



ThinLinX Operating System (TLXOS) Installation, Licensing & Quick Start Guide

Version 4.4.0

07/23/2017

Step one, download TLXOS from one of the ThinLinX Download Mirrors at <https://www.thinlinx.com/download.html>

THINLINX			
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ThinLinX Download Mirror United States 1			
NEW ThinLinX Management Software (TMS) Free for TLXOS use		md5 sum	Release date
ThinLinX Management Software 7.10.0 for Windows		dbdc44c62771dd180c76640f1276c884	June 30, 2017
ThinLinX Management Software 7.10.0 for Ubuntu Linux		a3b8a3207b7114e048acf8c77464f094	June 30, 2017
ThinLinX Management Software 7.10.0 for CentOS Linux		2c8197b717432bff4e7d9a8eee20ac2d	June 30, 2017
NEW TLXOS 4.4.0 Installer for Intel Small Form Factor - H.264 decode		md5 sum	Release date
TLXOS Intel Small Form Factor USB Stick Installer		4a4db40a8516b26054b7543d5b0237c	June 21, 2017
NEW TLXOS 4.4.0 Installer for Repurposing PC's & Laptops		md5 sum	Release date
TLXOS Generic X86 RePC USB Stick Installer		6faa7a5f621907665835bc3296c54955	July 12, 2017
TLXOS Generic X86 RePC Installer CD ISO Version		8ea126d64cf1df1f15fed0257dfaab6d	July 12, 2017
NEW TLXOS 4.4.0 Installer for Raspberry Pi3, RPi2 & Compute Module 3		md5 sum	Release date
TLXOS Raspberry Pi SD Card Installer		7ddd8fd80ba2332b8d3729a99120d37d	June 26, 2017
NEW TLXOS 4.4.0 IoT Installer for Raspberry Pi Zero, RPi 1 & Compute Module 1		md5 sum	Release date
TLXOS IoT Raspberry Pi SD Card Installer		3e35531b3766bdb7279f34a04add3db0	July 20, 2017
Installation Guides	Description	Release date	
ThinLinX Operating System	ThinLinX Operating System Installation & User Guide	April 20, 2017	
ThinLinX Management Software	ThinLinX Management Software User Guide	March 18, 2017	

You will find four different versions of TLXOS on this site

- 1) TLXOS Intel Small Form Factor USB stick installer which you should choose if your device has a recent Intel Chipset. There are many variations of Intel Chipset devices on the market including Intel NUCs & Intel Compute Sticks and Gigabyte Brix. This version of TLXOS offers the highest performance as we use many optimizations including machine code routines and the built in H.264 hardware decoder
- 2) TLXOS Generic X86 RePC USB & CD ISO installer which you should choose if you are re-purposing PC's & Laptops which do NOT contain a recent Intel Chipset, this includes AMD and any X86 based devices

- 3) TLXOS Raspberry Pi SD Card Installer which you should choose if you have a Raspberry Pi2, Raspberry Pi3 or RPi Compute Module 3 and want to create your own TLXOS SD Cards.
- 4) TLXOS IoT Raspberry Pi Installer which you should chose if you have a Raspberry Pi Zero, Raspberry Pi one or RPi Compute Module one and you want to create your own TLXOS SD Cards.

Many organizations selling the Raspberry Pi also sell a SD Card which has the Raspberry Pi NOOBS boot loader preinstalled. If you are connected to the Internet when a Raspberry Pi is booted from a NOOBS SD Card bootloader you have the option to download a number of different Operating Systems. You will see a list of OS choices, just select TLXOS and click on Install. TLXOS will be downloaded and installed in about 15 minutes. This method is very useful if you are installing TLXOS to a small number of Raspberry Pi's, but if you are carrying out installation on a large number of Raspberry Pi's a better option is to download TLXOS once from our Website and use a USB connected SD Card Reader / Writer to create as many TLXOS SD Card images as you need. This version of TLXOS uses the ThinLinX SD Card Bootloader and installation is much faster.

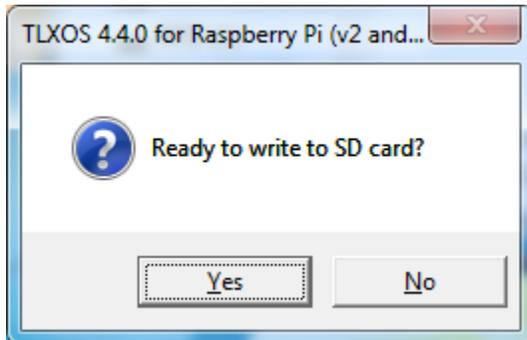
Installing TLXOS for either the (RPi) RaspberryPi3, RPi2, RPi Compute Module 3 or Raspberry Pi Zero W, RPi one, Compute Module one can be done by booting your RPi from a SD Card preloaded with the NOOBS bootloader. SD Cards preconfigured with NOOBS are usually sold by the same Company that you purchased your RPi from. You must be connected to the Internet to install TLXOS using NOOBS, if the installation menu does not appear (as there is already an OS installed) reboot the RPi while tapping the Shift Key, this will bring up the NOOBS installation menu.

