Licensing 11.17.2 build 54100

Citrix® licensing is a system of components that functions together. Before you use any of your Citrix products, learn about licensing components. The Citrix licensing system includes:

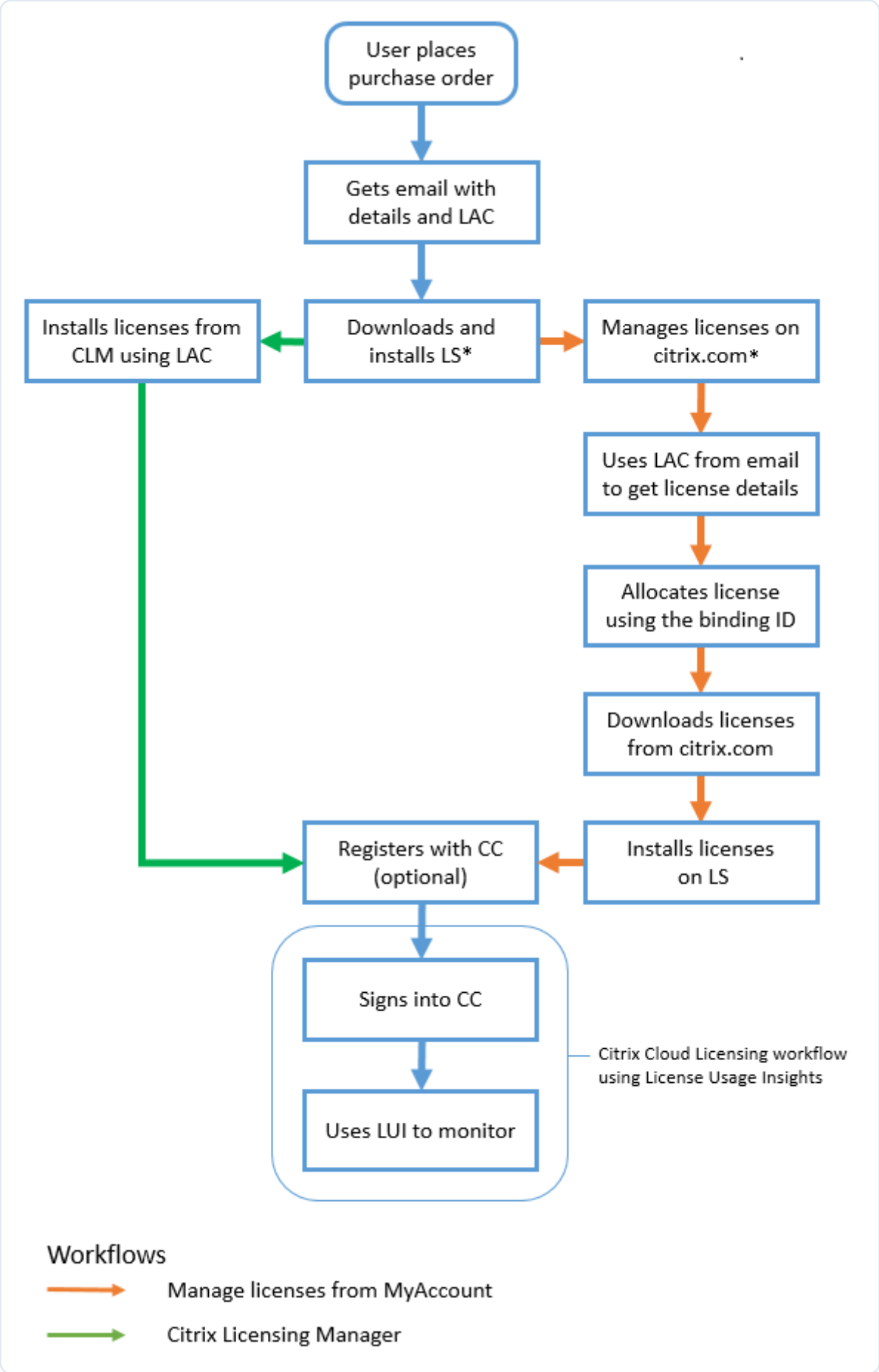
- License Server - Every Citrix product environment must have at least one shared or dedicated License Server. Servers running Citrix products contact the License Server to obtain licenses. For more information, see License Server.
- License files - The license file is a text file containing the product licensing information. It includes License Server name, license expiration date, and other information. For more information, see License files.
- Citrix Licensing Manager - The Citrix Licensing Manager is a web-based management console for Citrix Licensing. For more information, see Citrix Licensing Manager.
- Licensing Services - The Citrix Licensing service is the Windows service responsible for the following core licensing functionality:
  - Citrix Web Services for Licensing
  - Citrix Licensing Support Service
  - Citrix Licensing WMI
  - CITRIX vendor daemon

  For more information, see Licensing services.
- Product-side settings in your Citrix products that are associated with the License Server.

For more information about licensing components, see Citrix licensing technical overview.

Citrix licensing: User workflow

The following image describes the Citrix licensing workflow.


User places purchase order
Gets email with details and LAC
Installs licenses from CLM using LAC
Downloads and installs LS*
Manages licenses on citrix.com*
Uses LAC from email to get license details
Allocates license using the binding ID
Downloads licenses from citrix.com
Registers with CC (optional)
Installs licenses on LS
Signs into CC
Uses LUI to monitor
Citrix Cloud Licensing workflow using License Usage Insights
Workflows
Manage licenses from MyAccount
Citrix Licensing Manager

Key

`*` - Before downloading and installing the License Server, an existing user logs on to citrix.com, while a new user creates a citrix.com account.

CC - Citrix Cloud™

CLM - Citrix Licensing Manager

LAC - License Access Code

LS - License Server

LUI - License Usage Insights

What's new

What’s new in the License Server version 11.17.2 build 54100

Release date: December 10, 2025

OpenSSL version update

OpenSSL 1.1.1zd

What’s new in the License Server version 11.17.2 build 53100

Release date: August 06, 2025

File-based licensing system EOL notification

File-based licensing system, traditionally used for activating various on-premises components, will be End of Life (EOL) on April 15, 2026. License Activation Service (LAS) is the next generation technology for product activations across the suite of Citrix products. LAS will be the only way to activate and license Citrix on-premises components after April 15, 2026. To remain supported, your Citrix Virtual Apps and Desktops and XenServer deployment must be on a LAS compatible version.

For Citrix Virtual Apps and Desktops: The minimum required CVAD versions that are LAS compatible are:

- CVAD 2203 LTSR CU7
- CVAD 2402 LTSR CU3
- CVAD 2507 LTSR
- CVAD 2411

For XenServer: The minimum required XenServer version compatible with LAS is XenServer 8.4.

- If you are using the Early Access channel, the update should occur on or after August 21, 2025.
- If you are using the Normal channel, the update should occur on or after August 28, 2025.
- If you are using Offline update, the bundle should be released on or after August 28, 2025.

If you have questions or concerns, contact Customer Care. Citrix may limit or suspend your Citrix Maintenance for non-compliance with these requirements without liability in addition to any other remedies Citrix may have at law or equity. These requirements don't apply where prohibited by law or regulation.

Apache version update

Apache 2.4.65

Fixed issues

Fixed issues in License Server version 11.17.2 build 54100

There are no fixed issues in this build.

Fixed issues in License Server version 11.17.2 build 53100

There are no fixed issues in this build.

Known issues

Known issues in License Server version 11.17.2 build 54100

There are no known issues in this release.

Known issues in License Server version 11.17.2 build 53100

There are no known issues in this release.

Third party notices

Citrix Licensing 11.17.2 includes third party software licensed under the terms defined in the following documents:

- Non-Commercial Software Disclosures For FlexNet Publisher 2020 (11.17.2) (PDF download)
- FlexNet Publisher Documentation Supplement Open Source Software Licenses applicable to FlexNet Publisher 11.17.2 (PDF download)

Open source software version

License Server version 11.17.2 build 54100 includes the following versions of open source software:

- Apache 2.4.65
- jQuery 3.5.1
- jQuery UI 1.13.2
- libjwt 1.17.1
- libapr 1 1.6.5
- libiconv 1.16.0
- libxml2 2.10.4
- OpenSSL 1.1.1zd
- RapidJson 1.1.0
- SQLite 3.43.1
- Zlib 1.3

Citrix Licensing Telemetry

The following data collection programs are designed to improve your product experience, drive adoption, and gather basic licensing information:

- Citrix Licensing Call Home - This program is optional.
- Citrix Licensing Customer Experience Improvement Program (CEIP) - This program is optional.
- Citrix License Server Events – This program is optional.
- Citrix Licensing Telemetry - This program is required.
- NetScaler® Telemetry program - This program is required.
    - Netscaler Console service
    - Netscaler Console on-prem

Citrix handles your data in accordance with the terms of your contract with Citrix, and protects it as specified in the Services Security Exhibit available on the Citrix Trust Center.

For information about configuring a proxy server, see *Configure a proxy server manually* in the Get started article.

For information about command-line installation, see Use the Windows command line to install licensing.

Citrix Licensing Call Home

Call Home program improves your experience, helps you understand your product usage over time and drives adoption and improves Citrix products. This program shares system configuration, product configuration and usage data including user or device data with Citrix.

This information is transmitted to Citrix once a day, based on the service start time. This program is optional.

> **Important:**

> The Citrix Service Provider program requires Call Home. When the License Server detects Citrix Service Provider licenses, it enforces daily uploads.

> If you want to register your License Server with Citrix Cloud or remove your registration, see *Register and remove registration with Citrix Cloud* in Usage and statistics.

You can change your participation in the programs at any time by using the Citrix Licensing Manager. For more information, see "Share usage statistics" under Usage and statistics.

DATA COLLECTED	DESCRIPTION	WHAT WE USE IT FOR
License usage data	Information about the Citrix licenses installed on the License Server, including product ID, license type, quantity, user, and device data, in addition to license usage information.	We use this data to drive adoption and helps you to understand your license usage over time.
License Server deployment and configuration data	Information about the License Server and how it was deployed, including License Server version, operating system version, and configuration states.	We use this data to inform further development of Citrix products and to improve the customer experience.

For the list of Call Home data elements, see Citrix Licensing Call Home data elements.

Citrix Licensing Customer Experience Improvement Program

CEIP does a periodic collection of system and product configuration and non-identifiable usage data. Providing this data helps Citrix to improve customer experience. This information is transmitted to Citrix once a day, based on the service start time. This program is optional.

You can change your participation in the programs at any time by using the Citrix Licensing Manager. For more information, see "Share usage statistics" under Usage and statistics.

DATA COLLECTED	DESCRIPTION	WHAT WE USE IT FOR
License usage data	Information about the Citrix licenses installed on the License Server, including product ID, license type, and quantity, in addition to license usage information.	We use this data to track how licenses are consumed and track customer population.
License Server deployment and configuration data	Information about the License Server and how it was deployed, including License Server version, operating system version, and configuration states.	We use this data to inform further development of Citrix products and to improve the customer experience.

For the list of CEIP data elements, see Citrix Licensing CEIP data elements.

Citrix License Server Event data

The following table displays data that is collected from the License Server and used for the following:

- Display information in customer facing dashboards
- Provide alerts and notifications about license expiry, license renewals, and License burst mode.

This functionality is available only when the License Server is registered with the Citrix Cloud.

DATA COLLECTED	DESCRIPTION	WHAT WE USE IT FOR
License usage data	Information about the Citrix licenses installed on the License Server, including product ID, license type, and quantity, in addition to license usage information.	We use this data to enable alerts and notification about license expiry, license renewals, etc.
License Server system information	Information about the License Server(such as Hardware ID).	We use this data to identify the License Server in the customer’s environment.

For information on how to enable or disable this functionality, see the Share usage statistics section.

For the list of license server event data elements, see Citrix License Server Event data elements

Citrix Licensing Telemetry

Citrix Licensing Telemetry is a mandatory data collection program. The automatic upload of data is enabled when the License Server is installed.

The Citrix License Server collects and reports limited license telemetry to Citrix for on-premises product licenses to support license compliance. For those licenses, Citrix requires that you transition to the most recent License Server version within 6 months of release of each new version. License Server license collection and reporting (electronic or manual) must be active for License Server Version 11.17.2 Build 40000 and beyond. Unless you have elected manual reporting, you agree to adjust your firewalls as necessary to allow electronic license reporting. Should you have questions or concerns, contact Customer Care. Citrix may suspend or terminate your Citrix Support for non-compliance with these requirements without liability in addition to any other remedies Citrix may have at law or equity. These requirements do not apply to the extent prohibited by law or regulation. See our License Telemetry FAQ for more details.

> **Important:**

> To remain compliant, the number of days since the last successful upload must not be greater than 90 days.

> **Prerequisites to successfully upload telemetry data:**

Outbound to `<https://cis.citrix.com/>` from the License Server. If not available, create required firewall rule or configure a proxy.

DATA COLLECTED	DESCRIPTION	WHAT WE USE IT FOR
License usage data	Information about the Citrix licenses installed on the License Server, including product ID, license type, and quantity, user, and device	We use this data for our legitimate interests, including license compliance.

DATA COLLECTED	DESCRIPTION	WHAT WE USE IT FOR
	data, in addition to license usage information.	
License Server system information	Information about the License Server (such as Hardware ID)	We use this data to identify the License Server in the customer's environment.

For the list of Licensing Telemetry data elements, see Citrix Licensing Telemetry data elements.

Reporting options

The License Management Service uses product telemetry, built into the License Server, to electronically send data to Citrix periodically.

The first compliance upload occurs approximately 24 hours after the License Server first starts or restarts and the next uploads occur once a day thereafter. The schedule resets if you reinstall or perform an in-place upgrade of License Server. If an upload fails, another attempt is made in 24 hours until either the upload succeeds or the License Management Service is disabled.

You can opt for manually reporting this data by disabling the License Management Service. For more information on how to disable the License Management Service, see Use the command line to enable or disable the License Management Service.

The files required to report with Citrix are kept on the License Server locally to enable the manual upload. You must use the Citrix Insight Services to upload this data. For information about the manual upload procedure using the Citrix Insight Services, see the Knowledge Center article - CTX472950.

Note

In the Citrix Insight Services, the maximum file size that a user can upload is limited. For more information about the file uploading requirements, see the Knowledge Center article - CTX131233.

Starting with the 11.17.2 build 45000, users who opt to manually report data with Citrix have to upload both License Server and Citrix Virtual Apps and Desktops data elements. The

> Licensing server data elements are bundled in `upload_compliance*.zip` files. The Citrix Virtual Apps and Desktops data elements are bundled in `upload_usage_*.zip` files.

You can locate the `upload_compliance*.zip` files at `c:\Program Files (x86)\Citrix\Licensing\LS\resource\usage`. You can save all the `upload_compliance*.zip` files into a single zip file and then send this .zip file to Citrix by using the Citrix Insight Services.

You can locate the `upload_usage_*.zip` files at `c:\Program Files (x86)\Citrix\Licensing\LS\resource\cis bundles\ul_usage`. You can save all the `upload_usage_*.zip` files into a single zip file and then send this .zip file to Citrix by using the Citrix Insight Services.

After the upload is successful, you can delete all `upload_*.zip` files from the License Server. Failure to delete the .zip files might result in the License Server running out of disk space.

To verify the status of your latest automatic upload, you can inspect the contents of the following XML log files on the License Server:

- Usage Telemetry (`upload_usage_*.zip`): Check the `CTX_UPLOAD_TYPE_USAGE` nodes within:
  - `<LS_install>\resource\cache\ul_result.xml`
- Compliance Telemetry (`upload_compliance_*.zip`): Check the upload status within:
  - `C:\Program Files (x86)\Citrix\Licensing\LS\resource\cache\upload_compliance_result.xml`

Sample data:

Success:

```
<CtxUploaderResult><Code>CTX_UPLOADER_SUCCESS</Code><Msg></
Msg><t>1679283497</t><UploadType>CTX_UPLOAD_TYPE_COMPLIANCE</UploadType></
CtxUploaderResult>
```

Failure:

```
<CtxUploaderResult><Code>CTX_UPLOADER_ERROR_NETWORK_OPEN</
Code><Msg>SocketOpen(cis.citrix.com:443) exception:
{GetAddrInfoW(cis.citrix.com) failed: WSAHOST_NOT_FOUND : code 0x00002af9:
No such host is known.

}</Msg><Arg>cis.citrix.com:443</Arg><t>1679283245</
t><UploadType>CTX_UPLOAD_TYPE_COMPLIANCE</UploadType></CtxUploaderResult>
```

How to read the data in the uploaded zip files

upload_compliance*.zip

1. Unzip the `upload_compliance*.zip` file.
2. Open the `report.xml` in a browser.
3. Open Citrix Licensing CEIP data elements in another tab.
4. Compare the tags in the XML file with the fields in the Citrix Licensing CEIP data elements webpage and check the description to understand what that field is and refer to the example for more information.

   Example: Copy the `DateSampleStartUTC` from the `report.xml` file and find it in the Citrix Licensing CEIP data elements.

   > **Note:**
   >
   > Some data in the `report.xml` is intentionally hashed to anonymize.

upload_usage_*.zip

1. Unzip the `upload_usage*.zip` file.
2. You find multiple zip files starting with `ue_lt_*.zip`.
3. Unzip one of the zip files.
4. You find a `ue_lt_*.dat` file, which is a database file.
5. You can use any SQL database editor tool to read this file. For example, you can use DB Browser (SQLite) to open the file and view it in JSON format to make the content readable. The following image shows a sample view.

```
"payload": {
    "EntitlementType": "Production",
    "IsWindows365": "False",
    "appProtectionKeyLoggingRequired": "False",
    "appProtectionScreenCaptureRequired": "False",
    "cspTenantCustomerId": "",
```

6. Now search for the JSON keys in the Citrix Virtual Apps and Desktops telemetry data elements or any other Citrix Licensing Telemetry data elements.

   For example, search for the **EntitlementType** copied from the dat file in Citrix Virtual Apps and Desktops telemetry data elements and check the corresponding description and example for more information.

Citrix Licensing Telemetry data elements

This section includes telemetry data elements for the following products:

- Metadata elements
- License Server data elements
- Citrix Virtual Apps and Desktops data elements
- Citrix Secure Private Access data elements
- Citrix Provisioning data elements
- XenMobile Server data elements

License Server telemetry data elements

Metadata fields

FIELD	DESCRIPTION	EXAMPLE
ClientTool	This field isn't in use.	Not applicable
UploadUser	This field isn't in use.	Not applicable
`UTCDate`	Report generation time in UTC format.	2022-06-30T15:31:34Z
Date	Indicates the upload bundle creation date.	06/30/2022 11:31:34

FIELD	DESCRIPTION	EXAMPLE
Product	Identifies the upload bundle.	LicenseServer.OnPremUsage
ProductVersion	Indicates Manifest schema version.	1.0
ProductDeployUTCDate	Denotes the time when the License Server is installed.	2022-03-21T00:00:00Z
GUID	A unique identifier created during install and preserved during upgrade. This field is used to identify which uploads are from the same server.	a5ae17c9-8a4a-4318-938f-a8c6da2aa2ef
UploadType	Indicates if the license upload is manual or automatic.	Auto
Ccid	Indicates the Citrix Cloud Customer ID; only available with the registered License Server.	xaxddaily1
OrgID	Indicates the Org ID, the installed licenses are tied to; only available with the registered License Server.	23456123
TotalFiles	Indicates the total number of files in the upload bundle.	6
SerialNumbers → Serial → ID	Represents the product code associated with the installed license.	XDS_ADV_CCS
SerialNumbers → Serial → SADate	Represents the CSS date associated with the installed license.	2023.1201
SerialNumbers → Serial → SN	Identifies who is entitled to the product.	eval1

FIELD	DESCRIPTION	EXAMPLE
File → Name	Name of the uploaded file.	ue_lt_1683864965.zip
File → UI	Hash to indicate the integrity of the file.	4d14a58f98b1ae2e9d965b2980b67853cfcac7c76e655952bd056ad6dc7a80ae
File → EventStartTS	Indicates the bundle data start time.	1697417241680
File → EventEndTS	Indicates the bundle data end time.	1697430741834
File → OfferingType → Name	Indicates the product.	Broker
FilesUI	Hash to indicate integrity of the bundle.	4d14a58f98b1ae2e9d965b2980b67853cfcac7c76e655952bd056ad6dc7a80ff
ManifestUI	Hash to indicate integrity of the manifest.	4d14a58f98b1ae2e9d965b2980b67853cfcac7c76e655952bd056ad6dc7a8345
LSVersion	Identifies the License Server version.	11.17.2.0 build 48000
DiskFreeMB	Identifies the free disk space in megabytes.	357821
DiskTotalMB	Identifies the total disk space in megabytes.	383070
UI	This field ensures the integrity of the uploaded file.	8826d6ac8e1c8e68e471ae90c2bacbe1854f8281a6f5ae40cc7b74114e026abc
LasOrgId	Indicates the Org ID provided by the LAS service	23456123

License Server telemetry data elements

License Server and License Usage information

FIELD NAME	DESCRIPTION	EXAMPLE VALUE
License Server information		
GUID	A unique identifier created during install and preserved during upgrades. This field is used to identify which uploads are from the same server.	a5ae17c9-8a4a-4318-938f-a8c6da2aa2ef
HardwareId	This field is a unique identifier for the License Server instance.	E824249098A96BF0
FQDN	License Server machine and domain name. This value is sent to help identify License Servers in the reporting experience. Used to pair a License Server calling home to a license allocation record in the back office.	CITRIX-12T5MRV4
InstallUTC	This value denotes the time when the License Server is installed.	2016-10-12T00:00:00Z
ProductVersion	Identifies the License Server version.	11.16.6.0. build 35000
SGPClockErrorCode	Error code indicating why the License Server entered the License burst mode.	0
SGPMaxDays	Maximum days remaining in the License burst mode.	15

FIELD NAME	DESCRIPTION	EXAMPLE VALUE
Inventory		
Feature		
ID	This value represents the product code license usage is associated with	CAG_AAC_CCU
UDBinFileCreatedUTC	Timestamp of when the file used to track user or device licenses was created.	2016-11-09T00:55:56Z
UDReportGenerationUTC	Timestamp of when the user or device report was generated.	2016-11-09T00:55:56Z
UDAdminUsersReleased	Count of users released by `udadmin`.	3
UDAdminDevicesReleased	Count of devices released by `udadmin`.	3
`SADate`	This field is used to build a view of license usage over time.	For examples, see **SADate** in the following section.
SADate		
id	Captures the SA Date through the **ID** attribute of the `SADate` element.	2022.1231
DateSampleStartUTC	Start time of the sample being collected.	2016-11-08T01:08:13Z
DateSampleStopUTC	End time of the sample being collected.	2016-11-09T00:55:56Z
CountUsedMax	This value represents the maximum number of licenses used by this customer.	6

FIELD NAME	DESCRIPTION	EXAMPLE VALUE
CCUDevices	Lists the device IDs that use the Citrix® concurrent licenses. This helps in getting the license usage over time.	
Active	If the value is '1', it's in the current inventory. If the value is '0', it appears only in historical records and is no longer part of the current inventory either because it is removed or expired.	1
Licensees	The **Licensees** field has three sub fields namely CountTotal, Users, and Devices.	For examples, see **Licensees** in the following section.
CountInstalled	The number of licenses installed.	1203
Pool		For examples, see **Pool** in the following section.
CCUDevices		
DevId	Specifies the unique concurrent device identifier. This is applicable only for concurrent licenses.	C39A925064A3
Licensees		
CountTotal	Total number of licenses in use at the time the sample was taken. Total number is the sum of users and devices.	3
Users	Specific users where a user license is assigned, contributing to the total count.	For examples, see **Users** in the following section.

FIELD NAME	DESCRIPTION	EXAMPLE VALUE
	This is applicable only for user/device licenses.	
Devices	Specific devices where a device license is assigned contributing to the total count. This is applicable only for user/device licenses.	For examples, see **Devices** in the following section.
Users		
timeLastLogin	Last login time event from a user.	2022-07-12T10:00:00
ID	Specific users where a user license is assigned, contributing to the total count. **The value is scrambled.**	**1EC4ED037766AA18 (always scrambled)**
Devices		
timeLastLogin	Last login time event from this device.	2022-07-12T10:00:00
DevId	Specifies the unique device identifier where a device license is assigned, contributing to the total count.	C39A925064A3
Name	Friendly name for the device.	**Q648GE661F14B3H7 (always scrambled)**
Pool		
Serial	This information allows Citrix to identify who the product is entitled to.	OR10:13
DateExpiration	Most recent expiration date that impacts the license count in the pool.	12/1/2020.

FIELD NAME	DESCRIPTION	EXAMPLE VALUE
DateIssued	The date that the license file was issued. The date issued of the license file that expires first.	1-Dec-03
VendorStr	Representation of licensing information that informs products of what edition and mode that they must operate in.	`<![CDATA[;LT=Retail;GP=2;PSL=10;CL=ENT,ADV,STD,AST;SA=1;ODP=0]]>`.
CountInstalled	Indicates the number of licenses installed among the pools for a given feature.	100
CountOverdraft	Indicates the number of licenses used above the installed quantity.	0
UsageSamples	For examples, see **Sample** in the following section.	
DateStart	Date from which licenses are valid on.	31-Dec-2014
Sample		
Timestamp	Timestamp of the sample collection.	2016-11-09T00:55:56Z
CountInUse	Indicates the number of licenses in use at the specific time stamp.	3
OverDraft	Indicates the number of licenses used above the installed quantity.	0
Installed	Indicates the number of licenses installed at the specific time stamp.	100

FIELD NAME	DESCRIPTION	EXAMPLE VALUE
StartupCounts data elements		
LPE	Product, Edition, and version information for each server communicating with the License Server. Example from left - Apps and Desktops Premium - 2012.	`<ID><![CDATA[XDT_PLT_2020.1201]]></ID>`
Count	Total number of LPEs connected to the License Server.	2
Licenseburstmode		
ID	This field represents the product code following the License burst mode detail is associated with.	XDT_ENT_UD
`SADate`	This field represents the CSS date for which the License burst mode was triggered.	2019.1201
SGPErrorCode	Error code for which License burst mode was triggered.	-4
LicCount	License count for which License burst mode for triggered.	100
DateTriggerUTC	UTC date on which License burst mode was triggered for ID and `SADate`.	2022-07-19T14:35:59Z
DateTriggerLocal	Local date on which License burst mode was triggered for ID and `SADate`.	2022-07-19T10:35:59

Data stored in LAS as part of LAS onboarding

Citrix generated data

KEY	DESCRIPTION	EXAMPLE
Lsid	Unique license server identifier generated using system properties	`11ccdb50a8014dec4ee8cfc12b4fd81098699ec560c9898020616e3cab9b209e`
public key	License server generated identity for authentication	`MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEA...`
ls version	License server version	`7.15.0.8`
Lsguid	License server generated identity	`a1b2c3d4-e5f6-7890-1234-56789abcdef0`
request time	LAS Activation Request Time	`2024-11-12T10:30:45Z`
product edition and model	Product identity	Citrix Virtual Apps and Desktops Premium
Lpeid	Product generated identity	`af3357536b217012aaa125892dd2949ce93983d60ee12dfe70d7d451657a6134`
site id	Indicates a unique identifier for the site	`Site_Production_01`
ddc id	Indicates a unique identifier for the delivery controller	`DDC-CTRL-NYC-001`
Orgid	Organization (customer) identification info	`ORG123456789`
Ccid	Customer ID	`CUST-ABC-12345`
Uploadtype	Upload type is automatic or manual	automatic or manual
product burn-in date	Date associated with every product version and build	`2024-10-15`

Customers provided data

KEY	DESCRIPTION	EXAMPLE
hostname (LS)	License Server host name	`CITRIX-12T5MRV4`
product hostname	Customer given machine hostname	`CITRIX-12T5MRV4`

Citrix Licensing Call Home data elements

Metadata fields

FIELD	DESCRIPTION	EXAMPLE
ClientTool	This field isn't in use.	Not applicable
UploadUser	This field isn't in use.	Not applicable
`UTCDate`	Report generation time in UTC format.	2022-10-10T06:11:14Z
Date	Report generation time in local time format.	10/10/2022 02:11:14
Product	Name of the upload.	LicenseServerDiagnostic
ProductVersion	The version of the upload.	2.0
ProductUTCDeployDate	Denotes the time when the License Server is installed.	2022-08-16T00:00:00Z
SiteID	This field isn't in use.	Not applicable
SiteName	This field isn't in use.	Not applicable
Component	This field isn't in use.	Not applicable

License Server feature usage data

FIELD	DESCRIPTION	EXAMPLE
prod	Product reporting	V6.Licensing
DateSampleStartUTC	Start time of the sample being collected.	1970-01-01T00:00:00Z
DateSampleStopUTC	Latest sample time of license usage which ideally is the same as when the report was generated. The sample start isn't specified because that varies between license types and therefore isn't a global property.	1970-01-01T00:00:00Z
`CLM-WSLUsage`	Count for individual API calls within Citrix Licensing Manager interface for Citrix Web Services for Licensing service.	10
`POSH-WSLUsage`	Count for individual API calls within PowerShell interface for Citrix Web Services for Licensing service.	2
type	Type of data.	`V6.WSLUsage`
`ver`	Version of the data.	1.0
`LSVersion`	The version of the License Server.	11.17.2.0 build 40000

License Server and License Usage information

FIELD	DESCRIPTION	EXAMPLE
License Server Information		
Feature		

FIELD	DESCRIPTION	EXAMPLE
GUID	A unique identifier created during install and preserved during upgrades. This field is used to identify which uploads are from the same server.	a5ae17c9-8a4a-4318-938f-a8c6da2aa2ef
DateSampleStopUTC	This field is the latest sample time of license usage which ideally is the same as when the report was generated. The sample start is not specified because that varies between license types and therefore isn't a global property.	2019-11-09T00:57:14Z
DateSampleStop	The latest sample time of license usage which ideally is the same as when the report was generated. License Server local time.	11/8/2019 19:57
PortLACHTTP	HTTP port that the License Administration Console is configured for.	0
PortLACHTTPS	HTTPS port that the License Administration Console is configured for (0 for builds with Citrix Licensing Manager only).	8082
PortLACRedirect	Administration Console HTTP to HTTPS port. The value can be either true or false. You can set the value to false only for builds with the Citrix Licensing Manager.	

FIELD	DESCRIPTION	EXAMPLE
PortLS	Citrix Licensing Service (lmgrd.exe) port configuration.	27000
PortVD	CITRIX vendor daemon (CITRIX.exe) port configuration.	7279
CustomerID	The Customer ID received during the registration.	citrix780933
OrgID	The organization ID received during the registration.	int1d91480f
PortWSL	Citrix Web Services for Licensing port configuration.	8083
UDUseDomain	If the value is 1, don't strip the domain from the users name. (`user@domain.com`). If the value is 0, strip the domain from the users name.	1
OptFileNoLogStatus	If the value is 0, log both checkins and checkouts. If the value is 0x1 bit set, checkins are not logged (no log in). If the value is 0x2 bit set, checkouts aren't logged (no log out).	3
OptFileComplianceConfig	This value can be "enabled" or "disabled".	enabled
UDUserNameCase	The License Server configuration that denotes how the UserID case-folding is set for User/Device licensing. The values are: 0=nochange; 1=tolower; 2=toupper.	1

FIELD	DESCRIPTION	EXAMPLE
UDDeviceNameCase	The License Server configuration that denotes how the DeviceID case-folding is set for User/Device licensing. The values are: 0=nochange; 1=tolower; 2=toupper	1
SARenewalCheckOption	The values can be "Install", "Notify", or "Manual".	Notify
EncoreSamplingPeriod	License usage sampling period in minutes.	15
EncoreRetentionTime	Historical use data retention in days.	180
EncoreEnabled	The option is either true or false.	TRUE
`SLSProxy`	The proxy chosen from various sources in the order of priority. (1) WinAutoURL using "citrix.com". (2) WinIE = Internet Explorer settings which require the licensing service to run under a user account rather than local service. (3) WinDefault = The old method that relies on a setting in the windows registry. (4) SimpleLicenseServiceConfig.xml. If the upload is anonymous, this parameter value is either "1" or "0". If diagnostic (not anonymous), this parameter is the proxy server string and port, or empty.	0

FIELD	DESCRIPTION	EXAMPLE
`SLSProxyWinAutoURL`	If the upload is anonymous, this value is either "1" or "0". If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	0
`SLSProxyWinIE`	If the upload is anonymous, this field value is either "1" or "0". If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	0
`SLSProxyWinDefault`	If the upload is anonymous, this field value is either "1" or "0". If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	
`SLSProxySlsConfig`	If the upload is anonymous, this field value is either "1" or "0". If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	
OS	Information about the server machine and operating system that the License Server is installed on.	6.3.9600.17031
WindowsBuildLabEx	Information about the server machine and operating system that the License Server is installed on.	9600.17041.x86fre.winblue_gdr.140305-1710
WindowsEditionID	Information about the server machine and operating	Enterprise

FIELD	DESCRIPTION	EXAMPLE
	system that the License Server is installed on.	
WindowsInstallationType	Information about the server machine and operating system that the License Server is installed on.	Client
WindowsProductName	Information about the server machine and operating system that the License Server is installed on.	Windows 8.1 Enterprise
WindowsDomainMember	Information about the server machine and operating system that the License Server is installed on.	N
`OSBits`	Information about the server machine and operating system that the License Server is installed on.	32
`OSLocale`	Information about the server machine and operating system that the License Server is installed on.	`en-US`
`VM`	Information about the server machine and operating system that the License Server is installed on.	Y
`VMIDString`	Information about the server machine and operating system that the License Server is installed on.	Microsoft Hv
`VMHVIDString`	Information about the server machine and operating	Hv#1

FIELD	DESCRIPTION	EXAMPLE
	system that the License Server is installed on.	
HardwareId	Information about the server machine and operating system that the License Server is installed on.	E824249098A96BF0
FQDN	License Server machine and domain name. This value is sent to help identify license Servers in the reporting experience. Used to pair a License Server calling home to a license allocation record in the back office.	CITRIX-12T5MRV4
UDUploadEnabled	Denotes whether the user or device upload is enabled or not.	true or false
PrivacySetting	Denotes if the customer has chosen to scramble PII (user names and device names). On: Scrambled and Off: Unscrambled	Off
InstallUTC	This value denotes the time when the License Server is installed.	2016-10-12T00:00:00Z
ProductVersion	The current version of the License Server.	11.14.0.1 build 18000
UpgradeFrom	The previous version of the License Server if the current install was an upgrade.	
SetupCluster	Indicates whether a License Server cluster is set up or not.	0

FIELD	DESCRIPTION	EXAMPLE
SGPClockErrorCode	Error code indicating why the License Server entered the License burst mode.	0
SGPMaxDays	Maximum days remaining in the License burst mode.	15
SupplementalGracePeriod	The License burst mode that Citrix provides when you run out of licenses or the product is unable to contact the License Server. This License burst mode helps the product continues to operate.	
Feature		
FeatureID	The tag of the feature.	
UDBinFileCreatedUTC	User/Device Only – not applicable for Concurrent usage	2016-11-09T00:55:56Z
UDReportGenerationUTC	User/Device Only – not applicable for Concurrent usage	2016-11-09T00:55:56Z
EventLog	User/Device Only – not applicable for Concurrent usage	`<FirstCreation t="timestamp"/>`
UDAdminUsersReleased	Count of users released by `udadmin`.	3
UDAdminDevicesReleased	Count of devices released by `udadmin`.	3
SADate		
DateSampleStartUTC	Start time of the sample being collected.	2016-11-08T01:08:13Z

FIELD	DESCRIPTION	EXAMPLE
DateSampleStopUTC	End time of the sample being collected.	2016-11-09T00:55:56Z
CountUsedMax	The maximum number of licenses used.	3
Active	If the value is '1', it's in the current inventory. If the value is '0', it appears only in historical records and is no longer part of the current inventory either because it is removed or expired.	1
Licensees		
CountInstalled	The number of licenses installed.	1203
Pool		For examples, see **Pool** in the following section.
CountTotal	The total number of licenses in use at the time the sample was taken. Total number is the sum of users and devices.	3
Users	Specific users where a user license is assigned, contributing to the total count.	Scrambled: 1EC4ED037766AA18, Unscrambled: `user@domain.com` or user
Devices	Specific devices where a device license is assigned contributing to the total count.	Scrambled: C648FE671A44B3F7 Unscrambled: C39A925064A3
UsageSamples		For examples, see **Sample** in the following section.

