



## **L-Series with vSpace™ for Linux**



## **Ubuntu 10.04, 10.04.1, and 10.04.2 Installation Guide**

Updated: April 19, 2011  
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# Overview

**NOTE: This latest version of L-series vSpace for Linux supports Ubuntu 10.04, 10.04.1, and 10.04.2 LTS Desktop distribution**

This document is a supplement to the L-series User Guide.

For basic common information such as safety and regulatory compliance, product overview and other features of the L-series access devices please see the L-series User Guide.

This supplement provides installation information for the NComputing L-series vSpace Software for Linux for the Ubuntu 10.04, 10.04.1, and 10.04.2 LTS Desktop distribution and includes instructions for:

- vSpace L-series Software installation
- Instructions for on-line and off-line registration
- Configuring audio
- USB to user station assignment
- Console functionality
- Uninstalling the Linux vSpace software

This document assumes the user will be starting from a clean install of Ubuntu 10.04.2 LTS Desktop

## Prerequisites

The following items are needed to begin the installation process:

- Ubuntu 10.04.2 LTS Desktop installation image (You can download it from: <http://releases.ubuntu.com/10.04/>)
- Note: It is critical that you start from a clean install be used, and then you can use the Ubuntu “Update Manager” to apply all the latest updates to 10.04.2
- Current NComputing L-series vSpace Software release - the full installation process requires the installation of two separate packages\* (vspace-l\_3.1.3-r7613\_ubuntu-10.04\_i686\_Install\_1st.deb and vspace-l-os\_3.1.3r7613\_ubuntu-10.04\_i686.deb or newer)
- The release’s associated “readme” document
- Sound card (or device) on host system that is supported by Ubuntu 10.04 and has been enabled
- Internet Connection

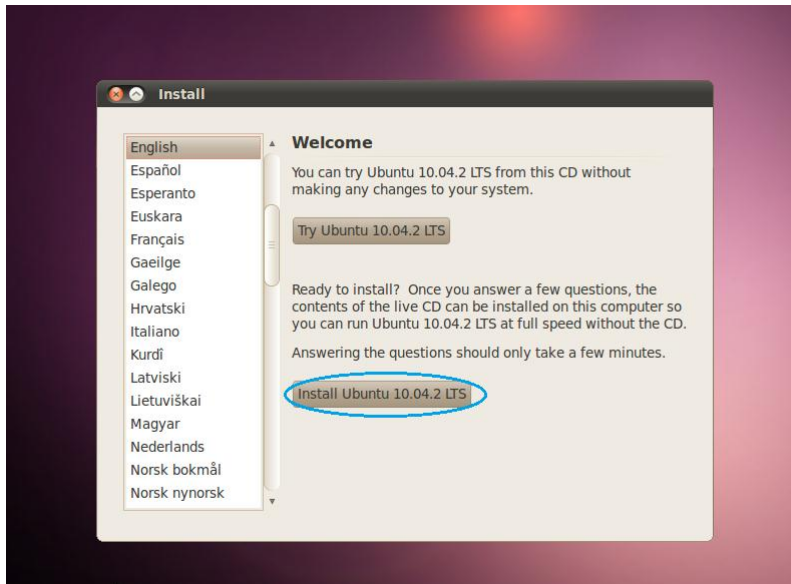
Be sure to fully review the Release Notes supplied with the vSpace release you are installing.

**Note:** An Internet connection must be available during the vSpace installation to allow download and install of any dependant packages located in the Ubuntu package repository maintained by the Ubuntu community.

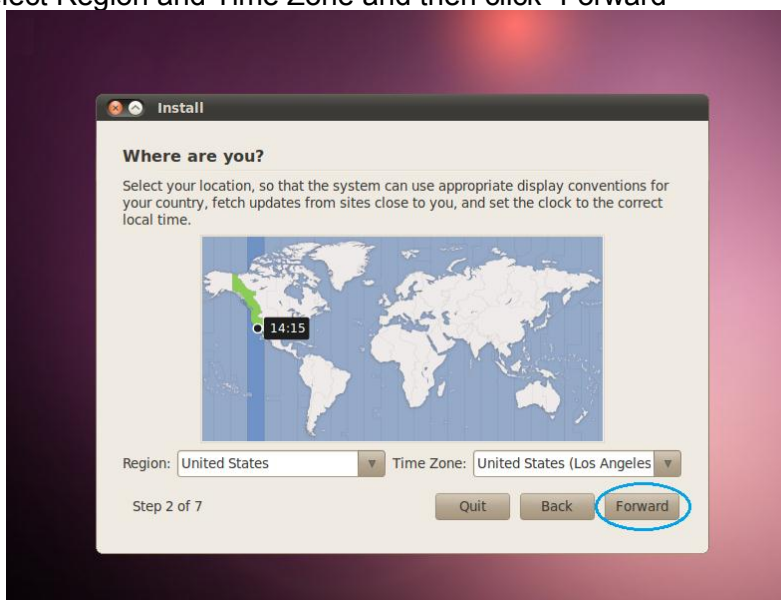
# Installing Ubuntu 10.04.2 and vSpace

You can locate and download Ubuntu 10.04.2 from: <http://releases.ubuntu.com/10.04/> Please use only a clean image as vSpace is designed for the kernel and packages included in the released 10.04, 10.04.1, and 10.04.2 LTS Desktop version.

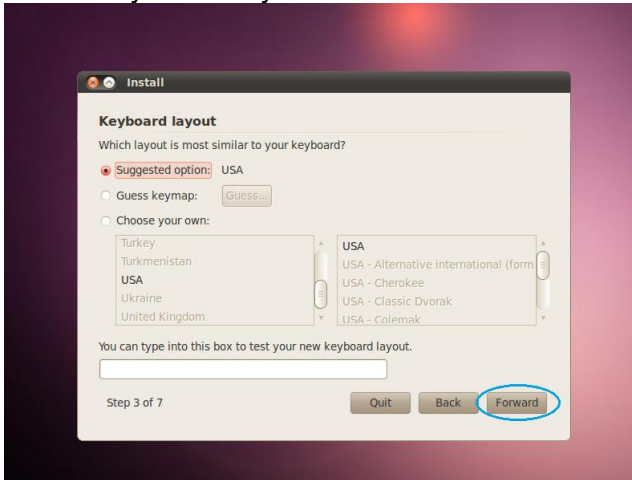
1. Download the Ubuntu 10.04.2 LTS PC (Intel x86) desktopCD
2. Create Ubuntu 10.04.2 System CD-R
3. Insert Ubuntu 10.04.2 Disk into System and Poweron/boot the Ubuntu Install screen opens with options for trying Ubuntu 10.04.2 without changing the system, and installing the distribution directly on the hard drive. Select the desired language and click the “Install Ubuntu 10.04.2 LTS” button.