Wait for the list of OS Choices to appear, this may take 30 seconds or more depending on the load on the Raspberry Pi organization's Mirror Servers, scroll down the list and select TLXOS, click on install. TLXOS will be downloaded (approximately a 300MB download) and then installed. Depending on the speed of the SD Card and the load on the ThinLinX Download Servers installation can take anywhere from 10 minutes to nearly an hour.

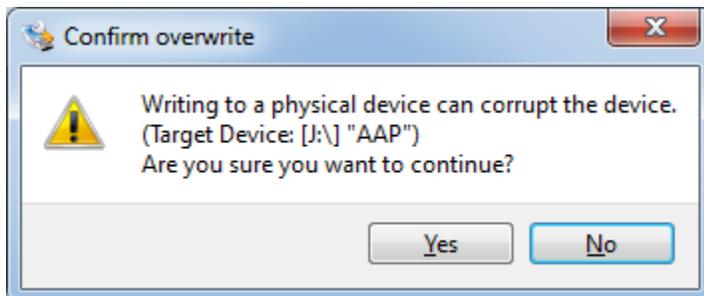
An alternative installation method is to create your own TLXOS SD Card image by downloading the ThinLinX RPi Installer which is a 300MB Windows .exe. To create your TLXOS SD Card for the RPi you need a USB SD Card Reader, you can buy these for around \$5 to \$10 dollars. There are many types of these on the Market, with some that look like a USB stick with a Micro SD Slot at the end. Just insert a Micro SD Card into the Card Reader and insert into a USB Port on your PC or Laptop. Double click on the downloaded TLXOS installer .exe file, this will decompress the highly compressed TLXOS image and then write that image to the Micro SD Card using a program called Win32Diskimager which can only write to removable storage such as SD Cards or USB sticks. Follow the steps below to create your SD Card Image for Raspberry Pi devices.

Double click on the downloaded installer .exe file, this will start the process to create the SD Card image

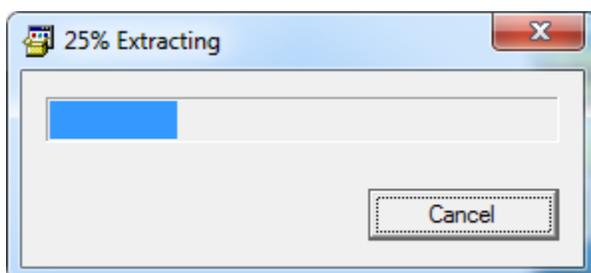
Click on Yes



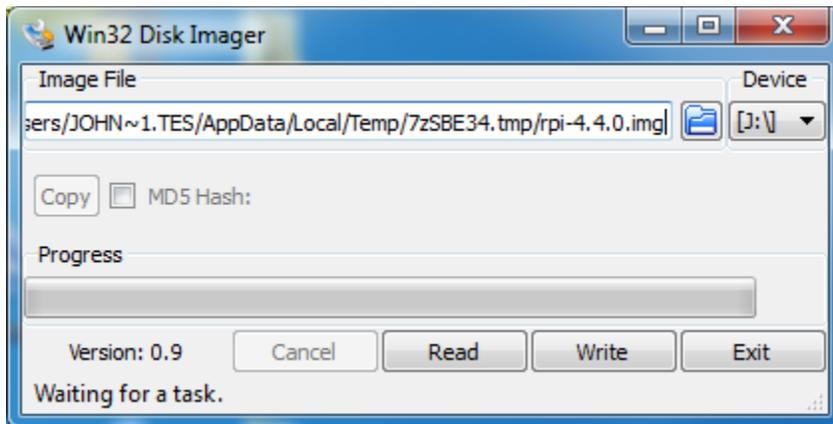
Click on Yes



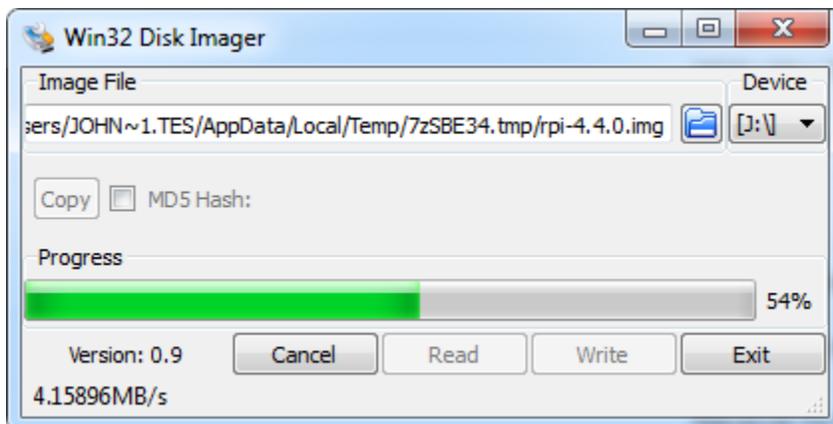
The TLXOS highly compressed image is extracted, you need a minimum of 2GB of free hard disk space on the PC or Laptop that is running the installer .exe file as the extracted image is around 1.5GB