FIELD	DESCRIPTION	EXAMPLE
Pool		
Serial	Serial number for the license entitlements in the pool.	OR10:13
DateExpiration	Most recent expiration date that impacts the license count in the pool.	1-Dec-20
DateIssued	The date that the license file was issued. The date issued of the license file that expires first.	1-Dec-03
VendorStr	Representation of licensing information that informs products of what edition and mode that they must operate in.	`<![CDATA[;LT=Retail;GP=2;PSL=10;CL=ENT,ADV,STD,AST;SA=1;ODP=0]]>`
CountInstalled	Number of licenses installed among the pools for a given feature.	100
CountOverdraft	Number of licenses used above the installed quantity.	0
Sample		
Timestamp	Timestamp of the sample collection.	2016-11-09T00:55:56Z
CountInUse	Number of licenses in use at the specific time stamp.	3
OverDraft	Number of licenses used above the installed quantity.	0
Installed	Number of licenses installed at the specific time stamp.	100

FIELD	DESCRIPTION	EXAMPLE
StartupCounts		
LPE ID	Information provided to the License Policy Engine - Interface to the License Server.	`<ID><![CDATA[XDT_PLT_2020.1201]]></ID>`
SerialNumbers		
Serial	The unique identifier in Citrix back office and license files for a given license allocation and files downloaded for that allocation.	
ID	The feature code ID that represents a specific product entitlements (edition and license mode). Such as: Citrix Virtual Apps™ – Premium – User Device	XDT_PLT_UD
`SADate`	Subscription Advantage Date. This date represents the termination date of the CSS entitlement.	2020.1201
SN	Serial number for the license entitlements in the pool.	OR10:13

Citrix Licensing CEIP data elements

Metadata fields

FIELD	DESCRIPTION	EXAMPLE
ClientTool	This field isn't in use.	Not applicable
UploadUser	This field isn't in use.	Not applicable

FIELD	DESCRIPTION	EXAMPLE
`UTCDate`	Report generation time in UTC format.	2022-10-10T06:11:14Z
Date	Report generation time in local time format.	10/10/2022 02:11:14
Product	Name of the upload.	LicenseServerAnonymous
ProductVersion	The version of the upload.	2.0
ProductUTCDeployDate	Denotes the time when the License Server is installed.	2022-08-16T00:00:00Z
SiteID	This field isn't in use.	Not applicable
SiteName	This field isn't in use.	Not applicable
Component	This field isn't in use.	Not applicable

License Server feature usage data

FIELD	DESCRIPTION	EXAMPLE
prod	Product reporting	V6.Licensing
DateSampleStartUTC	Start time of the sample being collected.	1970-01-01T00:00:00Z
DateSampleStopUTC	Latest sample time of license usage which ideally is the same as when the report was generated. The sample start isn't specified because that varies between license types and therefore isn't a global property.	1970-01-01T00:00:00Z
`CLM-WSLUsage`	Count for individual API calls within Citrix Licensing Manager interface for Citrix	10

FIELD	DESCRIPTION	EXAMPLE
	Web Services for Licensing service.	
`POSH-WSLUsage`	Count for individual API calls within PowerShell interface for Citrix Web Services for Licensing service.	2
type	Type of data.	`V6.WSLUsage`
`ver`	Version of the data.	1.0
`LSVersion`	The version of the License Server.	11.17.2.0 build 40000

License Server and License Usage information

FIELD	DESCRIPTION	EXAMPLE
License Server Information		
Feature		
GUID	An anonymous identifier created during install and preserved during upgrades. This field is used to identify which uploads are from the same server.	a5ae17c9-8a4a-4318-938f-a8c6da2aa2ef
DateSampleStopUTC	This field is the latest sample time of license usage which ideally is the same as when the report was generated. The sample start is not specified because that varies between license types and therefore isn't a global property.	2019-11-09T00:57:14Z

FIELD	DESCRIPTION	EXAMPLE
DateSampleStop	The latest sample time of license usage which ideally is the same as when the report was generated. License Server local time.	11/8/2019 19:57
PortLACHTTP	HTTP port that the License Administration Console is configured for.	0
PortLACHTTPS	HTTPS port that the License Administration Console is configured for (0 for builds with Citrix Licensing Manager only).	8082
PortLACRedirect	Redirect License Administration Console HTTP to HTTPS port. The value can be either true or false. You can set the value to false only for builds with the Citrix Licensing Manager.	
PortLS	Citrix Licensing Service (lmgrd.exe) port configuration.	27000
PortVD	CITRIX vendor daemon (CITRIX.exe) port configuration.	7279
PortWSL	Citrix Web Services for Licensing port configuration.	8083
UDUseDomain	If the value is 1, don't strip the domain from the users name. (`user@domain.com`). If the value is 0, strip the domain from the users name.	1

FIELD	DESCRIPTION	EXAMPLE
OptFileNoLogStatus	If the value is 0, log both checkins and checkouts. If the value is 0x1 bit set, checkins are not logged (no log in). If the value is 0x2 bit set, checkouts aren't logged (no log out).	3
OptFileComplianceConfig	This value can be "enabled" or "disabled".	enabled
UDUserNameCase	The License Server configuration that denotes how the UserID case-folding is set for User/Device licensing. The values are: 0=nochange; 1=tolower; 2=toupper.	1
UDDeviceNameCase	The License Server configuration that denotes how the DeviceID case-folding is set for User/Device licensing. The values are: 0=nochange; 1=tolower; 2=toupper	1
SARenewalCheckOption	The values can be "Install", "Notify", or "Manual".	Notify
EncoreSamplingPeriod	License usage sampling period in minutes.	15
EncoreRetentionTime	Historical use data retention in days.	180
EncoreEnabled	The option is either true or false.	TRUE
`SLSProxy`	The proxy chosen from various sources in order of	0

FIELD	DESCRIPTION	EXAMPLE
	priority. (1) WinAutoURL using "citrix.com". (2) WinIE = Internet Explorer settings which require the licensing service to run under a user account rather than local service. (3) WinDefault = The old method that relies on a setting in the windows registry. (4) SimpleLicenseServiceConfig.xml. If the upload is anonymous, this value is either "1" or "0". If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	
`SLSProxyWinAutoURL`	If the upload is anonymous, this value is either "1" or "0". If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	0
`SLSProxyWinIE`	If the upload is anonymous, this value is either "1" or "0". If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	0
`SLSProxyWinDefault`	If the upload is anonymous, this value is either "1" or "0". If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	0
`SLSProxySlsConfig`	If the upload is anonymous, this value is either "1" or "0".	0

FIELD	DESCRIPTION	EXAMPLE
	If diagnostic (not anonymous), this value is the proxy server string and port, or empty.	
OS	Information about the server machine and operating system that the License Server is installed on.	6.3.9600.17031
WindowsBuildLabEx	Information about the server machine and operating system that the License Server is installed on.	9600.17041.x86fre.winblue_gdr.140305-1710
WindowsEditionID	Information about the server machine and operating system that the License Server is installed on.	Enterprise
WindowsInstallationType	Information about the server machine and operating system that the License Server is installed on.	Client
WindowsProductName	Information about the server machine and operating system that the License Server is installed on.	Windows 8.1 Enterprise
WindowsDomainMember	Information about the server machine and operating system that the License Server is installed on.	N
`OSBits`	Information about the server machine and operating system that the License Server is installed on.	32

FIELD	DESCRIPTION	EXAMPLE
`OSLocale`	Information about the server machine and operating system that the License Server is installed on.	`en-US`
VM	Information about the server machine and operating system that the License Server is installed on.	Y
`VMIDString`	Information about the server machine and operating system that the License Server is installed on.	Microsoft Hv
`VMHVIDString`	Information about the server machine and operating system that the License Server is installed on.	Hv#1
InstallUTC	This value denotes the time when the License Server is installed.	2016-10-12T00:00:00Z
ProductVersion	This value is the current version of the License Server.	11.14.0.1 build 18000
UpgradeFrom	The previous version of the License Server if the current install was an upgrade.	
SetupCluster	Indicates whether a License Server cluster is set up or not.	0
SGPClockErrorCode	Error code indicating why the License Server entered the License burst mode.	0
SGPMaxDays	Maximum days remaining in the License burst mode.	15

FIELD	DESCRIPTION	EXAMPLE
SupplementalGracePeriod	The License burst mode that Citrix provides when you run out of licenses or the product is unable to contact the License Server. This License burst mode helps the product continues to operate.	
Feature		
FeatureID	The tag of the feature.	
UDBinFileCreatedUTC	User/Device Only – not applicable for Concurrent usage	2016-11-09T00:55:56Z
UDReportGenerationUTC	User/Device Only – not applicable for Concurrent usage	2016-11-09T00:55:56Z
EventLog	User/Device Only – not applicable for Concurrent usage	`<FirstCreation t="timestamp"/>`
UDAdminUsersReleased	Count of users released by `udadmin`.	3
UDAdminDevicesReleased	Count of devices released by `udadmin`.	3
SADate		
DateSampleStartUTC	Start time of the sample being collected.	2016-11-08T01:08:13Z
DateSampleStopUTC	End time of the sample being collected.	2016-11-09T00:55:56Z
CountUsedMax	The maximum number of licenses used.	3

FIELD	DESCRIPTION	EXAMPLE
Active	If the value is '1', it's in the current inventory. If the value is '0', it appears only in historical records and is no longer part of the current inventory either because it is removed or expired.	1
UsageSamples		For examples, see **Sample** in the following section.
DateExpiration	Most recent expiration date that impacts the license count in the pool.	1-Dec-20
DateIssued	The date that the license file was issued. The date issued of the license file that expires first.	1-Dec-03
VendorStr	Representation of licensing information that informs products of what edition and mode that they must operate in.	`<![CDATA[;LT=Retail;GP=2;PSL=10;CL=ENT,ADV,STD,AST;SA=1;ODP=0]]>`
CountInstalled	Number of licenses installed among the pools for a given feature.	100
CountOverdraft	Number of licenses used above the installed quantity.	0
Sample		
Timestamp	Timestamp of the sample collection.	2016-11-09T00:55:56Z
CountInUse	Number of licenses in use at this specific time stamp.	3

FIELD	DESCRIPTION	EXAMPLE
OverDraft	Number of licenses used above the installed quantity.	0
Installed	Number of licenses installed at this specific time stamp.	100
Users	Specific users where a user license is assigned, contributing to the total count.	Scrambled: 1EC4ED037766AA18, Unscrambled: `user@domain.com` or user
StartupCounts		
LPE ID	Information provided to the License Policy Engine - Interface to the License Server.	`<ID><![CDATA[XDT_PLT_2020.1201]]></ID>`
SerialNumbers		
Serial	The unique identifier in Citrix back office and license files for a given license allocation and files downloaded for that allocation.	
ID	The feature code ID that represents a specific product entitlements (edition and license mode). Such as, Citrix Virtual Apps™ – Premium – User Device	XDT_PLT_UD
`SADate`	Subscription Advantage Date. This date represents the termination date of the CSS entitlement.	2020.1201
SN	Serial number for the license entitlements in the pool.	OR10:13

Citrix License Server Event data elements

FIELD	DESCRIPTION	EXAMPLE
Header		
tenant_id	The Customer ID received during the registration.	citrix780933
`dvc` (unique GUID generated by LS)	A unique identifier created during install and preserved during upgrades. This field is used to identify which uploads are from the same server.	a5ae17c9-8a4a-4318-938f-a8c6da2aa2ef
type	Type of event.	LicenseServer.Inventory
prod	Type of product.	License Server
id	Information about the server machine and operating system that the License Server is installed on.	E824249098A96BF0
st	Timestamp of the event.	2021-08-27T04:22:56.745631Z
`ver`	Version of the payload.	1
prodVer	Version of the License Server.	11.16.6.0 build 35000
$schema	Schema for the event Header.	`https://cas.citrix.com/schemas/event.json`
Payload		
FQDN	License Server machine and domain name. This value is sent to help identify License Servers in the reporting experience. Used to pair a	CITRIX-12T5MRV4

FIELD	DESCRIPTION	EXAMPLE
	License Server calling home to a license allocation record in the back office.	
DateSampleStartUTC	Start time of the sample being collected.	2016-11-08T01:08:13Z
DateSampleStopUTC	End time of the sample being collected.	2016-11-09T00:55:56Z
Feature		
`SADate`	This field represents the CSS date for which the License burst mode was triggered.	2019.1201
PEM	The tag of the feature.	CEHV_ENT_CCS
Notice	NOTICE field from the license file. This is populated with Company Name.	Citrix Systems Inc
FriendlyName	Friendly name of license	XenDesktop Enterprise User/ Device
CountInstalled	The number of licenses installed.	1203
CountOverdraft	Number of licenses used above the installed quantity.	0
CountUsedMax	The maximum number of licenses used.	3
DateExpiration	Most recent expiration date that impacts the license count in the pool.	12/1/2020.
DateIssued	The date that the license file was issued. The date issued	1-Dec-03

FIELD	DESCRIPTION	EXAMPLE
	of the license file that expires first.	
DateStart	Date from which licenses are valid on.	31-Dec-2014
Serial	This information allows Citrix to identify who the product is entitled to.	OR10:13
VendorStr	Representation of licensing information that informs products of what edition and mode that they must operate in.	`<![CDATA[;LT=Retail;GP=2;PSL=10;CL=ENT,ADV,STD,AST;SA=1;ODP=0]]>`

System requirements for Citrix Licensing

Requirements for Licensing

Citrix Licensing is compatible with the same hardware required to support the compatible operating systems. Extra hardware is not required.

Notes:

- We do not support running third party vendor daemons on the Citrix License Server, or the Citrix vendor daemon on third party license servers.
- The License Server does not support multi-homing (two network cards plugged into distinct networks).
- The Citrix Licensing Manager installs licenses only on the License Server where it is installed.
- License Servers don't communicate with each other.

Operating system:

You can install the License Server on servers running the following Microsoft operating systems. We recommend that you install the latest Microsoft Service Pack and updates.

- Windows Server 2025 Family
- Windows Server 2022 Family
- Windows Server 2019 Family
- Windows Server 2016 Family

Server Core installations are not supported.

Disk space requirement:

- Minimum 8 GB RAM
- 500 MB for the licensing components

- 2 GB for user/device licensing
- More disk space might be required based on the retention period of historical data that configured in the Citrix Licensing Manager. For more information, see Historical use.
- More disk space might be required if you choose to manually upload the compliance data with Citrix. For more information, see Citrix Licensing Telemetry.

Microsoft .NET Framework minimum requirements:

- Microsoft .NET Framework 4.7.2

Cluster platforms:

- Windows Server 2025 Family
- Windows Server 2022 Family
- Windows Server 2019 Family
- Windows Server 2016 Family

Browsers:

We tested the following browsers. Other browsers might work, but all functionality might not be available.

- Microsoft Edge
- Mozilla Firefox
- Google Chrome
- Safari

What's next

- Get started, install, and configure the License Server

Get started, install, and configure the License Server

Important:

- We do not support running third party vendor daemons on the Citrix License Server, or the Citrix vendor daemon on third party license servers.
- We recommend that you run the latest version of the License Server. We do not provide hotfixes for License Server components and don't support older License Servers with newer products. The latest version of the License Server often contains resolutions to issues appearing in earlier versions. When you upgrade or install new Citrix products, upgrade the licensing components as well. New License Servers are backward compatible and support older products and license files. However, new products often require the newest License Server to check out licenses correctly. You can find the latest version from the Citrix Downloads site.

  To see the new features in this release, go to What's new.
- We don't support installing the License Server from a UNC path (`\\\server\share`). Install the License Server from a local copy.
- Citrix License Server does not support the management of NetScaler deployments. To manage NetScaler, please use Console Service or Console on-prem.

Step 1 Review your prerequisites

Ensure you review the system requirements before you install and configure your License Server.

Step 2 License your product

Licensing your product includes the following steps:

1. Ensure that you have the latest License Server version.

2. Verify the system requirements.
3. Install licensing.
4. Obtain license files from **My Account** or if you have a license code, use the Citrix Licensing Manager.
5. Install your Citrix product (or, if already installed, restart the Citrix products for the new licenses to be recognized).
6. Configure product-side licensing communication settings that were not set during the product installation, if applicable. This configuration includes setting the correct product-edition in the product. For more information, see Licensing elements and Services.

Ensure that the product-side edition setting correctly matches the licenses you have purchased. For example, if you purchased Premium edition licenses, ensure that the edition setting in the product indicates Premium and not Advanced.

For an overview of the licensing components and process, see Technical overview and Licensing elements.

> **Important:**
>
> The License Server does not require domain membership. You can install the License Server in a workgroup and still perform all licensing functions on behalf of Citrix products. To manage Citrix Licensing Manager users having Active Directory users or groups, the users must be part of a domain. Otherwise, use local Windows users and groups.

Step 3 Check your security and firewall

Security considerations

We recommend that you upgrade the License Server to the latest version when you upgrade or install new Citrix products. The new License Servers are backward compatible and support older products and license files. Each time a new License Server is released, it might contain better security features than in previous versions. We also recommend the following security considerations when you configure your environment.

- Configure the License Server environment so that only authorized administrators on a trusted network can access the Citrix Licensing Manager. You achieve this outcome by using an appropriately configured network or host-based firewall.
- When using the Citrix Licensing Manager, avoid visiting untrusted websites or clicking untrusted URLs.

Important:

Citrix License Server uses Microsoft Active Directory for authentication. Citrix strongly recommends that you implement good security practices in Microsoft Active Directory (like account lockout and password management) to securely deploy Citrix License Server. For more information, see the Account lockout threshold and Password must meet complexity requirements articles.

Firewall considerations

Determine if you require a firewall between the License Server and any product servers before installing licensing. Firewall considerations can impact where you install the License Server.

If you have hardware firewalls in your environment, you must create the necessary rules manually.

If there is a firewall between your product and the License Server, configure port numbers. This configuration process entails:

- **Determining which port numbers to change**. You can change port numbers during the installation process or afterward.
- **Opening up the firewall ports**. Open any ports on the firewall that you changed so that traffic can flow. Current releases configure the built-in firewall automatically.
- **Changing the product-side settings**. Configure your Citrix product to use the same port numbers as in the Citrix Licensing Manager. If you do not change the port number referenced in the product, the product cannot contact the License Server. You can change the product-side settings during and after installation of the product. See your product documentation for information about these settings.

For more information about allowing required URLs and ports through the firewall and a list of open URLs, see Register and remove registration with Citrix Cloud.

For more information about allowing telemetry data upload, see Reporting options.

Step 4 Install licensing components, server, and certificate

Note:

During installation, localized characters in the installation path can cause the installation to fail. Accept the default installation path or type only ASCII alphabetic letter characters for the installation directory.

You can install licensing components on a separate, dedicated server or on a server they share with another application. Alternatively, you can use a web or application server. However, the locations mentioned later in this article are less resource intensive. If you are running fewer than 50 servers or 10,000 licenses, you can install the License Server on the same server as your product. To determine if relocation of the License Server to another system is necessary, monitor CPU and memory load (`lmgrd.exe` and `CITRIX.exe`).

Important:

Use the `CitrixLicensing.exe` file for all future installations, except for Active Directory deployments. In that case, use the .msi. Ensure that both `.exe` and `.msi` files are present for the installation.

Install the License Server and console using the graphical interface

1. Download the License Server from Citrix downloads and start the License Server installer, `CitrixLicensing.exe`, as an administrator or a member of the administrators group.
2. Follow the installer on the GUI to accept the destination folder. Licensing components are installed in `C:\Program Files\Citrix\Licensing` on a 32-bit computer and `C:\Program Files (x86)\Citrix\Licensing` on a 64-bit computer.
3. On the **Configure** page, accept, or change the default port numbers used by licensing components. Choose whether to allow the installer to configure the Windows Firewall exception. If needed, you can change the port numbers after the installation. If you choose to finish the installation without configuring the License Server, restart the `CitrixLicensing.exe` installer. You can also use the License Server Configuration tool to

configure the settings after the installation. Open the configuration tool from: `C:\Program Files\Citrix\Licensing\LS\resource\Licensing.Configuration.Tool.exe`.

- License Server port number is 27000
- Vendor daemon port number is 7279
- Citrix Web Services for Licensing port number is 8083

4. The License Server adds the default administrator for the Citrix Licensing Manager based on how you are logged on. If you are in a domain, the License Server adds the installing user (domain\user) as a default License Server or a Citrix Licensing Manager administrator. If you are a local Windows user, the License Server adds the installing user (computer\user) as a default administrator account. The BUILTIN\administrator group, which allows any administrator to manage licensing, is added by default. You can remove BUILTIN\administrators to restrict licensing to specified users.
5. Choose to start the Citrix Licensing Manager and whether to join the Citrix Customer Experience Improvement Program.

Install licensing using the Windows command line

> **Important:**
>
> The Citrix Service Provider program requires Customer Experience Improvement Program (CEIP) and Call Home. If you are a Citrix Service Provider, you cannot disable CEIP or Call Home. Citrix collects basic licensing data as necessary for its legitimate interests, including license compliance. For more information, see Citrix Licensing Compliance.

> When using the `CitrixLicensing.exe` command to install licensing, set properties by adding `Property=value` on the command line anywhere except between an option and its argument.

Ensure that you run the command line with administrator privileges. To start the command prompt with elevated privileges, choose **Start**, right-click **Command Prompt**, and choose **Run as administrator**. The following sample command line installs licensing in silent mode. Add the properties you want to set. Type the command in one line without returns. The following example is in multiple lines because of space limitations.

```
CitrixLicensing.exe /quiet /l install.log INSTALLDIR=installdirectory
WSLPORT=port_number LSPORT=port_number VDPORT=*port_number CEIPOPTIN=value
```

Where:

- **/quiet** specifies a silent (quiet) installation.
- **/l** specifies the log file location
- **INSTALLDIR** is the location where the License Server executable is stored. Optional parameter. The default is `c:\program files\citrix\licensing` or `c:\program files (x86)\citrix\licensing`.
- **WSLPORT** is the port number used for Citrix Web Services for Licensing. Optional parameter. The default is 8083.
- **LSPORT** is the port number used for the License Server. Optional parameter. The default is 27000.
- **VDPORT** is the port number used for the vendor daemon. Optional parameter. The default is 7279.
- **CEIPOPTIN** specifies whether, or how, to opt in to the Citrix Customer Experience Improvement Program (CEIP) or Call Home. Optional parameter. The default is **NONE**.
    - **DIAGNOSTIC** - Call Home
    - **Unidentified** - CEIP
    - **NONE**

You can change the CEIP and Call Home choice using the Citrix Licensing Manager.

Using the command line to install licensing for an Active Directory deployment

When using the msiexec command to install licensing, set properties by adding Property="value" on the command line anywhere except between an option and its argument. Clustering is not supported in the .msi.

> **Note:**

> Ensure that you run the command line with administrator privileges. To start the command prompt with elevated privileges, choose **Start**, right-click **Command Prompt**, and choose **Run as administrator**.

> The following sample command line installs licensing in silent mode and creates a log file to capture any information about this operation. Add the properties you want to set after the switches.

Type the command in one line without returns. The following example is in multiple lines because of space limitations.

```
msiexec /I ctx_licensing.msi /l*v install.log /qn INSTALLDIR=installdirectory LICSERVERPORT=port_number VENDORDAEMONPORT=port_number MNGMTCONSOLEWEBPORT=port_number WEBSERVICESLICENSINGPORT=port_number CEIPOPTIN=value
```

Where:

- /l*v is the location of the setup log. Optional parameter.
- /qn specifies a silent (quiet) installation.
- INSTALLDIR is the location where the License Server executable is stored. Optional parameter. The default is `c:\program files\citrix\licensing` or `c:\program files (x86)\citrix\licensing`.
- LICSERVERPORT is the port number used for the License Server. Optional parameter. The default is 27000.
- VENDORDAEMONPORT is the port number used for the vendor daemon. Optional parameter. The default is 7279.
- WEBSERVICESLICENSINGPORT is the port number used for the Citrix Web Services for Licensing. Optional parameter. The default is 8083.
- CEIPOPTIN specifies whether, or how, to opt in to the Citrix Customer Experience Improvement Program (CEIP) or Call Home. Optional parameter. The default is **NONE**.
    - DIAGNOSTIC - Call Home
    - Unidentified - CEIP
    - NONE

You can change the CEIP and Call Home choice using the Citrix Licensing Manager.

Using the command line to enable or disable the License Management Service

The License Management Service operates automatically within the License Server and allows for electronic reporting of basic licensing data. You can opt for manual reporting after installation by disabling License Management Service. For information on manual reporting, see Reporting options.

Syntax:

```
ctx_license_management_service.exe (-enable | -disable | -query)
```

Where:

- **-enable** enables electronic reporting of basic licensing data. The first upload to Citrix occurs seven days after you install the License Server.
- **-disable** disables electronic license reporting of basic licensing data. If you disable electronic license reporting, you agree to manual reporting.
- **-query** displays the current configuration.

Manually install a certificate used by the Citrix Licensing Manager and Web Services for Licensing

> **Note:**
>
> Use this procedure if you don't want to use the self-signed certificate that is generated during installation.
>
> To install a certificate, there are three steps:

1. Obtain a .pfx file, which contains the certificate and private key. You can use one of two methods to obtain the .pfx file.
2. Extract the certificate and private key from the .pfx file.
3. Install the certificate and private key on to the License Server.

How to obtain the .pfx file using a domain certificate - Method 1

Log on to a server in the domain, open the **MMC**, and follow these steps:

1. Create a directory **c:\ls_cert** to hold the exported .pfx file.
2. Add the Certificate snap-in by selecting **File > Add/Remove Snap-in > Certificates > Computer account > Local computer**.
3. In the left pane under **Certificates**, right-click **Personal** and choose **All Tasks > Request New Certificate**, and then **Next**.
4. In the **Certificate Enrollment Policy** wizard, choose **Active Directory Enrollment Policy**, and then **Next**. Select the check box next to **Computer**, and select **Details** to the right.
5. Select **Properties** and on the **General** tab, type a friendly name and description.
6. On the **Subject** tab, under **Subject Type**, choose **Common name** from the **Type** menu. Type a friendly name in the text box, choose **Add**, and then **Apply**.
7. On the **Extensions** tab, choose **Key usage** from the menu. Add **Digital signature and Key encipherment** to the **Selected** options box.
8. On the **Extended Key Usage** menu, add **Server Authentication** and **Client Authentication** to the **Selected** options box.
9. On the **Private Key** tab and under the Key options menu, ensure that the Key size is 4096. Select the **Key Exportable** check box, and then **Apply**.
10. On the **Certification Authority** tab, ensure that the CA check box is selected, and then **OK > Enroll > Finish**.
11. In the **Certificates** console, select **Personal > Certificates**, choose the certificate you built. Select **All Tasks > Export > Next**, and select the **Yes, Export the Private Key** radio button, and then **Next**.
12. Under **Personal Information Exchange - PKCS #12(.PFX)**, select the check box to include all certificates, choose **Next**, create a password, and choose **Next**.
13. Click **Browse**, navigate to `C:\ls_cert` and type `server.PFX`, and then follow the wizard to finish.

How to obtain the .pfx file sending a request to a certificate authority (CA) – Method 2

These steps might vary based on your Certificate Authority.

1. Log on to the License Server, open the MMC, and follow these steps:

a. Add the Certificate snap-in by selecting **File > Add/Remove Snap-in > Certificates > Computer account > Local computer**.

b. In the left pane under **Certificates**, right-click **Personal** and choose **All Tasks > Advance Operations > Create Custom Request**, and then **Next**.

c. In the **Certificate Enrollment Policy** wizard, choose **Proceed without enrollment policy** under **Custom Request**, and then **Next**.

d. On the **Custom request** screen, choose **(No template) CNG key** from the menu and **PKCS#10** for the Request format, and then **Next**.

e. On the **Certificate Information** screen, choose **Details** and then **Properties**.

f. On the **General** tab, type a friendly name and description.

g. On the **Subject** tab, under Subject name, choose Common name, and type a value in the text box.

h. On the **Extensions** tab, choose **Key usage** from the menu, add **Digital signature** and **Key encipherment**.

i. On the **Extensions** tab, choose **Extended Key usage** from the menu, add **Server Authentication** and **Client Authentication**.

j. On the **Private Key** tab, under **Cryptographic Service Provider**, choose **RSA, Microsoft Software Key Storage Provider** (the default). From the **Key** options menu, ensure that the key size is 4096, select the **Key Exportable** check box, and then **Apply**.

k. Save the file to a **.req** file, submit the **.req** file to a Certificate Authority (CA), and save the **.cer** file.

2. In the **MMC**, under **Certificates**, right-click Personal and choose **All Tasks > Import**. In the Import wizard, select the .cer file.
3. Create a directory **c:\ls_cert** to hold the exported .pfx file.
4. In the **Certificates** console, choose **Personal > Certificates**, and choose the certificate you imported. Select **All Tasks > Export > Next**, and select the **Yes, Export the Private Key** radio button and **Next**.
5. Under **Personal Information Exchange - PKCS #12(.PFX)**, select the check box to include all certificates, choose **Next**, create a password, and then choose **Next**.
6. Choose **Browse**, navigate to **C:\ls_cert** and type **server.PFX**, and then follow the wizard to finish.

How to extract the certificate and private key

This step requires OpenSSL or another tool that allows you to extract the certificate and private key from a .pfx file. The version of OpenSSL shipped with the License Server does not support extracting certificates and private keys. For information about downloading OpenSSL, go to www.openssl.org. Citrix recommends installing OpenSSL on a separate workstation to perform these steps:

1. Navigate to the `<openssl directory>\bin` folder.
2. Run `openssl pkcs12 -in C:\ls_cert\server.pfx -out server.crt -nokeys`

   > Note:
   >
   > The License Server uses only the .crt certificate format.

3. Type the password created during the export process (password).
4. Run `openssl pkcs12 -in C:\ls_cert\server.pfx -out server.key -nocerts -nodes`
5. Type the password created during the export process (password).

How to install the `.crt` and `.key` files on the License Server

Windows - Web Services for Licensing:

1. Stop the Citrix Web Services for Licensing service.
2. Copy the server.crt and server.key created earlier in this procedure to `c:\program files (x86)\citrix\licensing\WebServicesForLicensing\Apache\conf\`.
3. Start the Citrix Web Services for Licensing service.

Windows - License Administration Console:

> **Note:**
>
> - License Administration Console was removed from Windows License Server v11.16.6.0 build 31000 and onwards. For more information, see What's new.
> - License Server VPX still uses the License Administration Console.

1. Stop the Citrix licensing service.
2. Copy the server.crt and server.key created earlier in this procedure to `c:\Program Files (x86)\Citrix\Licensing\LS\conf`.
3. Start the Citrix licensing service.

Step 5 Configure a proxy server

You can use a proxy with the Citrix Licensing Manager, CEIP, and Call Home. When you configure a proxy server, requests to download licenses and upload telemetry data are sent through a proxy server. If the automatic upload of data fails, check the firewall setting or configure a proxy. For more information, see Citrix Licensing Telemetry documentation.

Starting with License Server version 11.17.2.0 build 43000, you can view and configure proxy server settings from the Citrix Licensing Manager UI. For more information, see Configure a proxy server within Citrix Licensing Manager.

> **Important:**
>
> Citrix Licensing components requiring outward bound web communications can inherit network proxy settings using Windows automatic proxy detection. We do not support authenticated proxies. For more information about Windows automatic proxy detection, see WinHTTP AutoProxy Functions.

How to configure a proxy server manually

1. Edit the SimpleLicenseServiceConfig.xml file, which is in the `<Citrix Licensing>\WebServicesForLicensing` directory.
2. Add a line of xml to the file in the format `<Proxy>proxy server name:port number</Proxy>`

> **Important:**
>
> The .xml tags are case-sensitive.

```
<Configurations>

  <EncoreConfiguration>

    <SamplingPeriod>15</SamplingPeriod>

    <RetentionTime>180</RetentionTime>

    <Enabled>true</Enabled>

  </EncoreConfiguration>

  <Proxy>10.211.55.5:808</Proxy>

</Configurations>
```

Next steps

- Citrix Licensing Manager
- Product specific licensing guides

License Server

License Servers are computers that are partly or completely dedicated to store and manage licenses. If you attempt to connect to a device the Citrix product requests licenses from a License Server. Every Citrix product environment must have at least one shared or dedicated License Server. Servers running Citrix products contact the License Server to obtain licenses.

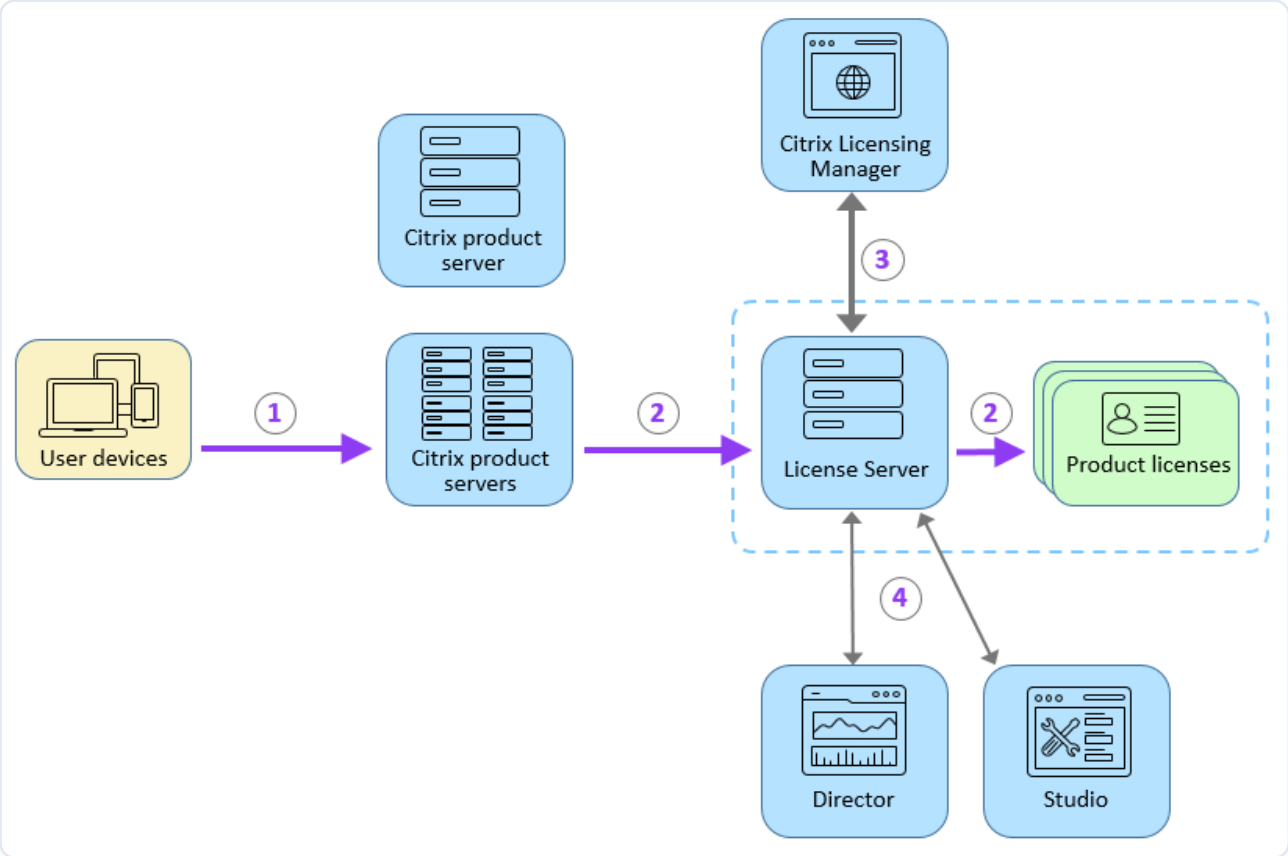
If you connect to a Citrix product, it draws licenses from the License Server. The Citrix product requests to check out a license from the License Server on behalf of the user or client device. When the license is checked out, you can access a product's features and functionality based on the license type and edition.

Note:

Citrix ADC and Citrix Gateway do not obtain licenses from the Citrix License Server. For more information about the product-specific licensing, see Product-specific licensing information.

The following image shows the Citrix products, License Server, Citrix Licensing Manager, and consoles workflow:

- 1-User devices connect to a Citrix® product.
- 2-Citrix products request to check out licenses from the License Server for the user or client devices.
- 3-Citrix Licensing Manager is an administrative web interface used to manage the License Server.
- 4-Consoles (such as Studio and Director) can connect to a License Server to monitor license use, see alerts and other licensing configuration.



Depending on the size and configuration of your product deployment, you might deploy licensing on a server shared with other applications, a dedicated License Server, or multiple License Servers. For more information, see License optimization.

License files must be on the License Server that is associated with the product you're licensing. The product must be configured to communicate with that specific License Server. The Citrix Licensing Manager lets you manage and monitor your Citrix licenses by providing a user interface to the License Server. You can view licenses and alerts, import license files, create historical usage reports, and manage License Server settings.

Related links

- Technical overview
- Licensing elements
- Getting started

Licensing services

This article contains the following information:

- Web Services for Licensing

- Citrix Licensing
- Citrix licensing Windows Management Instrumentation (WMI)

Web Services for Licensing

Studio, Director, and the Licensing Administration PowerShell Snap-in use Web Services for Licensing to do the following:

- Communicate with the License Server and manage users
- Allocate and install licenses
- Display License Server health, license usage, and other alert messages.

The Citrix Licensing Manager also uses it.

Citrix Licensing

The Citrix Licensing service is the Windows service responsible for core licensing functionality. Citrix Licensing services licenses to Citrix products and is responsible for managing the CITRIX vendor daemon, license server port 27000 (by default).

Citrix Licensing WMI

The WMI service provides access to Citrix Licensing WMI classes. There's a namespace (ROOT\\CitrixLicensing) with a few classes (notably, **Citrix_GT_License_Pool**) that gives license usage and availability counts. Querying the License Server too often (more than every 15 minutes) might impact performance negatively.

License files

Before you start installing product licenses, see the prerequisites to obtain your license files.

When you install the License Server, a Citrix start-up license (citrix_startup.lic) and an options file (CITRIX.opt) are installed by default. To license your Citrix products, you add one or more license files. For information about adding your product licenses, see Install licenses.

You cannot change the location of license files on the License Server. License files must reside in their default location.

Citrix Start-up license

The start-up license file (citrix_startup.lic) is a text file that Citrix products use to communicate to the License Server using a continuous open connection. Every five minutes the License Server

and the product send a heartbeat message to each other to verify that they are mutually communicating. When the product and License Server exchange heartbeat messages and there is an interruption in the exchange, the product goes into a License caching mode. A power failure is an example of an interruption. The startup license file does not affect your license count.

Citrix License Server Diagnostics License

The License Server uses **Citrix License Server Diagnostics License** for internal diagnostics and alert message notifications displayed in Citrix Studio and Director. It is available by default with the startup license in the `citrix\_startup.lic` file.

> **Warning**
>
> Do not edit the startup license file, or any other license files.

License file

The license file is a text file containing the following:

- Product licensing information
- License Server name (or other binding identifier)
- Customer Success Services membership renewal date (also known as the Customer Success Services expiration date)
- License expiration date (if applicable) and other system information
- SaaS attribute, only if it's a Hybrid Rights license

```
INCREMENT XDT_PLT_CCS CITRIX 2022.1201 01-dec-2022 5 \
    VENDOR_STRING=;LT=RetailS;GP=720;PSL=10;CL=VDS,VDA,VDE,VDP,SaaS;SA=0;ODP=0;NUDURMIN=2880;NUDURMAX=525600;AP=ADMIN/INT/14
    OVERDRAFT=1 DUP_GROUP=V ISSUED=18-dec-2005 NOTICE="Citrix \
    Systems Inc." SN=RetailSSaaS SIGN="..."
```

All this information is encrypted using a digital signature. When you purchase a Citrix product, go to the `citrix.com` website to download a license file. For more information, see Manage licenses on Citrix.com. You can have more than one license file per License Server. The license file resides in these directories, where the License Server references it.

- C:\\Program Files\\Citrix\\Licensing\\MyFiles directory on a 32-bit server
- C:\\Program Files(x86)\\Citrix\\Licensing\\MyFiles directory on a 64-bit server

The License Server uses this file to determine whether to grant a license to a Citrix product.

A license overdraft is included in all user/device, per user, and per device licenses. For more information on the license overdraft, see License overdraft.

Move licenses to a different host

The license file you downloaded for the old License Server cannot be moved to a server that has a different host name or MAC address. Create license files that reference the new server name by returning them and then allocating them.

For more information, see Modify licenses.

License file format

> **Important**
>
> Any changes to the license file can make license files unusable. If using Citrix Licensing for Windows 11.6.1 or later, editing license files is not necessary. You can manage licenses through the Citrix Licensing Manager and the **My Account** site at `citrix.com`. For more information, see Manage licenses in MyAccount on citrix.com.

> You can change the name of the license file, but it must have a **.lic** (lower case) extension.

Citrix license files use the following naming convention:

`FID_fulfillmentID.lic`

For example: FID_30d0000_0000_xxxx_c800_00xxyy000zz7.lic

License files are composed of lines listing specific information, such as the server name (SERVER) or quantity of licenses (INCREMENT). These lines begin by using words denoting their purpose in uppercase letters, such as VENDOR, SERVER, INCREMENT, USE_SERVER.

The following sections provide in-depth information about the following elements of license file syntax: the SERVER line, VENDOR line, USE_SERVER line, and INCREMENT line.