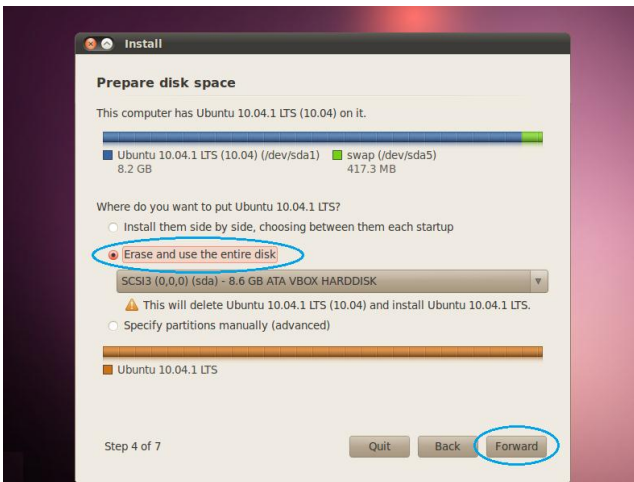
4. Select Region and Time Zone and then click “Forward”



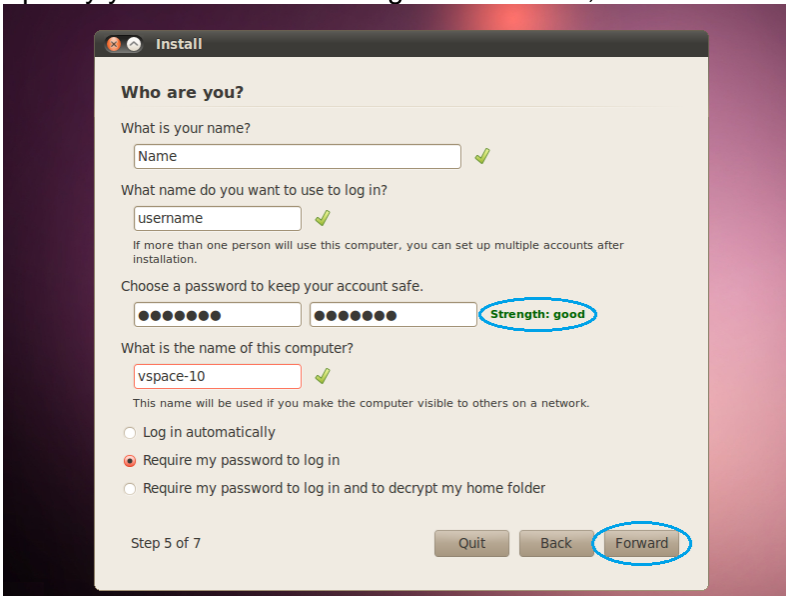
5. Select Keyboard Layout and click “Forward”



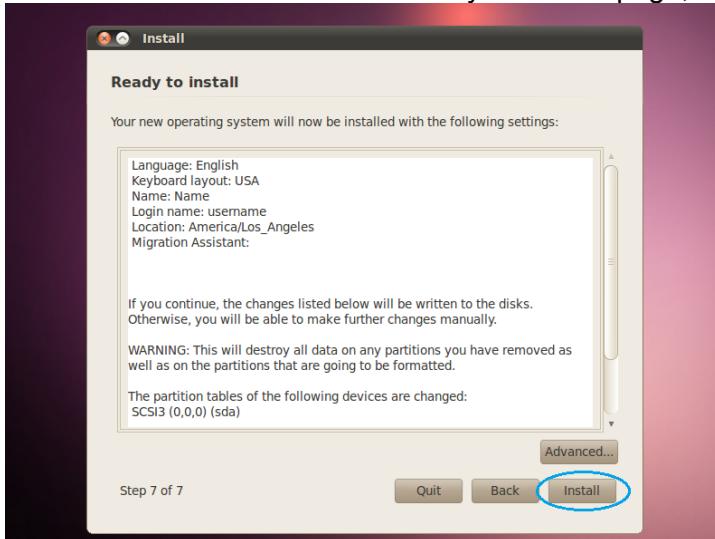
6. Select how you want the disk space configured – typically “Erase and use entire disk” and then click “Forward”



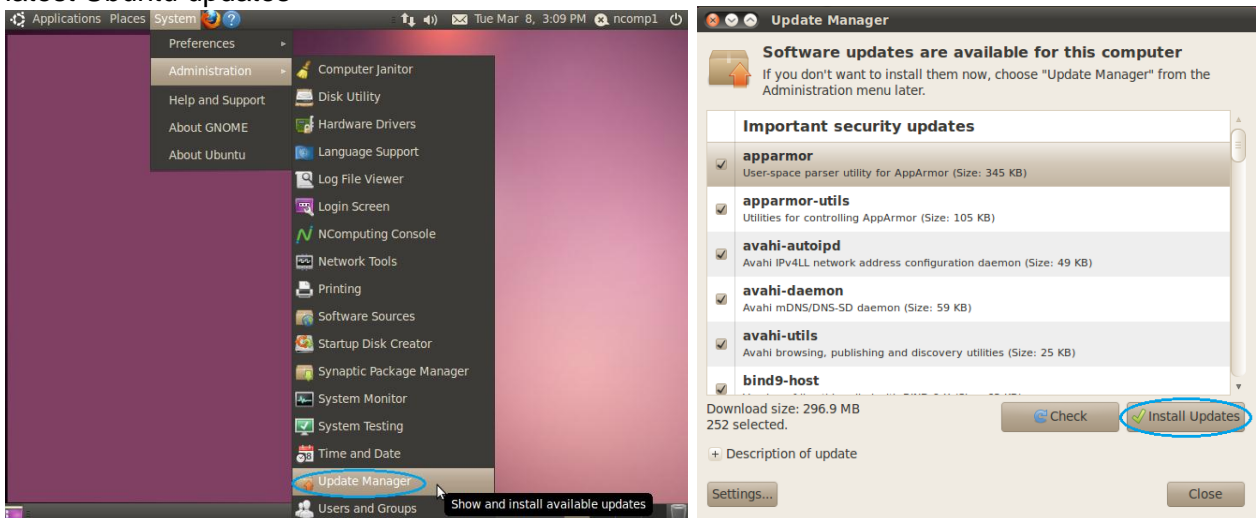
7. Specify your Administrative logon credentials, and click “Forward”