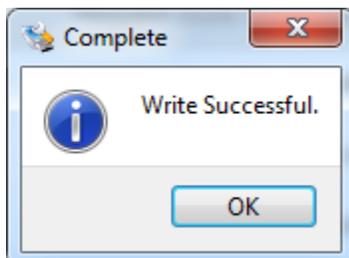
Click on Write



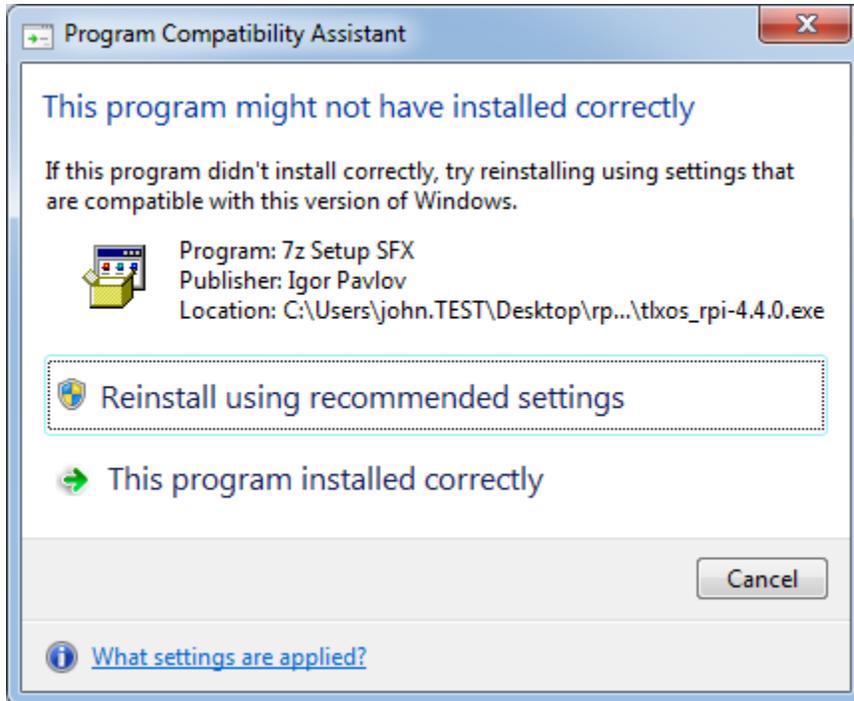
Writing the image will take about 10 minutes



Click on OK



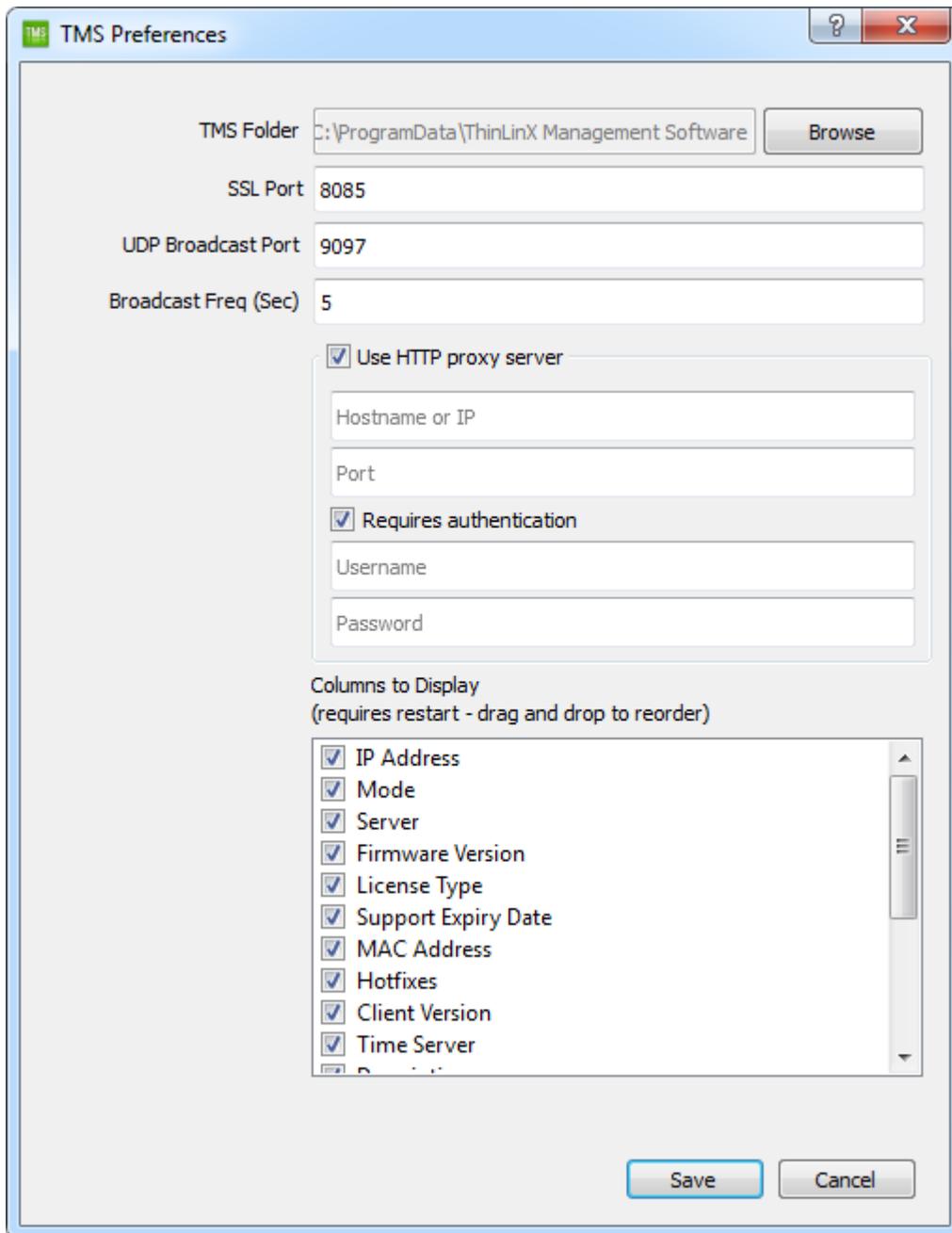
The message below may appear, you can safely ignore this message click on Cancel or X