The following image is an example license file:

1. **SERVER line** shows an identifier required for binding licenses to the License Server.
2. **VENDOR line** specifies the Citrix vendor daemon name.
    - **SaaS** attribute, only if it's a Hybrid Rights license

```
INCREMENT XDT_PLT_CCS CITRIX 2022.1201 01-dec-2022 5 \
    VENDOR_STRING=;LT=RetailS;GP=720;PSL=10;CL=VDS,VDA,VDE,VDP,SaaS;SA=0;ODP=0;NUDURMIN=2880;NUDURMAX=525600;AP=ADMIN/INT/14
    OVERDRAFT=1 DUP_GROUP=V ISSUED=18-dec-2005 NOTICE="Citrix \
    Systems Inc." SN=RetailSSaaS SIGN="..."
```

3. **INCREMENT lines** specifies the license required to use a product.
4. Comments used by the License Server to translate license FEATURES (PRODUCT_EDITION_LICENSEMODEL) to Citrix product names.

```
# This file is in UTF-8 format.
#
SERVER this_host HOSTNAME=license_server1 (1)
VENDOR CITRIX (2)
USE_SERVER
INCREMENT MPS_ENT_CCU CITRIX 2006.0428 01-may-2006 1000 \
        VENDOR_STRING=;LT=Retail;GP=720;CL=ENT,ADV,STD;SA=0;ODP=0 \
        DUP_GROUP=V ISSUED=12-Mar-2004 NOTICE="eMail Test - Citrix" \
        SN=LA-0000150712-86261:872 START=11-mar-2004 SIGN="0885 F320 \
        0AE2 EE72 68A4 92FC 86C2 3648 A2CF 346D A88F  BD44 TS111\
        D790 1830 7535 553C B774 DE8C 1F5D A5D3 D5F6 D078 217B BH050 \
        A14C 2893 7756 ACF5"                                          (3)

#
#[English] (4)
#CITRIXTERM    FEATURE    2.0    MPS_STD_CCU    EN    Citrix Presentation Server Standard|Concurrent User
#CITRIXTERM    FEATURE    2.0    MPS_ADV_CCU    EN    Citrix Presentation Server Advanced|Concurrent User
#CITRIXTERM    FEATURE    2.0    MPS_ENT_CCU    EN    Citrix Presentation Server Enterprise|Concurrent User
#
```

SERVER Line

The SERVER line specifies the binding identifier (also known as the host name) of the License Server.

Caution:

Do not change the binding identifier on the SERVER line otherwise, the license file doesn't work.

Syntax:

`SERVER this_host ether`

Or

`SERVER this_host HOSTNAME=hostname`

PARAMETERS	DESCRIPTION
`ether`	The MAC address of the appliance on which the License Server is running. Do not edit this text string.
`hostname`	The name of the computer on which the License Server is running. Do not edit this text string.

Example

```
SERVER this_host HOSTNAME=license_server1
```

VENDOR Line

The VENDOR line specifies the Citrix vendor daemon name.

Syntax:

VENDOR CITRIX

FIELD	DESCRIPTION
VENDOR CITRIX	Name of the Citrix vendor daemon. Do not edit this name.
vendor_daemon_path	Path to the executable for the Citrix vendor daemon. Citrix recommends that you do not change this path.

INCREMENT Lines

An INCREMENT line describes the license required to use a product. License files (*.lic) contain one or more INCREMENT lines. Each INCREMENT line makes up a user-specified allocation of product and license (users, connections) counts.

Each increment line contains:

- A signature based on the data in that line
- The `hostids` specified in one or more SERVER lines
- Data selected by Citrix

INCREMENT lines use a backslash (\) to wrap long lines of text.

Syntax:

INCREMENT feature vendor css_expiry_date exp_date num_lic

SIGN=sign

Caution:

Do not change the six fields after the INCREMENT line keyword. The fields are required and have a fixed order.

The following table explains these fields in the order they appear:

FIELD	DESCRIPTION
feature	The product license. Do not edit this line.
vendor	Indicates that this license is for a Citrix vendor daemon. Do not edit this line.
CSS_expiry_date exp_date	Indicates the date until which you are entitled to product version upgrades. If you don't have a Customer Success Services membership, or this license isn't a Customer Success Services license, the date indicates when you ordered or redeemed the license. Do not edit this line. **Note:** If you renewed your Customer Success Services membership and received an upgrade license, the CSS_expiry_date is listed. **For example:** INCREMENT MPS_ENT_CCU CITRIX 2019.0311 permanent 1000 Expiration date of license in the format dd-mmm-yyyy, that is, 07-may-2006. Do not edit this line. **Note:** If the exp_date field contains the text string **permanent**, the license never expires.

FIELD	DESCRIPTION
num_lic	Number of concurrent licenses for this product license. Do not edit this line.
SIGN=sign	SIGN=signature to authenticate this INCREMENT line. Do not edit this line.
SUPERSEDE_SIGN=sign	Strategically turns off specific licenses based on license feature and signature or INCREMENT line to be disabled. Customer Success Services or maintenance upgrade licenses include SUPERSEDE_SIGN. **Example:** SUPERSEDE_SIGN={"CBR_100_SSERVER: 0F76 2946 4790 6B67 08E0 65BC 302B E1B6 6ECE 41D6 8AB6 E9C6 FE44 4EB3 9A83 01E4 D405 3E95 74B8 9BC8 7791 BDD3 1385 33F8 9533 95FF A3E4 F461 35B4 251E"}

INCREMENT lines also determine the grouping of licenses in the management console. These groups are known as license pools. The Citrix vendor daemon creates the license pools based on common attributes, such as product license or version. The console displays and tracks a newly created pool independently from other license pools. The Citrix vendor daemon creates a license pool when two or more attributes are different.

Citrix Attributes in INCREMENT Lines:

INCREMENT lines can also include more attributes from Citrix. These attributes provide information about the license, such as the date of issue or if the license is an upgrade license.

Caution:

Do not change or remove these attributes.

Example:

```
INCREMENT MPS_ENT_CCU CITRIX 2008.0606 permanent 10 \
VENDOR_STRING=;LT=Retail;GP=720;CL=ENT,ADV,STD,AST;SA=1;ODP=0 \ DUP_GROUP=V
ISSUED=06-Jun-2007 NOTICE="Citrix" \ SN=12345:67890 START=6-jun-2007 SIGN="18F8 1546
F605 E3BD 010E 7E4F A4B3 9DE3 B90E 7937 3337 0180 1FFB C6EB D491"
```

Important items are highlighted in the preceding example:

- The Product (license feature) appears in blue
- The Customer Success Services expiration date appears in red (Format: YYYY.MMDD)
- The License (user, connection) count appears in GREEN

Syntax:

keyword=value

The following table describes the Citrix attributes. The uppercase letters of the attributes indicate that this attribute is not editable.

ATTRIBUTE	DESCRIPTION
DUP_GROUP=V	This attribute allows license sharing for the same client device.
ISSUED=dd-mmm-yyyy	Date issued.
ISSUER="..."	Issuer of the license.
NOTICE="..."	Your company name.
SN=serial_num	Serial number is the License Access Code and the fulfillment ID of that license.
START= dd-mmm-yyyy	The date from which you can start using a license. The License Server cannot use licenses before their start date. You can install licenses before the START date but there are not visible in your License Server inventory until the actual START date.
SUPERSEDE="MPS_ADV_CCU MPS_STD_CCU ..."	This attribute appears in the upgrade license file when you move to a higher product edition. If this attribute appears, this line supersedes all

ATTRIBUTE	DESCRIPTION
	licenses issued before the date specified in ISSUED= and they become ineffective.
VENDOR_STRING="..."	Text string defined by Citrix.

Example of a base license:

```
INCREMENT CBR\_100\_SSERVER CITRIX 2016.1201 permanent 10 \\

   VENDOR\_STRING=;LT=Retail;GP=720;MAXBW=1;MLC=0;HA=0;CL=BRSE;SA=1;ODP=0
\\

   DUP\_GROUP=V ISSUED=18-dec-2005 NOTICE="Citrix" \\

   SN=100se200seB SIGN="1B19 C213 7517 CC62 756F 864C 9C93 06FC \\

   E1DE B5D5 D793"
```

Example of a Customer Success Services renewal license containing SUPERSEDE_SIGN:

```
INCREMENT CBR\_100\_SSERVER CITRIX 2017.1201 permanent 10 \\

   VENDOR\_STRING=;LT=Retail;GP=720;MAXBW=2;MLC=0;HA=0;CL=BRSE;SA=1;ODP=0
\\

   DUP\_GROUP=V ISSUED=18-dec-2007 NOTICE="Citrix" \\
```

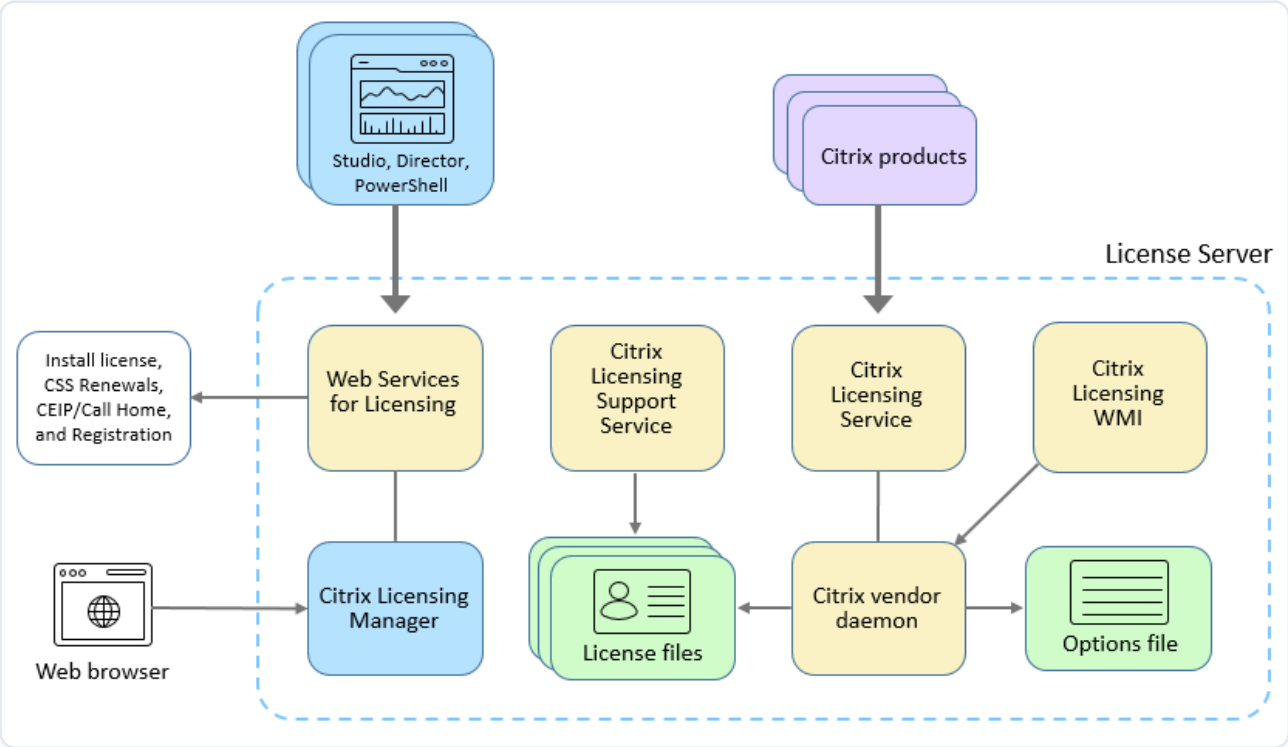
```
SN=100se200seU SUPERSEDE\_SIGN={"CBR\_100\_SSERVER:1B19 C213 7517 \\

CC62 756F 864C 9C93 06FC E1DE B5D5 D793"} SIGN="1D5D 869A 40BE \\

D4DB 361D 7897 AFA5 FF8B E52A 20BA 5525 01AA F241 6919
```

Licensing elements

The License Server comprises several licensing elements:

- Citrix vendor daemon
- Options configuration file
- License request process
- Citrix Licensing data collection programs

The following diagram shows how Citrix products connect to the License Server.



Citrix® vendor daemon

The Citrix vendor daemon (CITRIX), a process that runs on the License Server, grants licenses. The Citrix vendor daemon tracks the number of licenses that are checked out and which product has them. Citrix products communicate with the Citrix vendor daemon using TCP/IP. By default, the Citrix vendor daemon uses TCP/IP port 7279.

Options file

The options file (Citrix.opt) is a License Server configuration file. The Citrix vendor daemon reads this file every time it restarts or receives a command to reread the file. This configuration file defines licensing behavior-the number of licenses a product server can use, the location of the System Logs, logging levels, and other user-defined customizations. The Customer Experience Improvement Program (CEIP) and Call Home configurations are stored in this file.

License request process

When a product requests a license from the License Server, the Citrix vendor daemon determines whether a license is available for the request.

The license request process has two phases: the product startup phase and the user connection phase.

Product Start-Up Phase:

- When a Citrix product starts, it retrieves the License Server location from its data store.
- The product connects to the Citrix vendor daemon.
- The product checks out a startup license.

User connection phase:

- A user connects to a computer running the Citrix product.
- The product requests a license from the License Server.
- The Citrix vendor daemon checks to see if any licenses are available and grants or denies the product's request.
- The license module in the product grants or denies the use of the product based on the response from the Citrix vendor daemon.

Citrix® licensing technical overview

Before you can use your Citrix product, you must install Citrix licensing. Citrix licensing is a system of components that function together. This system includes:

License Server. A system that allows licenses to be shared across the network. For more information, see License Server.

License files. The files required to license your product. These files are stored on the License Server. For more information, see License files.

Citrix Licensing Manager. The License Server management method. For more information, see Citrix Licensing Manager.

Web Services for Licensing. Enables Studio, Director, and the Licensing Administration PowerShell Snap-in to:

- Communicate with the License Server and manage users.
- Allocate and install licenses.
- Display License Server health, license usage, and other alert messages.

For more information, see Licensing elements and Services.

Licensing operations overview

Check out and Check in

Typically, the first time a user connects to a Citrix product, the product requests a license from the License Server. When the License Server grants a license request, the Citrix product reserves a license for its use. Reserving licenses for this purpose is known as **checking out** licenses. When the user logs off from the product server, the product returns the license to the License Server. This process is known as **checking in** licenses. Some Citrix products check out the license when a user connects to the product. The license remains checked out for a predetermined amount of time.

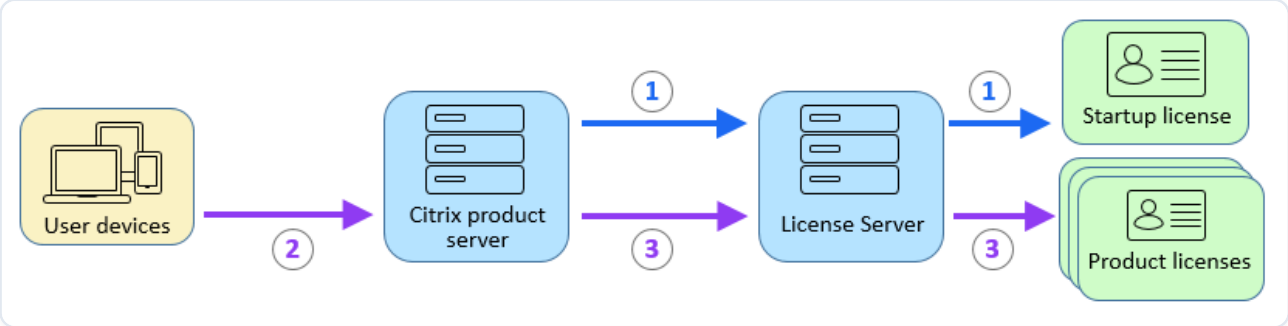
Each time a Citrix product starts, it opens a connection to the License Server by checking out the startup license. The startup license is a Citrix system file that enables Citrix products to maintain a continuous connection to the License Server. For more information, see Startup license.

For example, when a server running Citrix Virtual Desktops requests a license, the product retrieves the License Server name and port number information from the data store. The product then establishes a connection to acquire the licenses.

Note

When configuring the product-side setting for the License Server name, do not use localhost. Though you can use the host name, IP address, or FQDN instead, Citrix recommends that you use the FQDN.

There are three stages of the license checkout process.



A Citrix product goes through a three-step process to check out licenses:

1. At startup, a computer running a Citrix product checks out a startup license.
2. A client device connects to the product server.
3. The product requests a license from the License Server.

Citrix products, such as Citrix Virtual Desktops, stores a replica of the licensing information from the License Server, including the number and type of licenses. If a Citrix product server loses its connection to the License Server, or the License Server does not respond in a timely manner, the product enters a License caching mode. During the License caching mode, the product uses its local record of the licenses to continue licensing the product. After communication is re-established between the product and the License Server, the License caching mode is reset.

Scalability

This section provides guidance to ensure successful License Server usage by examining the impact of license usage scalability in a Citrix environment. We performed this scalability testing:

Virtual Machine Hardware/Configuration: Intel Xeon E5-2650 v3 @ 2.30 GHz 4 Virtual CPUs 8 GB RAM Windows Server 2016

6.5 and earlier Concurrent:

- 3000 connected Citrix Virtual Apps™ servers

- 53,000 concurrent licenses
- 50–60 connections per second

Efforts to scale more than 53,000 licenses result in servers going into a License caching mode. Also, there are issues with WMI and lmstat. We recommend that you maintain 50,000 or fewer concurrent connections per License Server.

7.x Concurrent:

- 16 Delivery Controllers
- 70,000 concurrent licenses
- 50–60 checkouts per second

7.x User/Device:

- 16 Delivery Controllers
- 150,000 user/device licenses
- 50/60 checkouts per second

CITRIX.exe is a single threaded process. While it's serving Concurrent connections, the maximum connection limit is based on the single core processor speed. During peak activity, CITRIX.exe uses 100% of a single core and eventually starts timing out. This usage might cause Citrix products to go into a License caching mode or errors in the License Server utilities. After the License Server has processed backlog connections, it returns to normal. Monitor the CITRIX.exe processor usage to determine if a faster processor is required. We recommend if you experience issues in high scalability environments, you deploy more License Servers.

User/Device technology is multi-threaded and scales better than Concurrent. During license optimizations, you might see that periods were licensing activity takes 100% of a single core. This usage is normal and doesn't impact the CITRIX.exe processor usage or functionality. We recommend that you monitor License Server resource usage and add more License Servers to maintain a properly functioning environment.

> **Note**
>
> Running `WMI`, `lmstat`, `lmutil`, or other inventory actions can negatively impact the License Server performance. We recommend that you minimize these activities. If you

> require usage data, export the data from the Citrix Licensing Manager. For more information, see Historical Use.

License Server using different product editions

One License Server can contain licenses for multiple editions of a Citrix product. For more information about product editions, see Citrix Products and License Models. The type of license checked out corresponds to the edition that is configured on the product server. A product server is configured to consume a specific edition of a license and checks out that license edition.

For example, ProductServerA is configured to check out Advanced licenses. ProductServerB is configured to check out Premium licenses. LicenseServer1 contains both Advanced and Premium licenses.

- Users who connect to ProductServerA, which is configured to use licenses installed on LicenseServer1 checkout Advanced licenses only. After the number of Advanced licenses on LicenseServer1 is exceeded, new requests from ProductServerA users are denied until existing Advanced connection licenses are released.
- Users who connect to ProductServerB, which is configured to use licenses installed on LicenseServer1 checkout Premium licenses only. If the number of Premium licenses on LicenseServer1 is exceeded, new requests from ProductServerB users are denied until Premium connection licenses are released.

> **Note:**
>
> License checkout times might increase if many product servers that have many users are contacting the same License Server simultaneously. One License Server can accept only 10,000 inbound TCP/IP requests at one time. If you are planning to have more than 10,000 Citrix product servers connecting at the same time, we recommend that you use several License Servers. These product servers can include Citrix Virtual Apps and Desktops, Delivery Controllers, and Appliances.

Deployment examples

Scenario 1: Two sites

- SiteA contains product servers configured for the Advanced edition.
- SiteB contains product servers configured for the Premium edition.

- One License Server (shared).
- User1, User2, User3, User4...User5000 connects only to SiteA.
- User5001, User5002, User5003...User10000 connects only to SiteB.

Scenario 2: One site

- The site has two sets of published applications.
- The site is configured as Citrix Virtual Apps and Desktops Premium concurrent and Delivery Groups 2 as Citrix Virtual Apps and Desktops user/device
- One License Server (shared).
- User1, User2, User3, User4...User5000 connects only to the concurrent licenses.
- User5001, User5002, User5003...User10000 connects only to Delivery Group 2 user/device licenses.

Licensing concepts

License caching mode

> **Note:**
>
> The License caching mode and License burst mode are two different features. For more information about the License burst mode, see License burst mode.

> If product servers lose communication with the License Server, the users and the products are protected by a License caching mode. The License caching mode allows the product servers to continue operations as if they were still communicating with the License Server. After the Citrix product checks out a startup license, the product and the License Server exchange the **heartbeat** messages for every five minutes. The heartbeat indicates to each that they are still up and running. If the product and the License Server don't send or receive heartbeats, the product lapses into the License caching mode and licenses itself through the cached information.

Citrix sets the License caching mode. It is typically 30 days but can vary depending upon the product. The Windows **Event Log**, and other in-product messages, indicate if the product has entered the License caching mode, the number of hours remaining in the License caching mode. If

the License caching mode runs out, the product stops accepting connections. After communication is re-established between the product and the License Server, the License caching mode is reset.

The License caching mode takes place only if the product has successfully communicated with the License Server at least once.

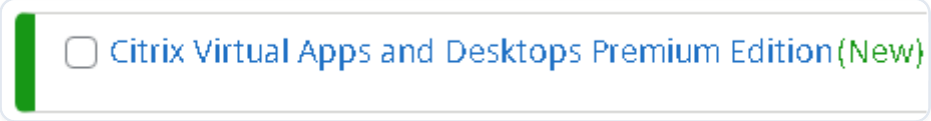
For concurrent licenses, they can connect up to the maximum concurrent licenses installed. For user/device licenses, they have unlimited connections.

License caching mode example - two sites, both using the same License Server

- The connection between Site 1 and the License Server goes down causing Site 1 to go into the License caching mode, continuing operation and making connections.
- When Site 1 reestablishes communication with the License Server, connections are reconciled and no new connections are allowed until they are within normal license limits.
- Site 2 is unaffected and operates as normal.
- If the License Server goes down, both sites go into the License caching mode. Each site allows up to the maximum number of licenses installed. As above, the user/device licenses have no limit.

New licenses

- New licenses are the licenses you purchased from Citrix within the last 30 days.
- The new licenses section displays the top five recent purchases.
- New licenses are indicated with a green bar and the word (New) in green.

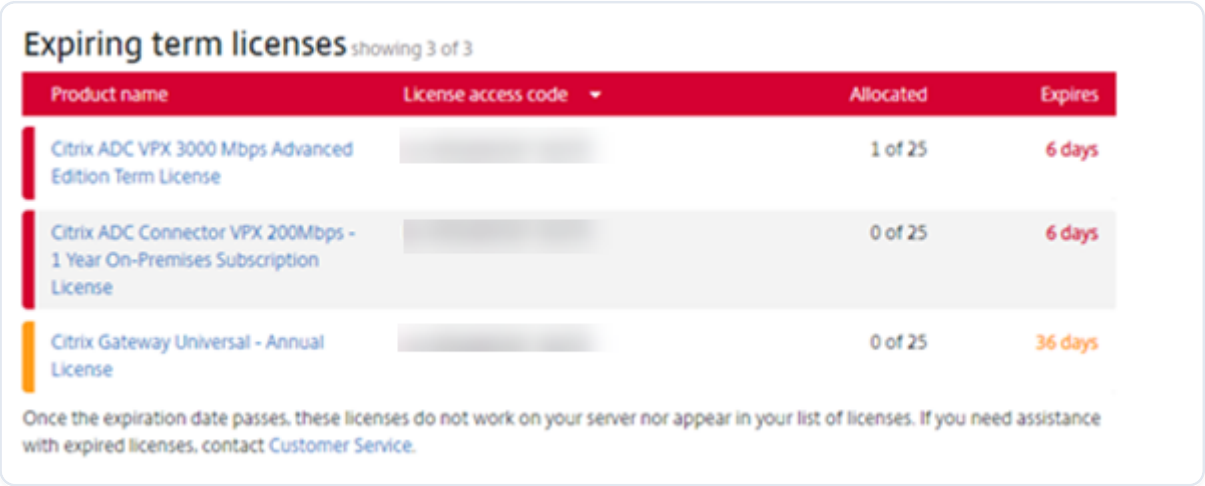


- You can Allocate licenses from the landing page only for new licenses. Select the required license and start the allocation process by clicking **Allocate licenses**.

Expiring term licenses

- Expiring licenses are term licenses that are expiring within 90 days.

- Licenses expiring within 0 through 30 days are displayed with a red bar. Licenses expiring within 31 through 90 days are displayed with an orange bar.



- The **Expires** column shows the number of days until the license expiry date.
- The **Allocated** column shows the allocated quantity and total purchased quantity.
- The expiring licenses section shows the 5 most recent purchases.

Glossary

Allocate licenses: When you allocate licenses, you apportion purchased licenses by product and License Server so you can split them among multiple environments or use cases. For example, your organization might own 1,000 licenses for the same product. You might want to use 800 in 1 location and 200 in another location. You can allocate 800 licenses to a License Server in the first location today, and allocate the remaining 200 later to a different License Server.

Asset components: Asset components are the license details.

CSV files: The Excel CSV file provides daily usage information, including the number of licenses in overdraft.

Modify licenses: Choosing to modify licenses, returns the license file and allocates it to another License Server.

Return allocations: When you Return licenses, you put the licenses back in the licensing pool. You can then allocate these licenses in any quantity at any time. After you return a license, remove the old license file from the License Server.

Term licenses: Term licenses are purchased for a specified amount of time and have an expiration date.

Licensing commands

While the Citrix Licensing Manager provides an easy method of accessing many licensing features, you can also perform licensing tasks using commands. You might use the license administration commands for advanced operations on the License Server that are not available in the console. Such operations include diagnosing check-out problems using `lmdiag`.

License administration commands are stored in:

- `C:\Program Files\Citrix\Licensing\LS` on a 32-bit computer
- `C:\Program Files (x86)\Citrix\Licensing\LS` on a 64-bit computer

Description of the licensing commands

Note:

In License Server version 11.16.6 build 34000, existing user management **lmadmin.exe** is replaced with Citrix owned user management **lmgrd.exe**. Ensure you do not use `lmadmin`.

LICENSING COMMANDS	DESCRIPTION
`lmgrd`	Starts and manages the licensing server and other associated processes. `lmgrd` is the core licensing server file used for the Citrix licensing Windows service. It hosts the license server port (default 27000). Use the Citrix Licensing Manager for licensing configuration and administration tasks.
`lmdiag`	Diagnoses license check-out problems.
`lmdown`	Gracefully shuts down the License Manager and Citrix® vendor daemons (disabled by default).
`lmhostid`	Reports the host ID of the server on which Citrix Licensing is running.

LICENSING COMMANDS	DESCRIPTION
`lmreread`	Causes the License Manager daemon to reread the license file and start the Citrix vendor daemon.
`lmstat`	Displays the status of a License Server.
`lmutil`	Displays a list of licensed utilities or runs other commands.
`lmver`	Displays version information for the licensing binaries.
`udadmin`	Displays all licensed users and devices and deletes specified licensed users and devices. This command applies to user/device licenses only. To get a list of licenses, specify `udadmin -list`.
`CtxManageUserAndGroup`	Configures user and group access to manage the License Server.
`CtxManageUserAndGroup.exe –useradd “domain\username” -Role “admin/user”`	Command to add a user.
`CtxManageUserAndGroup.exe –useradd “domain\username” –Role “adminGroup/userGroup”`	Command to add a group.

Format license commands

Formatting conventions for the license administration commands:

CONVENTION	DESCRIPTION
Bold	A command or switch, such as **lmstat**.
Italic	Replace variables with a value. For example, in the expression: **lmstat -c** *license_file_list*. Before you run the command, replace

CONVENTION	DESCRIPTION
	license_file_list with the names of one or more license files.
[Brackets]	Brackets around the text indicate the options that you can add to the command. It might indicate that the text within the brackets must be replaced. For example: `lmstat [-a] [-c license_file_list] [-f [feature]] can be written as: C:\Program Files (x86)\Citrix\Licensing\LS>lmstat.exe -a -c @localhost -f XDT_ENT_UD`

Universal arguments

Valid arguments for most license administration commands:

ARGUMENT	DESCRIPTION
-all	Displays all information about the License Server.
-c	Lets you specify a license files or License Server port and host name. If you specify the path without a license file name, the command applies to all the license files in the directory. For a local host: `-c @localhost`. For a remote License Server: `-c @servername`. For a License Server in a cluster: `-c @clientaccesspointname`. For a specified path: `-c path`. For the names of one or more license files: `-c license_file_list`. You can enter more than one license file path by separating each path with a semicolon. Path names that include spaces must be enclosed in double quotes.
-h	License handle, as reported by `lmstat -a`. The license handle is a number used to identify a specific checked out license.
-help	Displays usage information and exits.

ARGUMENT	DESCRIPTION
-s [*server*]	If you don't specify a *server*, this argument displays the status of all the license files listed on the License Server or the license files on all the License Servers.
-verbose	Displays a longer description for all errors found.

Diagnose checkout problems (lmdiag)

The `lmdiag` command allows you to diagnose problems when a product cannot check out a license. In particular, you can test if your licenses are valid and if the License Server is running. When you run this command, it attempts to check out a license.

You can also use the `lmdiag` command to see if a specific type of license is working.

Example:

Run `lmdiag` on your Citrix Virtual Apps™ server Advanced edition licenses only. Specify `MPS_ADV_CCU` as an argument.

Syntax:

```
lmdiag -c license_file_list [-n] [feature[:keyword=value]]
```

ARGUMENT	DESCRIPTION
-c license_file_list	Diagnoses the specified files. You can also use: `-c @localhost` or `-c @server-name`
-n	Runs in non-interactive mode. `lmdiag` does not prompt for any input in this mode.
feature	Limits the feedback to the specified feature.
keyword=value	If a license file contains multiple lines for a particular feature, the result is limited to the line containing the text value. For example: `lmdiag -c @localhost MPS_ENT_CCU:HOSTID=LICSERV01` attempts a checkout on the line with the host ID

ARGUMENT	DESCRIPTION
	LICSERV01. The keyword is one of the following: VERSION, HOSTID, EXPDATE, KEY, VENDOR_STRING, ISSUER

If no feature is specified, `lmdiag` operates on all features in the license files in your list. The `lmdiag` command displays information about the license, then attempts to check out each license. When the checkout succeeds, `lmdiag` indicates that the checkout was successful. When the checkout fails, `lmdiag` gives you the reason for the failure. The `lmdiag` command tries to connect to each TCP/IP port on the License Server. It detects if the port number in the license file is incorrect. `lmdiag` lists each TCP/IP port number that is listening, and if -c license_file_list is specified, diagnoses the specified files.

The `lmdiag` command does not contact the computer running the Citrix product when it attempts to check out licenses. The `lmdiag` command indicates only if there are problems on the License Server. That is, your product cannot check out licenses because it is pointing to the wrong License Server, but `lmdiag` does not detect this problem. For example, a License Server that does not have licenses for that product on it. The `lmdiag` command reports that it can check out licenses when the Citrix product is pointing to the wrong License Server.

Stop daemons (lmdown)

The `lmdown` command shuts down the License Manager daemon and the Citrix vendor daemon on your License Server or all License Servers on your network. The `lmdown` command is disabled by default.

Syntax:

```
lmdown -c license_file_list [-vendor CITRIX] [-q] [-all]
```

ARGUMENT	DESCRIPTION
-c license_file_list or -c @localhost or -c @server	Use the specified license files. We always recommend specifying `-c license_file_list` with `lmdown`. You can also use: `-c @localhost` or `-c @server-name`
-vendor CITRIX	Shut down only the Citrix vendor daemon. The License Manager daemon continues to run.

ARGUMENT	DESCRIPTION
-q	Do not prompt or print a header. Otherwise, `lmdown` asks "Are you sure? [y/n]: ."
-all	If multiple servers are specified, automatically shuts down all of them. -q is implied with -all.

Run the `lmdown` command on a License Server. You can use **-all** to shut down all the License Servers on your network.

If `lmdown` encounters more than one server and you didn't specify the **-all** argument, the command displays a choice of License Servers to shut down. For example, the **-c** argument specifies a directory with many *.lic files. Shut down the remote License Servers by using **-c** and specifying the name of the License Server.

Note:

If you use the Task Manager to terminate the License Manager daemon (Citrix Licensing Service), stop the `lmgrd` process first, then stop the Citrix vendor daemon process.

To stop and restart the Citrix vendor daemon only, use `lmdown -c @localhost -vendor CITRIX`, then use `lmreread -c @localhost -vendor CITRIX` to restart the vendor daemon.

Checks the license server binding information (lmhostid)

The `lmhostid` command returns the host ID of the License Server. You can use the command to check the host name of your License Server. You can open a license file and compare the host name in the license file to that of your License Server.

Note

Citrix Licensing, versions 11.5 and later for Windows allows you to display multiple host IDs if there are more than one host.

Syntax:

`lmhostid -bindingidentifier`

The `bindingidentifier` is an argument in the command.

ARGUMENT	DESCRIPTION
-ether	Used for product licenses that are tied to the MAC address of the appliance.
-internet	Used for Windows-based Citrix product software licenses that require a TCP/IP address.
-hostname	Used for Windows-based Citrix product software licenses that are tied to the host name of the License Server. **Note:** The parameter `hostname` is case-sensitive and must match your License Server name exactly.

Reread license and options files (lmreread)

The `lmreread` command causes the Citrix vendor daemon to reread changes to the license file and the options file. After rereading, the Citrix vendor daemon uses the new settings and licenses from then on.

You cannot use `lmreread` remotely; run it locally on the License Server.

Syntax:

`lmreread -c license_file_list [-all] [-vendor CITRIX]`

ARGUMENT	DESCRIPTION
-c @localhost or -c license_file_list	Use the specified license files.
-all	If more than one `lmgrd` is specified, this argument instructs all License Manager daemons to reread.
-vendor CITRIX	Specifies for the Citrix vendor daemon to be restarted.

Examples:

- `lmreread -c @localhost \[-all\]`
- `lmreread -c @client\_access\_point\_name`
- `lmreread -c /opt/citrix/licensing/myfiles/CITRIX.lic -vendor CITRIX`

Display the list of licensing utilities (lmutil)

The `lmutil` command displays a list of licensing utilities when used standalone. When you specify `lmutil` with another command, it runs that command.

Syntax:

`lmutil`

`lmutil other_command`

Examples:

- `lmutil`

  Displays all the licensing utilities.

- `lmutil lmstat -c @localhost`

  Runs the lmstat command.

Determine licensing status (lmstat)

The `lmstat` command helps you monitor the status of all licensing activities and provides you with information about license check outs, including:

- The product that checked out one or more licenses
- The checkout data
- The version of the license file
- The License Server name and port
- The date the license was checked out
- Information about the Citrix vendor daemon status and the license files

The `lmstat` command displays the information that it receives from the License Server. The `lmstat` command displays only one use of the license, even if there are multiple connections sharing that license.

Syntax:

`lmstat [-a] [-c license_file_list] [-f [feature]] [-i [feature] [-s[server] [-S [CITRIX]] [-t timeout_value]`

ARGUMENT	DESCRIPTION
-a	Displays all information.
-c @localhost or -c @server or -c license_file_list	Uses the specified license files.
-f [feature]	Displays the products using a feature (product license). If you don't specify a *feature*, usage information for all features is displayed.
-i [feature]	If you don't specify a *feature*, this argument displays information from the INCREMENT line for the specified feature (product license) or all features.
-s [server]	If you don't specify a *server*, this argument displays the status of all license files listed on the License Server or the license files listed on all the License Servers.
-S [CITRIX]	Lists all product servers using the features (product licenses) served by the Citrix vendor daemon.
-t timeout_value	Sets connection time-out to timeout_value. This value limits the amount of time `lmstat` spends attempting to connect to the License Server.

The output from `lmstat -c @localhost -a` looks similar to this example. The lines in the example might break because of the screen space.

```
License Server status: 27000@localhost



   License file(s) on localhost: C:\Program Files
(x86)\Citrix\Licensing\MyFiles\citrix_startup.lic:C:\Program Files
```

```
(x86)\Citrix\Licensing\MyFiles\License.lic:



   localhost: license server UP v11.15.0



   Vendor daemon status (on LicenseServer):



      CITRIX: UP v11.15.0



Feature usage info:



   Users of CITRIX: (Total of 10000 licenses issued; Total of 1 licenses
in use)



   "CITRIX" v2038.0101, vendor: CITRIX, expiry: permanent(no expiration
date)

vendor_string: ;LT=SYS;GP=720;SA=0

floating license



   XDT DDCPrinc-0001.citrix.com XDT XDT\_PLT\&MPS_PLT_2018.0518 (v1.0)
(localhost/27000 102), start Tue 5/8 17:59



Users of CTXLSDIAG: (Total of 10000 licenses issued; Total of 0 licenses
in use)
```

```
Users of XDT_PLT_CCS: (Total of 200000 licenses issued; Total of 3
licenses in use)



   "XDT_PLT_CCS" v2018.1201, vendor: CITRIX, expiry: 01-dec-2018

vendor_string: ;LT=Retail;GP=720;PSL=10;CL=VDS,VDA,VDE,VDP;SA=0;ODP=0;NUDU
RMIN=2880;NUDURMAX=525600

floating license



   XDT DDCAux-0001.citrix.com XDT 00001E3A (v2018.0518) (localhost/27000
534201), start Wed 5/9 15:17

   XDT DDCAux-0001.citrix.com XDT 00001E81 (v2018.0518) (localhost/27000
392504), start Wed 5/9 15:18

   XDT DDCAux-0001.citrix.com XDT 00001E0C (v2018.0518) (localhost/27000
419703), start Wed 5/9 15:18
```

The following represents a breakdown of the information contained in the MPS_ENT_CCU line of the **lmstat** output:

		DESCRIPTION
Citrix product name	MPS	The name of the Citrix product that has the license checked out.
Host name	mps_server1	Computer where the Citrix product is running.
Display	MPS	Name of the Citrix product that has the license checked out.
Server host	license_server1	Computer where the License Server is running.

		DESCRIPTION
Port	27000	TCP/IP port where the License Server is running.
Handle	203	License handle. The license handle is a number used to identify a specific checked out license.
Checkout time	start Wed 3/17 11:56	Time that this license was first checked out.

The command `lmstat -c @localhost -a` can potentially generate much network activity in systems that have many products licenses checked out.

You can use `lmstat -a` to verify license checkout data.

Display versions of binaries (lmver)

The `lmver` command displays version information for the licensing binaries, such as the command utilities.

Syntax:

`lmver binary`

Example:

`lmver lmdiag`

Display or release licenses for users or devices (udadmin)

The `udadmin` displays the licensed users and devices and releases licenses for specified users and devices.

> **Note:**
>
> UDAdmin tool is only used for reporting license usage for user/device license model and not concurrent licenses.

You can release a license for a user only when:

- The employee is no longer associated with the company.
- The employee is on an extended leave of absence.

You can release licenses for devices only when the devices are out of service.

Caution:

Mass release of licenses, before the automatic 90-day lease period, outside of the reasons highlighted earlier might violate the Citrix EULA. Before doing so, contact Citrix.

The `udadmin` command-line help displays usage information only in English, but you can use the command on non-English systems.

Syntax:

```
udadmin [-options] [-delete | -events | -list | -times]
```

OPTIONS	DESCRIPTION
-f feature name	When used with -list or -delete, displays or releases the license for only the user or device for the specified feature name.
-user user name	Releases the license for only the user specified by the user name.
-device device name	Releases the license for only the device specified by the device name.
-a	Lists all features and versions installed on the License Server.
Argument	**Description**
-delete	Releases the license for one user, feature, or device at a time.