8. Review the selections on the “Ready to Install” page, and if satisfied, click “Forward”

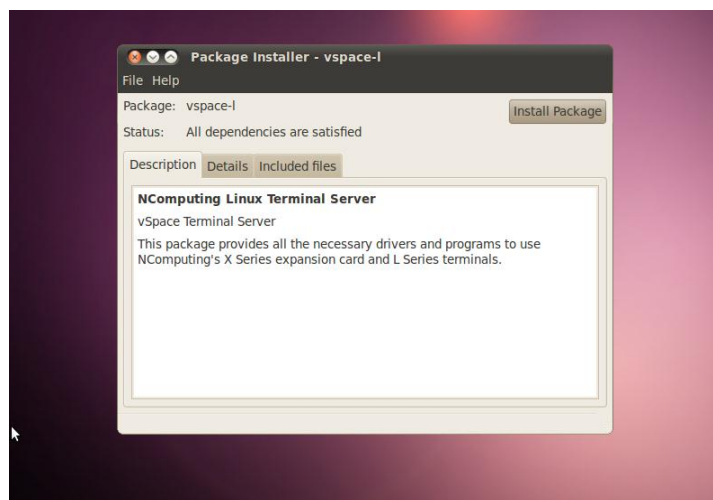
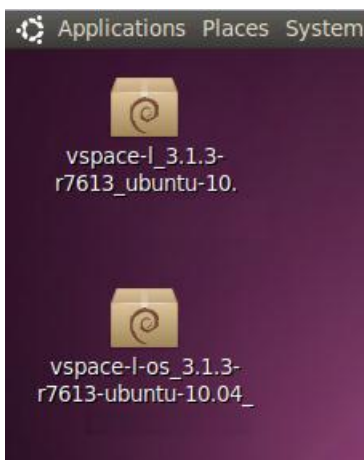


9. After the system reboots, login and Go to System > Administration > Update Manger to apply the latest Ubuntu updates

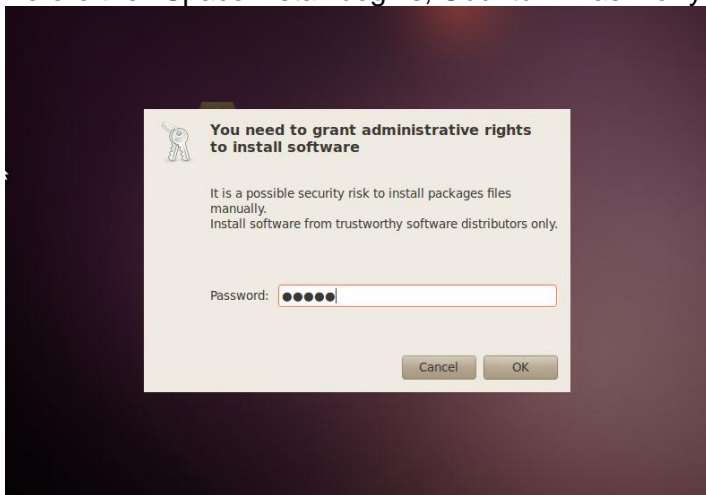


Apply latest Ubuntu updates

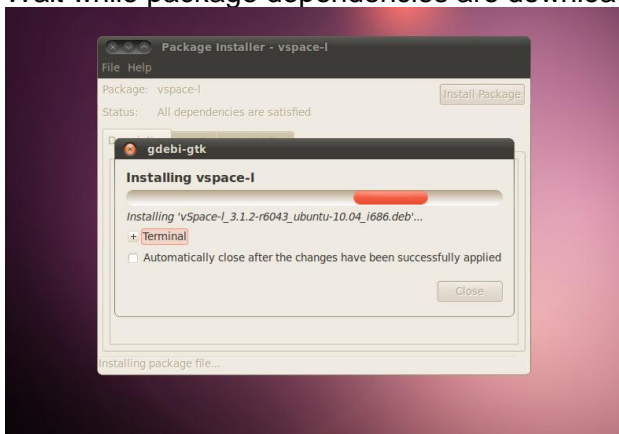
10. Store the vSpace install packages onto the desktop of your clean Ubuntu 10.04.2 installation and double-click on the “install\_1st” vSpace install package. When the “Package Installer” window pops up, click on “Install Package”



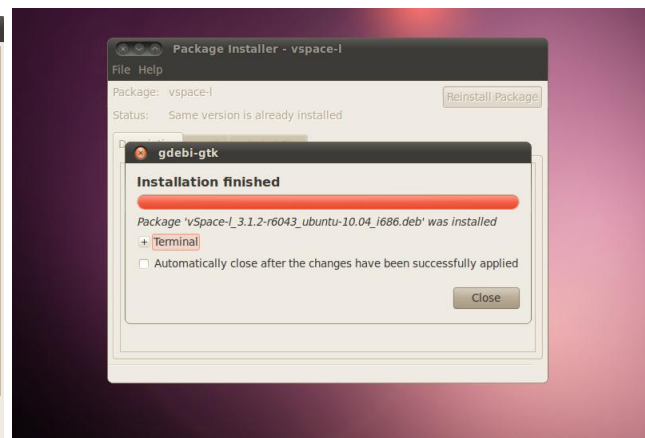
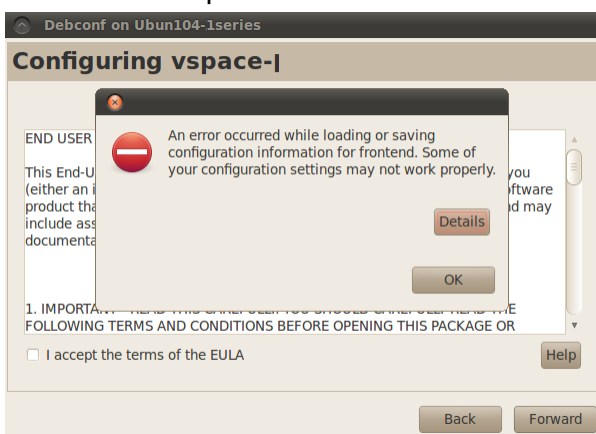
11. Before the vSpace install begins, Ubuntu will ask for your administrator credentials:



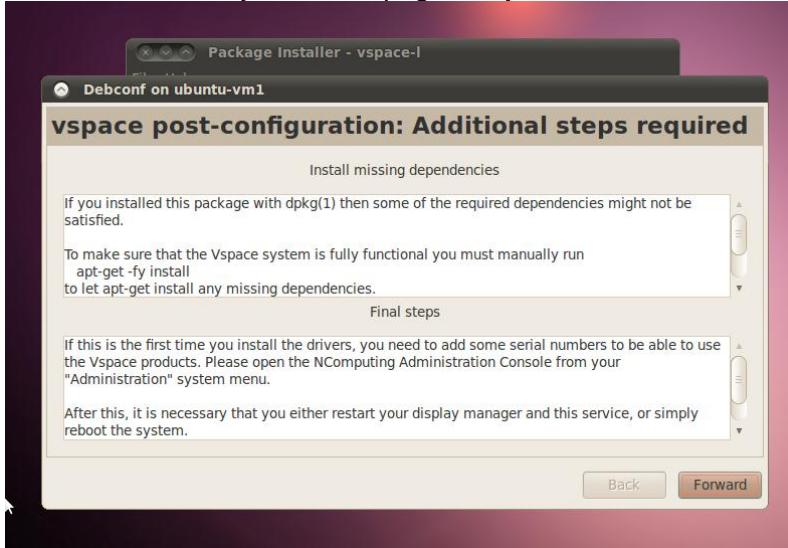
12. Wait while package dependencies are downloaded and the first portion of vSpace is installed



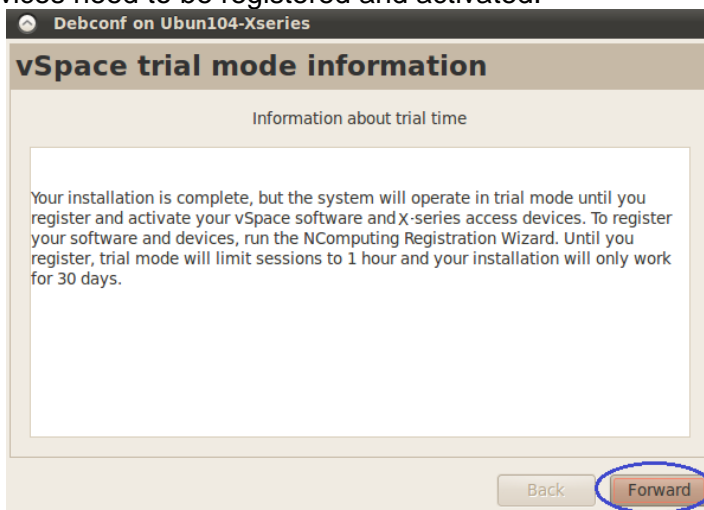
13. During the install you may get the “An error occurred while loading or saving configuration information ...” message shown below. Simply click “OK” to dismiss the error message, and then be sure to accept the EULA.



14. After the first portion of the install completes, you may see a message that only applies if you used the Ubuntu dpkg install method instead of double-clicking on the install package desktop icon. It's ONLY if you used dpkg, that you will need to follow the instructions shown.

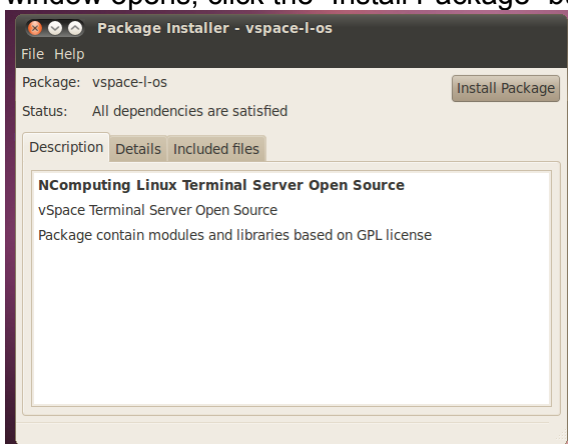


15. When installation is complete, you'll be reminded to that the vSpace software and the access devices need to be registered and activated.



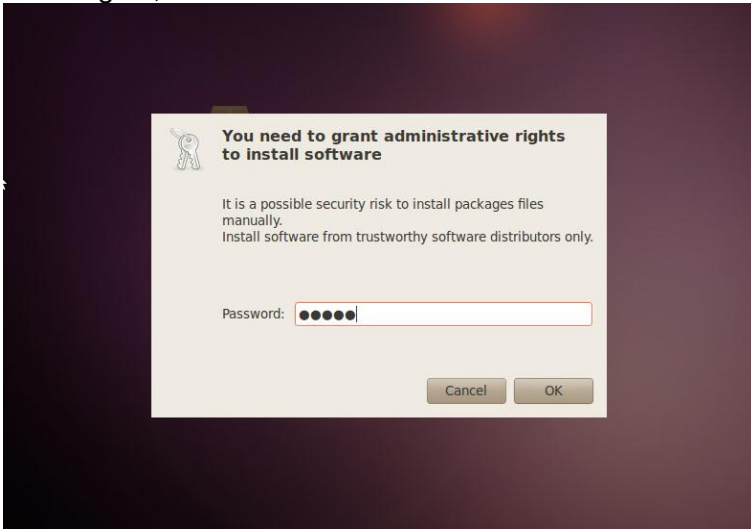
**Trial Mode advisory message If system is not registered**

16. Now double-click the "vspace-l-os" .deb file to complete the vSpace installation. When the popup window opens, click the "Install Package" button.



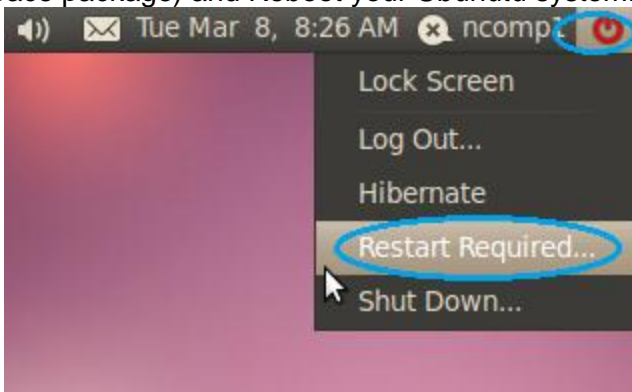


17. Once again, enter the administrator credentials to allow the install to continue.



18. This 2nd install will take just a few seconds, and when it is complete, click “Close” to dismiss the window.

19. Now click the upper left-hand corner power icon (which turned **RED** when installing the first vSpace package) and Reboot your Ubuntu system.