TLXOS has now been written to the SD Card, remove the SD Card from the USB Card Reader, insert into your RPi and power up. TLXOS will carry out some configuration and automatically register 30 day Free trial with the ThinLinX License Server by connecting to <https://tls.thinlinx.com>

You must be connected to the Internet on a Network with a DHCP Server that also provides DNS information this allows the RPi to resolve the ThinLinX License Server Domain Name and also to obtain the correct time by connecting to a Time Server on the Internet. The RPi does not have a battery backed Real Time Clock (RTC) so must obtain the correct date and time on bootup.

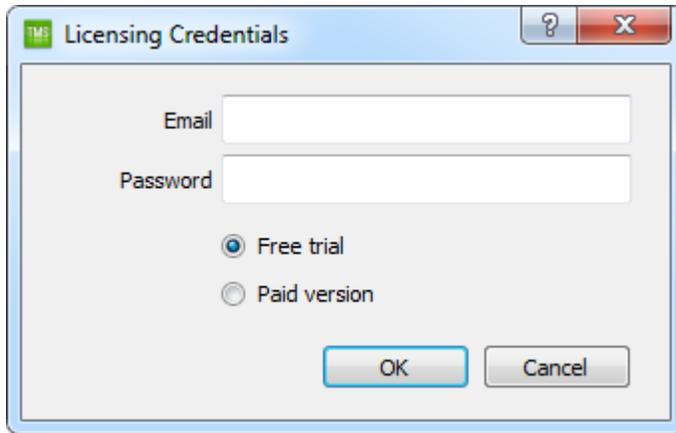
In some situations your Network Administrator may have set up a Proxy Server to restrict access to the Internet, if this is the case in your situation the Auto Registration will fail. You can manually register the free trial after installation using the ThinLinX Management Software (TMS). To configure TMS for Proxy Server support, just click on TMS -> Edit -> Settings and enter the HTTP proxy server Hostname or IP Address and Port number. Some proxy servers also require Authentication with a Username and Password, you can enter this information also, see image below