OPTIONS	DESCRIPTION
-events	Reports all events logged by the user/device licensing for each feature sorted in chronological order.
-list	Displays the users and devices with licenses and the time since the last update. If significant activity occurred within 15 minutes of the last report, the time to the next update appears. Specifying `-list -times` generates output containing a timestamp.
-times	Specifying `-list -times` generates output containing a timestamp.
No argument or `?`	Displays usage information for the `udadmin` command.

Examples:

```
-  udadmin -list -times


    Usage data is 0 minutes old. Next update in 15 minutes.


    Users:


    u01.01 XDT_ENT_UD 2017.1201 (Thu Sep 14 13:41:07 2017)


    u01.04 XDT_ENT_UD 2017.1201 (Thu Sep 14 13:41:07 2017)

    .

    .
```

```
    .

    Devices:

    D.ADV.23 XDT_ADV_UD 2017.1201 (Thu Sep 21 18:31:01 2017)

    D01 XDT_PLT_UD 2017.1201 (Tue Sep 12 14:30:33 2017)

-  udadmin -list -a

    Lists all features, versions, counts of licenses, and the users and
devices for each feature.

-  udadmin -f XDT_ENT_UD -device dn01.88 -delete

    Releases one device from one feature.
```

Manage Licenses on citrix.com

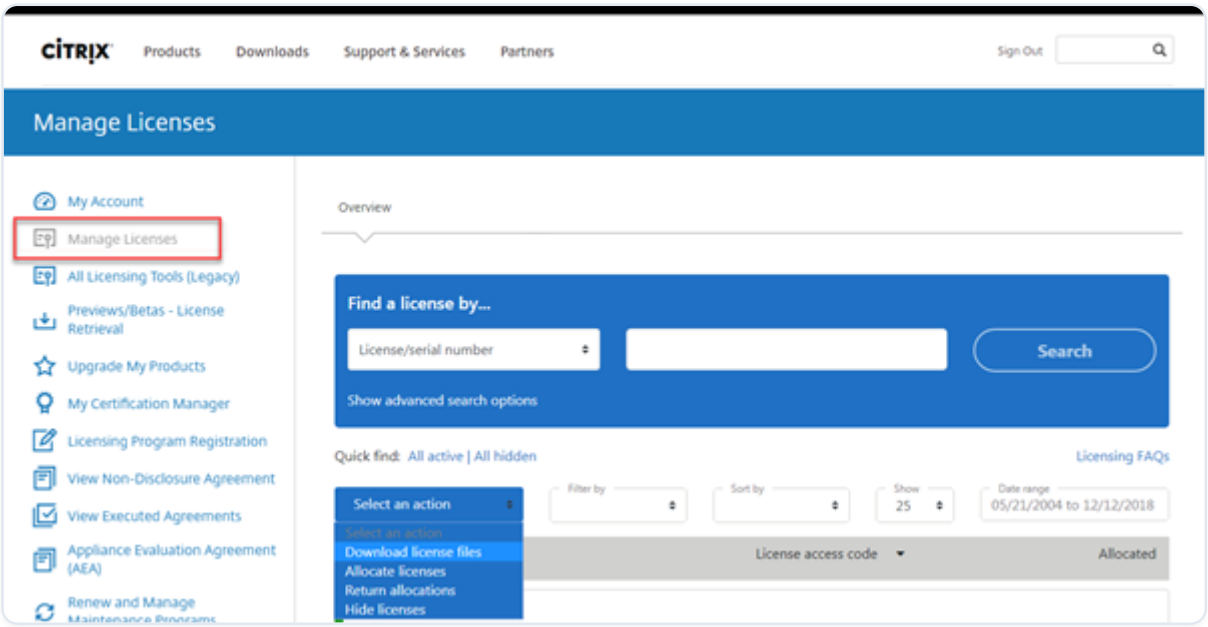
This article describes how to manage licenses from the citrix.com site. You can use **Manage Licenses** on citrix.com to easily find, allocate, download, modify, return, hide, and unhide licenses.

> **Note:**

> You can perform several licensing actions from Citrix Studio and Citrix Licensing Manager.

To access Manage Licenses on citrix.com

1. From a web browser, go to http://www.citrix.com.
2. Select **Sign In > My Account** and type your user ID and password.
3. Select **Manage Licenses**.



Note:

The **Manage Licenses** tab is visible only if you have the required permissions to access it.

Search for licenses

In the **Find a license by…** menu, choose the search criterion, type the search text, and select **Search**. You can select **Show advanced search options** to narrow down your search further.

Allocate licenses

1. Select the licenses that you want to allocate. The landing page displays only new licenses within 30 days and expiring term licenses. You can use the **Find a license by...** search to find all licenses using one of the search criteria and then the **Filter by** menu to narrow the display down to specific types of licenses or you can select **Quick find: All active** to see all licenses.
2. From the **Select an action** menu, choose **Allocate licenses**.

3. Enter the Binding ID (for example: Host name or Ethernet address) and how many licenses to allocate, and click **Create license file**.
4. Select **Yes, create license file**. If you want to change before creating the license file, select **No, modify the allocation**, and make your change. Then select **Yes, create license file**.
5. Select **Download license file**, and save the file to a temporary location. Remember the file name and location where you downloaded the file. You need this location.
6. Install the license. See Install licenses.

Download licenses

1. Select the licenses that you want to download. The landing page displays only new licenses within 30 days and expiring term licenses. You can use the **Find a license by...** search to find all licenses using one of the search criteria and then the **Filter by** menu to narrow the display down to specific types of licenses or you can select **Quick find: All active** to see all licenses.
2. From the **Select an action** menu, choose **Download all licenses** and save the file to a temporary location (mostly the downloads folder).
3. Copy the downloaded license files to the `MyFiles` folder:

   - `C:\Program Files\Citrix\Licensing\MyFiles` on a 32-bit computer
   - `C:\Program Files (x86)\Citrix\Licensing\MyFiles` on a 64-bit computer

   Ensure that the license file retains the lower case .lic file name extension. Some copy processes don't recognize a file type for that extension and add a ".txt" file name extension during the copy. You can't import license files that have the wrong file name extension.
4. At a command prompt, navigate to the `C:\Program Files (x86)\Citrix\Licensing\LS` or `C:\Program Files\Citrix\Licensing\LS` folder and type the following command:

   `lmreread -c @localhost -all`

For more information about the `lmreread` command, see Reread license and options files (lmreread).

Installing licenses

For information about installing licenses for specific solutions from Citrix®, see the following:

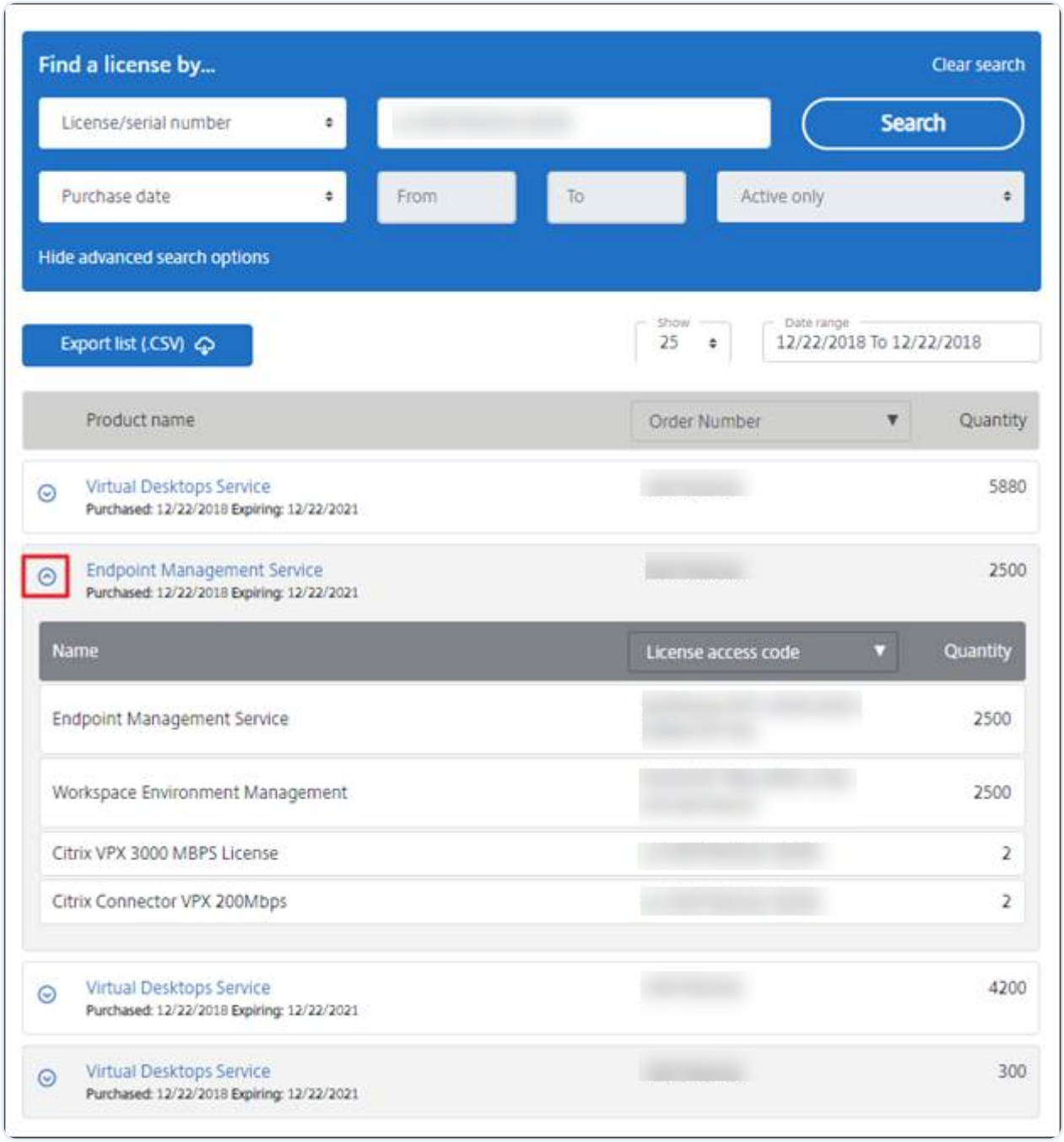
- Licensing guide for Citrix Virtual Apps and Desktops
- Licensing guide for NetScaler
- Licensing guide for Citrix Gateway

- Licensing guide for XenServer
- Licensing guide for XenMobile Server
- Licensing guide for Citrix Provisioning
- Licensing guide for Citrix SD-WAN
- Licensing guide for Citrix SD-WAN Orchestrator

For information about installing licenses using the Citrix Licensing Manager, see Install licenses.

Display asset components

To display asset components, click **View my products** at the top of the page. Choose a license and click the down arrow to expand and view the details. You can toggle between the order number and the license access code view.



Return allocations

Returning allocations puts the licenses back in the licensing pool. You can then allocate these licenses in any quantity at any time. For example, you're decommissioning a License Server, but you're not ready to deploy existing licenses elsewhere.

1. Select the check box of the license that you want to return.
2. From the **Select an action** menu, choose **Return allocations**.
3. Select **Yes, process return**. If you choose this option, you cannot undo it.

Modify licenses

Modifying a license returns a single license file and allows for allocation to another server. For example, you have 5000 licenses installed on **license server1**. You want to move 1000 licenses to **license server2**. Modify allocations and then allocate 4000 licenses to **license server1** and 1000 licenses to **license server2**.

1. To select a product, click the link, and view the product license details page.
2. Select the check box of the allocated license to modify.
3. From the **Select an action** menu, choose **Modify allocations**.
4. Type a new server host address.
5. Select **Modify license file**.
6. Select **Yes, create license file**. If you want to make a change before creating the license file, select **No, modify the allocation**, and make your change. Then select **Yes, create license file**.
7. Select **Download license file**, and save the file to a temporary location. Remember the file name and location where you downloaded the file. You need this location.
8. Install the license. See Install licenses.

Upgrade licenses

If you are eligible for a version upgrade as a benefit of your maintenance, you can download your CSS Renewal license and add it to the License Server.

1. At the bottom of the landing page, select **Upgrade my licenses**.
2. Follow the site options and instructions for upgrading your product edition licenses.
3. Either download or order new media. An email message provides you with instructions to return to citrix.com to allocate or receive more feature licenses.
4. Log on to www.citrix.com to allocate your licenses, generate a license file, download the license file to your License Server, and reread the file.

Hide and unhide licenses

Hiding licenses doesn't remove them from an account. When you hide licenses, it removes them from view. You might want to hide legacy product licenses. Hiding those licenses increases the visibility of product licenses that you want to view.

1. Select the licenses that you want to hide.

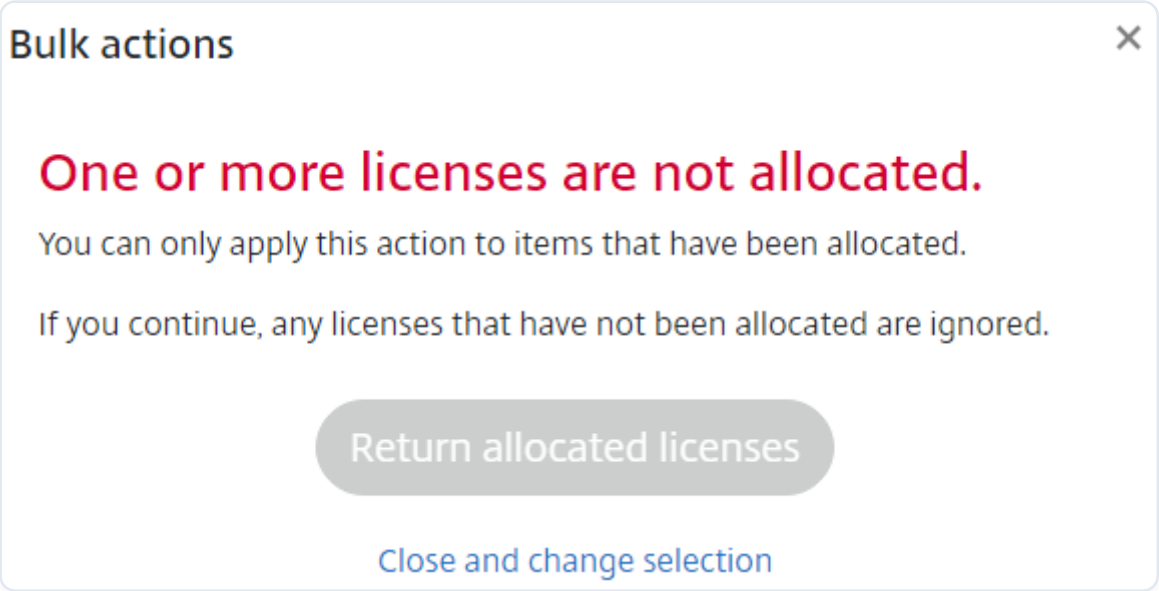
2. From the Select an action menu, choose **Hide licenses**.
3. To unhide licenses, choose **Quick find: All hidden** and select licenses.
4. From the **Select an action** menu, choose **Unhide licenses**.

Manage multiple licenses (bulk actions)

You can apply actions to multiple licenses at the same time. Select the check boxes of different licenses and then select and action.

To apply actions to multiple licenses successfully, be aware of the following conditions:

- You can apply certain actions only to licenses with the same attributes. For example, you can only allocate licenses that have the same binding type. An error message appears when you select licenses that are not compatible for the bulk action. The first license that you select is what subsequent selections are compared to for compatibility.
- If you select licenses that can't have an action applied to all of them, some actions might be disabled or not displayed, and a message might appear. For example, if you select two licenses, one that has been allocated and one that has not, a message appears. The message states that the action can apply only to allocated licenses.



Filter licenses

Use the **Filter by** menu to narrow your list to expired licenses, new licenses, available allocations, or trial licenses. From the **Filter by** menu, choose how you want to filter your output.

Create a product license report - Export to Excel (CSV)

Select this option to export your full list of assets and data to Excel.

1. Select the licenses that you want in the report.
2. Choose the Export to Excel (.CSV) link. In the **View my product** page, it's above the list of products. In the **Manage my licenses** page, it's at the bottom of the list.
3. Save the file.

Prerequisites to obtain your license files

After you install the licensing components, you are ready to obtain your license files.

You can obtain your license files in several ways:

- Studio in Citrix Virtual Apps and Desktops. For more information, see Citrix Virtual Apps and Desktops Licensing.
- Citrix Licensing Manager.
- MyAccount on citrix.com. For more information, see Manage Licenses on citrix.com.

Ensure you have the following information ready, before going to the Citrix® website to get your product licenses:

- Your user ID and password for **My Account**.
- **The license access code.** You can get this code in **My Account** on citrix.com or in an email you receive from Citrix.

  Note: If you cannot locate the license access code or license you purchased, contact the Citrix Customer Service.
- **The hostname of the License Server on which you installed the licensing components.** The License Server hostname is case-sensitive, so ensure that you copy the name exactly as it appears on the system.

  Select the down arrow in the top bar of the Citrix Licensing Manager screen to find the License Server hostname, Ethernet address, and IPv4 address. You can also run the hostname command at a command prompt on the License Server.
- **How many licenses you want to include in the license file.** You do not have to download all the licenses you are entitled to at once. For example, if your company purchases 100 licenses, you can allocate and download only 50 now. Later, you can allocate the rest in another license file. You can have more than one license file based on the number of licenses allocated.

Disaster recovery backup and redundancy

Depending on how crucial the applications associated with your licenses are, you might want to create backup License Servers. Although Citrix stores backup copies of your licenses, downloading many replacement licenses can be time-consuming. If the License Server fails, you can store backup licenses on a network file share, or have a configured backup License Server ready.

You can use the same licenses for your disaster recovery site that you use for your production environment.

- Configure and manage your disaster recovery environment independently of your production environment.
- Don't use both the production and backup License Servers to service license checkouts at the same time.
- Make only one License Server accessible at any one time
- The License Server in your disaster recovery environment must have an identical host name to the License Server in your production environment.

When the License Server is offline for maintenance activity

The standard 30-day License caching mode allows your systems to continue to function without degradation of performance or denial of service to support License Server maintenance requirements.

What can I do if my License Server is unrecoverable?

When you have a backup copy of your license files available, you have 30 days to do the following:

1. Rename an existing server in your environment to have the identical host name as your original License Server.
2. Install the License Server component and your backup license files to relicense your environment.

What can I do if my License Server is unrecoverable and I do not have a backup copy of my license files immediately available?

When you don't have a backup copy of your license files immediately available, you have 30 days to access your Manage Licenses portal at www.citrix.com. To relicense your environment, do the following:

1. Download your license files.

2. Rename an existing server in your environment to have the same host name as your original License Server.
3. Install the License Server component and the license files that you downloaded.

What can I do if my License Server is unrecoverable and I cannot rename an existing server in my environment?

When you can't rename an existing server in your environment, you have 30 days to relicense your environment. Do the following:

1. Identify another server in your environment.
2. Install the License Server component.
3. Access your Manage Licenses portal at www.citrix.com.
4. Return and reallocate your license files using the host name of the new server you selected.
5. Download and install these license files.

Does any failure of the License Server degrade performance or deny service to users?

No. The 30-day License caching mode prevents you from experiencing degradation in performance and denial of service to users.

Redundancy solutions

Setting up redundancy solutions might be necessary only in mission-critical environments. For smaller or less mission-critical deployments, you can back up your License Server by creating a duplicate License Server and store it on or off the network.

You can ensure redundancy for your mission-critical environments by:

- Creating a clustered License Server. For more information about clustering and licensing, see Setting up the License Server on a Microsoft Cluster.
- Using the high availability feature on XenServer minimum release version 5.6.
- Duplicating the License Server and its contents. Give the duplicate computer the same name as the active License Server and store it off the network.
- Storing another License Server that has a different server name on the network. In this case, when the active License Server fails, you must change the backup server name to start using it as the active License Server.

- Using a network appliance that detects server or network outages and route traffic to a backup server. If you are using only one License Server to service license requests at any time, then you can use a network appliance to route traffic to a backup server during outages. All methods let you exchange one server license for another without a loss of service, provided the exchange occurs within the **License caching mode**. For more information, see License caching mode.

Remember these key points:

- Because license files reference the server specified during allocation, you can use the files only on a server that has the same binding information. That is, the server name or FQDN or MAC address (possibly displayed on the portal as an Ethernet address) as the original License Server.
- You cannot have two License Servers that have the same name on your network active at the same time.
- Add any other licenses that you download to both the active License Server and the backup License Server.

License Server administration without a console

There are several administration procedures that you can do without using the Citrix Licensing Manager. We recommend that you use the console whenever possible. This article describes the procedures required if you are unable to use a console.

- Configure the Vendor Daemon log (CITRIX.log) from being overwritten
- Customer Success Services renewal files
- Delete license files
- Disable the domain name truncation on Windows
- Find renewal and maintenance expiration dates

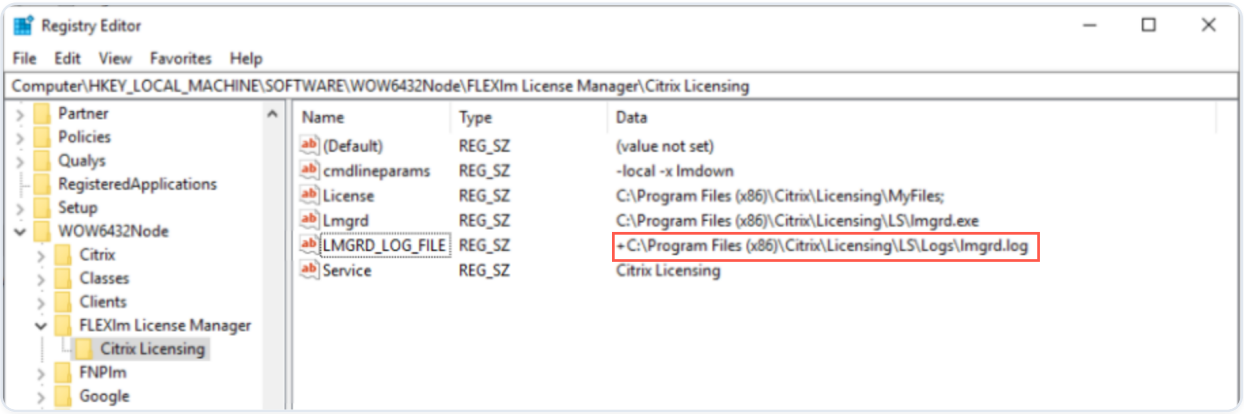
You can use the licensing management tool on citrix.com to download, allocate, install, modify allocations, return, and hide licenses. For more information, see Manage Licenses at citrix.com My Account.

You can use licensing commands to perform licensing tasks. For more information, see Licensing commands.

Configure the Vendor Daemon log (CITRIX.log) from being overwritten

In License Server version 11.16.6 build 34000 that does not support the License Administration Console, you can configure the Vendor Daemon log (CITRIX.log) from being overwritten as follows:

- Go to `LMGRD_LOG_FILE` location (HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\FLEXlm License Manager\Citrix Licensing\LMGRD_LOG_FILE) in your system.
- Add a `+` in front of the path. For example, `C:\Program Files (x86)\Citrix\Licensing\LS\Logs\lmgrd.log` changes to `+C:\Program Files (x86)\Citrix\Licensing\LS\Logs\lmgrd.log` as seen in the following image.



Customer Success Services

After you download your Customer Success Services renewal license file from citrix.com, you must add it to your License Server. Copy the Customer Success Services renewal license files to the same directory as your existing license files and reread (using `lmreread`) the license files. For more information about the `lmreread` command, see Reread license and options files.

By default, this location is :

- `C:\Program Files\Citrix\Licensing\MyFiles` on a 32-bit server
- `C:\Program Files (x86)\Citrix\Licensing\MyFiles` on a 64-bit server

After you add the renewal license to your License Server, the license automatically unlocks any subsequent versions of the product released during the Customer Success Services period.

To separate your licenses (two different licenses on two different servers):

1. Select a second server and install the License Server software.

2. Go to citrix.com to modify and allocate your original licenses into two new files. These original licenses are contained in your current license file on the original License Server.
    - Allocate licenses to your first License Server for your first deployment.
    - Allocate licenses to create another license file for the second License Server for your second deployment.
3. Generate and download your Customer Success Services files and then copy them to the server to which you want them applied.
4. Point all computers to the License Server running the version of the Citrix product you want them to use. For information about pointing your Citrix product server to the License Server, see your Citrix product's administrator guide.

Delete license files

When you upgrade your edition (for example, Standard to Advanced, or Advanced to Premium) you receive new Citrix product licenses. You can allocate these licenses to one or many Citrix License Servers through license files created at citrix.com. Rescinded licenses must be deleted from License Servers within 90 days of new license purchase. Deleting the licenses enables:

- License asset management
- License compliance
- Delete unnecessary alerts from appearing in the management console

Considerations when deleting files:

- Incorrect removal of license files might inadvertently lower the total licenses available.
- Place any new license files on the License Server before deleting any licenses.
- Delete a license file only when all INCREMENT lines in the file are obsolete or unnecessary. For example, every increment line was replaced with a new license because of an upgrade.

> **Important**
>
> Never delete the options file (citrix.opt) or startup license (`citrix_startup.lic`).

1. At the License Server, open the Services panel and stop the Citrix Licensing service.
2. Open the Windows Explorer and navigate to where the license files are stored. By default license files are stored in:

- `C: \Program Files\Citrix\Licensing\MyFiles` on a 32-bit server
- `C: \Program Files(x86)\Citrix\Licensing\MyFiles` on a 64-bit server

3. Back up all license (.lic) files.
4. Using a text editor (we recommend Microsoft WordPad), open each license (.lic) file and identify one or more obsolete license feature INCREMENT lines.
5. Ensure that all increment lines are obsolete or unnecessary. See License file format for information about increment lines.
6. Close the file and change the file name extension from `.lic` to `.old`.
7. In the Services panel, restart the Citrix Licensing service.
8. Delete the renamed `.old` file.

Disable the domain name truncation

> **Warning**
>
> Editing the registry incorrectly can cause serious problems that might require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of the Registry Editor can be solved. Use the Registry Editor at your own risk. Be sure to back up the registry before you edit it.

> When you host multiple domains and multiple users who have the same user name on different domains, you can leave the domain name truncation enabled. For example, **jack**@mycompany.com and **jack**@newplace.com. If you have unique users on various domains, ensure that the License Server does not truncate @domain.com.

The License Server detects Citrix Service Provider licenses and enables this functionality.

1. Locate the registry key:

   For 32-bit machines: `HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\licenseserver`

   For 64-bit machines: `HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\licenseserver`

   Name: UDUseDomain
2. Set the registry key to 1.

DATA	DESCRIPTION
0	The domain field is truncated. (default)
1	The domain field is not truncated.

Find renewal and maintenance expiration dates

You must have unrestricted access to **My Account**.

1. From a web browser, go to www.citrix.com.
2. Select **Sign In > My Account** and type your user ID and password.
3. Select **Renew and Manage Maintenance Programs**.
4. Select **Manage Renewal Contacts** at the top of the page.
5. Renewal dates are listed next to each license under **Current Expiration**.

Clustered License Servers – configure, install, upgrade, and uninstall

Note:

Clustered License Servers do not support License Activation Service.

Why clustered License Servers

Cluster servers are groups of computers that are combined to increase availability, reliability, and scalability. Clustering the License Server lets users continue working during failure situations without interrupting their access to critical applications.

How clustered License Servers work

When the active node in a cluster-enabled License Server suffers from hardware failure, failover occurs automatically. Resources are available again in a few seconds.

A typical cluster configuration has, at a minimum, one active and one passive (backup) server. When the active server in a cluster fails, the ownership of the resources in the cluster is transferred to another node in the cluster. Typically, users cannot detect when one server in a cluster fails over to another.

When the active node of a clustered License Server fails, there is no impact on users connected to the Citrix product. The product might briefly enter the License caching mode and an event might be written in the product's event log.

Important:

If Citrix Licensing is installed in a clustered environment and the Windows Firewall is enabled, then the connection can fail. Connecting remotely to the console or checking out licenses works until failover occurs in the cluster. Exception rules for CITRIX.exe and

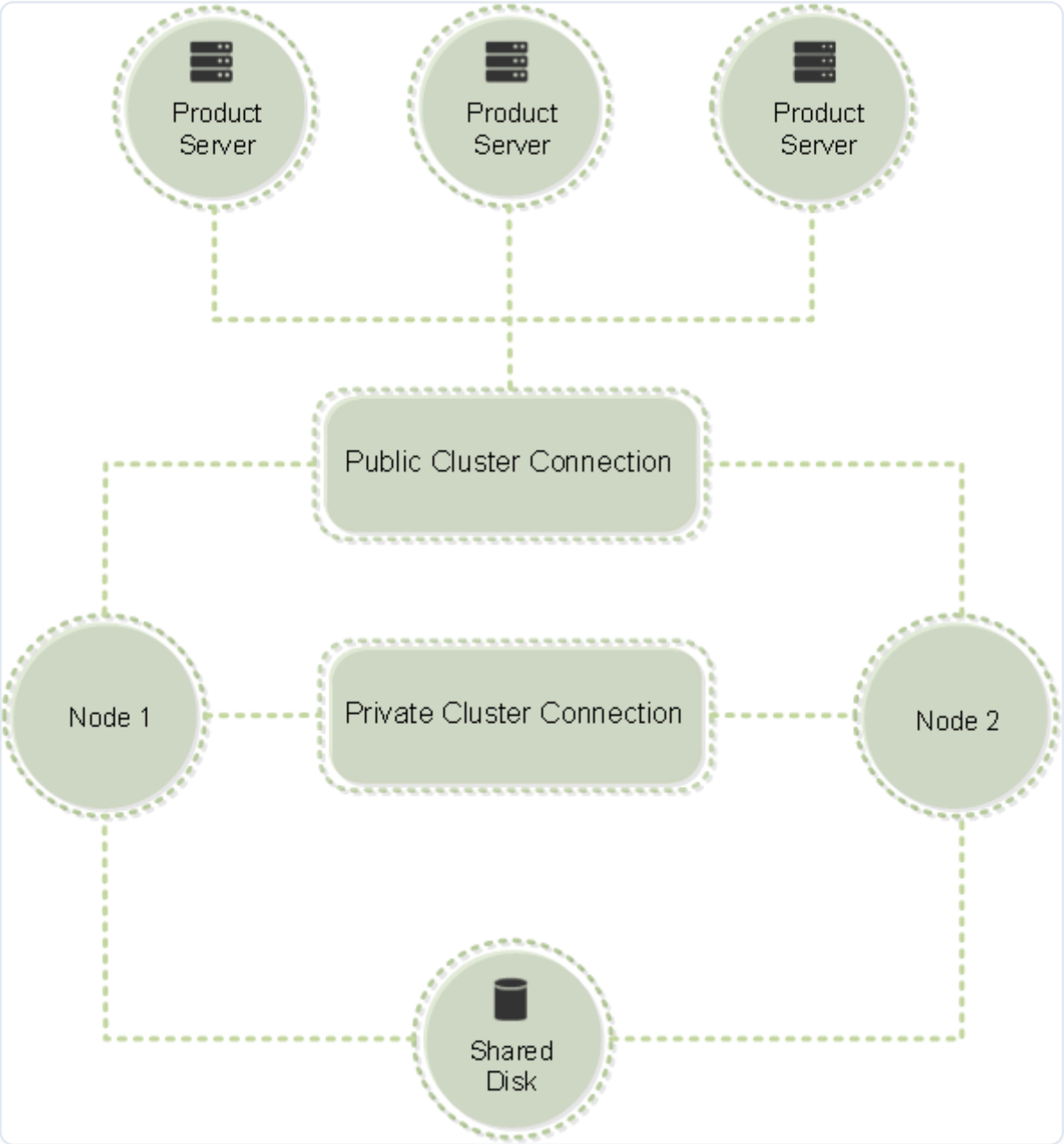
lmgrd.exe are created during the installation of Licensing, but do not work after a cluster failover. To work around this issue, create exceptions for Licensing components on the Exceptions tab of the Windows Firewall panel. Create an exception for each of the following ports:

- License Server port number is 27000
- Vendor daemon port number is 7279
- Web Services for Licensing port number are 8083

Citrix Licensing in a clustered environment

Like most clusters, a private network is used to send heartbeats, commands, and state information between the nodes of the cluster. If the connection is interrupted, the nodes try to reconnect by the private network first, then the public network. The following diagram illustrates a cluster-enabled licensing deployment:

Communications in a clustered licensing environment:



Only one node can use the resources in a cluster at any given time. If you already deployed Citrix Licensing and you want to migrate your deployment to a cluster-enabled server, keep the following points in mind:

- You must give the client access point the same name as the original License Server. Because you already generated license files that reference a specific server name. If not, then rehost your license files with the new name of the License Server cluster.
- Host names in license files are case-sensitive; therefore, the client access point names must be the same case as the host names in the license file. If they are not, you must rehost your license files with the correct capitalization of the names. You can use the Failover Cluster Manager to ensure that the client access point name matches the host name specified in the license file. Cluster and host name case is not an issue if you use Studio in Citrix Virtual Apps

and Desktops or the Citrix Licensing Manager (from the Start menu on your License Server) to download your licenses.

- Point all product installations (for example, servers running Citrix Virtual Apps and Desktops) serviced by the old License Server to the new License Server cluster. Change product communication settings so that they use the name of the client access point as the License Server name. For information about editing product-side communication settings, see the product's documentation.

Prerequisites to configure a clustered License Server

The following list outlines the requirements for setting up a License Server in a Microsoft Cluster:

- Microsoft clustering functionality exists in:
  - Windows Server 2019
  - Windows Server 2016
- Citrix Licensing does not support Clustered Shared Volumes or third party Volume Management products for clusters.
- Before configuring Citrix Licensing for Microsoft clustering, you must have a fully functional Microsoft cluster environment. Citrix Licensing Services runs on only one node at a time.
- To cluster the License Server, follow these cluster requirements and other requirements from Microsoft for hardware and clustering in general.
- Install licensing on the cluster with the License Server installer CitrixLicensing.exe.
- When you install Citrix Licensing on a cluster, ensure that you specify the name of the client access point when you are prompted for the name of the License Server during product installation.
- We recommend that you use identical License Server hardware for each node in the cluster. In particular, Citrix recommends two network adapters on each node and the servers configured with a shared disk.
- Ensure that each node has two network adapters. Network adapters are required for the connection to the public network and the node-to-node private cluster network. We do not support using one network adapter for both connections.
- The public and the private IP addresses must be on different subnets because the Cluster Service recognizes only one network interface per subnet.

- A name resolution method is necessary to resolve the client access point name. You can choose name resolution methods such as DNS, WINS, HOSTS, or LMHOSTS.
- Each server that forms the cluster must be in the same domain.
- Set static IP addresses for the private network connector.
- We recommend that you use the Citrix Licensing Manager to allocate licenses to the cluster.
- When you generate a license file at citrix.com, use the name of the client access point when prompted for the Host ID.
- After you download a license file, copy it to the `F:\Program Files\Citrix\Licensing\MyFiles` folder (where F: is the shared drive for the cluster) on the License Server and reread it.

Important:

Citrix recommends setting static IP addresses for all network adapters in the cluster, both private and public. If using Dynamic Host Configuration Protocol (DHCP) to obtain IP addresses, access to cluster nodes might become unavailable if the DHCP server goes down. If you must use DHCP for your public network adapter, use long lease periods to ensure that the dynamically assigned lease address remains valid even if the DHCP service is temporarily lost or perform a DHCP reservation.

Configure a clustered License Server

The following steps describe the overall process involved in installing and configuring licensing on a cluster-enabled server. These steps assume you configured the clustering on the hardware on which you intend to install the License Server.

1. Create a cluster resource group. Assign a client access point and shared storage to the resource group. Ensure that the first node has control of the cluster resources and the resource group you created points to the first node.
2. On the first node of the cluster, start the Citrix Licensing installer, CitrixLicensing.exe, as an administrator. Install it on the first node to the shared cluster drive (not the quorum drive). Leave the Last Node in the Cluster check box cleared.
3. Move the resources from the active node in the cluster to the second node.
4. Install the License Server on the second node to the same shared location as the first node. You can add more than two nodes to a cluster.

5. When installing the License Server on the last node in the cluster, ensure that you check the Last Node in the Cluster check box.
6. Obtain license files that specify the client access point name of the License Server as the host name. After obtaining license files, you must add them to the License Server and then reread them.
7. Configure your Citrix product to use the client access point name, not the node name of the License Server cluster.

Important:

When a clustered License Server fails over, the cluster service renames the lmgrd_debug.log to the name of the node that previously hosted the services. Then it starts the services on the new active node and creates a lmgrd_debug.log.

Install licensing on a cluster-enabled server

Important:

The .msi does not support clustering. To install or upgrade for clustering, use CitrixLicensing.exe.

The following drive letters and paths/variables are used in this procedure:

- D is the drive for your product media.
- C is the local hard drive on the specified node.
- F is the cluster shared drive resource. (This drive is the installation drive. That is, the place where installation files used by each node are stored.)

Because of a NetBios restriction, ensure that the client access point name is fewer than 15 characters. On non-English platforms, when starting a License Service installation on a cluster node, the Cluster Group list on the **Configure** screen might contain the system default Cluster Group. Select one of the non-default Cluster Groups and the installation continues normally.

1. Create a separate noncore cluster resource group. The resource group must have the attached storage assigned a drive letter and a client access point. The client access point must have the

same host name used when obtaining the license file. Use the Failover Cluster Manager and **Roles > Configure Role** in Windows Server 2016 and Windows Server 2019. Then select the **Other Server** type in the menu. Ensure that the first node of the cluster owns all cluster resources.

2. Run the License Server installer **CitrixLicensing.exe** as an *administrator*. On the Install Location page, set the drive letter to correspond with the cluster shared drive. By default, the licensing components are installed in `F:\Program Files\Citrix\Licensing`.
3. During the installation on the first node, do not select the Last Node in the Cluster check box.
4. Move the resources for the resource group that you created in Step 1 to the second node.
5. In node 2 of the cluster, run **CitrixLicensing.exe** as an administrator.
6. Go back to Step 3. You can install more than two nodes on the cluster. You can install more than two nodes on the cluster. For each additional cluster, repeat Step 3.
7. When installing the License Server on the last node in the cluster, ensure that the Last node in the cluster check box is checked. The last node is where the ports are configured.
8. Use the Citrix Licensing Manager to import your license files.

Open the console or run commands

All licensing administration features available in standard deployments are also available on clustered License Servers. These features include the management console and the ability to run license administration commands.

Browse to the following location to open the **Citrix Licensing Manager** in a cluster:

```
https://client access point name:web service port
```

Where the *client access point name* is the name of the cluster and the *web service port* is the port number for console communications. The default port number is 8083. To specify the location of the license files in the cluster, you can run many license administration commands using the argument -c *@client access point name*. For example:

```
lmreread -c @client access point name -all
```

Upgrade a clustered License Server

To upgrade your clustered License Server (from versions 11.12.1 onwards) to the latest version, complete the following steps:

1. Download the latest License Server build.
2. Run the License Server installer **CitrixLicensing.exe** as an *administrator*.
3. Move the resources for the resource group that you created when you installed licensing on a clustered enabled server, to the second node.
4. In node 2 of the cluster, run **CitrixLicensing.exe** as an administrator. If node 2 is your last node in the cluster, ensure you check the **Last Node in Cluster** option on the **Configure Ports** page and click **Next**.
5. If you have more than 2 nodes on the cluster, repeat **Step 3**.
6. Use the Citrix Licensing Manager to import your license files.

