 13.1.3 (AIX 7.2)
Notes	• `lmadmin` is supported using its 64-bit binary. While the 32-bit `lmadmin` binary (contained in the ppc_u toolkit) continues to be supported on 64-bit systems, Flexera recommends using the 64-bit binary on 64-bit systems. • 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.
Security Functionality	No support for tamper-resistant applications. The toolkit is labeled as *notr*.

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 8 • JDK 11 (JDK 11 is not supported on Solaris x86 and x64) • OpenJDK 12 (Warnings are observed during installation and uninstallation of lmadmin installer on Windows as mentioned in FNP-22382)

Notes	• 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 *notr*.

HP-UX 64-bit

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

Platform Name	it64_hp (on Intel Itanium)
Package Identifier	it64_hp11i (on Intel Itanium)
Tested Compiler	Intel Itanium HP C/aC++ B3910B A.06.12
Notes	• **`lmadmin`** has not been tested in this toolkit. • On Intel Itanium, use the **`lmhostid`** utility to determine the hostid. This returns the machine identification and is equivalent to the identification returned by the HP_UX command **`getconf CS_PARTITION_IDENT`**. For example: **`>lmhostid`** **`>The FlexNet Licensing host ID of this machine is “ID_STRING=9c788319-db72-d411-af62-0060b05e4c05”`** Older methods of obtaining the hostid that return the Ethernet address are still supported, but may fail on some systems. The older methods include: **`>uname -i (returns decimal hostid)`** **`>lmhostid -long (returns hexidecimal hostid)`** • Multi-threaded licensing libraries are available on Intel Itanium.
Toolkit Functionality	Licensing based on license files.

Toolkits That Support Prepped Trusted Configuration

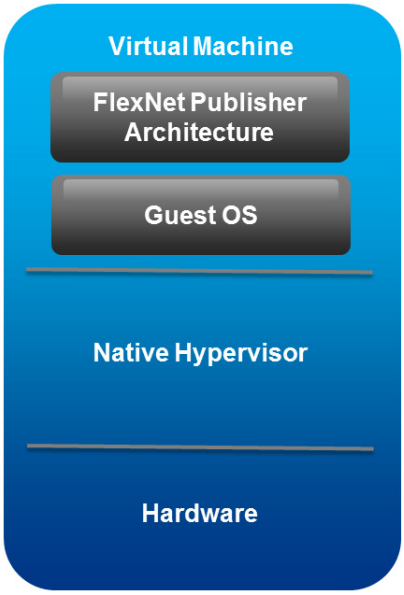
Toolkit platforms that support prepped Trusted Configuration (and therefore server-side local trial ASRs) include the following:

- i86_lsb (32-bit Linux)
- x64_lsb (64-bit Linux)

- i86_n3 (32-bit Windows)
- sun4_u10 (32-bit Solaris SPARC)
- x86_sol10 (32-bit Solaris Intel)
- universal_mac10 (Universal Mac)
- x64_n6 (64-bit Windows)
- sun64_u10 (64-bit Solaris SPARC)
- x64_sun10 (64-bit Solaris Intel)
- x64_mac10 (Universal Mac)

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.

Table 3 • Tested Virtualization Stacks

FlexNet Publisher Architecture	Guest OS	Hypervisor
i86_n, x64_n	Windows 7 SP1	VMware ESXi 6.5 and 6.7 Citrix XenServer 8.0 VMware Workstation 15.1.0 Oracle VirtualBox 5.2.18 PARALLELS
	Windows 10	VMware ESXi 6.5 and 6.7 Citrix XenServer 8.0 VMware Workstation 15.1.0 Oracle VirtualBox 5.2.18 PARALLELS everRun 7.7
i86_n, x64_n	Windows Server 2016	everRun 7.7
i86_n, x64_n	Windows 10 Windows 7 SP1 Windows Server 2019	Microsoft Hyper-V from Windows Server 2019 Microsoft Hyper-V from Windows 10 Pro
	Windows Server 2016 Windows Server 2019	VMware ESXi 6.5 and 6.7 Citrix XenServer 8.0 PARALLELS
i86_lsb	RHEL 6 and 7 SLES 11 SP4	VMware ESXi 6.5 and 6.7 VMware Workstation 15.1.0 Citrix XenServer 8.0 PARALLELS Microsoft Hyper-V from Windows Server 2019 Microsoft Hyper-V from Windows 10 Pro Oracle VirtualBox 5.2.18

Table 3 • Tested Virtualization Stacks

FlexNet Publisher Architecture	Guest OS	Hypervisor
x64 _lsb	RHEL 6 and 7 SLES 11 SP4, SLES 12 SP4, and SLES 15	VMware ESXi 6.5 and 6.7 VMware Workstation 15.1.0 Citrix XenServer 8.0 PARALLELS Microsoft Hyper-V from Windows 10 Pro Oracle VirtualBox 5.2.18

Note •

- *Supported hostids in guest operating systems are ETHER (server and client) and, for all hypervisors other than Hyper-V, VM_UUID (server only). See the white paper, "Understanding Virtualization Features in FlexNet Publisher", for more information.*
- *It is a best practice to run license servers on a server-based OS.*
- *For Windows and Linux certificate applications, the FlexNet Licensing Service needs to be installed for VM_UUID hostid to be extracted.*