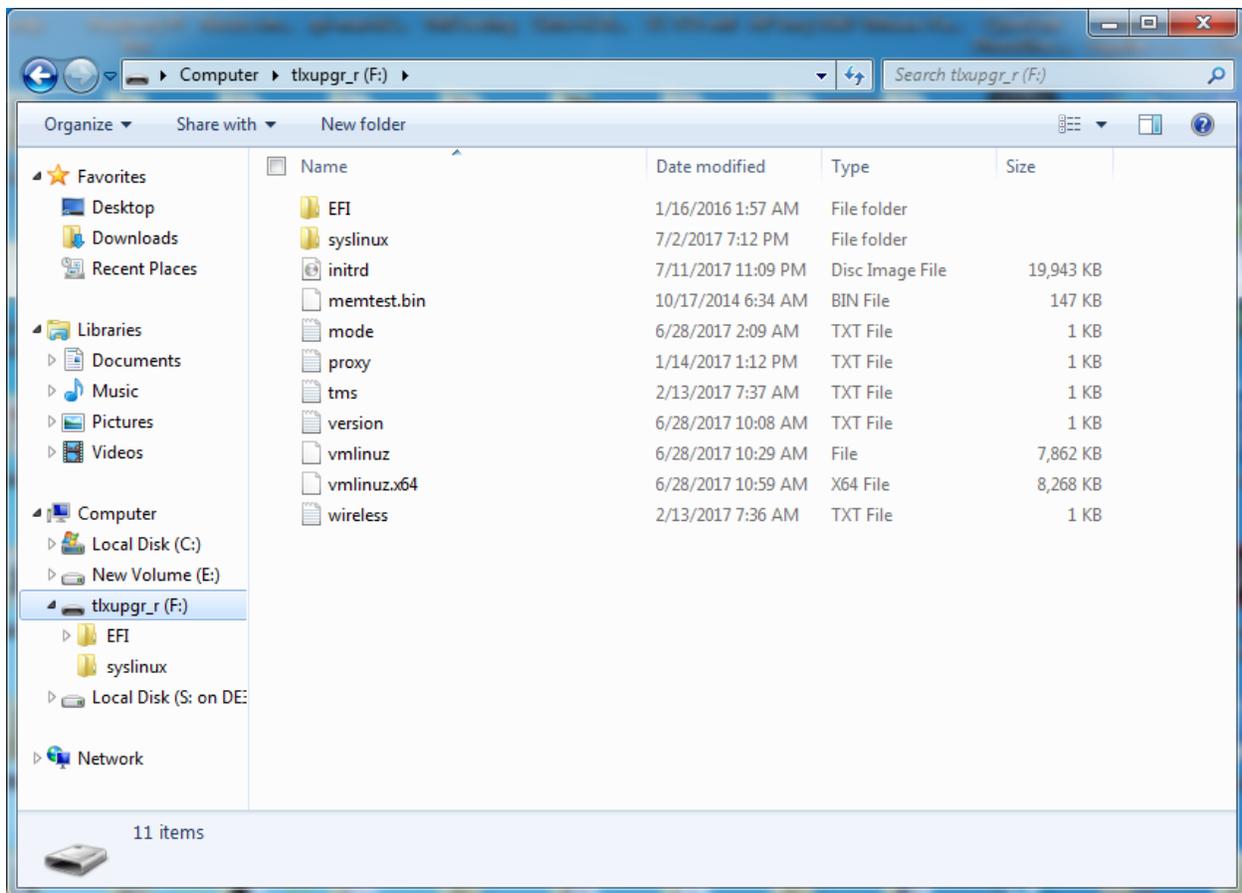
After setting up the Proxy Server information you may use TMS -> Tools -> Product Registration, select the Free trial check box, manual registration of the Free trial requires that you enter the email address and password that you have Registered with the ThinLinX online store at the link below

<https://tls.thinlinx.com/store/index.php/thinclient.html>

See image below of the Product Registration dialog box.



Proxy Server information can also be configured by removing the SD Card from the RPi and inserting into a SD Card reader, then editing the proxy.txt file as shown in the image below. This also applies to our USB Stick installer for Intel & RePC which has a proxy.txt file.



The steps to create a USB stick image for Intel Small Form Factor devices or Re-purpose PC & Laptops are identical to the above, just insert a USB stick instead of a SD Card. If you are installing our Intel Small Form Factor version of TLXOS to an Intel NUC which has a SD Card slot and you want to install TLXOS to a SD Card fitted to that slot you must still first create the USB Stick installer, DO NOT try to write the Intel Small Form factor installer to a SD Card, TLXOS will be copied from the USB stick to the SD Card during installation.

Once TLXOS is installed all Firmware upgrades can be done using the ThinLinX Management Software (TMS) which is FREE when used with any version of TLXOS. The TMS Download Icon can be used to select and download the latest Firmware & Hotfixes for any TLXOS device, which is then automatically unzipped in the TMS Firmware and or Hotfix Directory. On the TMS console you then select the checkboxes next to the names of the TLXOS devices to be upgraded then either click on the TMS Upgrade Icon for a Firmware upgrade, or select TMS -> Tools -> Install -> Install Hotfix for a Hotfix installation (Hotfixes are released between TLXOS Firmware Upgrades). A full Citrix Receiver upgrade via a Hotfix can be carried out in 30 seconds.

Citrix Receiver configuration tips

TLXOS can launch Citrix Receiver by using a Web Browser to connect to Citrix Storefront, this works with unencrypted http or encrypted https logins. We recommend that you try this mode first as it requires almost no configuration, just enter your Citrix Storefront address in the Web Browser URL field, or configure the Storefront address using the TMS Mode Icon. In the image below I have configured the Citrix Storefront name in the Server Name field.