Note:

If you are running a version of a License Server older than 11.12.1, uninstall it and then install the latest version. Older versions of License Server don't conform to current Microsoft cluster guidelines.

Uninstall a clustered License Server

Uninstall licensing from a clustered License Server using the **Control Panel > Programs and Features** option from the active node. Ensure that the first node contains all the resources.

1. From the first node in the cluster, start **Control Panel > Programs and Features**.
2. Remove Citrix Licensing.
3. Using the failover cluster manager, move the resources in the Citrix Licensing resource group to the second node.
4. Remove Citrix Licensing from the second node. If there are more nodes, repeat Steps 3 and 4 for each node, and then proceed to Step 5.
5. Remove the remaining files from the shared drive.

Note:

The uninstallation process does not remove the license files and options files from the shared drive. For more information, see Troubleshoot Licensing.

Clustered License Servers - install, upgrade, and uninstall

> **Important:**
>
> The .msi does not support clustering. To install or upgrade for clustering, use `CitrixLicensing.exe`.

Install licensing on a clustered-enabled server

The following drive letters and paths/variables are used in this procedure:

- D is the drive for your product media.
- C is the local hard drive on the specified node.
- F is the cluster shared drive resource. (This drive is the installation drive. That is, the place where installation files used by each node are stored.)

> **Important:**
>
> - Because of a NetBios restriction, ensure that the client access point name is fewer than 15 characters.
> - On non-English platforms, when starting a License Service installation on a cluster node, the Cluster Group list on the Configure screen might contain the system default Cluster Group. Select one of the non-default Cluster Groups and the installation continues normally.

1. Create a separate noncore cluster resource group. The resource group must have the attached storage assigned a drive letter and a client access point. The client access point must have the same host name used when obtaining the license file. Use the Failover Cluster Manager and **Roles** \> **Configure Role** in Windows Server 2012 R2, Windows Server 2016, and Windows Server 2019. Then select the **Other Server** type in the menu. Ensure that the first node of the cluster owns all cluster resources.
2. Run the License Server installer, CitrixLicensing.exe, as an administrator.
3. On the Install Location page, set the drive letter to correspond with the cluster shared drive. By default, the licensing components are installed in F:\\Program Files\\Citrix\\Licensing.

4. Leave the Last Node in the **Cluster** check box cleared when installing on the first node.
5. Move the resources for the resource group that you created in Step 1 to the second node.
6. In node 2 of the cluster, run CitrixLicensing.exe as an administrator.
7. Go back to Step 3. You can install more than two nodes on the cluster. You can install more than two nodes on the cluster. For each additional cluster, repeat Step 3.
8. When installing the License Server on the last node in the cluster, ensure that the Last node in the cluster check box is checked. The last node is where the ports are configured.
9. Use the Citrix Licensing Manager to import your license files.

Opening the console or running commands

All licensing administration features available in standard deployments are also available on clustered License Servers. These features include the management console and the ability to run license administration commands.

Open the **Citrix Licensing Manager** in a cluster by browsing to:

```
https://client access point name:web service port
```

Where the *client access point name* is the name of the cluster and the *web service port* is the port number for console communications. The default port number is 8083.

To specify the location of the license files in the cluster, you can run many license administration commands using the argument **-c** *@client access point name*. For example:

```
lmreread -c @client access point name -all
```

Upgrade a clustered License Server

If you are running a version of a License Server older than 11.12.1, uninstall it and then install this version. The older versions of the License Server do not conform to current Microsoft cluster guidelines. This version of the License Server has the functionality required to support Windows Server 2008 and greater.

Uninstall a clustered License Server

Uninstall licensing from a clustered License Server using the **Control Panel \> Programs and Features** option from the active node.

Ensure that the first node contains all the resources.

1. From the first node in the cluster, start **Control Panel \> Programs and Features**.
2. Remove Citrix Licensing.
3. Using the failover cluster manager, move the resources in the Citrix Licensing resource group to the second node.
4. Remove Citrix Licensing from the second node. If there are more nodes, repeat Steps 3 and 4 for each node, and then proceed to Step 5.
5. Remove the remaining files from the shared drive. Note: The uninstallation process does not remove the license files and options files from the shared drive.

For troubleshooting information, see Troubleshoot.

Customer Success Services

Your purchase of a new Citrix® product includes a one-year membership in Customer Success Services. This membership entitles you to all product updates, along with other benefits. These updates include all releases during your membership period.

After your initial one-year membership period expires, renew your Customer Success Services membership by paying Citrix for your renewal. Use the Citrix Licensing Manager to install your renewal licenses. You can go to citrix.com and download a license file that has your renewal license.

Important:

A Customer Success Services membership and its license are distinct from your license to run the product. Your Citrix products don't stop working if you don't renew your Customer Success Services membership. But you are not entitled to any software release after it expires.

Customer Success Services renewal licenses

Customer Success Services renewal license files contain licenses, known as renewal licenses that extend your Customer Success Services membership for a one-year period. These licenses are required to run all new product releases, excluding hotfixes, that are released during your membership period.

If you do not add the Customer Success Services renewal license immediately, your Citrix products do not stop working. However, you cannot run any new software released during your renewed membership until you have the renewal license on your License Server.

If Citrix releases a product version after your Customer Success Service membership ends, renew your Customer Success Services membership. Obtain a renewal license before you can use the new product version.

Example:

Before you upgrade to any of the Citrix Virtual Apps and Desktops releases, ensure that your current Customer Success Services dates are valid and have not expired. Citrix Virtual Apps and Desktops releases use a year-month date format (YYMM). Ensure that the date in your license is equal or newer than the product release date. For a comprehensive list of release dates, see Citrix Product Customer Success Services Eligibility Dates.

When you renew your Customer Success Services membership, you can use the renewal license features of the Citrix Licensing Manager. For more information see, Update licenses.

> **Note:**
>
> When you download more license files, you can delete the expired Customer Success Services licenses. However, it is not a requirement. You might want to keep them to make it easier to identify the upgrade that is associated with each base license.
>
> Find out your Customer Success Services dates by using Citrix Licensing Manager, or view the license file in the text editor.

Check for and install Customer Success Services renewal licenses with the Citrix Licensing Manager

When enabled, the Citrix Licensing Manager contacts Citrix.com web services weekly to check for available Customer Success Services renewal licenses.

Based on your configuration, the Citrix Licensing Manager automatically checks for Customer Success Services renewal licenses, or allows you to check manually. It notifies you or installs the license when found.

1. In the Citrix Licensing Manager, click **Settings** in the upper right of the UI.
2. Choose how you want to be notified and if you want renewal licenses to be automatically installed.

If the automatic checks for Customer Success Services renewal licenses fail, check the firewall setting or configure a proxy. For this feature to work, the License Server must be able to access `<https://citrixservices.citrix.com>`. For more information, see Configure a proxy server manually.

> **Note:**

> You can also configure the ports, the License burst mode, and the language on this page.

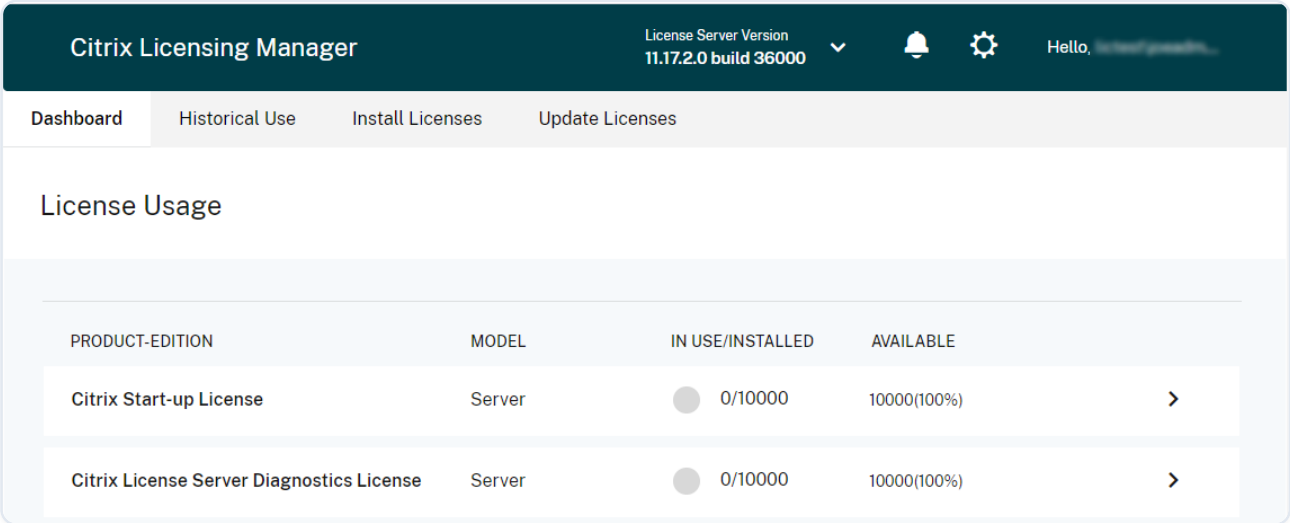
- **Automatically check for Customer Success Services renewal licenses and notify when available:** Citrix Licensing Manager displays a notification. Click the link to download and install the available renewals. This same notification appears in Studio and Director if they are configured to manage the License Server.
- **Automatically check for and install Customer Success Services renewal licenses when available:** Citrix Licensing Manager checks weekly and automatically installs renewal licenses when available. A notification displays for a few days stating that renewals have been installed.
- **Manually check for Customer Success Services renewal licenses:** Select the **Update Licenses** tab and **Check for Available Renewals**. You can check the **Update Licenses** tab at any time to see a list of licenses installed in the last 30 days.

Citrix Licensing Manager

The Citrix Licensing Manager is a web-based management console for Citrix Licensing. It enables the License Server features using a simple web interface. For more information on the functions you can perform using the Citrix Licensing Manager, see the Citrix licensing technical overview.

The Citrix Licensing Manager is installed on the license server. You can only use it to manage the license server on which it is installed. The Citrix Web Services provide the functionality for the **Licensing** windows service.

Access the Citrix Licensing Manager using the link `https://*LicenseServerName:WSLPort*`. The default WSL Port is 8083.



The **Citrix Licensing Manager** screen displays the following details:

- The License Server version in the top bar of the screen. You can also view the host name, Ethernet address, and IPv4 address, from the drop-down list in the titlebar. by selecting the down arrow at the top right of the Citrix Licensing Manager screen.
- Important notifications of license availability, expiration, and other conditions. You can view these notifications by selecting the bell icon at the top of the Citrix Licensing Manager screen.

The Citrix Licensing Manager also allows you to perform the following actions:

- Configure Customer Success Services renewal license actions. You can specify the following actions:

  - Download and install licenses automatically,
  - Check for the available renewals and notify, or
  - Manually install the licenses. For more information on configuring this feature, see Check for and install Customer Success Services renewal licenses with the Citrix Licensing Manager.

- Store and export historical usage reports from the License Server. You can specify a date range for the historical usage data and export it to a CSV file. The CSV file provides daily usage information including the number of licenses in overdraft. For information about exporting historical usage data, see Historical Use.

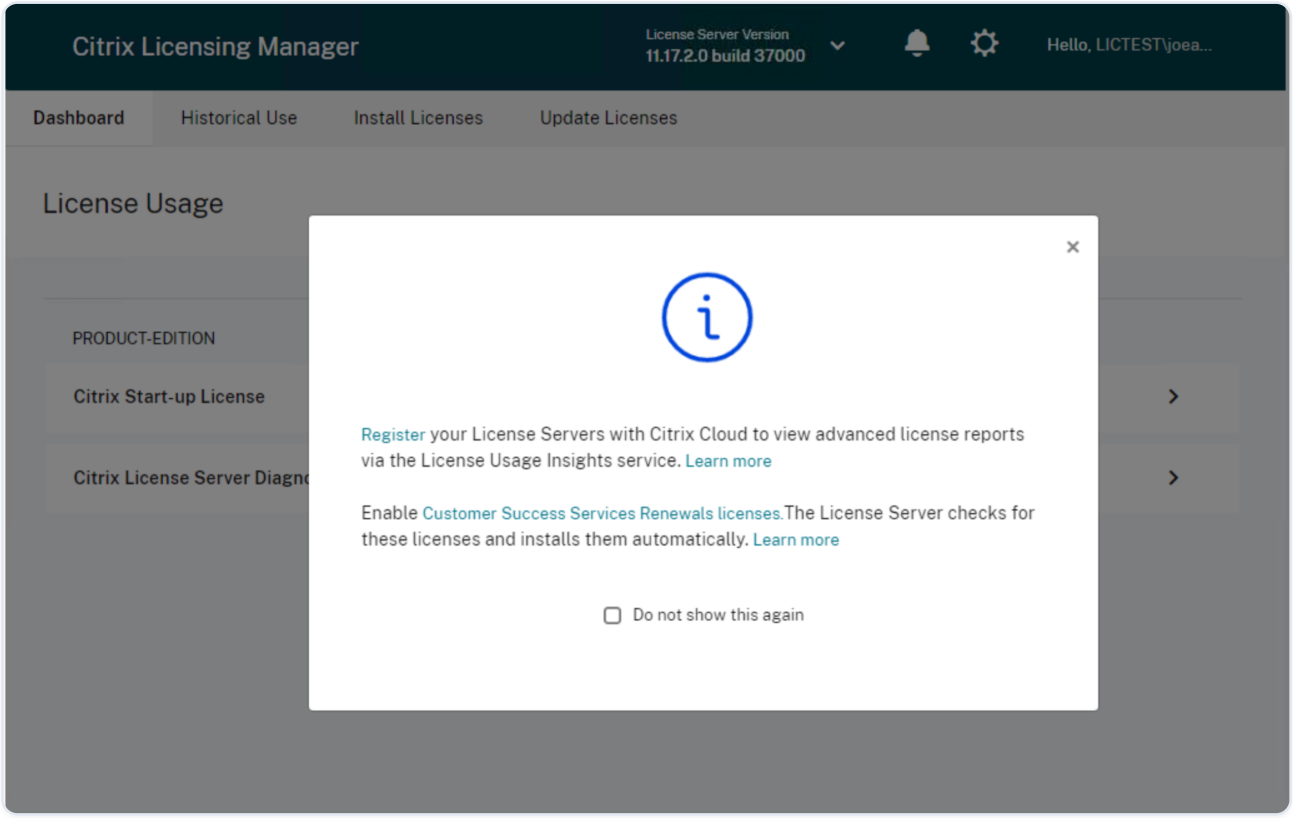
A what's new modal window

From version 11.17.2 build 37000, when you launch the Citrix Licensing Manager, a modal window appears that provides information about:

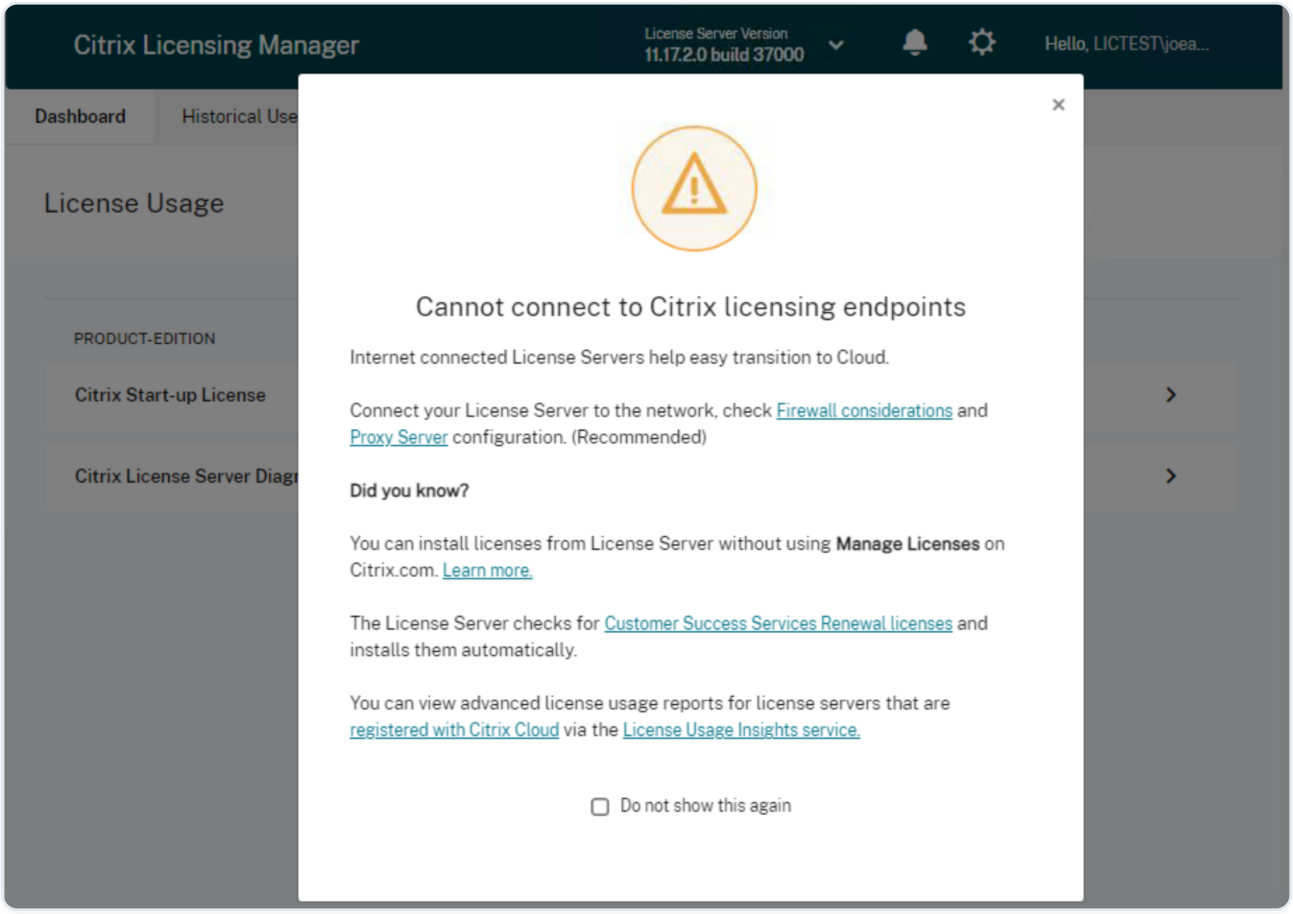
- New features that are available on your Citrix Licensing Manager
- Features that are already available, but currently disabled on your Citrix Licensing Manager. You can enable these features directly from the modal window.

For example, the Citrix Licensing Manager automatically detects that your License Server isn't registered with Citrix Cloud and prompts you to register.

Citrix recommends that you enable features that are disabled when prompted. Doing so enhances your user experience and improves the way you monitor your license usage.



The Citrix Licensing Manager also displays alert messages for network-related issues and recommends steps to mitigate them.



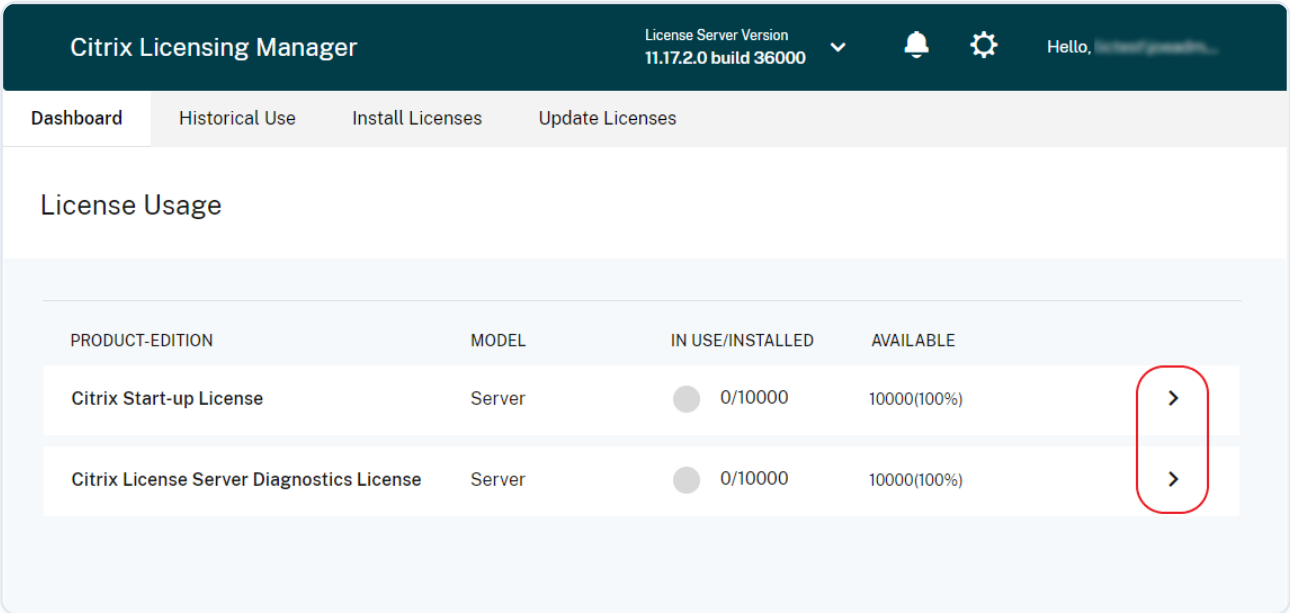
Where to go next

- **Dashboard**: View details about the installed, in-use, available licenses, expiration date of licenses, and Customer Success Services dates. For more information, see the Dashboard.
- **Historical use**: Review and export data related to products, license models, and Customer Success Services (Subscription Advantage) dates. For more information, see Historical Use.
- **Install licenses**: Install license files on the License Server using a license access code or downloaded file. View details of licenses after they are installed. For more information, see Install licenses.
- **Update licenses**: Check for, download, install, and update available Customer Success Services renewal licenses. For more information, see Update licenses.
- **Settings**: Modify settings related to user and group accounts, server configuration, and usage and statistics data. For more information, see Settings.

Dashboard and Historical Use

Dashboard

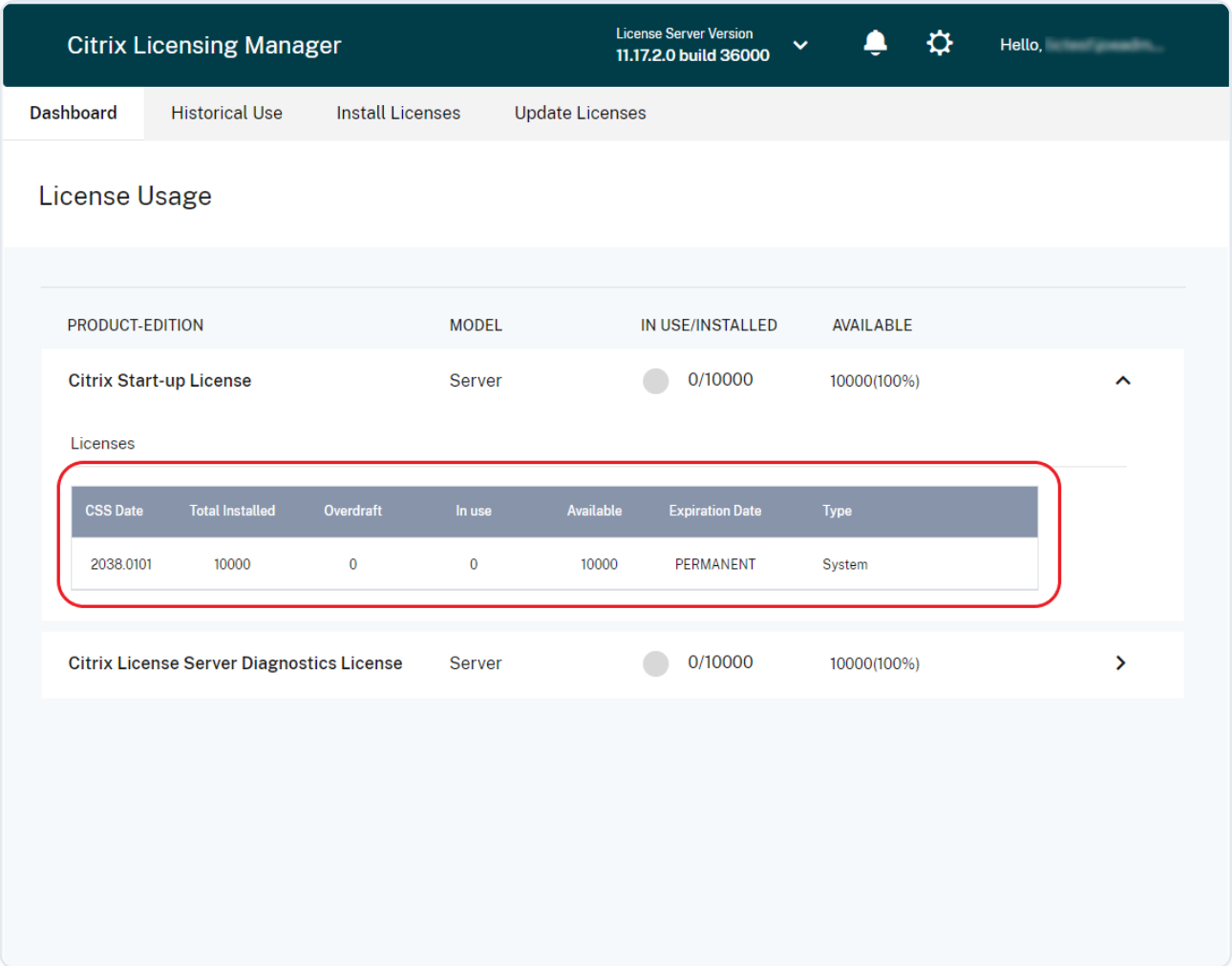
The **Dashboard** in Citrix Licensing Manager provides information about the product edition, model, installed/in-use status, and availability of your licenses.



To view detailed information about the licenses, click **>** for a particular license. The Citrix Licensing Manager displays a table containing the following details of the license:

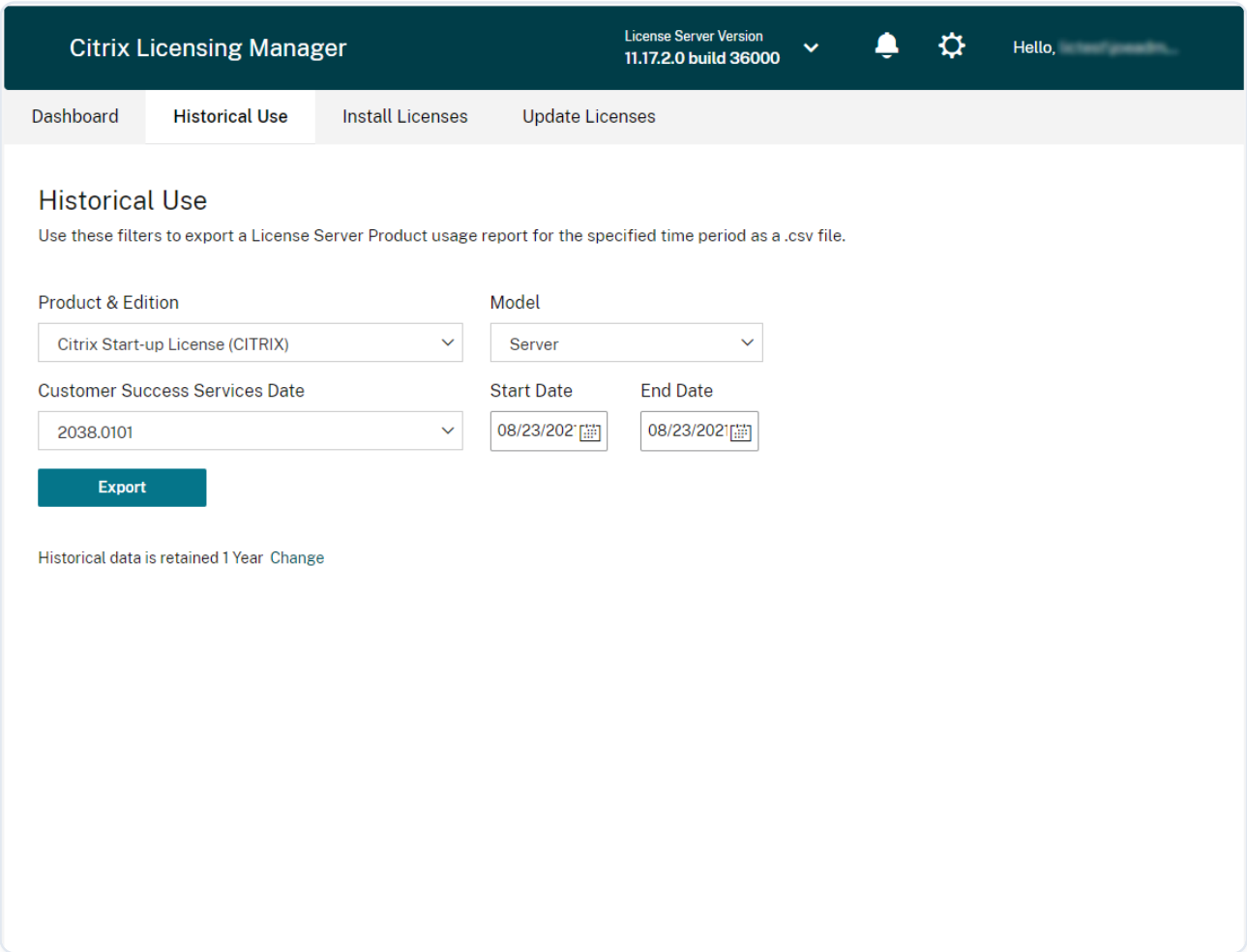
- Customer Success Services date
- Total installed licenses

- Overdraft
- Licenses in use
- Available licenses
- Expiration date
- Type



Historical Use

The **Historical Use** feature in the Citrix Licensing Manager allows you to store and export historical usage reports from the Licensing Server. The default retention period is one year. You can view and specify the data retention period by selecting **Change**. Use the filters to export a License Server Product usage report as a CSV file.



Export historical usage data

You can view and export the historical usage by performing the following steps:

1. Log on to the Citrix Licensing Manager hosted on the License Server. Type the following URL into a browser installed on a system having access to the License Server. Replace the host name with your actual License Server host name in the URL. `http://License-Server-Hostname:8083/`
2. Select **Product & Edition**, **Model**, and **Customer Success Service Date**. Enter a date range for which you want to gather the history.

   > **Note:**
   >
   > Selecting Customer Success Services date limits exported data to a specific pool of licenses and does not accurately reflect the total number of licenses in use.

3. Select **Export**.

4. Select **Save** > **Save As** on the browser download dialog to save the exported CSV file. The CSV file provides daily usage information, including the number of licenses in overdraft.

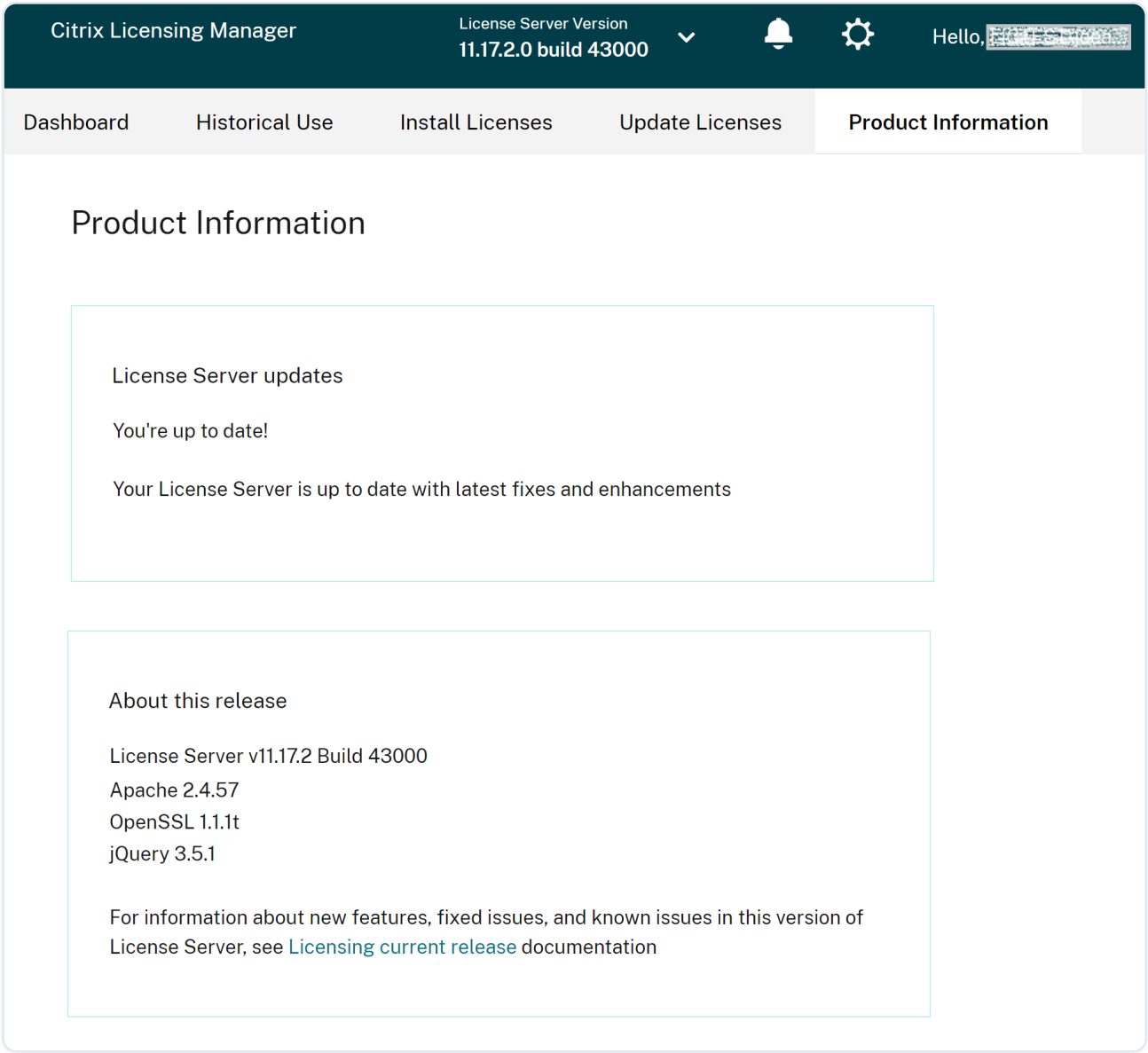
Note:

Database usage snapshots are saved every 15 minutes.

Product information

In this release of Citrix Licensing Manager, a new section about product information is added.

In the **Citrix Licensing Manager** UI, click the **Product Information** tab. The following page appears:



The **Product Information** page has the following two sections:

- License Server updates
  - the most recent updates
  - the last successful attempt for updates

> **Note:**
>
> The **License Server Updates** section requires internet access to view the latest product information.

- About this release
  - the latest version of License Server available for download
  - updates to open-source software such as OpenSSL and Apache versions for a particular release
  - link to product documentation

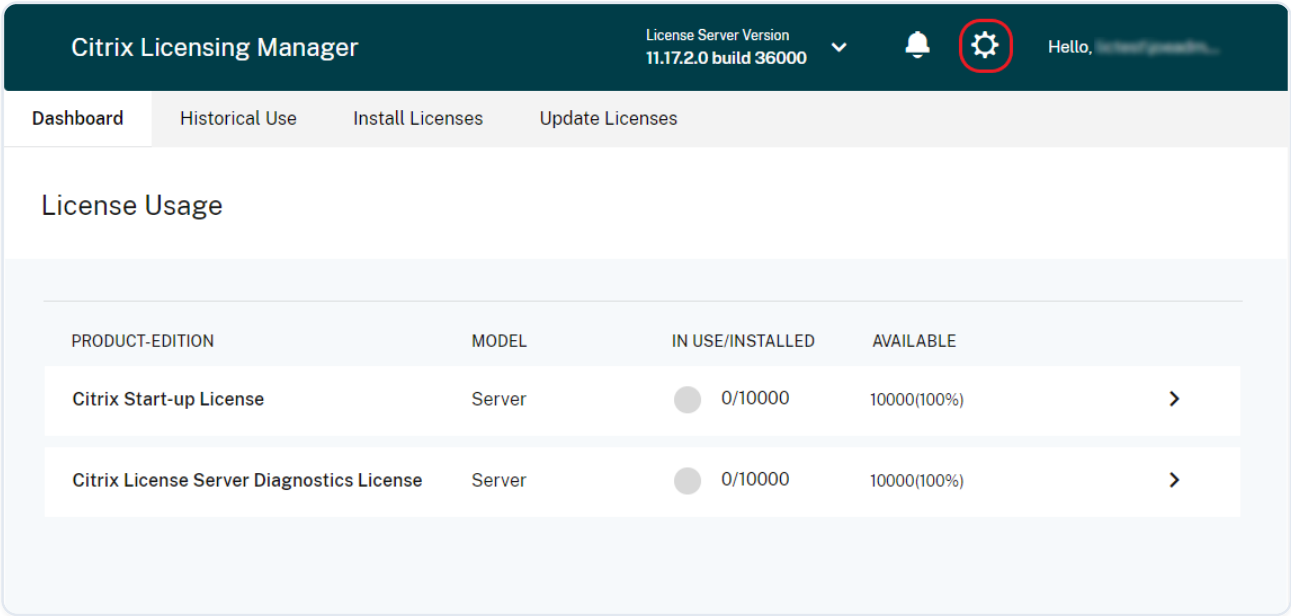
> **Note:**
>
> The **About this release** section provides static text and doesn't require internet access to view the latest product information.

Settings

Modify and configure the following settings in the **Citrix Licensing Manager**:

- **Account**: Configure user and group accounts.
- **Server configuration**: Configure ports and Customer Success Services renewal license actions.
- **Usage and statistics**: Register your License Server with Citrix Cloud and configure the historical data retention by selecting a retention period.

To configure these settings, click the settings icon on the top right corner of the title bar.