**System Reboot required after second package installed**

20. After the System Reboot, users can connect to the system.

## Using the vSpace Administration Console Window

After reboot, type-in or click-on a username with administrative rights and enter its password into the login screen, to bring up the Ubuntu Desktop.

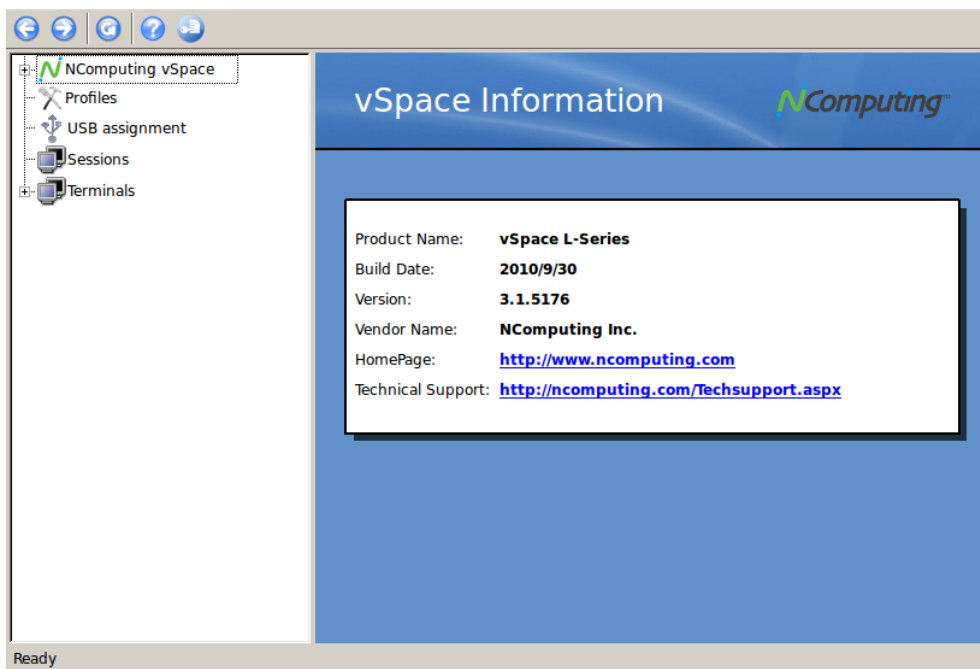
Then on the menu taskbar, click on:

“System > Administration > NComputing Console”

This starts the vSpace Administration Console launch, and then you will be required to enter the “administration rights” password – to verify that you have appropriate permissions to run the console.

When vSpace is initially installed, it starts an automatic a “30-day Trial Period.” During this trial period, the user has complete access to all features of the software to allow evaluation of the product. To use the product beyond this “**30 day trial period**”, the software must be registered.

Also during the trial period, an L-series connected user session will only operate for a 1-hour period. At the end of the hour, the session will be terminated. A new session can be started by the user logging in again from their L-series access device.



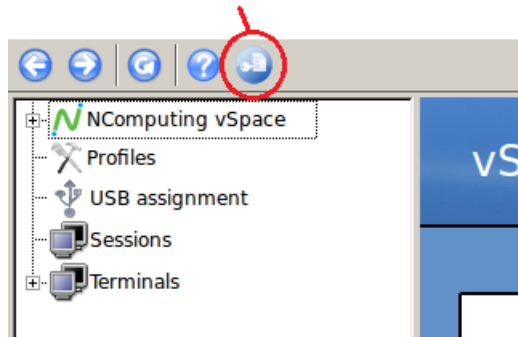
Administration Console window

## Registering Your Product

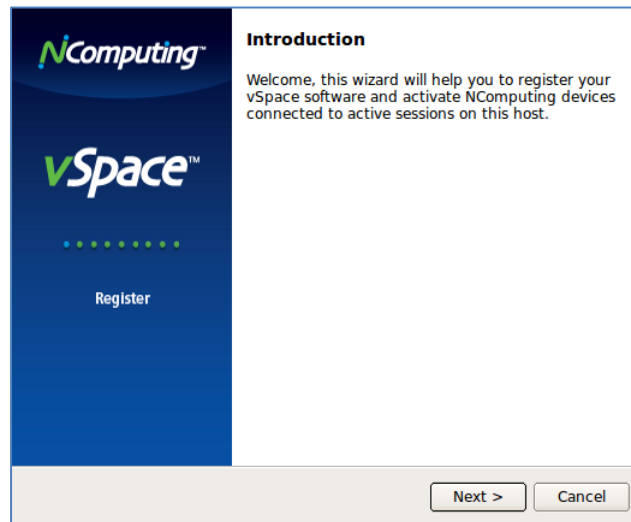
An Internet connection is required for on-line registration.

To start the registration process for your L-series access devices and the vSpace for Linux on this system, click on the “Manage Registration” icon in the upper left-hand side of the admin console window. The vSpace Registration Wizard will then walk you through the product registration process.

## Click to launch Registration Wizard



Launching the Registration Wizard



L-series Registration Wizard initial screen

- Click “Next” to proceed

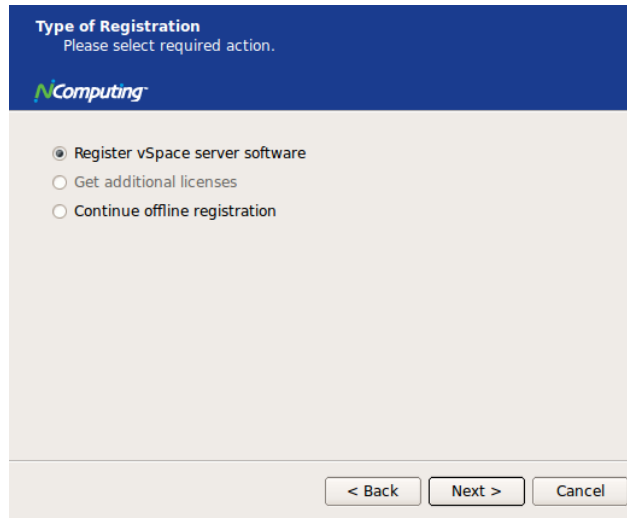
The wizard presents the “End User License Agreement” window, and you must click on the “I agree” box to proceed to the next step.



vSpace End User License Agreement Screen

- Check the “I agree” box – then click “Next” to proceed

The wizard then takes you to the “Type of Registration” screen.