I have also selected the Kiosk Mode checkbox which launches the Web Browser in Kiosk mode. When you first connect to the Citrix Storefront the Web Browser will prompt you to save the Login Name and Password BUT only if you are using an https connection to Storefront by prefixing the Storefront URL with https://

In many cases to connect to Citrix Storefront using https:// requires you to use TMS to upload your CA to the TLXOS device. This is covered in more detail further below

Application

Auto Reconnect Mode: Web

Kiosk Mode Submode:

Color Depth:

Graphics Quality:

Audio Quality:

Redirect Audio:

Redirect Microphone:

Redirect Video:

Latency:

Security:

Window Size: Auto

Window Percentage: 80

Command Line Args:

Server Name[:Port]: xenserver.thinlinux.com

Auto Login Username:

Domain:

Password:

Confirm password:

Set default values Get application help

OK Cancel

TLXOS can also launch Citrix receiver using what we call “HDX” mode, this launches the native Citrix Receiver dialog box. HDX mode allows for fine tuning of the Citrix connection. HDX mode ONLY supports encrypted https connections it will NOT work if your Citrix Server is not configured correctly for https sessions. The configuration shown below allows for an auto Login to a Desktop named Windows10, which I have entered into the Command Line Args field. The Auto Login checkbox is selected and my login information has been entered. The default connection is to use H.264 hardware decoding, you can change this to Software JPEG decode by selecting the Submode to JPEG

The image shows a screenshot of the Citrix Receiver 'Application' dialog box. The window title is 'Application' and it has standard Windows window controls (minimize, maximize, close). The dialog is organized into several sections:

- Auto Reconnect:** A checkbox that is currently unchecked.
- Mode:** A dropdown menu set to 'HDX (Citrix)'.
- Kiosk Mode:** A checkbox that is currently unchecked.
- Submode:** A dropdown menu set to 'H264'.
- Color Depth:** A dropdown menu set to 'Auto'.
- Graphics Quality:** A dropdown menu.
- Audio Quality:** A dropdown menu set to 'Best'.
- Redirect Audio:** A dropdown menu set to 'Yes'.
- Redirect Microphone:** A dropdown menu set to 'Yes'.
- Redirect Video:** A dropdown menu set to 'No'.
- Latency:** A dropdown menu.
- Security:** A dropdown menu.
- Window Size:** A dropdown menu set to 'Auto'.
- Window Percentage:** A text input field containing '80'.
- Command Line Args:** A text input field containing 'Windows10'.
- Server Name[:Port]:** A text input field containing 'xenserver.thinlinux.com'.
- Auto Login:** A checkbox that is checked.
- Username:** A text input field containing 'john'.
- Domain:** A text input field containing 'test'.
- Password:** A text input field with masked characters (dots).
- Confirm password:** A text input field with masked characters (dots).

At the bottom of the dialog, there are four buttons: 'Set default values', 'Get application help', 'OK', and 'Cancel'.

In the situation where you have many users sharing the same Thin Client terminal, you can configure HDX mode to require a Login and password for every session. If you leave the Command Line Args box empty you will see the Storefront screen with Icons for Desktops and Apps displayed. In the configuration below as soon as I enter my Login ID and password I am logged straight into my Windows 10 desktop, when I Log out I am returned to the Citrix Login Dialog. Please note that the Login ID must be your Login Name followed by @ Domain. In my case john@test as my domain is test. Do NOT enter an email address in the Login field as this does not work. See login image further below

The image shows a configuration window titled "Application" with a blue header bar. The window contains the following settings:

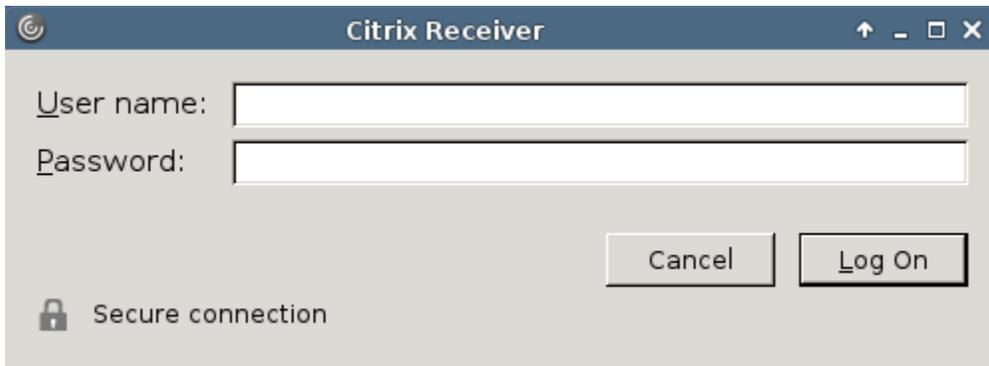
- Auto Reconnect
- Kiosk Mode
- Mode: HDX (Citrix)
- Submode: H264
- Color Depth: Auto
- Graphics Quality: [dropdown]
- Audio Quality: Best
- Redirect Audio: Yes
- Redirect Microphone: Yes
- Redirect Video: No
- Latency: [dropdown]
- Security: [dropdown]
- Window Size: Auto
- Window Percentage: 80
- Command Line Args: Windows10
- Server Name[:Port]: xenserver.thinlinux.com
- Auto Login
- Username: [text box]
- Domain: [text box]
- Password: [text box]
- Confirm password: [text box]

At the bottom of the window are four buttons: "Set default values", "Get application help", "OK", and "Cancel".