Account

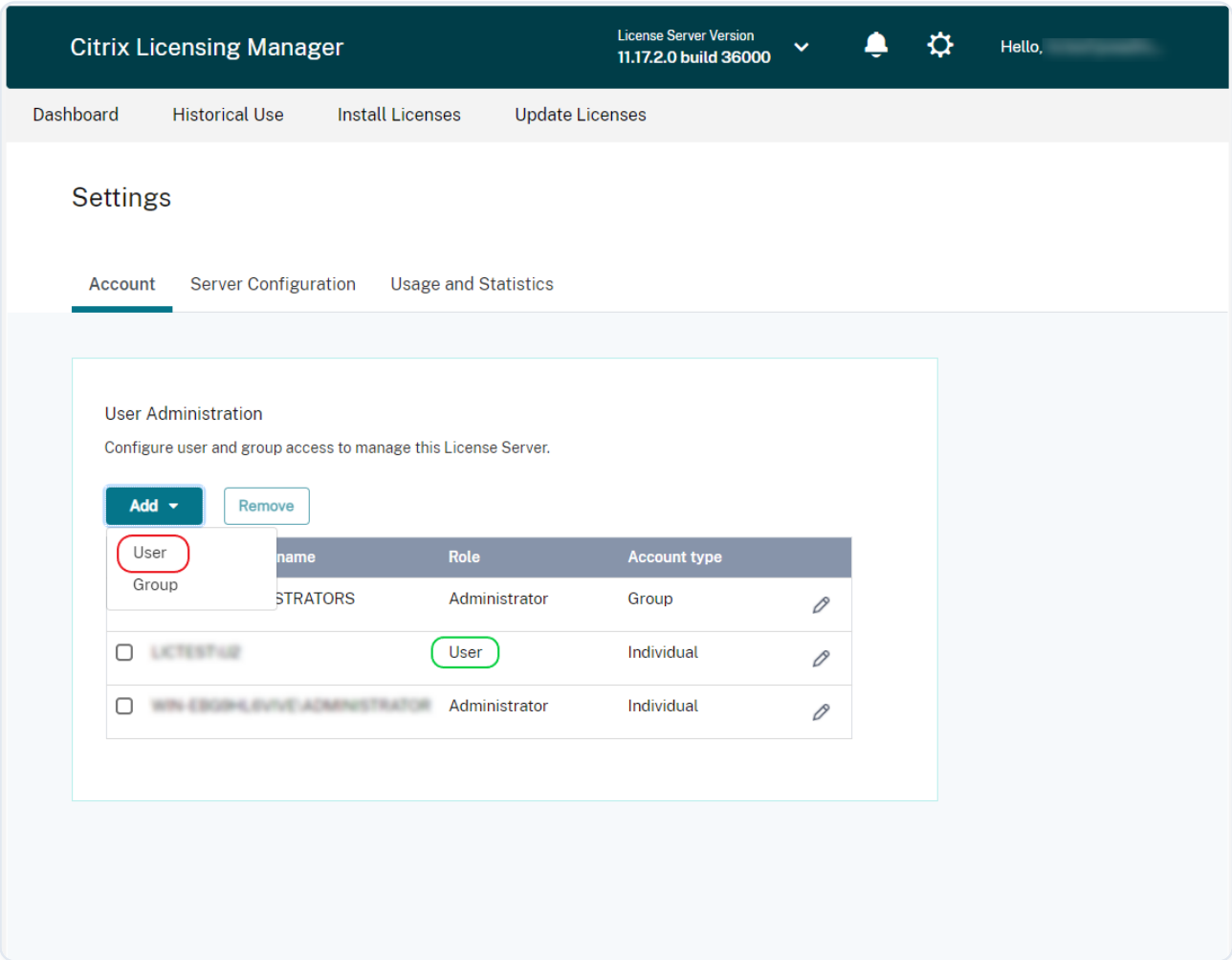
On the **Account** tab, configure users and group access for both local Windows users and groups and Active Directory users and groups.

> **Note:**
>
> Active Directory users and groups are part of an Active Directory or network authentication system. To support them, ensure that the Windows License Server is a member of a Microsoft Active Directory domain.

Administrator and User roles

You can add the **User** and **Group** accounts with specific roles. **User** and **Group** accounts created with an *Administrator* role can:

- Choose a console display language.
- View system information.
- Add and remove users.
- Configure the License Server port.
- Configure the vendor daemon port.
- Configure the Web Services for Licensing port.
- Configure and add licenses.



User and **Group** accounts created with a *User* role cannot log into Citrix Licensing Manger. These accounts have only read-only access to Licensing through Citrix Studio.

> **Note:**
>
> **User** as an account (red color) is different from **User** as a role (green color) as indicated in the preceding image.

To add and remove users and groups

To add a user or a group, click **Add**, choose **User or Group**, enter **Domain\Username**, and then click **Finish**.

To remove a user or a group, click **User** or **Group** from the list and then click **Remove**.

To edit the role of an existing user or group, click the edit button, choose the role, and click **Update**.

Server configuration

Use the **Server Configuration** setting to make the following changes:

- Configure the License Server, Citrix vendor daemon, and Web Services for Licensing ports.
- Configure a proxy server.
- Configure Customer Success Services renewal license actions.
- Enable and disable the License burst mode.
- Choose the console display language.

LICENSING 11.17.2 BUILD 54100

Citrix Licensing Manager

License Server Version
11.17.2.0 build 43000

Hello, [redacted]

Dashboard | Historical Use | Install Licenses | Update Licenses | Product Information

Settings

Account | **Server Configuration** | Usage and Statistics

Configured Ports

License Server Port	27000	
Vendor Daemon Port	7279	
Web Services for Licensing Port	8083	

Configure a Proxy Server

The proxy server isn't configured. Edit to configure a proxy server.

Customer Success Services Renewals

- (●) Automatically check for Customer Success Services renewal licenses and notify when available.
- ( ) Automatically check for and install Customer Success Services renewal licenses when available.
- ( ) Manually check for Customer Success Services renewal licenses.

Supplemental Grace Period

Start the 15-day supplemental grace period when the regular license consumption limit is reached.

ON

Configure port numbers

You can edit the following default ports:

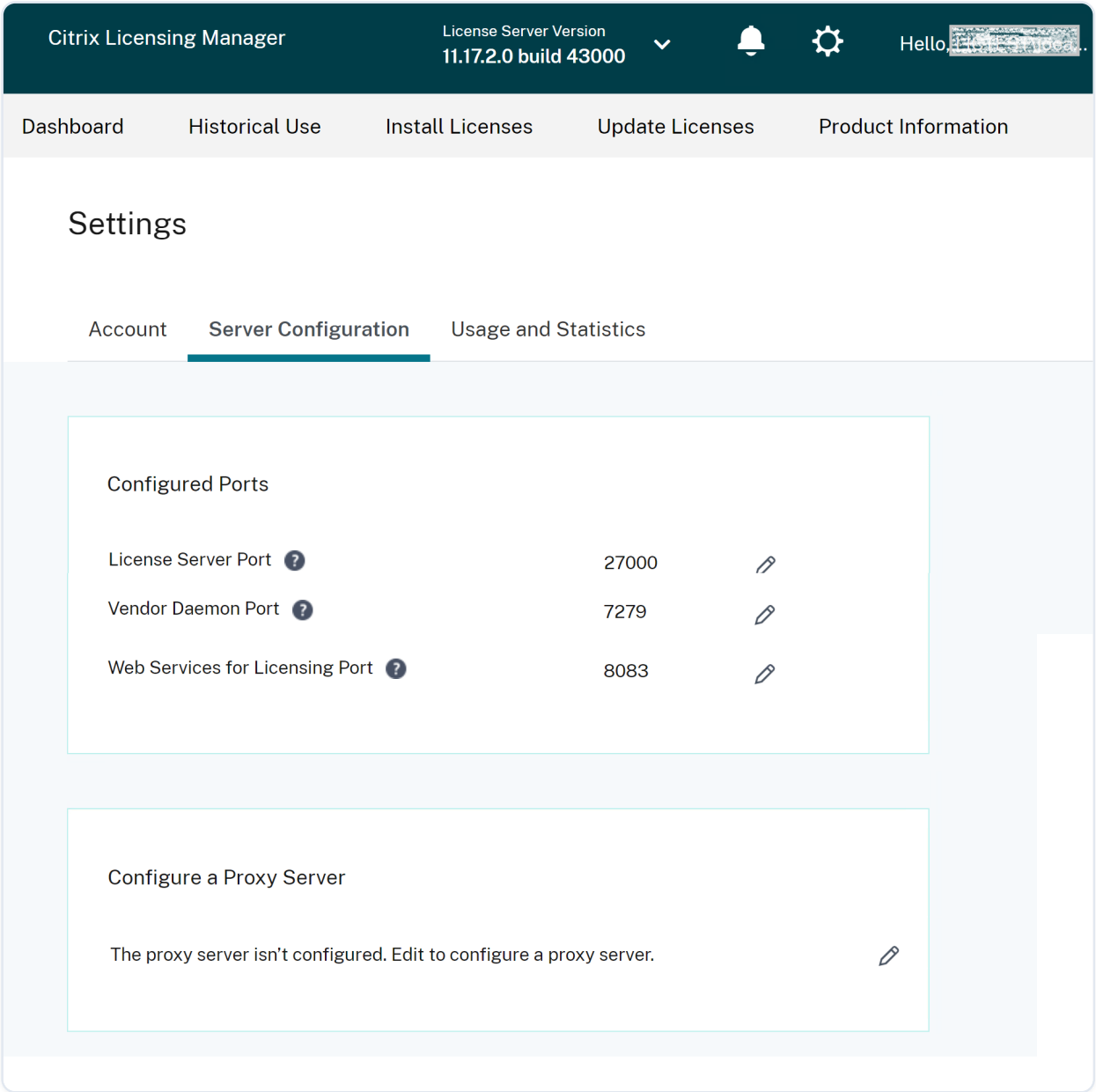
- **License Server**. This port number is used by the Citrix Licensing Manager. License Server Manager handles the initial communication among the products, starts the Citrix vendor daemon, and relays check out and check in requests to the vendor daemon. By default, this port number is 27000.
- **Citrix vendor daemon**. This port number is used by the Citrix vendor daemon. The vendor daemon is responsible for the core operations of the License Server, including license allocation. By default, this port number is 7279. However, if you have a firewall or if the number is already in use, you must change the port number.
- **Web Services for Licensing**. Port used by the Web Services for Licensing. The **Web Services for Licensing** hosts the Citrix Licensing Manager, so users connecting to the Citrix Licensing Manager use this port. Director and Studio use this port to communicate with the License Server using **Web Services for Licensing**. By default, this port number is 8083.

Configure a proxy server within Citrix Licensing Manager

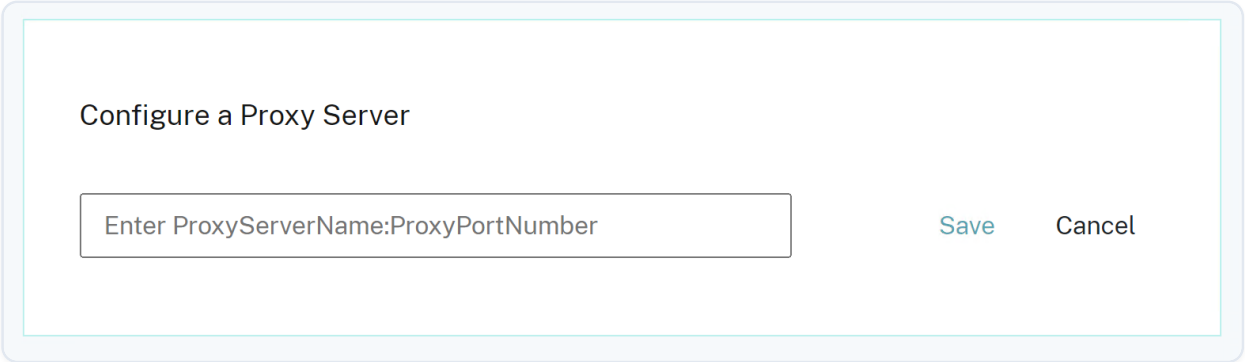
Starting with License Server version 11.17.2.0 build 43000, you can view and configure proxy server settings from the Citrix Licensing Manager UI. You can edit the settings to add, modify, or remove a proxy server as needed.

Do the following to configure a proxy server:

1. In the Citrix Licensing Manager, click the **Settings** in the upper right of the UI.
2. Click **Server Configuration**.
3. Navigate to **Configure a Proxy Server** section.



4. Click the **Edit** to configure a new proxy server or to update an existing proxy server.



5. Enter the proxy server name and proxy port number in the following format:

   proxy server name:port number

For example: 10.211.55.5:808. (This port can be `IPAddress:Port` or `Hostname:Port`.)

6. Click **Save**. The proxy server configuration is saved successfully.

Customer Success Services Renewals

This feature checks for already available renewed licenses, and notifies they are available for renewals, or automatically installs them. When enabled, the Citrix Licensing Manager contacts Citrix.com web services weekly to check for available Customer Success Services renewal licenses.

You have the following options to renew Customer Success Services licenses:

- **Automatically check for Customer Success Services renewal licenses and notify when available**
- **Automatically check for and install Customer Success Services renewal licenses when available**
- **Manually check for Customer Success Services renewal licenses**

The check for available renewals is performed weekly. To manually update your license, click **Update License > Check for Available Renewals**. Check the **Update License** tab at any time to see a list of licenses installed in the last 30 days.

Based on your configuration, the Citrix Licensing Manager does one of the following:

- Checks for Customer Success Services renewal licenses, notifies you, and installs the licenses when found.
- Checks for Customer Success Services renewal licenses, and notifies you they are available to be installed.
- Allows you to check manually.

If the automatic checks for Customer Success Services renewal licenses fail, check the firewall setting or configure a proxy. For this feature to work, the License Server must be able to access `<https://citrixservices.citrix.com>`.

License burst mode

You can use the License burst mode feature to start the 15-day License burst mode, when you reach the regular license consumption limit. During the License burst mode, the product allows unlimited connections for 15 days, enabling you to fix the issue. Ensure you check your product documentation to determine if your product supports the License burst mode.

Language

You can change the default language of the Citrix Licensing Manager display, which applies to all the console users. The following languages are available:

- Chinese (Simplified)
- English
- French
- German
- Japanese
- Spanish

Support Bundle

A support bundle is a .zip file that contains information that required to troubleshoot and debug any License Server issues by the Citrix support team. You can use this file to initiate a Citrix support call or to provide documentation to Citrix or its agents for license compliance purposes. The .zip file generated includes license activity and historical usage information, configuration information, a copy of the licensing directory, license files, server logs, and usage and analytics data from Call Home, CEIP, or Citrix License Management Service or both (in each case, if applicable).

To generate and download a support bundle, go to the **Citrix Licensing Manager > Settings > Server Configuration > Support Bundle**. Click **Generate and Download** to download the bundle (.zip file).

The support bundle contains various files. See the following table for a list of files that are of high importance in the bundle:

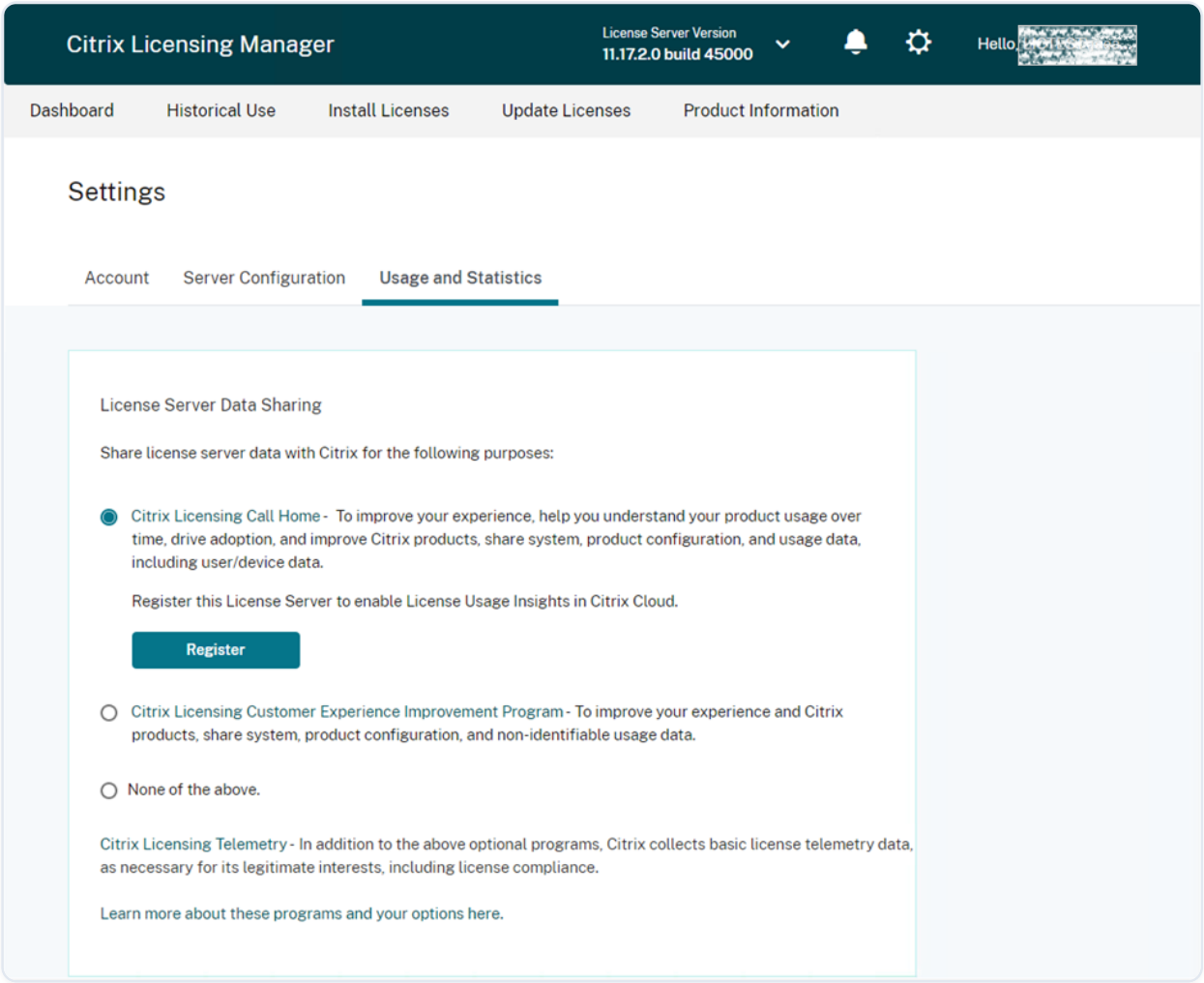
FILE NAME	DESCRIPTION
LS\conf	Includes server configuration and certificates.
LS\logs	Contains license server logs.
LS\resource\cache	Contains user/device data, renewal database, and vendor daemon extension data. There are also upload result files that contain the status of the last telemetry transfer.

FILE NAME	DESCRIPTION
LS\resource\Historical	Contains Web Services for Licensing/Citrix Licensing Manager analytics and historical use databases.
LS\resource\usage	Contains files included in the last compliance and/or CEIP/Call Home upload bundle along with corresponding .zip files for each program.
LS\MyFiles	Contains all installed customer license files and the CITRIX.opt (options file – contains LS configuration).
WebServicesForLicensing	`SimpleLicenseServiceConfig.xml` Web Services for Licensing Configuration file.
WebServicesForLicensing\Apache\conf	Contains Web Services for Licensing web server configuration and certificates.
WebServicesForLicensing\Logs	Contains Web Services for Licensing web server logs.

Usage and statistics

Use the **Usage and Statistics** setting to do the following:

- Configure how you share usage statistics with Citrix Cloud. For more information see Share usage statistics.
- Find out if your License Server is registered, or register your License Server with Citrix Cloud.
- Know the status of your uploads, and fix failed uploads.
- Force data upload to Citrix.
- Set the period to retain the historical usage information.



Share usage statistics

The Citrix Licensing Customer Experience Improvement Program (CEIP) and Call Home usage and analytics programs are voluntary data collection programs that are designed to improve your product experience. Call Home and CEIP are voluntary programs.

For more information about the statistics that are collected, see Citrix data collection programs.

Register your Citrix License Server

Use the **Register** option in the **Usage and Statistics** section to register your Citrix License Server with Citrix Cloud. Once registered, the screen indicates that you are registered. Use the **Remove Registration** option if you want to remove the License Server registration. For more information, see Register Citrix License Server with Citrix Cloud.

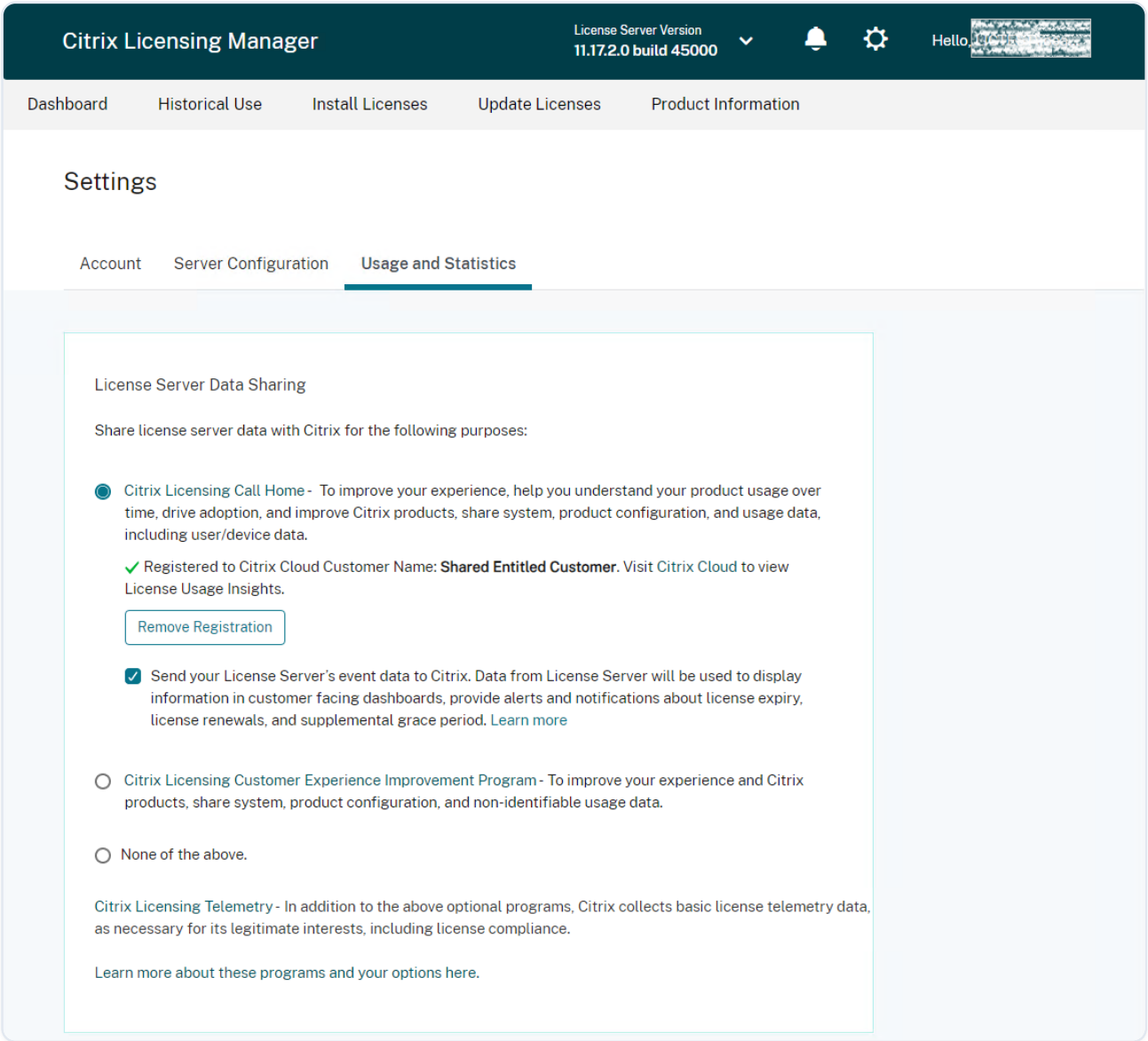
Remove registration

There are reasons that you might want to remove the License Server registration with the Citrix Cloud. For example, you've registered your License Server to CompanyA, which is now merged into another organization. You want to consolidate your license usage data into one Citrix customer

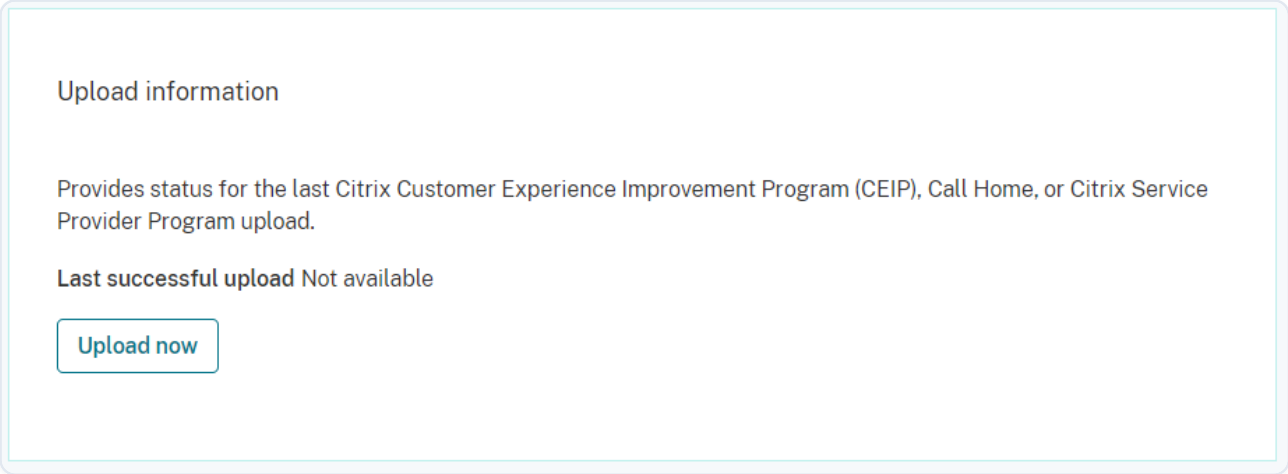
account. To do that, remove your registration, and then register with a new Citrix Cloud account. For more information, see Remove registration of your License Server.

Collect License Server event data

After you register your License Server with Citrix Cloud, you can choose to send your License Server's event data to Citrix. This option is enabled by default and is available only after registration. This data is used to display information in customer-facing dashboards. It's also used to provide alerts and notifications about license expiry, license renewals, and License burst mode. For information about the data elements that are sent to Citrix Cloud, see License Server event data.



Upload Information



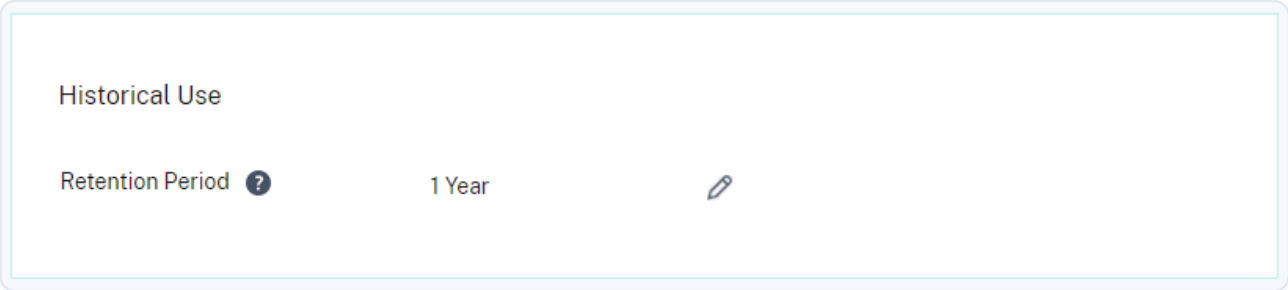
This Upload information feature provides the status for the last CEIP, Call Home, or Citrix Service Provider™ upload. You can force a data upload to Citrix without waiting for the daily upload. Click **Upload now** to force a data upload to Citrix, when CEIP is enabled. For successful uploads, allow five minutes between uploads.

If the upload fails, the Citrix Licensing Manager displays the troubleshooting information.

Historical Use

Use the **Historical Use** feature to choose the retention period to retain your License Server usage information. The default historical use retention period is one year.

If there is an in-place License Server upgrade, the historical data is backed up.



Register and remove registration of your Citrix License Server

Register your Citrix License Server

Register your Citrix License Server with Citrix Cloud, by using a short-code activation process, using the **Register** option in the **Usage and Statistics** section of the **Settings**.

Once registered, the screen indicates that you are registered, and you can use the **Remove Registration** option to remove the License Server registration.

By registering the License Server with Citrix Cloud, you allow the License Server to collect and store the Call Home license usage information. You also allow to regularly transmit this information to Citrix Cloud.

For steps to register an on-premises License Server, see Register on-premises products with Citrix Cloud.

View the status of your Citrix License Servers to understand which ones are successfully reporting usage and when they last reported usage to Citrix Cloud. For more information, see Monitor licenses and usage for on-premises deployments.

After your License Server is registered successfully in Citrix Cloud, you can view the details in the Citrix Cloud UI.

> **Important:**
>
> Before registering your License Server with Citrix Cloud, use the firewall rules to open the following URLs:
>
> `https://las.cloud.com:443`
>
> `https://customers.citrixworkspacesapi.net:443`
>
> `https://trust.citrixnetworkapi.net:443`
>
> `https://trust.citrixworkspacesapi.net:443`
>
> `https://cis.citrix.com:443`
>
> `https://core.citrixworkspacesapi.net:443`
>
> `https://core-eastus-release-a.citrixworkspacesapi.net:443`
>
> `http://ocsp.digicert.com:80`

```
http://crl3.digicert.com:80
```

```
http://crl4.digicert.com:80
```

```
http://ocsp.entrust.net:80
```

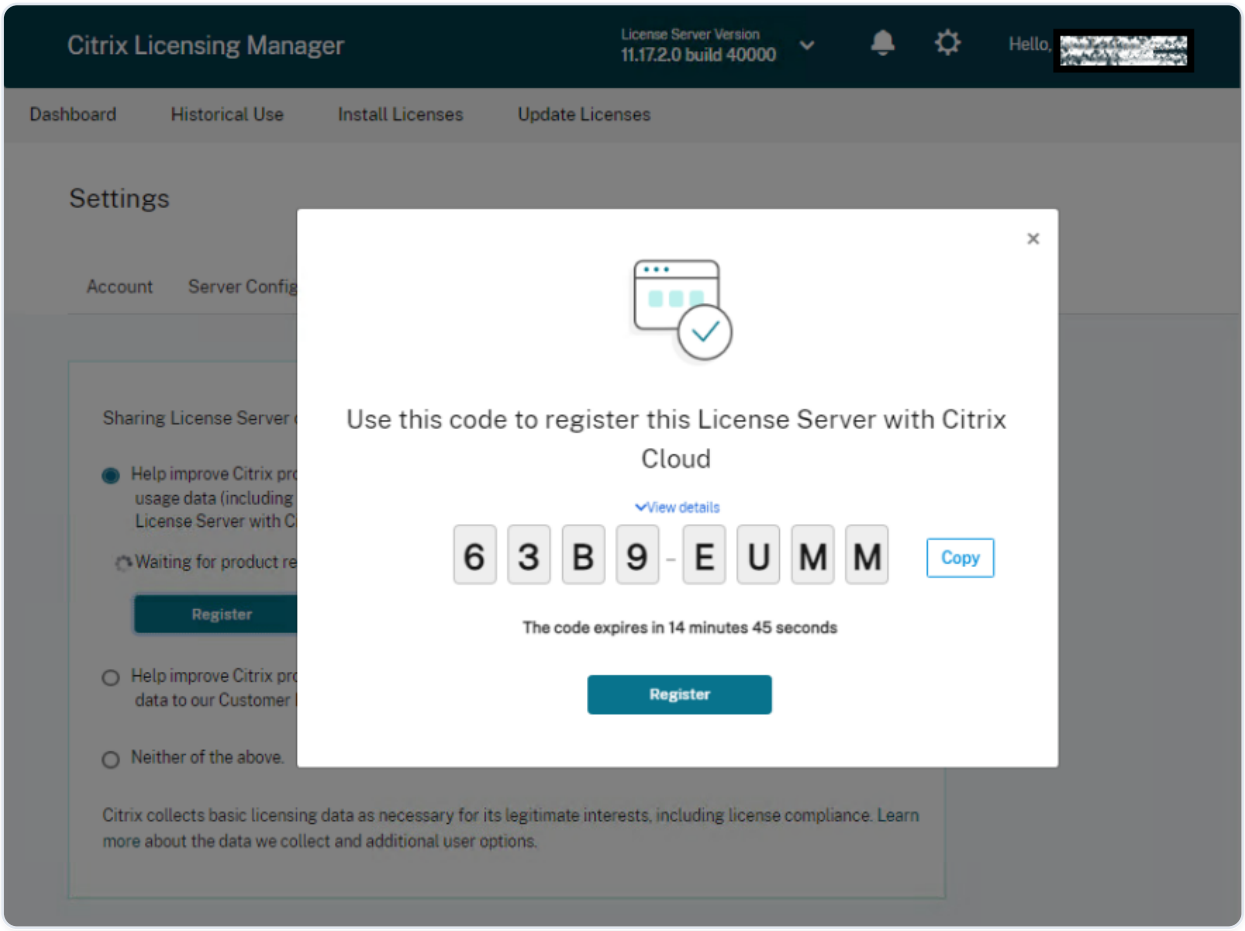
```
http://crl.entrust.net:80
```

Ensure that the License Server can access the Certificate Revocation List server for DigiCert and Entrust. The License Server checks the server to see if the required certificates are valid or revoked.

Steps to register your License Server

To register your License Server by performing the following steps:

1. Navigate to **Settings > Usage and Statistics**.
2. Click **Register** to generate an 8-character alphanumeric code.



3. Select **View details** to view your License Server version, MAC ID, host name, and IP address.
4. Click **Register**. You're navigated to the Citrix Cloud™ sign-in page.
5. Enter your Citrix Cloud account credentials and navigate to **Product Registration > Register**. Enter the 8-character alphanumeric code, and click **Continue**.
6. Review the registration details and click **Register**. For more information, see Register on-premises products with Citrix Cloud.

Note:

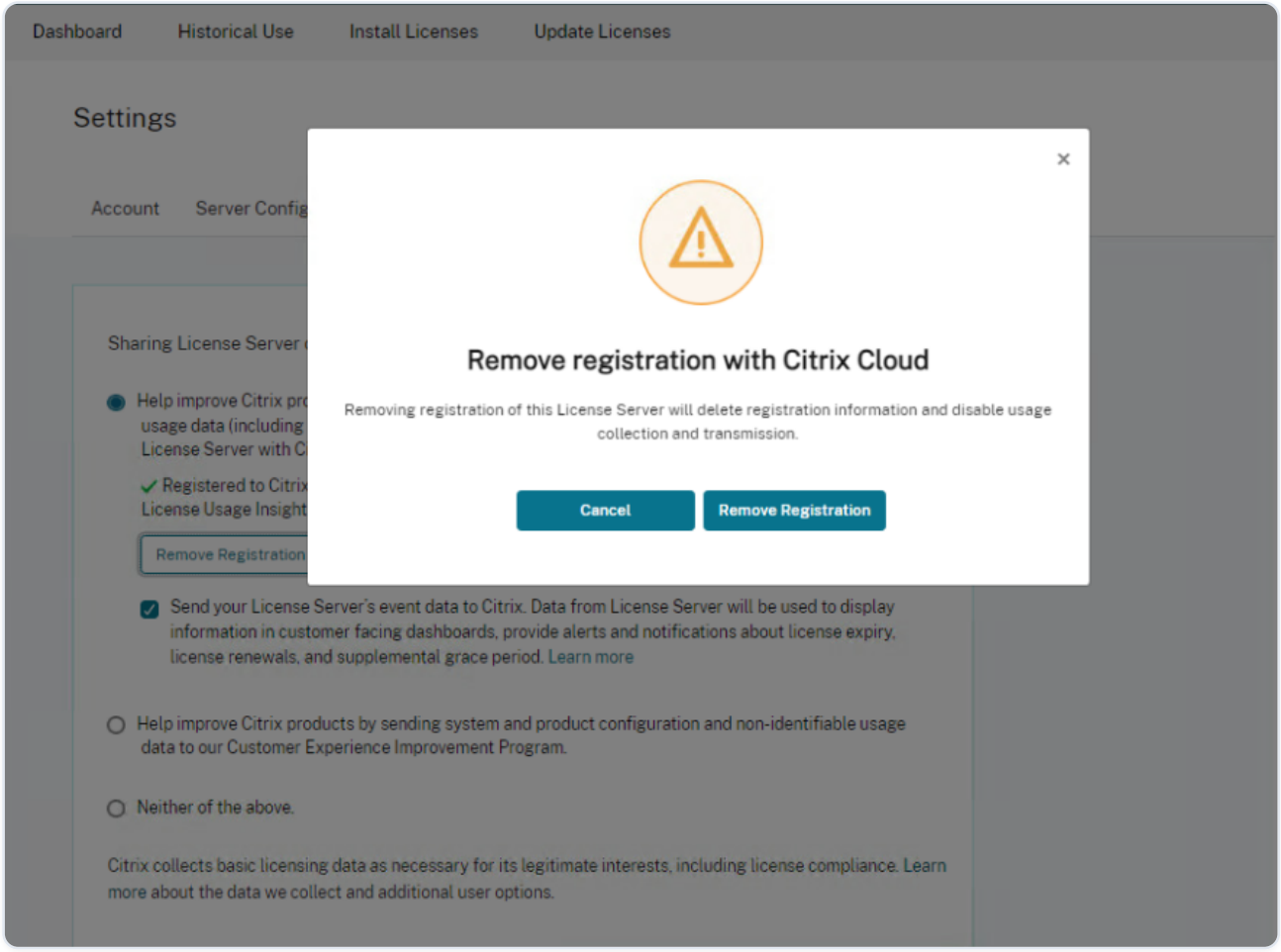
If you're not redirected to the Product Registration experience, do the following:

1. Go to citrix.cloud.com and sign in to Citrix Cloud.
2. Select your company, select **Identity and Access Management > API Access tab > Product Registrations** from the select menu.

Remove registration of your License Server from License Server

If you want to register your license server with a different or new Citrix Cloud account, remove the registration and re-register the license server.

To remove your license server registration navigate to **Settings > Usage and Statistics**, and click **Remove Registration**. Review and confirm the confirmation message.



The registration of your License Server is removed from Citrix Cloud.

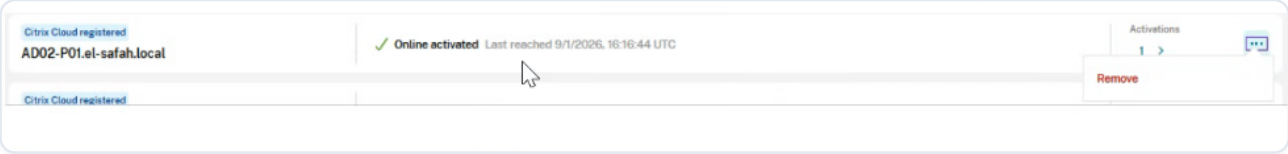
- **Existing Activations:** Product instances that are already active will continue to function.
- **New Activations:** New product instances are denied until the connection to LAS is restored.
- **Time Window:** The License Server has 30 days to reconnect to LAS before activations become invalid.

You can now follow the steps to register your license server and register with a new Citrix Cloud account.

Remove registration of your License Server from Citrix Cloud

If you want to register your license server with a different or new Citrix Cloud account, remove the registration and re-register the license server.

To remove your license server registration navigate to **Licensing > Licensed deployment> License Servers**. In the listed license server click the three dots and click **Remove**.



The registration of your License Server is removed from Citrix Cloud.

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You can now follow the steps to register your license server and register with a new Citrix Cloud account.