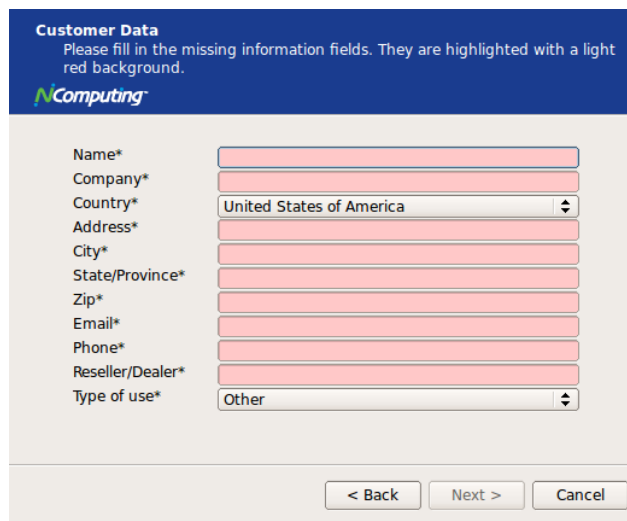


**Type of Registration Screen**

Regardless of whether you want to register your vSpace software and L-series access devices online or off-line, make sure the “Register vSpace server software” radio button is selected, and click “Next.”

The wizard then takes you to the “Customer Information” window, and you must fill in all the fields provided to continue to the next step.

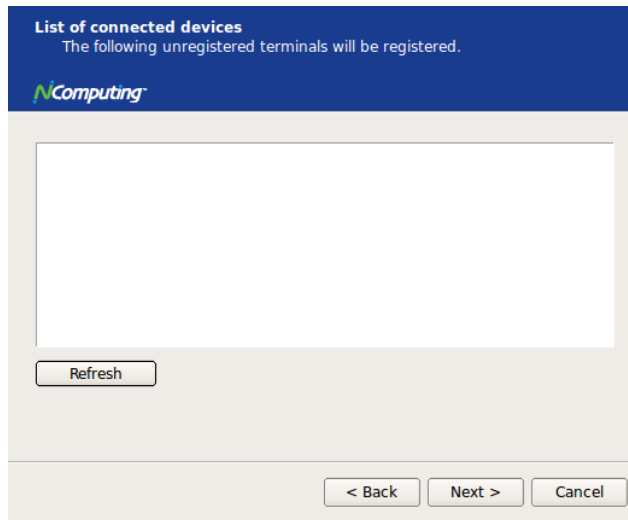
At the "Customer Data" screen, if the data fields are not already populated, enter the registered user's relevant information. Each field in this window must be filled in. (Fields still needing data entry are highlighted in light red.)



**Registration Customer Data Window – w/ no data entered**

Once all customer data has been entered, click on the "Next" button.

The registration wizard then shows a list of all registered and unregistered L-series access devices that currently have virtual desktop connections to this vSpace host. You cannot select which devices will be registered – all unregistered devices shown in this list will be registered



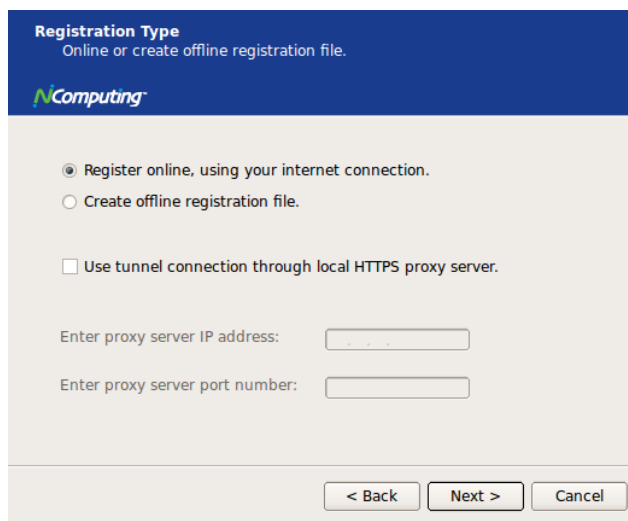
**List of Connected Devices Screen**

## Online Registration

In the case of Online Registration, follow the instructions below. Otherwise skip to the section titled “Offline Registration”.

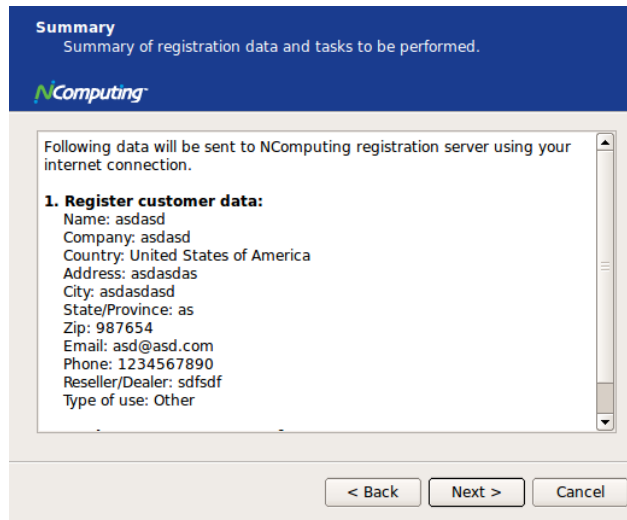
If you want to register your vSpace software and L-series access devices online, make sure the “Register online, using your internet connection” radio button is selected, and click “Next.”