I have entered my Login/Domain and password into the Citrix Dialog box



As I have selected the Auto Reconnect checkbox in the HDX mode dialog configuration mode as shown above, I will see a empty Login Dialog box when I Log out of my Windows 10 Desktop as shown below



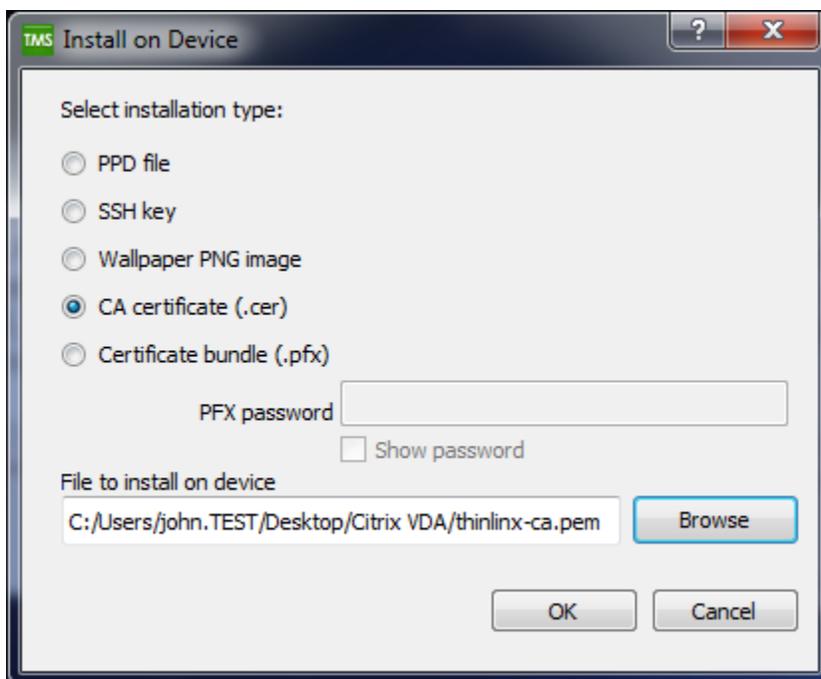
If I do not want to Log into the same Desktop on every Login I simply leave the Command Line Args field blank in the HDX Dialog configuration box, instead of entering my Windows10 Desktop name.

In this case when I log into Citrix Storefront I will see the Icons for my various Desktops and Apps, one of which in my case is named Windows10

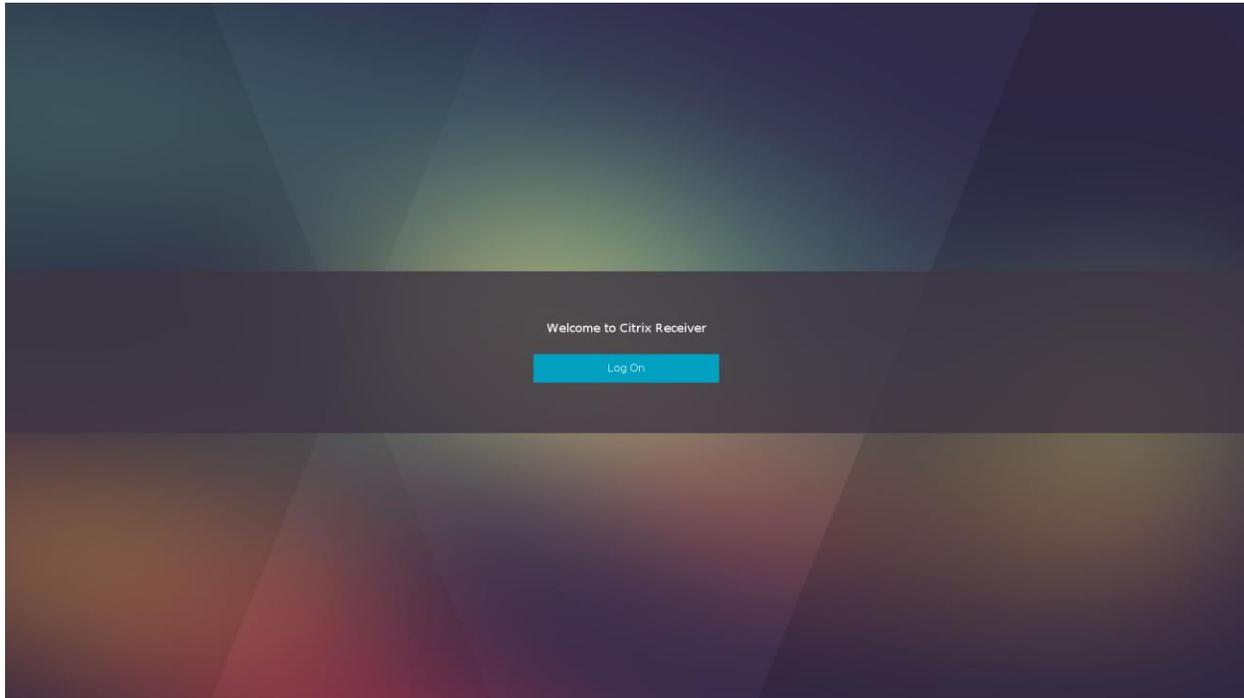
The first time that you attempt to use HDX mode to connect to a Citrix Storefront session TLXOS will check that the required CA Certificate is installed on TLXOS. If you have NOT installed the required CA Certificate you will see the following message appear in a dialog box titled “Missing CA Certificate(s)”