Additional information

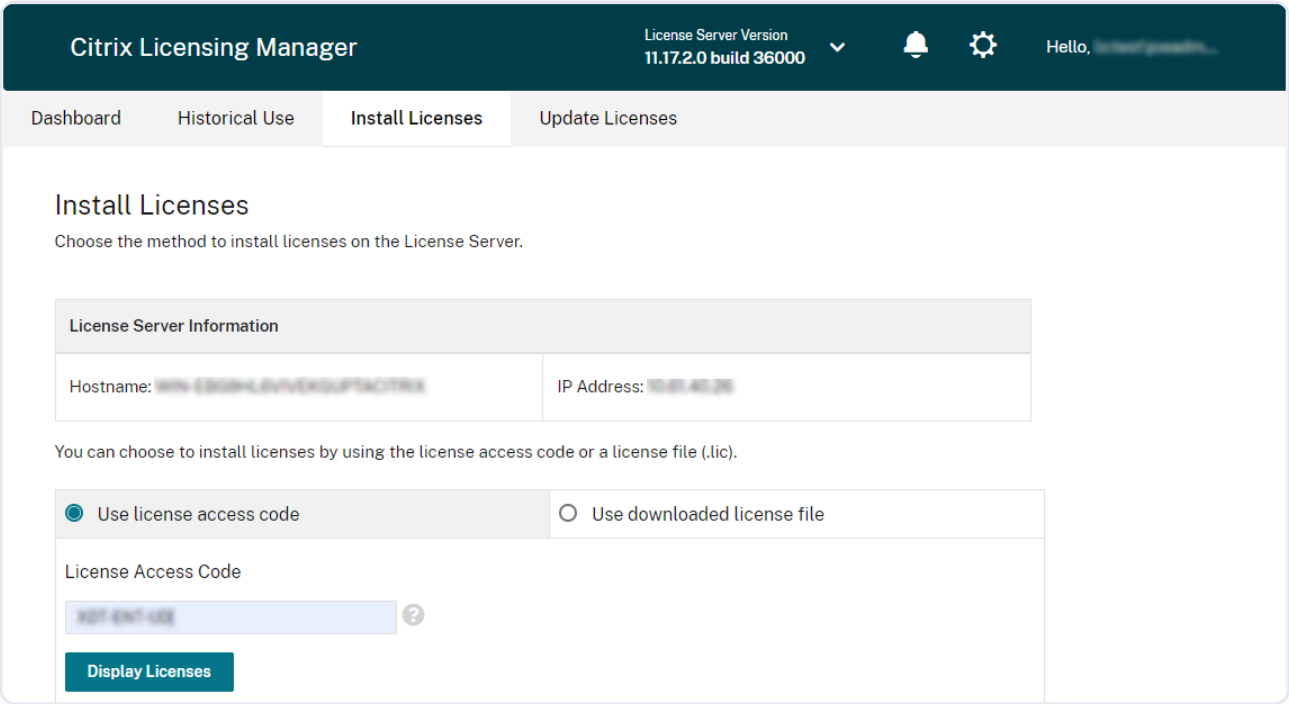
- How to enable License usage insight LUI

Install licenses

The Citrix Licensing Manager gives you the following options to obtain your licenses:

- **Use license access code**
- **Use downloaded license file**

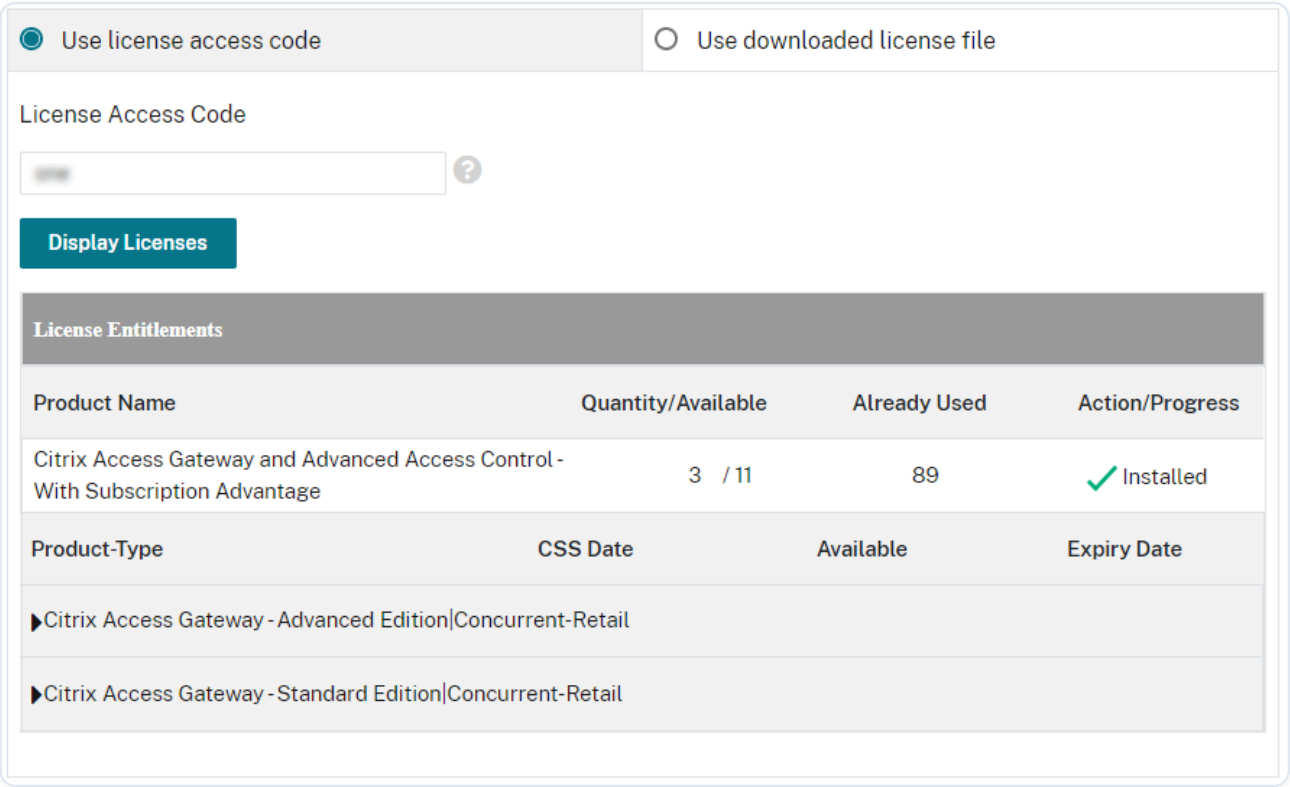
In the **Start** menu, select **All Programs > Citrix > Citrix Licensing Manager**, or from a remote machine use the `https://licenseservername:8083` URL with your License Server name.



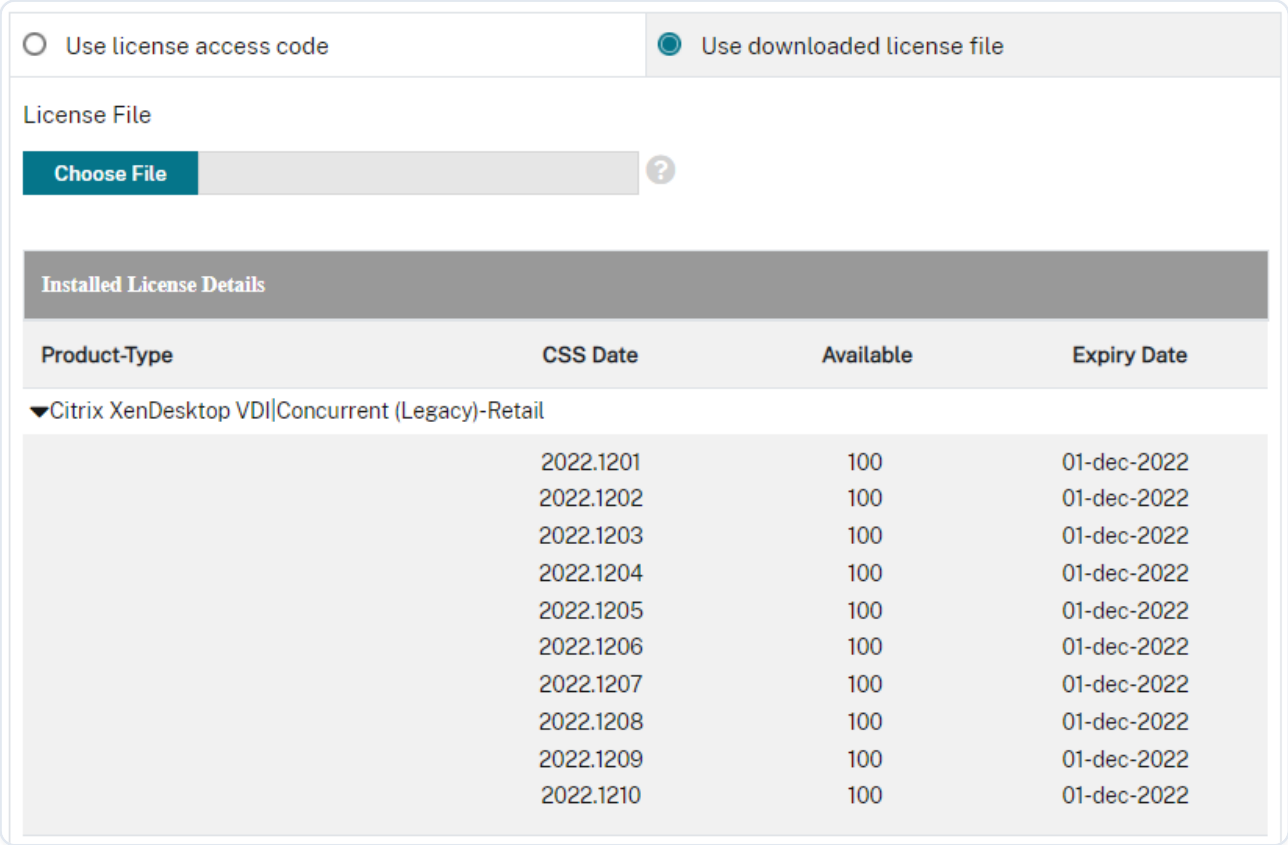
Use license access code

1. Choose **Use license access code**, and enter the license access code provided by Citrix.
2. Click **Display Licenses** to see your license entitlements.

   Select the license and the quantity to install.
3. Select a product from the displayed list, type the number of licenses to install, and click **Install**. To select multiple products, click **Install** every time you select a product. The products are processed in order of selection.
4. To display the newly downloaded licenses, click **Dashboard**.



Use a downloaded license file



1. Choose **Use downloaded license file**.
2. Choose a file.
3. Choose the check box to replace an older file with the same name.
4. Click **Import**.

   The Citrix Licensing Manager displays information about the licenses.
5. After your license file is successfully uploaded to the License Server, a message displays. To display the newly downloaded licenses, click **Dashboard**.

> **Note:**
>
> \>
>
> Avoid issues when uploading a license file by removing special characters from the file name. Make sure the file uses a `.lic` extension (all lowercase).
>
> \>

> If you upload license files with a start date in the future, an ALERT message appears at the top: Your licenses have a future START date and do not appear in the License Server inventory until the start date.

Allocating and downloading licenses

Consider the following points while using the Citrix Licensing Manager to allocate and download licenses:

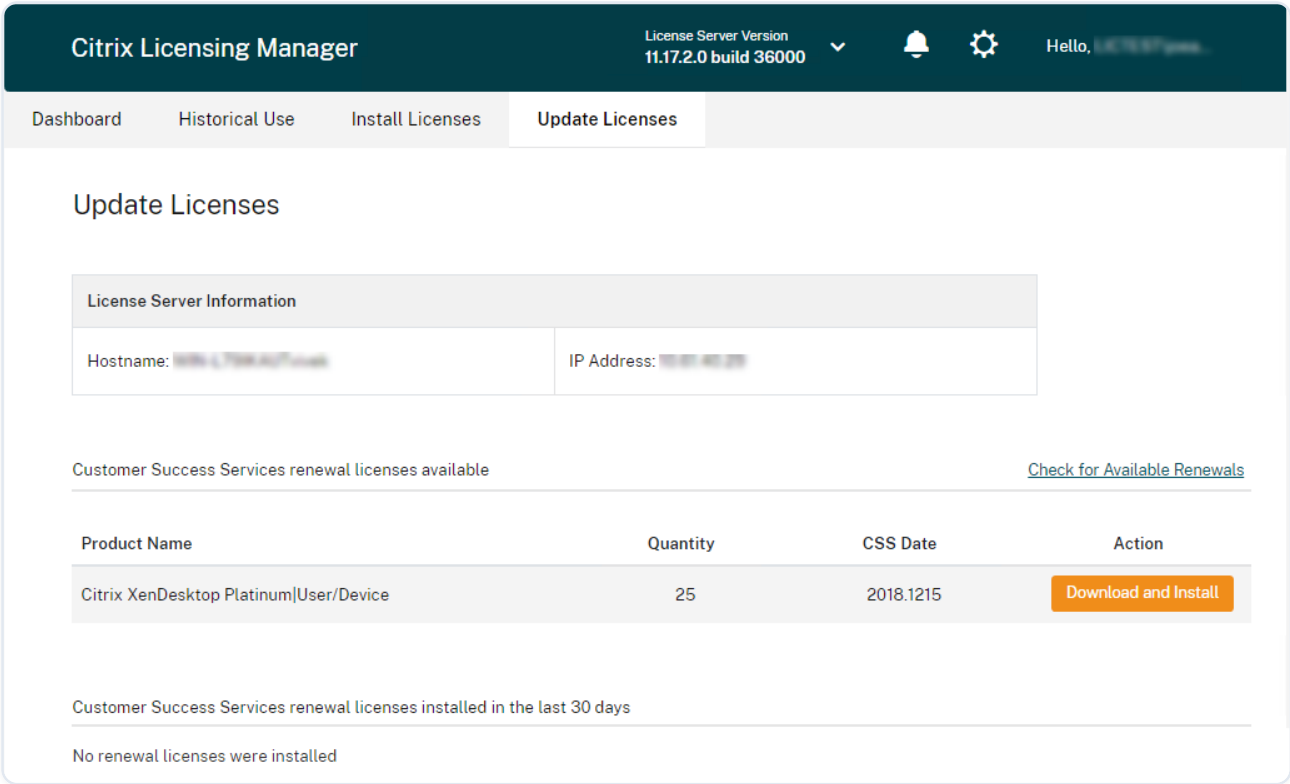
- As a prerequisite, ensure that you have internet access or a configuration with a proxy server.
- Once you click **Allocate > Download**, you cannot cancel it. If this action fails, use **My Account** at citrix.com.
- The Citrix Licensing Manager doesn't support redownloading or reallocating of license files. You can return licenses on citrix.com and use the Citrix Licensing Manager to allocate them again. For redownloading, use **My Account**.
- If you rename the License Server, you must reallocate any license files allocated under the old License Server name.

Update licenses

Install your Customer Success Services renewal licenses from the **Update Licenses** tab in the Citrix Licensing Manager. You can also see a record of the recently installed renewal licenses in the **Customer Success Services renewal licenses renewed in the last 30 days** section.

To update the licenses

1. In the **Customer Success Services renewal licenses available** section, click **Check for Available Renewals**.
2. Click **Download and Install** to install the license. For more information see the **Use downloaded license file** section in Install licenses.


Citrix Licensing Manager
License Server Version
11.17.2.0 build 36000
Hello,
Dashboard
Historical Use
Install Licenses
Update Licenses
Update Licenses
License Server Information
Hostname:
IP Address:
Customer Success Services renewal licenses available
Check for Available Renewals
Product Name
Quantity
CSS Date
Action
Citrix XenDesktop Platinum|User/Device
25
2018.1215
Download and Install
Customer Success Services renewal licenses installed in the last 30 days
No renewal licenses were installed

License Activation Service

The License Activation Service (LAS) is a modern, cloud-based licensing solution for on-premises Citrix License Servers. Designed as a streamlined alternative to traditional Citrix legacy licensing, LAS introduces new modules for product activation, ensuring a seamless approach to license management.

Instead of manually managing license file lifecycles, you can connect your License Server to Citrix Cloud™ for **Online activation**. Once registered, the License Server communicates regularly with the LAS endpoint to ensure activations remain up to date and aligned with your entitlement expiry or contract end date.

Key Benefits of LAS

- **Reduced operational overhead:** LAS simplifies the licensing experience by eliminating the need to download, upload, or manage license activation codes and product-specific license files.
- **Automated activation:** You only need to upgrade your License Server and register with Citrix Cloud. Compatible products pointed to the server are activated automatically and configured for LAS.
- **Hybrid compatibility:** The License Server supports both the License Activation Service and Citrix legacy licensing (license files) simultaneously, allowing for a flexible transition.

  > **Note:**
  >
  > Legacy license files will reach End of Life (EOL). We recommend migrating to the License Activation Service (LAS) to ensure uninterrupted service. For more details, refer to announcement

- **Performance and scalability:** The service is designed to improve performance and scalability for products utilizing this technology as there is no more license check in and check out operation.

- **Airgapped support**: For environments where the License Server can't connect to Citrix Cloud, LAS provides an offline activation option. Customers should contact their Citrix representative for this option.
- **Multi-server support:** You can configure multiple License Servers for LAS within your environment. This is supported as long as there is a valid license purchase associated with the Citrix Cloud tenant the servers are registered to.
- **Unlimited capacity:** LAS provides products with unlimited capacity for the duration of the entitlement validity. Because LAS does not require a 'check-out' operation to track individual licenses, real-time usage metrics are not available within the License Server or Citrix Cloud. Application usage details can still be viewed in the Director.
- **Premium features:** LAS will provide premium features by default for all CVAD customers.
- **Seamless renewals:** Customers do not need to perform any operational activities during renewals. Entitlements and new validity dates are automatically updated.

Register License Server for online activation

Prerequisites: Before registering the License Server for online activation, ensure the following requirements are met:

1. Please make sure your environment is according to the version matrix below.

CITRIX LICENSE SERVER VERSION	LAS SUPPORTED PRODUCTS	LTSR VERSIONS (LISTED AND FUTURE RELEASES)	CR RELEASES (LISTED AND FUTURE RELEASES)	PRODUCT SPECIFIC VERSION (LISTED AND FUTURE RELEASES)
11.17.2 build 51000	CVAD	NA	CVAD 2411	NA
11.17.2 build 52100	CVAD	NA	CVAD 2503	NA
11.17.2 build 53100 and later	CVAD, PVS, XenServer, WEM, Unicon Scout, Xenmobile	CVAD 2203 CU7, CVAD 2402 CU3, CVAD 2507	PVS 2203 CU7 LTSR, PVS 2402 CU3 LTSR, PVS 2507 LTSR	XenServer 8.4, XenCenter version 2025.3 or later, WEM 2507, Scout 15 2508 LTSR,

CITRIX LICENSE SERVER VERSION	LAS SUPPORTED PRODUCTS	LTSR VERSIONS (LISTED AND FUTURE RELEASES)	CR RELEASES (LISTED AND FUTURE RELEASES)	PRODUCT SPECIFIC VERSION (LISTED AND FUTURE RELEASES)
				XenMobile 10.16 Rolling Patch 7 and 10.15 Rolling Patch 13

For more detailed information please refer to LAS FAQ

2. **Citrix Cloud account and entitlements**

   - **Account:** You must have a valid Citrix Cloud account. Review existing cloud accounts or onboard new cloud accounts. For more information, see Account management.
   - **Entitlements:** The Organization ID (Org ID) linked to Citrix Cloud account used for registration must possess valid purchased entitlements. To view current entitlements, see Search for licenses.
   - **Registration Limit:** A License Server can only be registered to **one** Citrix Cloud ID (CCID).

   > **Important:**
   >
   > If you need to change your Org ID later, you must remove the existing registration and re-register with the new account.

3. **Firewall configuration:**

Configure your firewall to allow outbound traffic on **Port 443** to the following endpoints:

Citrix Cloud commercial Endpoints

- `https://las.cloud.com:443`
- `https://customers.citrixworkspacesapi.net:443`
- `https://trust.citrixnetworkapi.net:443`
- `https://trust.citrixworkspacesapi.net:443`

- `https://cis.citrix.com:443`
- `https://core.citrixworkspacesapi.net:443`

Citrix Cloud Japan Endpoints:(Only for Citrix Cloud Japan tenants)

- `https://las.citrixcloud.jp`
- `https://trust.citrixnetworkapi.jp:443`
- `https://trust.citrixworkspacesapi.jp:443`
- `https://customers.citrixworkspacesapi.jp:443`
- `https://cis.citrix.com:443`

Citrix Cloud Government Endpoints:(Only for Citrix Cloud Government tenants)

- `https://las.cloud.us`
- `https://trust.citrixnetworkapi.us:443`
- `https://trust.citrixworkspacesapi.us:443`
- `https://customers.citrixworkspacesapi.us:443`
- `https://cis.citrix.com:443`

If your OS certificates are up to date, ignore the following URLs

- `http://ocsp.digicert.com:80`
- `http://crl3.digicert.com:80`
- `http://crl4.digicert.com:80`
- `http://ocsp.entrust.net:80`
- `http://crl.entrust.net:80`

Note:

If any of the above end points are not reachable, citrix cloud registration wont be successful. For more information, see Firewall considerations.

Citrix Cloud Japan specific configuration changes

- Open SimpleLicenseServiceConfig.xml at `<LS-Installation-Folder>\WebServicesForLicensing\SimpleLicenseServiceConfig.xml`.
- Replicate the below configuration (Copy and paste the new configuration lines).

```
<Configurations>

    <EncoreConfiguration>

        <SamplingPeriod>15</SamplingPeriod>

        <RetentionTime>365</RetentionTime>

        <Enabled>true</Enabled>

    </EncoreConfiguration>

    <SARenewalConfigOptions>Notify</SARenewalConfigOptions>

     <CloudRegistrationServerPort>trust.citrixnetworkapi.jp:443</
CloudRegistrationServerPort>

     <CloudTrustServerPort>trust.citrixworkspacesapi.jp:443</
CloudTrustServerPort>

    <LASServer>las.citrixcloud.jp</LASServer>

    <CloudCoreServerPort>customers.citrixworkspacesapi.jp:443</
CloudCoreServerPort>

</Configurations>
```

- Restart Citrix Web Services for Licensing Service.

Citrix Cloud Government specific configuration changes

- Open SimpleLicenseServiceConfig.xml at `<LS-Installation-Folder>\WebServicesForLicensing\SimpleLicenseServiceConfig.xml`.
- Replicate the below configuration (Copy and paste the new configuration lines).

```
<Configurations>

    <EncoreConfiguration>

        <SamplingPeriod>15</SamplingPeriod>

        <RetentionTime>365</RetentionTime>

        <Enabled>true</Enabled>

    </EncoreConfiguration>

    <SARenewalConfigOptions>Notify</SARenewalConfigOptions>

     <CloudRegistrationServerPort>trust.citrixnetworkapi.us:443</
CloudRegistrationServerPort>

     <CloudTrustServerPort>trust.citrixworkspacesapi.us:443</
CloudTrustServerPort>

    <LASServer>las.cloud.us</LASServer>

    <CloudCoreServerPort>customers.citrixworkspacesapi.us:443</
CloudCoreServerPort>

</Configurations>
```

- Restart Citrix Web Services for Licensing Service.

Citrix Cloud EU specific configuration changes

- Open SimpleLicenseServiceConfig.xml at `<LS-Installation-Folder>\WebServicesForLicensing\SimpleLicenseServiceConfig.xml`.
- Replicate the below configuration (Copy and paste the new configuration lines).

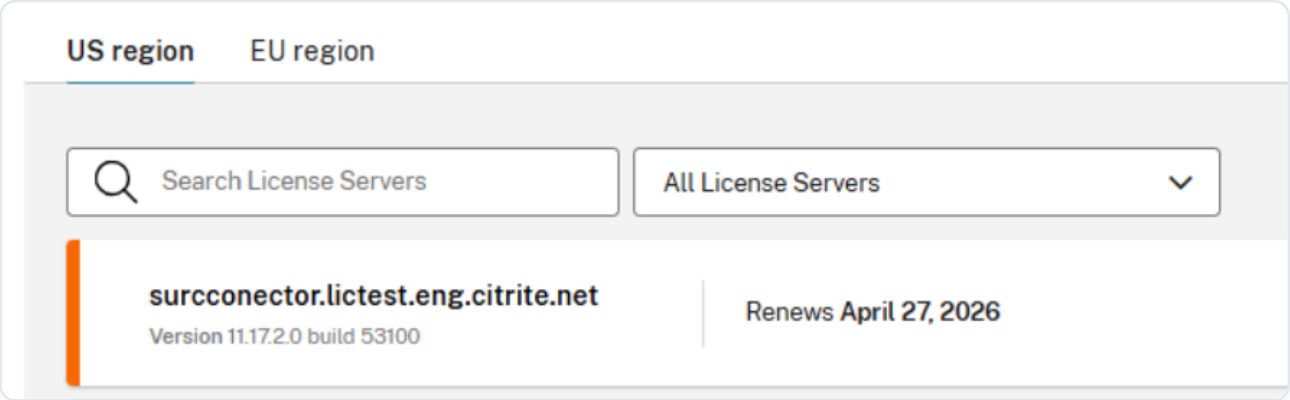
```
<Configurations>

  <EncoreConfiguration>

    <SamplingPeriod>15</SamplingPeriod>

    <RetentionTime>365</RetentionTime>
```

```
    <Enabled>true</Enabled>

  </EncoreConfiguration>

  <SARenewalConfigOptions>Notify</SARenewalConfigOptions>

  <LASServer>api-eu.cloud.com</LASServer>

</Configurations>
```

- Restart Citrix Web Services for Licensing Service.

Migrate License Servers Pointing to the US Region to the EU Region

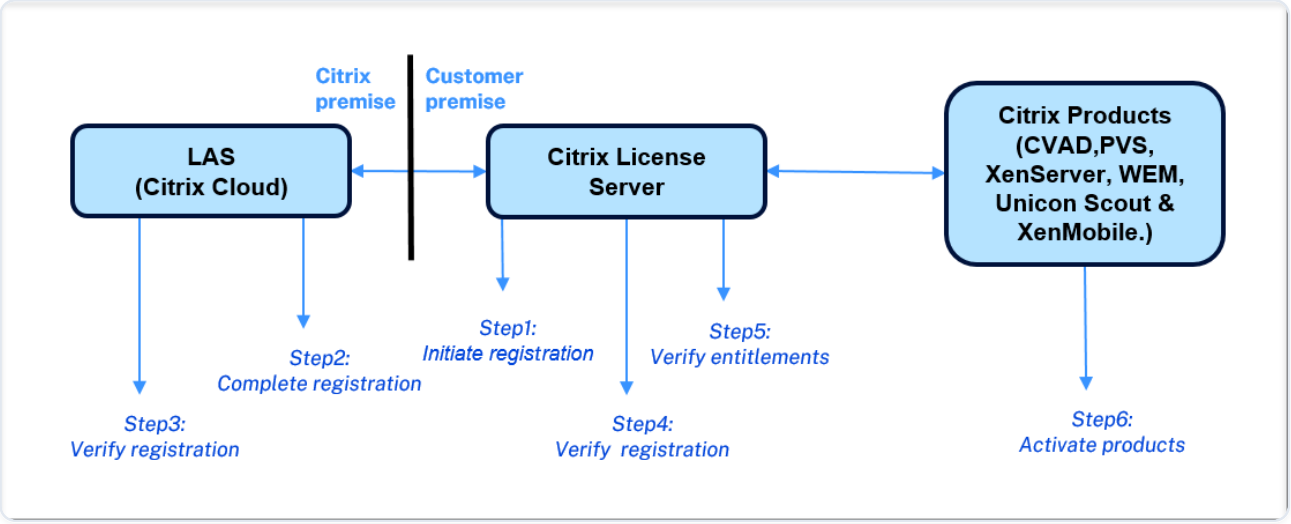
- If your EU tenant has License Servers pointing to LAS endpoints in the US region, Citrix displays two tabs: one for the US region and one for the EU region. The license servers are segregated as shown below.



- Follow the steps mentioned under **Citrix Cloud EU specific configuration**.
- After you update the configuration, the License Server points to the LAS EU region instead of the US region.
- After 24 hours, products activated through this License Server appear in Citrix Cloud. During this time, there will be no issues with LAS activations, and they will continue to receive daily renewals.
- Remove the License Server from the US region tab. Click the three dots next to the server and then click **Remove** as shown below.

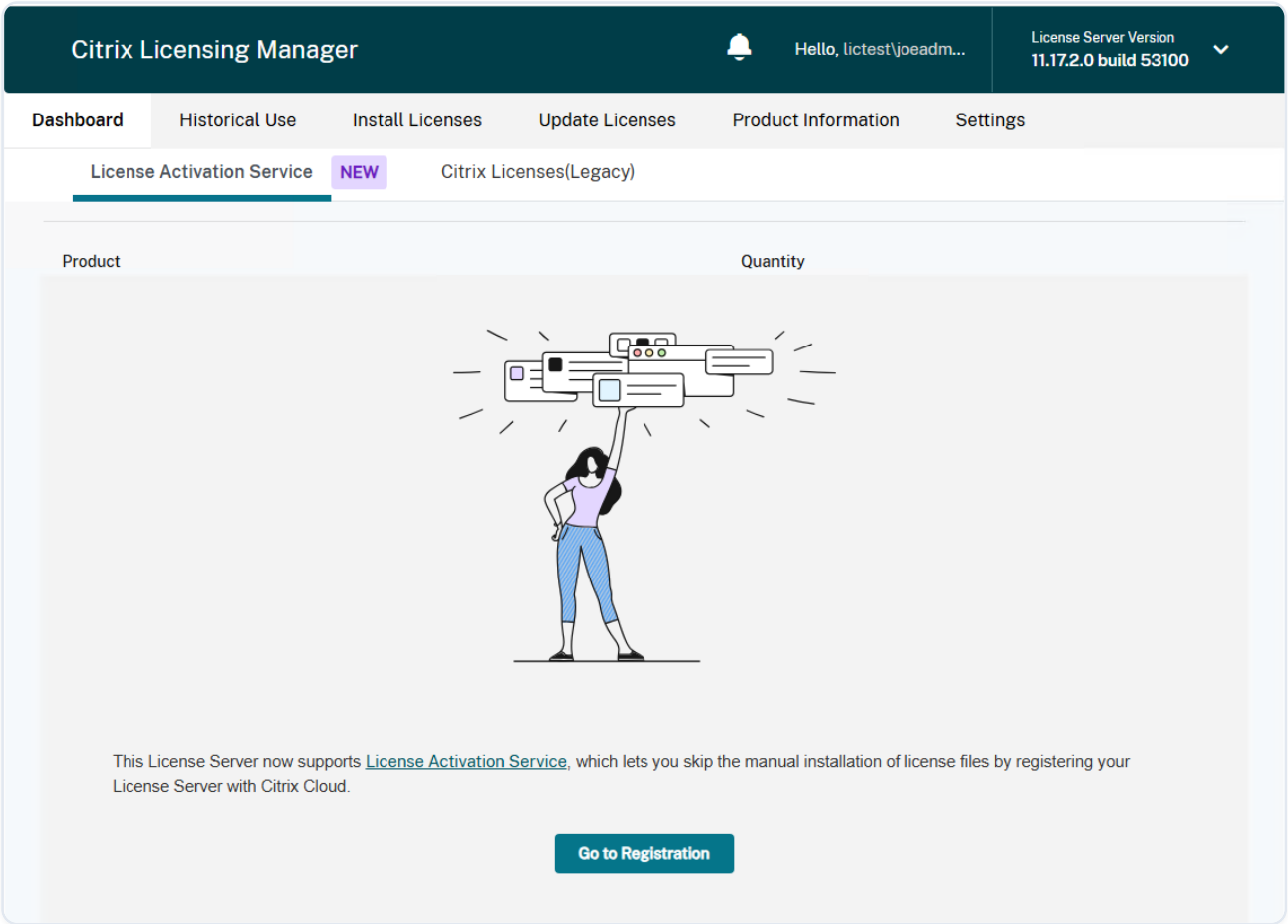
Step-by-step registration and activation

Follow these mandatory steps to register the License Server for online activation.



Step1: Initiate registration from License Server

1. Log in to the Citrix Licensing Manager (License Server GUI).
2. Navigate to **Dashboard > License Activation Service** tab.
3. Click **Go to Registration**.



1. Click **Register** and copy the **8-character alphanumeric code** displayed.

Step2: Complete the registration in Citrix Cloud

1. Log in to Citrix Cloud.
2. Navigate to **Licensing > Licensed deployment > License Servers > Add License Server**.

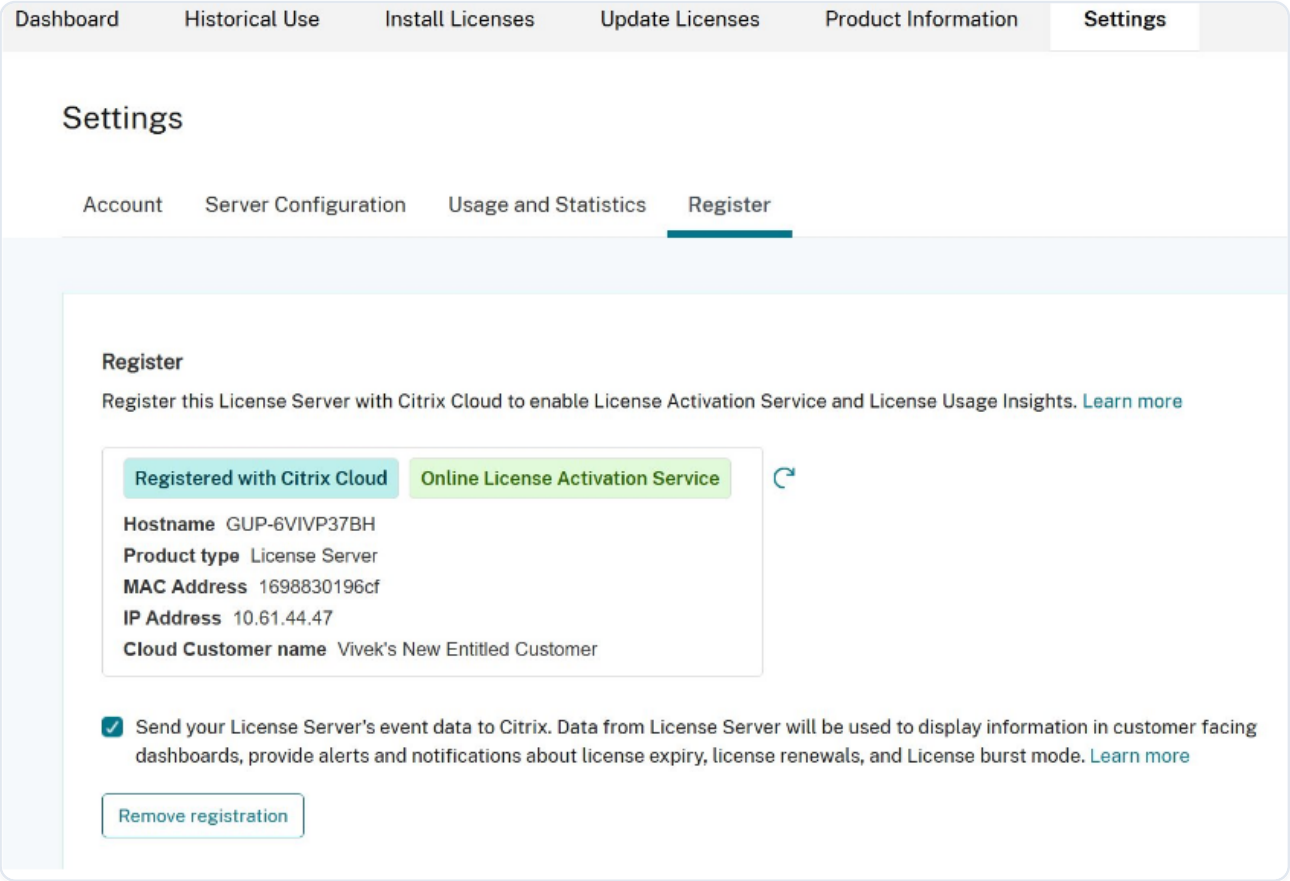
Alternatively: Go to **Identity and Access Management > API Access > Product Registrations > Register**.

1. Paste the **8-character alphanumeric code** copied earlier.
2. Review the registration details and click **Register**.

Step3: Verify Citrix Cloud registration status in License Server

You can view the current registration state with Citrix Cloud using the following statuses directly on the Citrix Licensing Manager dashboard:

STATUS	DESCRIPTION
Not registered	Indicates that the License Server is not currently registered with Citrix Cloud.
Registered with Citrix Cloud	Indicates that the License Server has successfully registered with Citrix Cloud.
Online License Activation Service	Indicates that the License Server is registered and successfully online activated for LAS.

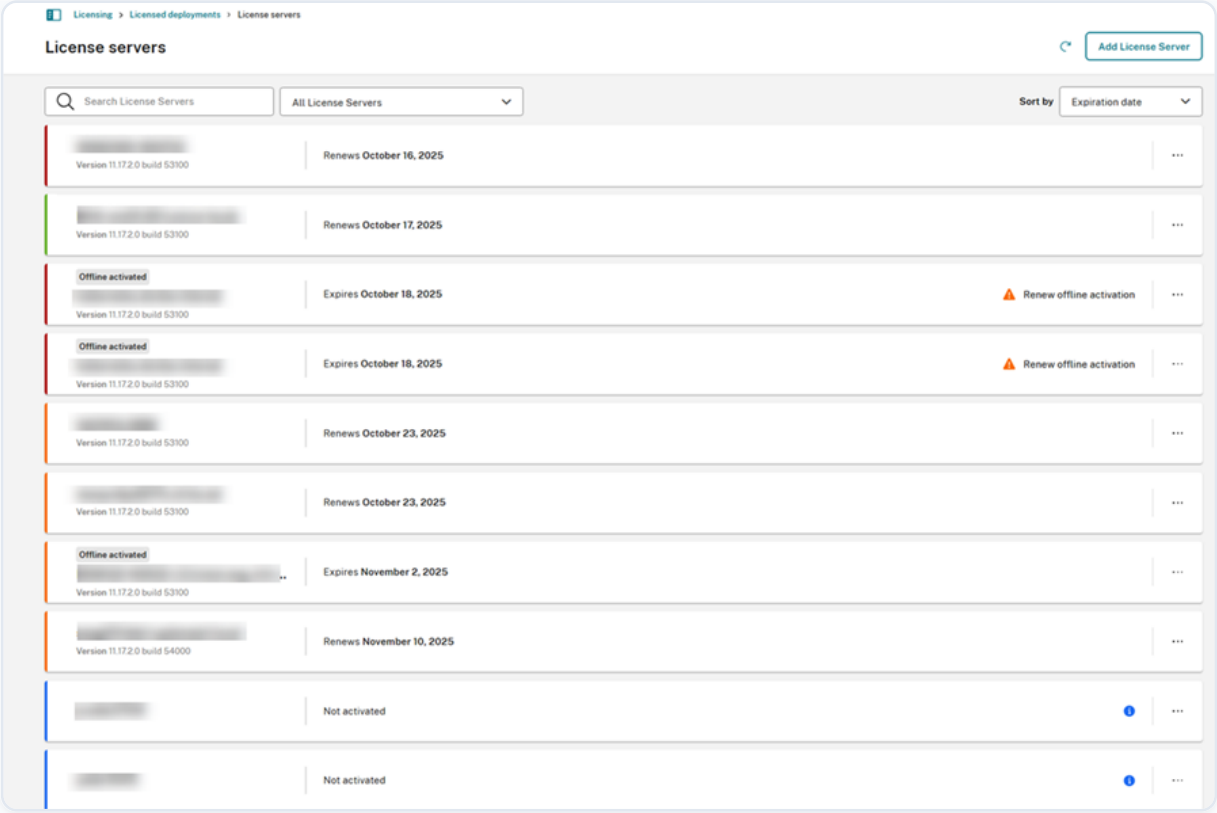


Step4: Verify the status of registered License Servers in Citrix Cloud

In the Citrix Cloud, navigate to **Licensing > Licensed deployment > License Servers** to see the registered License Servers. The date on which activation expires or renews is displayed next to the License Server name.