*Click on the “Use tunnel connection through local HTTPS proxy server” box if you normally access the Internet at your location through a proxy server. Clicking the box enables you to fill in the proxy server IP address and the port number to use.*



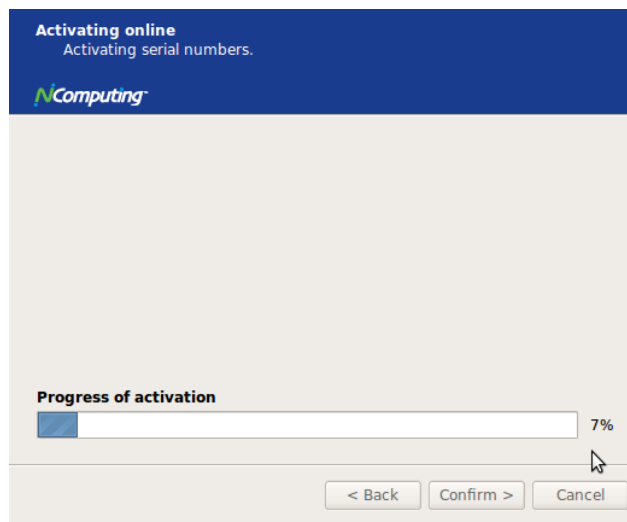
**Select Registration Type Screen**

Before the registration wizard communicates with the registration server, you will get the following “Summary” screen showing all user information that will be registered with the vSpace software. Also, any connected but unregistered L-series access devices will be listed for registration. .



**Registration data Window**

If the data is correct, click on the “Next” button or click “Back” if you wish to change any of the information

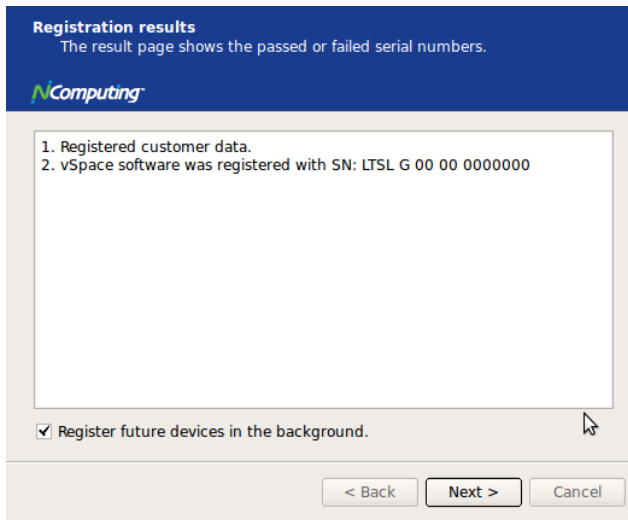


**Registration Progress Window**

Clicking “Next” tells the registration wizard to go ahead and contact the online registration server. Then the “Progress of activation” status screen is displayed.

Once the installation wizard completes its communications with the online registration server, the “registration results” window is displayed. If the registration was successful, you’ll get “Registered customer data and Software and device license information” – the “Trial Period” status is removed from the vSpace software, and it is replaced with a standard software license. (License number provided on this screen.)

Be sure to click the check box for the “Register future L-series devices in the background” option, if you want vSpace to automatically register any unregistered L-series access devices that connect to this system in the future. Use of this “background registration” feature requires standard Internet connectivity.



**Registration Results Screen**

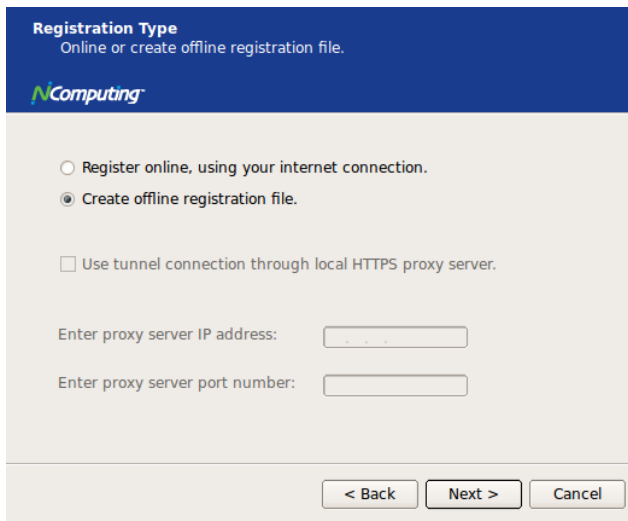
If you get the “Customer data was not registered” message in the Registration Results screen, then the registration process failed, and the vSpace software stays in “Trial Mode.”

## Offline Registration

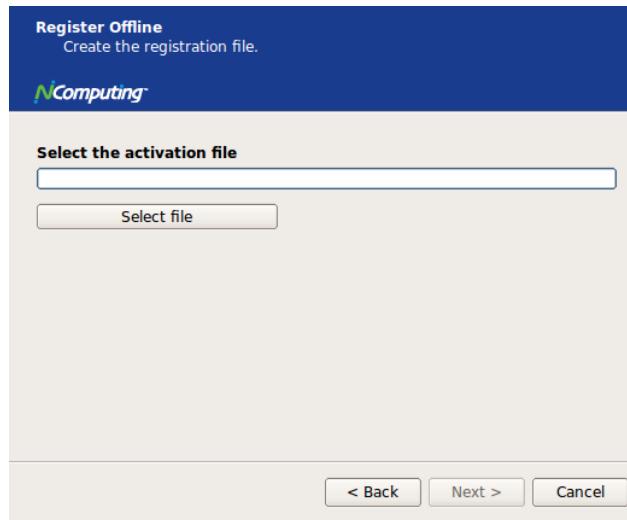
In the case of Offline Registration, follow the instructions below. If you have completed the online registration section, skip to “Using the access device”.

If you do not have standard Internet connectivity, you can use standard email to register your vSpace software and L-series access devices.

To use offline registration, select the “Create off line registration file” option, and click “Next.”