“NO site CA Certificates are installed. Unless your site’s HDX Servers’ Certificates are signed by an Internet CA already known to this device (unlikely) you must use TMS to upload your site’s CA certificate(s) or else connections to HDX Servers will fail”

In this case you will need to use TMS to install your CA, click on the TMS Upload Icon, you will see the dialog box below appear, note that the default selection is CA certificate (.cer), you then click on the browse button, select your CA .pem file, click on OK, this CA will be copied to any TLXOS device that you have selected (the selection check box is on the TMS console next to the device names)



The first time that you Log into Citrix Storefront you will see the screen below, but when you click on Log On, nothing happens. This is a Citrix BUG, you must kill the session by pressing Alt-F4, and then click on Reboot, all subsequent Log on attempts will be successful



ThinLinX Licensing explained

Every TLXOS device includes a built in 30 day free trial, you have access to all the features of the fully Licensed version of TLXOS during this 30 day trial. The auto registration of the 30 day trial commences the first time that TLXOS run after installation. As mentioned earlier in this document you must be connected to the Internet for the trial to Register.

After the 30 day trial expires your TLXOS device will boot up in ThinLinX Firmware Maintenance (TFM) mode at which point you must purchase a License and use TMS -> Tools > Product Registration to Register your TLXOS device. See dialog box below, just enter the Email address and password that you registered at the ThinLinX Online Store.

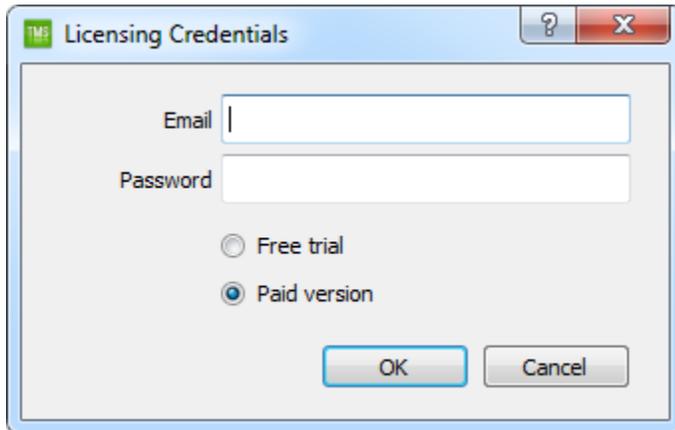
There are currently four different variations of TLXOS, you must buy Licenses for the correct product at the store here

<https://tls.thinlinx.com/store/index.php/thinclient.html>

As an example if you buy 10 Re-PC Licenses these 10 Licenses are stored in the ThinLinX database at the time that you purchase the Licenses. Every time you register a Re-PC device using TMS one License is deducted from your License pool. After you have Registered 10 Re-PC devices, if you then try to License an 11th RePC you will see a message in TMS saying that there are no more Licenses and you need to buy more.

Obviously you can't buy a Raspberry Pi License and use it on Re-PC or Intel Small Form Factor and Vice Versa.

TLXOS Licenses are perpetual and include 3 years of FREE firmware upgrades and support. After 3 years your TLXOS device continues running normally but if you want firmware upgrades after 3 years, you must buy another License for each device. The TLXOS License includes a free perpetual License for the ThinLinX Management Software (TMS)



Please read the TLXOS manual here <https://www.thinlinx.com/tlxos-user-manual.pdf>

Please read the TMS manual here <https://www.thinlinx.com/tms-user-manual.pdf>

Please read the FAQ's here <https://www.thinlinx.com/faq1.html>

TLXOS Installation Part One <https://www.youtube.com/watch?v=vpupfICOjUE>

TLXOS Installation Part Two <https://www.youtube.com/watch?v=kfkq2k3k-h0>

Please watch the ThinLinX Management Software (TMS) YouTube demos Part One to Part Four at the links below.

<https://www.youtube.com/watch?v=2balwgLZdJE&t=3s>

<https://www.youtube.com/watch?v=d2POM6ILOHU&t=2s>

<https://www.youtube.com/watch?v=4hEfKgJMjLY>

<https://www.youtube.com/watch?v=PLTX8QP11Kk>