Note:

> Date shown here is LAS activation or renewal date, not the actual entitlement expiry or renewal.



Registered License Servers are color-coded to indicate the activation status.

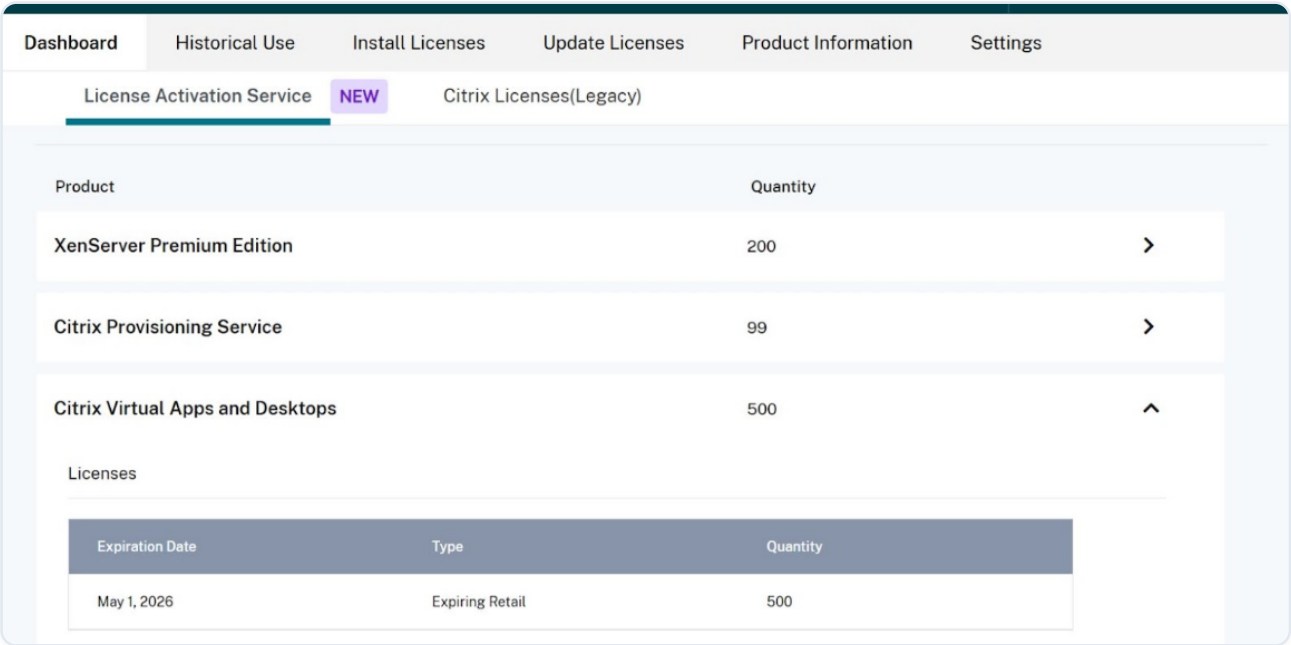
STATUS COLOR	MEANING	ACTION
Green	All LAS products are active and renewed on time.	NA
Blue	Registered, but LAS endpoint is unreachable OR no products are activated(Not activated is shown on the screen).	Please complete the step6 below
Orange	One or more products will expire in less than 30 days.	Make sure all the products configured with License Server are connected
Red	One or more products have expired or will expire in less than 7 days.	Make sure all the products configured with License Server are connected

STATUS COLOR	MEANING	ACTION
Grey	All product activations have expired.	Perform the Step 6

Step5: Verify entitlements in License server**

After the registration is complete, return to the **Citrix Licensing Manager** dashboard and select the **License Activation Service** tab. Confirm that your purchased **entitlements** are now visible, indicating that the entitlements have successfully synced from Citrix Cloud.

The License Server communicates with LAS, and entitlements are updated every 12–24 hours.



Step6: Activate Products with LAS

After successful License Server registration with Citrix Cloud or LAS and confirmation of entitlements in the License Server, proceed to activate products with LAS. Refer to the LAS articles for each product to begin using the License Activation Service.

- Citrix Virtual Apps and Desktops 2411 or LTSR Releases (CVAD 2203 CU7 or CVAD 2402 CU3 or CVAD 2507) and higher.
- Citrix Provisioning (PVS)
- Unicon Scout
- Workspace Environment Management
- XenServer

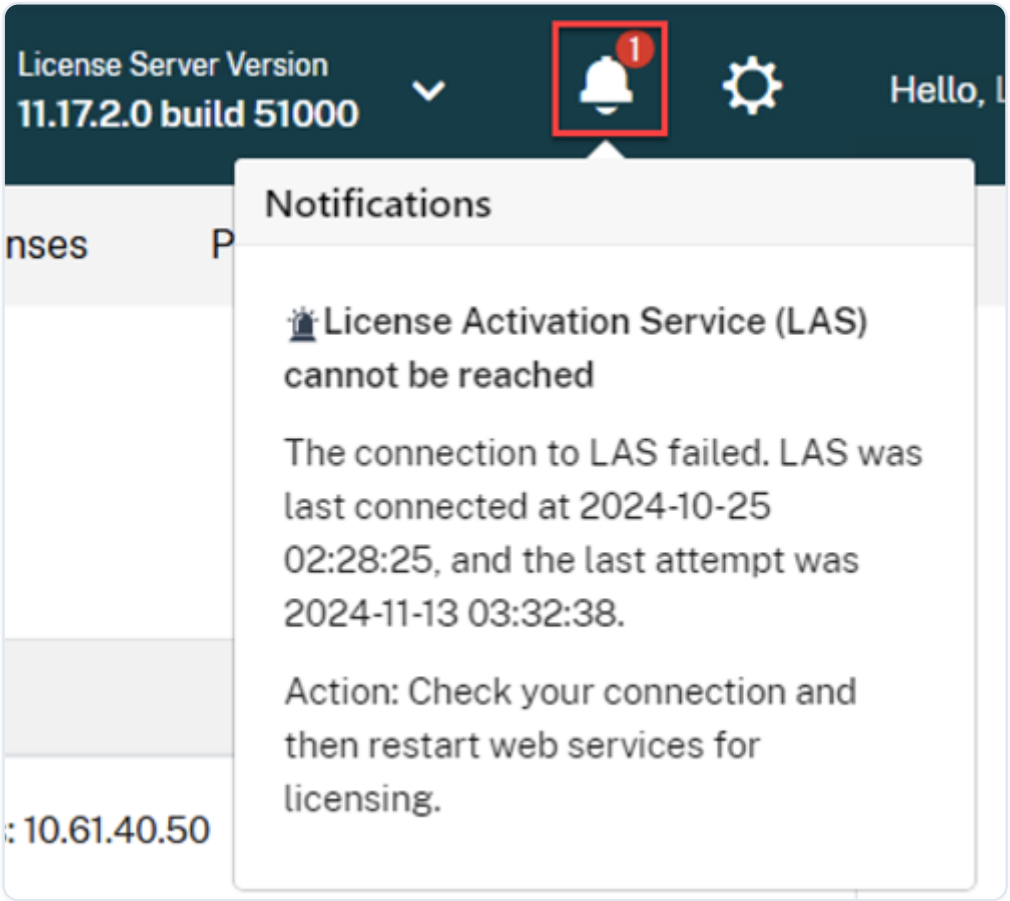
- XenMobile Server

Note:

The License Server supports both License Activation Service and Citrix legacy licensing (license files) simultaneously.

LAS connectivity notifications

The system monitors the connection between your License Server and the cloud.



- **Alert Condition:** If the License Activation Service (LAS) is not reachable by the License Server, the Citrix Licensing Manager displays an alert message stating that LAS cannot be reached.
- **Error Details:** The notification typically includes the timestamp of the last successful connection and the time of the last failed attempt.
- **Recommended Action:** If you see this alert, check your network connection and restart the Citrix Web Services for Licensing service.

Automatic renewal and activation validity

Once registered, the License Server and LAS work together to keep your environment licensed automatically.

- **Sync Frequency:** When the License Server is online, entitlements are updated from LAS every 12–24 hours.
- **Activation Period:** Each product instance receives an activation period of up to 30 days.
  - **Rolling Renewal:** As long as the License Server is connected to LAS, the activation is automatically extended for a rolling 30-day period.
  - **Short-term Entitlements:** If an entitlement is valid for less than 30 days, the activation period matches the specific entitlement expiry date.
- **Connection Requirement:** You must maintain connectivity between the License Server and LAS to ensure these automatic renewals occur .
- **Activation Guarantee:** The activation process is designed to be successful as long as your specific entitlement remains valid.

Sync entitlements with the License Server

Overview

The Citrix License Server communicates with **Licensing as a Service (LAS)** in Citrix Cloud to keep entitlement data up to date. By default, this synchronization occurs automatically every **12–24 hours**. However, if an entitlement change occurs in your My Citrix account and you need LAS to reflect that change immediately, you can trigger a manual sync instead of waiting for the next scheduled update.

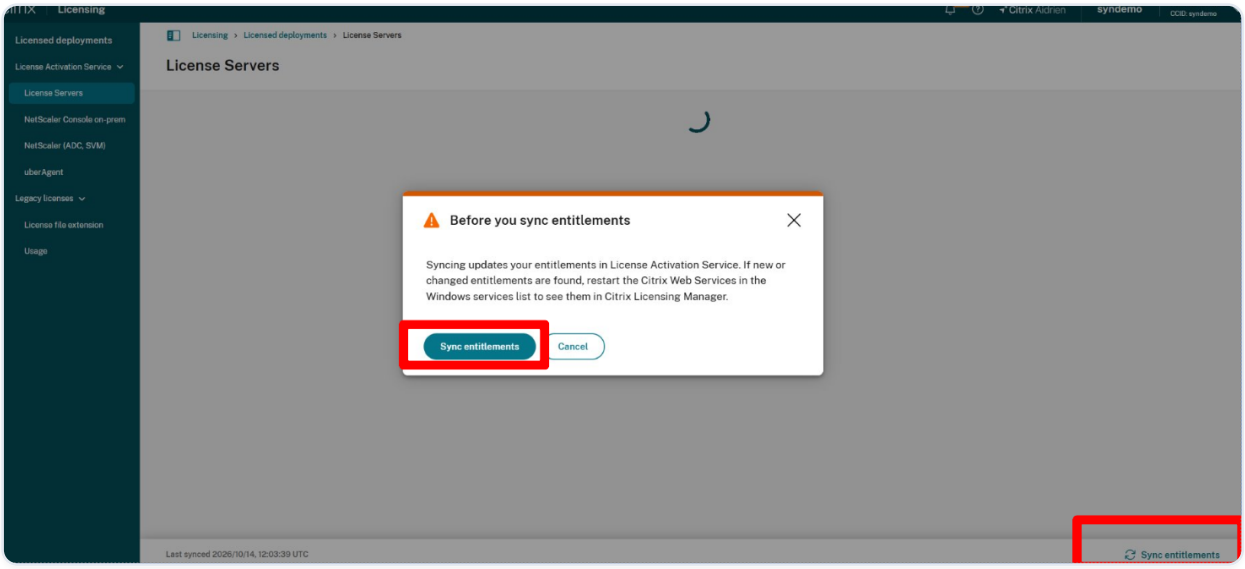
Prerequisites

- You have a Citrix Cloud account with access to the **Licensing** service.
- The License Server is registered and connected to Citrix Cloud.
- You have administrator permissions to manage License Servers in Citrix Cloud.

Procedure

1. Sign in to **Citrix Cloud**.
2. In the menu, go to **Licensing > Licensed deployment > License Servers**.

3. Select **Sync Entitlement**. This action manually synchronizes entitlement data from your My Citrix account to LAS.



Note:

Manually syncing entitlements updates the data in LAS only. To complete end-to-end synchronization, you must also restart the **Citrix Licensing (LS)** and **Citrix Broker** services on the License Server after the sync finishes. Entitlement changes are not fully applied until these services are restarted.

4. Wait for the sync process to complete. The updated status is reflected on the **License Servers** page.

Telemetry

Compliance with the telemetry program is required to ensure full functionality. For more info, see Citrix Licensing Data Collection Programs.

Critical system dependencies

The online activation is tied to specific properties of the operating system on which license server is installed. If these operating system properties or the installation configuration change, the activation becomes invalid.

Important:

> If any of the following system properties change, the existing activation becomes **immediately invalid**, and you must request a new activation .

- **Fully Qualified Domain Name (FQDN)** (Only this is stored. Below properties are not stored)
- **MAC Address**
- **CPU ID**
- **Motherboard Serial Number**
- **Hard Drive Serial Number**
- **BIOS Serial Number**
- **Install time of License Server**

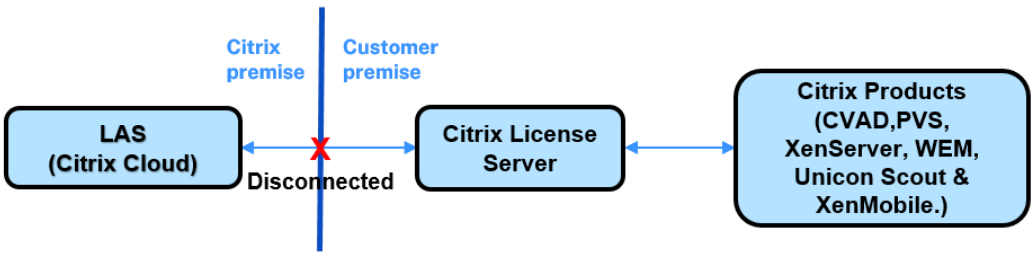
> **Note:**

> If you change installation configurations or migrate the License Server (e.g., changing VM settings), ensure you plan for re-activation.

License Caching Mode

In the event of activation issues, the system enters license caching mode, which is designed to prevent customer outages due to issues activating the product.

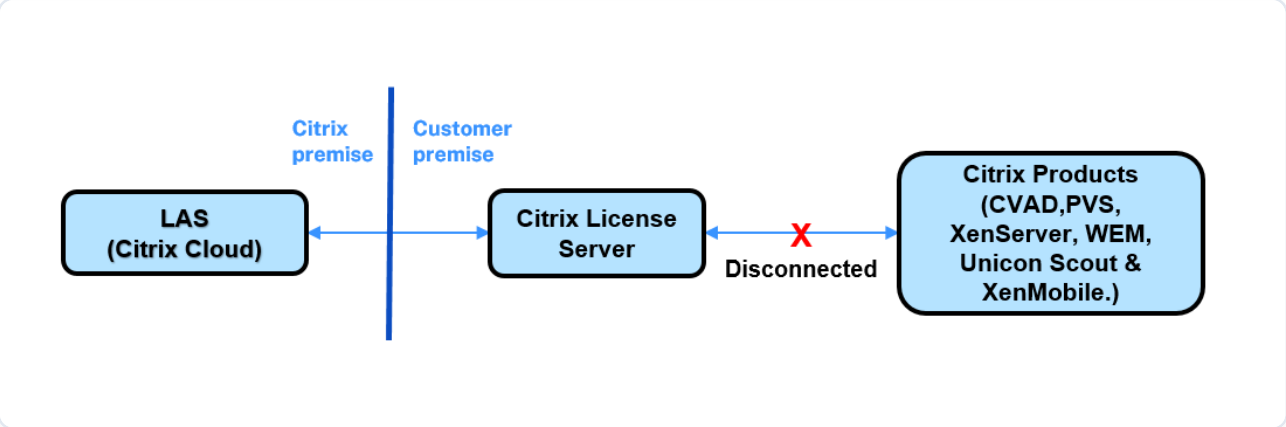
Scenario 1: LAS cloud service unreachable from License Server:



- If the License Server cannot connect to Citrix Cloud (LAS):
  - **Existing Activations:** Product instances that are already active will continue to function.
  - **New Activations:** New product instances are denied until the connection to LAS is restored.

- **Time Window:** The License Server has 30 days to reconnect to LAS before activations become invalid.
- **Hardware Changes:** If system properties change while in caching mode, all activations (new and existing) are denied immediately.

Scenario 2: Product unable to connect to License Server:



- If a Citrix product (for example, Citrix Virtual Apps and Desktops) can't connect to the License Server:
  - **Behavior:** The product enters caching mode and operates using its current activation data.
  - **Time Window:** The product has 30 days to restore the connection to the License Server.

Activation is bound to the License Server based on License Server system properties and the product instance properties. The software's activation is guaranteed as long as there is a continuous connection to the LAS. This connection is required to monitor and maintain the activation status.

You must maintain the License Server to LAS connection to avoid service impact. Additionally, the product to License Server connection must also be maintained to ensure continued functionality.

Disable LAS status alerts

If you use the License Server only for Citrix legacy licensing, you can suppress alerts regarding LAS unreachability.

> **Note:**
>
> Disabling the LAS alert also suppresses LAS-related errors. This could lead to an outage if LAS activation is needed later.

To disable the alert:

1. Open the configuration file `%installation path%/WebServicesForLicensing/SimpleLicenseServiceConfig.xml`.
2. Add the desired alert setting within the **Configurations** section of the XML file. If the following command is not included, the alert is enabled by default.

   `<NoLASStatusAlert>0</NoLASStatusAlert>`

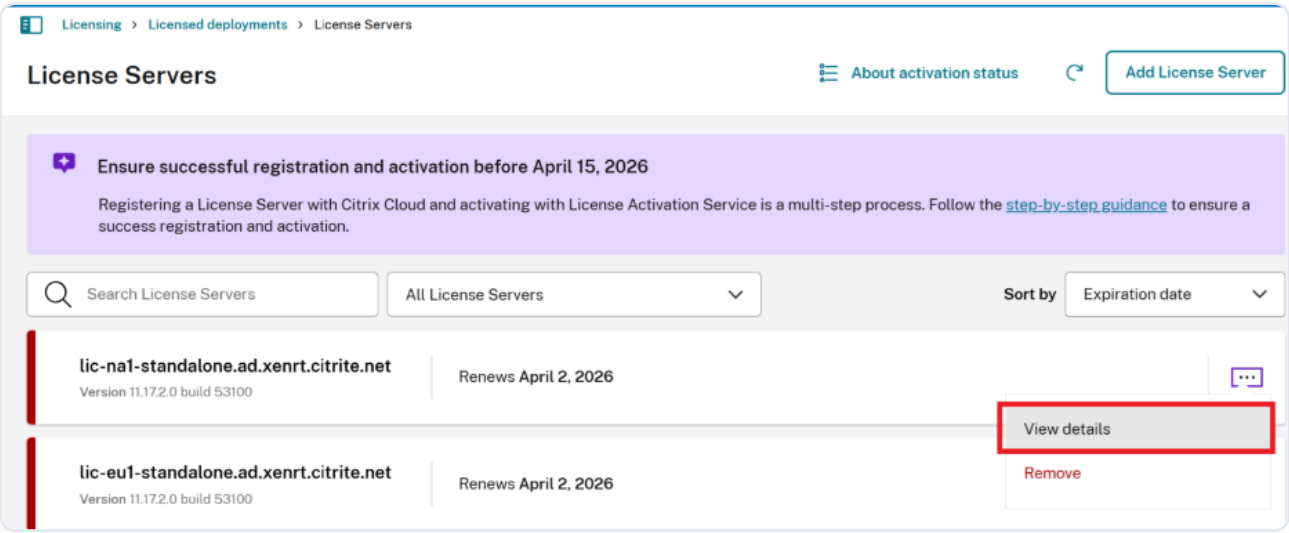
   or

   `<NoLASStatusAlert>1</NoLASStatusAlert>`
3. Save the changes and restart the Citrix Web Services for Licensing (WSL) to apply the new configuration.

Troubleshooting

If the status of the License Server displays anything other than green, follow these steps to review the details of activations that may have issues:

- In Citrix Cloud, navigate to **Licensing > Licensed Deployments > License Servers**.
- Click **"View Details"** across the License Server as shown in the picture to see the products activated through this License Server.



Refer to the following product documentation for more information on troubleshooting and specific license activation scenarios:

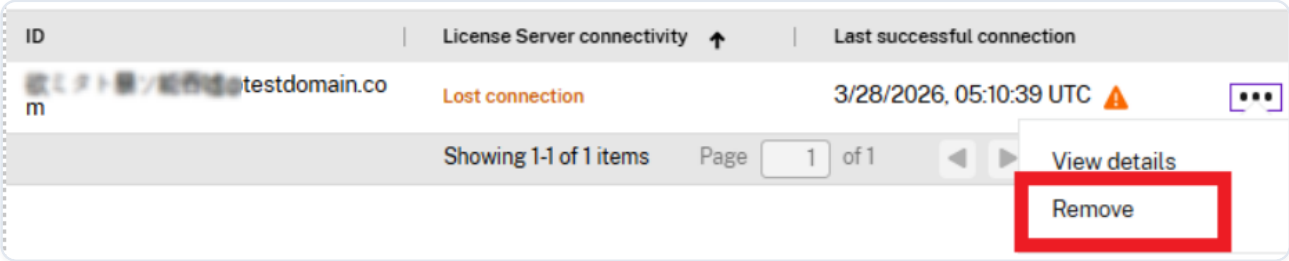
- Citrix Virtual Apps and Desktops

- Citrix Provisioning (PVS)
- Unicon Scout
- Workspace Environment Management
- XenServer
- XenMobile Server

Remove activation entries

To remove an activation entry from the product activations page, click **Remove** for the entry. Use this action to clean up entries that are no longer relevant, such as those showing Lost connection.

This action only removes the activation from the list and does not affect its functionality. If the License Server reconnects to LAS and the activation is valid, it appears in the list again.



Upgrade the License Server

Before you upgrade

The following information helps you to prepare well before you begin your upgrade.

- Each time you upgrade your Citrix product, upgrade the Citrix License Server also. Each time a new License Server is released, it might contain better security, fixes to known issues, and so on.
- Sometimes, new versions of the Citrix product are incompatible with older versions of the License Server. New versions of the License Server are compatible with older versions of the product and old licenses.
- Version upgrade is moving from any previous version to the newest version of the product. For example, moving from XenDesktop 7.18 to Citrix Virtual Desktops 7 1909.
- Edition upgrade means the purchase of a higher edition level of a product. For example, you now have Advanced Edition and you purchase an upgrade to Premium Edition.

Prerequisites and precautions

- For information about system requirements, see System requirements.
- Ensure you download the latest version of License Server, go to Citrix Downloads.
- Installing the License Server from a UNC path (\\\server\share) is not supported. So, install the License Server from your local copy.
- Upgrade your licensing components before upgrading your product, if necessary.
- Uninstall any versions of Citrix Licensing older than version 11.12.1 before installing this version.
- To avoid the failure of any subsequent License Server upgrades: Ensure that when you installed your License Server, you successfully configured it with the post installation License Server Configuration tool or uninstalled your previous License Server.

Note:

- The License Server upgrade might fail if there is no or less disk space available on the server.
- For users who opt to manually upload the Citrix telemetry data for compliance, the upgrade to latest version from License Server version 11.17.2 build 45000 can take longer if they have more telemetry data stored on the server. Before upgrading, upload these data to Citrix and delete them for upgrading to happen quickly. For more information about manual upload of Citrix telemetry data, see Reporting options.
- If you uninstall the License Server, then the Citrix telemetry data is deleted. You must report the telemetry data for compliance to Citrix before uninstalling the License Server version 11.17.2 build 45000 or later. For more information about the manual upload of Citrix telemetry data, see Reporting options.

How to upgrade the License Server

Citrix recommends that you install the newest License Server. The new License Server is backward compatible and supports older products and license files. However, new products require the newest License Server to check out licenses correctly. Perform the following steps to upgrade your License Server:

1. Go to the Citrix Downloads page and download the installer to install or upgrade to the latest version.
2. Start the License Server installer (CitrixLicensing.exe) as an administrator, and follow the graphical interface.

To upgrade the License Server from your product media:

If you use the product media for your installation, you might have to enable some functionality by using the Citrix Licensing Manager after your installation. For example, use the Citrix Licensing Manager to enable Customer Success Services renewals.

1. From your License Server, open the media for your product.
2. If you do not see Setup, use Windows Explorer to open Autorun.exe or AutoSelect.exe.
3. Navigate through the Setup screen to Citrix Licensing and follow the instructions.

To upgrade the License Server from the command line:

Ensure that you run the command line with administrator privileges. To start the command prompt with elevated privileges, choose **Start**, right-click **Command Prompt**, and choose **Run as administrator**.

You cannot change ports during command line upgrades.

The following sample command line installs licensing in silent mode.

CitrixLicensing.exe /quiet /l install.log INSTALLDIR=*installdirectory* CEIPOPTIN=ANON

- /quiet specifies a silent (quiet) installation.
- /l specifies the log file location
- INSTALLDIR is the location where the License Server executable is stored. Optional parameter. The default is c:\\program files\\citrix licensing or c:\\program files (x86)\\citrix\ \licensing.
- CEIPOPTIN specifies whether, or how, to opt in to the Citrix Customer Experience Improvement Program (CEIP) or Call Home. Optional parameter. The default is **NONE**.
  - DIAGNOSTIC - Call Home
  - Unidentified - CEIP
  - NONE

You can modify the CEIP and Call Home choice using the Citrix Licensing Manager.

> **Important**
>
> The Citrix Service Provider™ program requires the Customer Experience Improvement Program (CEIP) and Call Home. If you are a Citrix Service Provider, you cannot disable CEIP or Call Home.

Events during a License Server upgrade

As part of the License Server upgrade, we stop services, upgrade the License Server, and then restart services. During the upgrade, products enter the License caching mode and self-license. When the License Server is online again, all product servers return from the License caching mode and reconcile license counts. This License caching mode works in the same manner as the regular License caching mode functionality.

How to upgrade licenses for your edition

If you are eligible for a version upgrade as a benefit of your maintenance, you can download your CSS Renewal license and add it to the License Server. Also change the product edition setting in the product user interface. It's best to change the product edition setting when there are few connections to the affected servers or redirect connections to another computer. When you change the product edition setting, restart the product server for the changes to take effect. See the product documentation for changing the edition setting. If you add the upgrade license to the License Server before you set the edition to the new edition, the Citrix product stops accepting new connections.

Perform the following steps to upgrade edition licenses:

1. From a web browser, go to `<http://www.citrix.com>`.
2. Choose Log In and type your user ID and password.
3. Select **Manage Licenses**.
4. At the bottom of the landing page, select **Upgrade my licenses**.
5. Follow the site options and instructions for upgrading your product edition licenses.
6. Either download or order new media. An email message provides you with instructions to return to citrix.com to allocate or receive more feature licenses.
7. Log on to `<https://www.citrix.com/>` to allocate your licenses, generate a license file, download the license file to your License Server, and reread the file.

Uninstall the License Server

If you want to uninstall License Server from your server completely or have issues with the current version and prefer a clean installation, you can choose to uninstall it. You have the flexibility to use either the GUI or the Windows command line for the uninstallation process.

Note

- If you uninstall the License Server, then the Citrix telemetry data is deleted. You must report the telemetry data for compliance with Citrix before you uninstall the License Server version 11.17.2 build 45000 or later. For more information about the manual upload of Citrix telemetry data, see Reporting options.
- The `Myfiles` folder is kept even after successful uninstallation in the file path `C:\Program Files (x86)\Citrix\Licensing\MyFiles`. To make sure that there is no interruption on the Citrix products.

Uninstall the License Server using the GUI

To uninstall License Server, do the following steps:

1. In the **Search** on the taskbar, enter **Control Panel** and select it from the results.
2. Select **Programs > Programs and Features**.
3. Drag (or right-click) on **Citrix Licensing** and select **Uninstall** or **Uninstall/Change**. The **Citrix Licensing** wizard appears.
4. Click **Remove** and then click **Yes** when prompted for **Are you sure you want to remove?**.
5. Click **Finish**. The License Server has been successfully removed.

Uninstall the License Server using the Windows command line

To uninstall License Server, run the following command in the Windows command line:

```
CitrixLicensing.exe /quiet /uninstall /1 uninstall.log
```

To re-install, download License Server from Downloads and Install.

Troubleshoot the License Server

If any of the licensing services fail to start, the cluster detects that licensing is offline and tries to restart the service three times (by default). When these attempts are unsuccessful, fail over to the next node begins. The cluster tries to start the services on the second node. When the attempts fail on the second server, the process might enter into an infinite loop. In this case, the computers running the Citrix® products fall into the License caching mode. During the License caching mode, client connections are not affected.

Troubleshoot the cluster-enabled License Server

When troubleshooting a cluster-enabled License Server, try the following:

- If you move the resources to the other node, do you still see the issue?
- If the installation fails, ensure that you don't enable the User Account Control (UAC) when installing on a cluster.
- For Windows Server 2019, Windows Server 2016, and Windows Server 2012 R2:

  a. In the **Failover Cluster Management** window, from the left pane, select the cluster. In the middle pane, the summary information for the cluster appears.

  b. Select the **Cluster Core Resources** title to expand the section.

  c. Verify that the cluster resources are all online (green arrow).

The "-evaluation license-" warning message

After you replace the evaluation license files on the License Server with new license files, the Citrix product might display the following license expiration message when users log on:

`Warning: The following Citrix Product is using an Evaluation license. This license will expire in...`

To resolve this issue:

1. Delete the old evaluation license files from the License Server. For more information, see Delete license files.

2. At the License Server, restart the Citrix Licensing service.
3. At the Citrix product server that needs license validation, point to a fictional License Server and then point the product back to the actual License Server. (See your product documentation for information about changing these settings.)
4. If the problem persists, restart the product server (for example, Delivery Controller™).

Required product licenses are not installed on Director or Studio

The following error message is displayed on the Citrix Virtual Apps and Desktops™ Director or Studio UI:

- Required product licenses are not installed
- The trial period has expired

The following reasons can cause the error messages:

- No valid licenses are installed on the License Server
- Product Edition and Product Model are not set correctly on Citrix Studio
- If the maintenance dates of the licenses are not compatible with the product version installed

To resolve this issue:

1. On Citrix Studio, check if the licenses are reflecting the correct maintenance dates. If not, reallocate and import renewed licenses. For more information, see the Citrix article CTX134629.
2. Verify if Citrix Studio is pointing to a valid License Server.
3. Click **Edit Product Edition** under **Actions** and choose the correct licensing edition or model as per the licenses applied.
   - If the right edition or model is set and still the error remains, toggle between the license editions. Then choose the correct one.
   - If the above steps do not work, click "**change license server**" under **actions** and click **connect**.
4. Relaunch Citrix Studio and then reboot the product server if the issue persists.

> **Note:**

> License Server VPX is not compatible with Citrix Virtual Apps and Desktops (Version 7.x and above).

General Troubleshooting for License Activation Service

If the license server is registered to Citrix Cloud™ but the LAS endpoint is not reachable, an empty page will be displayed. Please check your firewall settings to make sure that the LAS endpoint is reachable.

Licensing FAQ

The following questions are asked frequently about your licensing environment.

License Activation Service (LAS)

How to change the Org ID pointed by LAS to another Org ID?

To change the Org ID that LAS points to, re-register your License Server with the new Citrix Cloud account:

- Deregister the License Server from the existing Citrix Cloud account linked to the current Org ID.
- Register the License Server to the new Citrix Cloud account that is associated with the new Org ID.
- License Server automatically switches to the new Org ID for LAS activation within 24 hours (via background job). Until then, the site will use the old activation available on the disk, and entitlement in the UI will not be updated.
- Customers can force the switch to the new Org ID by restarting the "Citrix WebServices for Licensing" Windows service after registering the License Server with the new Org ID. This will immediately synchronize the License Server to the new Org ID, and the entitlement will be reflected.

What happens to the already activated products and sites when LAS switches from one Org ID to another Org ID?

There is no impact to the site when LAS switches from one Org ID to another in License Server as long as connectivity to LAS is maintained.

License server triggers Org switch to LAS:

Until the license server switches to the new Org ID, product activation will continue using the old activation available on the license server. New sites will not be activated.

Licenses

What should I do if the License server installation or upgrade fails on windows 2025?

The License server installation or upgrade might fail on Windows 2025 if the Microsoft Visual C++ 2015–2022 Redistributable is not installed. Install the Microsoft Visual C++ 2015–2022 Redistributable and retry License server installation or upgrade.

What is a license file and what do I do with it?

The license file is a text file that contains the following:

- Product licensing information
- License Server name (or other binding identifier)
- Customer Success Services membership renewal date
- License expiration date (if applicable)
- Other system information

When you purchase a Citrix product and allocate licenses, a license file is generated. The License Server uses this file to determine whether to grant a license to a Citrix product. For more information, see License files.

Why return a license?

An example can be if you're decommissioning a License Server, but you're not ready to deploy existing licenses elsewhere. For more information, see Return allocations.

What happens to returned licenses?

Returned licenses are put back in the licensing pool. You can then allocate these licenses in any quantity at any time. After you return a license, remove the old license file from the License Server. For more information, see Return allocations and Modify licenses.

What happens when I hide a license?

Hide (previously called archiving) doesn't remove licenses from an account. Hiding removes them from view. To view hide and unhide licenses, see Hide and unhide licenses.

How can I get a copy of my license file?

You can obtain a copy of your license file from your License Server. Alternatively, all purchased licenses and allocated license files are available from the secure **My Account** > **Manage Licenses** portal at www.citrix.com.

Allocating licenses

For more information about allocating licenses, see Allocate licenses.

What does allocating licenses mean?

When you allocate licenses, you apportion purchased licenses by product and License Server so you can split them among multiple environments or use cases. For example, your organization might own 1,000 licenses for the same product. You might want to use 800 in 1 location and 200 in another location. You can allocate 800 licenses to a License Server in the first location today, and allocate the remaining 200 later to a different License Server.

What's the difference between a host ID type and a host ID?

The host ID type is the required binding type that you supply to allocate licenses. The host ID is the License Server host name, MAC address, or other binding ID required to allocate licenses.

Why can't I partially allocate some licenses?

Some licenses do not allow partial allocation.

The License Server

Can I rename the License Server?

License files run only on the License Server that is included during the license allocation. License files contain the host name or binding identifier of the License Server you specify when you allocate the licenses. You cannot use the license file that you generated for a particular License Server or a MAC address (for an appliance), on a different License Server or appliance.

Create license files that reference the new server name or MAC address by returning allocations and generating the new file on `citrix.com`. For more information, see Manage Licenses on citrix.com.

If I upgrade my License Server does it affect my license files?

No. The License Server and all product licenses are fully backward compatible and do not introduce any issues into your environment. For more information about upgrading the License Server, see Upgrade the License Server.

When we do an in-place upgrade do we back up the historical data?

Yes.

Can a single License Server supply licenses to users connecting from different servers using different product editions?

Yes. A single license server can support multiple Citrix product deployments to include different editions or license types. One License Server can contain licenses for multiple editions of a Citrix product. The type of license checked out corresponds to the edition that is configured on the product server. A product server is configured to consume a specific edition of a license and checks out that license edition.

For more information and examples, see Single License Server and different servers using different product editions.

License Administration Console

Where is the License Administration Console?

The License Administration Console is not available in License Server 11.16.6 and later. We recommend you use the Citrix Licensing Manager to manage the License Server.

How to configure the Vendor Daemon log (CITRIX.log) from being overwritten while using 11.16.6 build 34000 that does not support the License Administration Console?

For information, see Configure the Vendor Daemon log (CITRIX.log) from being overwritten.

Disaster recovery and maintenance

How do I license my disaster recovery site?

You can use the same licenses for your disaster recovery that you use for your production environment.

- Configure and manage your disaster recovery environment independently of your production environment.
- Don’t use both the production and backup License Servers to service license checkouts at the same time.
- Make only one License Server accessible at any one time
- The License Server in your disaster recovery environment must have an identical host name to the License Server in your production environment.

For more information, see Disaster recovery - back up and redundancy.

Citrix Licensing Document History

The following table describes important changes to the Citrix Licensing documentation. To receive notifications about these updates, subscribe to the RSS feed.

DATE	CHANGE	DESCRIPTION
10 Dec 2025	Citrix Licensing 11.17.2 build 54100 release	For more information, see What's new.
06 Aug 2025	Citrix Licensing 11.17.2 build 53100 release	For more information, see What's new.
29 Apr 2025	Citrix Licensing 11.17.2 build 52100 release	For more information, see What's new.
03 Dec 2024	Citrix Licensing 11.17.2 build 51000 release	For more information, see What's new.
12 Aug 2024	Citrix Licensing 11.17.2 build 49000 release	For more information, see What's new.
31 Jul 2024	Updated the Citrix Licensing Telemetry data elements.	For more information, see Citrix Licensing Telemetry data elements.
27 Jun 2024	Citrix Licensing 11.17.2 build 48000 release	For more information, see What's new.
19 Apr 2024	Added open source software list in Third party notices	For more information, see Third party notices.
15 Apr 2024	Citrix Licensing 11.17.2 build 47000 release	For more information, see What's new.
19 Feb 2024	Citrix Licensing 11.17.2 build 46000 release	For more information, see What's new.

LICENSING 11.17.2 BUILD 54100

DATE	CHANGE	DESCRIPTION
07 Dec 2023	Citrix Licensing 11.17.2 build 45000 release	For more information, see What's new.
26 Jul 2023	Citrix Licensing 11.17.2 build 44000 release	For more information, see What's new.
22 May 2023	Citrix Licensing 11.17.2 build 43000 release	For more information, see What's new.
01 Feb 2023	Citrix Licensing 11.17.2 build 42000 release	For more information, see What's new.
22 Dec 2022	Citrix Licensing 11.17.2 build 41000 release	For more information, see What's new.
19 Oct 2022	Citrix Licensing 11.17.2 build 40000 release	For more information, see What's new.
11 May 2022	Citrix Licensing 11.17.2 build 39000 release	For more information, see What's new.
04 Apr 2022	Updated the Transition and Trade-Up (TTU) with Hybrid Rights document to rebrand from Citrix Virtual Apps and Desktops service to Citrix DaaS.	For more information, see Transition and Trade-Up (TTU) with Hybrid Rights.
13 Dec 2021	Citrix Licensing 11.17.2 build 37000 release	For more information, see What's new.
16 Sep 2021	Citrix Licensing 11.17.2 build 36000 release	For more information, see What's new.
01 Sep 2021	Windows Server 2022 support	See What's new.
16 Jun 2021	Initial release of Citrix Licensing 11.17.2	Initial release of Citrix Licensing 11.17.2. For more information, see What's new.

LICENSING 11.17.2 BUILD 54100

DATE	CHANGE	DESCRIPTION
17 Mar 2021	Citrix Licensing 11.16.6 build 34000 release	For more information, see What's new.
15 Dec 2020	Citrix Licensing 11.16.6 build 33000 release	For more information, see What's new.
29 Sep 2020	Citrix Licensing 11.16.6 build 32000 release	For more information, see What's new.
17 Jun 2020	Initial release of Citrix Licensing 11.16.6	Initial release of Citrix Licensing 11.16.6. For more information, see What's new.