Tested Cloud Environments

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

Table 4 • Tested Cloud Environments

FlexNet Publisher Architecture	Tested OS	Cloud Platform	Host ID
i86_n, x64_n	• Windows Server 2016 • Windows 10	Google Cloud Microsoft Azure	License servers: VM_UUID FlexEnabled clients: ETHER
i86_n, x64_n	• Windows Server 2016 • Windows 10	Amazon EC2	License servers: VM UUID (previously AMZN_IID) AMZN_EIP FlexEnabled clients: AMZN_IID ETHER

Table 4 • Tested Cloud Environments

FlexNet Publisher Architecture	Tested OS	Cloud Platform	Host ID

i86_lsb, x64_lsb	• RHEL 6 and 7
	• SLES 11 SP4
		Google Cloud
		Microsoft Azure
			License servers:
			`VM_UUID`
			FlexEnabled clients:
			`AMZN_IID`
			`ETHER`

i86_lsb, x64_lsb	• RHEL 6, 7 and 8
	• SLES 11 SP4 and SUSE 15
		Amazon EC2	License servers:
			`AMZN_EIP` or `VM_UUID`
			FlexEnabled clients:
			`AMZN_IID`
			`ETHER`

Note •

- *Google Cloud, Amazon EC2 and Microsoft Azure can all use VM_UUID. VM_UUID is equivalent to AMZN_IID on EC2, Google Instance ID on Google and SMBIOS UUID on Azure*
- *AMZN_IID is superseded by VM_UUID for server-line hostid, but unlike VM_UUID is supported for feature-line hostid.*
- *For Windows and Linux certificate applications, the FlexNet Licensing Service needs to be installed for cloud hostids (VM_UUID, AMZN_EIP, AMZN_IID) to be extracted.*

System Requirements for lmadmin

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

- Tested Platforms
- Additional System Requirements
- Tested Browsers

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

Tested Platforms

`lmadmin` has been tested on the following platforms.

Table 5 • Tested `lmadmin` Platforms

Platform Architecture	Processor Type	Operating System
AIX 32-bit	PowerPC	AIX 7.1 and 7.2
AIX 64-bit	PowerPC	AIX 7.1 and 7.2
Linux 32-bit	x86	RHEL 6
Linux 32-bit	x64	RHEL 7 and 8 SLES 11 SP4
Linux 64-bit	x64	RHEL 6, 7 and 8 SLES 11 SP4, SLES 12 SP4, and SLES 15 Ubuntu 16.04, 18.04, and 18.10
macOS/OS X 64-bit	x64	MacOS 10.15 MacOS 10.14
Microsoft Windows 32-bit	x86	Windows 10 Windows 8.1 Windows 7 SP1 It is a best practice to run license servers on a server-based OS.
Microsoft Windows 32-bit	x64	Windows Server 2019 Windows Server 2016

Table 5 • Tested `lmadmin` Platforms

Platform Architecture	Processor Type	Operating System
Microsoft Windows 64-bit	x64	Windows 10 Windows 8.1 Windows 7 SP1 Windows Server 2019 Windows Server 2016 It is a best practice to run license servers on a server-based OS.
Solaris 32-bit	SPARC 32-bit x86	Solaris 10 and 11
Solaris 64-bit	SPARC 64-bit x86-x64	Solaris 10 and 11

Note • *The FlexNet Publisher Licensing Toolkits for 64-bit platforms supply 64-bit lmadmin binaries. Flexera recommends their use on 64-bit platforms. Separate 32-bit lmadmin installers and binary archives are also available and can be used on 64-bit platforms if necessary.*

Additional System Requirements

`lmadmin` has these additional requirements:

- To use `lmadmin` on Windows platforms, the relevant Microsoft Visual C++ 2013 Redistributable Package must be installed.
- The `lmadmin` installer requires that JRE 1.6 or later (for macOS/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.

Tested Browsers

`lmadmin` is tested on the following Web browsers:

- Red Hat Linux—Mozilla Firefox 46.x, Google Chrome 61.x
- Windows—Microsoft Internet Explorer 11, Microsoft Edge
- macOS/OS X—Apple Safari 6.x and 11

Deprecated Features and Commands

Table 6 • Deprecated Features and Commands

Deprecated Features and Commands	Comments
Console mode on `lmadmin` installation on macOS/ OS X	On macOS/OS X, the `lmadmin` installer no longer supports Console mode.
Non-multithreaded libraries	The following UNIX client libraries used with applications that do not use native multithreaded libraries have been deprecated: • `liblmgr_nomt_pic.a` • `liblmgr_nomt_pic_trl.a` • `liblmgr_nomt.a` • `liblmgr_nomt_trl.a`
License Generator toolkit	License Generator toolkit is end-of-life. Instead, the responsegen shared object API has been exposed; see the example `.\examples\activation\responsegen\ResponseGenApi.c`.
AMZN_IID, HPV_UUID, VMW_UUID	Replaced by VM_UUID
lmbind & LMB_* hostids	lmbind is no longer packaged with FlexNet Publisher archives. lmbind sections have been removed from documentation
VMW_* and HPV_* 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)
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 strongly recommends that new license files use TRL-strength signatures and that updated clients link with the 'trl-only' (lmgr_trl.lib) library.

Table 6 • Deprecated Features and Commands

Deprecated Features and Commands	Comments
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 documentation.
Decimal licenses and lc_convert API	Decimal licenses are deprecated. Consequently sections on decimal licenses and the **lc_convert** API have been removed from documentation.
Trusted Storage on AIX	Trusted storage is no longer supported on AIX.

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