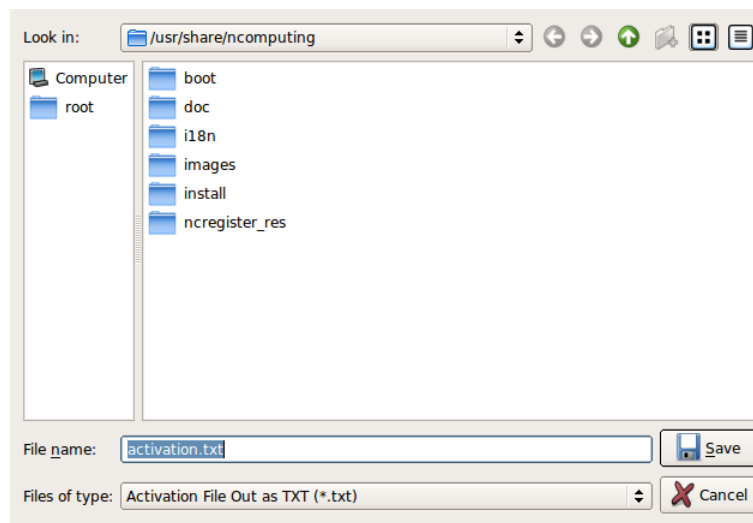


**Select registration Type Screen**



**Select where to store offline activation file**

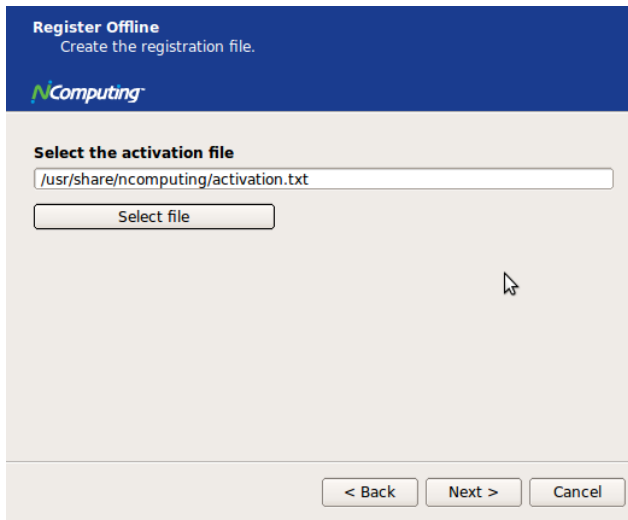
Click on the “Select file” button to define where you wish to store the activation file that will then be emailed to [registration@ncomputing.com](mailto:registration@ncomputing.com). This brings up the “Save File” dialog box and you can select the location for storing the file, and you can change the file name as well – but the filetype must not be changed from “txt”



**Save File screen**

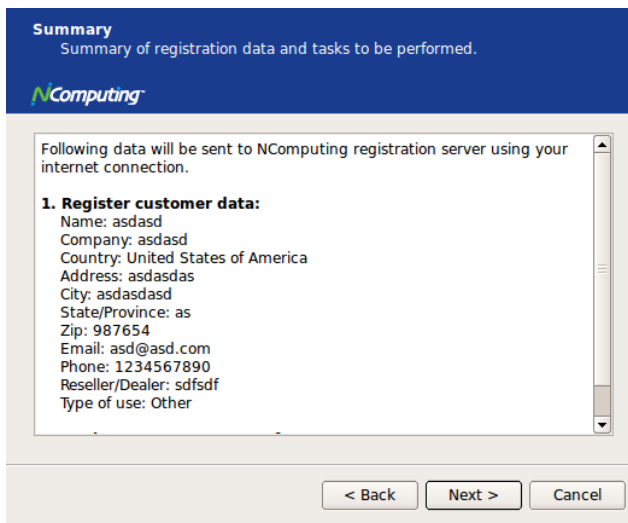
Once you’ve selected where to save the file and the filename, click the “Save” button, and the “Register Offline – Create the registration file” screen is again displayed showing the fully qualified filename you’ve selected.





**Register Offline file save screen**

Now click the "Next" button to create and save the registration file.



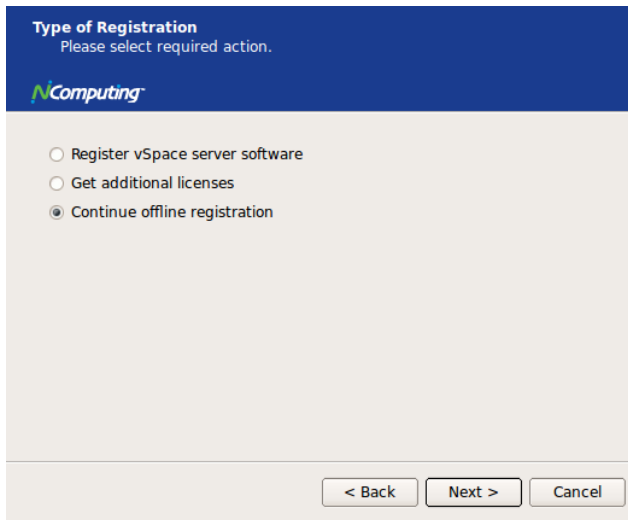
**Registration Summary screen**

The registration summary information is then displayed. Click "Next" to continue.

Now that the "Offline Registration file" has been created, email that file to [registration@ncomputing.com](mailto:registration@ncomputing.com)

Once you have received a returned license file (filetype = .lic) from NComputing's automated offline email registration system, save the file onto the Linux host, launch the NComputing Admin Console, and once again launch the Registration Wizard.

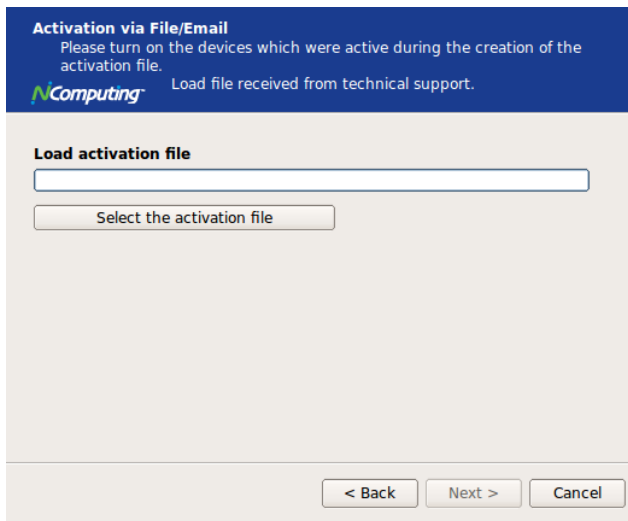
Click "Next" until you again reach to the "Type of Registration" screen.



The screenshot shows a window titled "Type of Registration" with a blue header. Below the header, it says "Please select required action." and features the NComputing logo. There are three radio button options: "Register vSpace server software", "Get additional licenses", and "Continue offline registration", which is selected. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

**Type of Registration screen**

To complete the offline registration process, this time select the "Continue offline registration" radio button and click "Next."



The screenshot shows a window titled "Activation via File/Email" with a blue header. Below the header, it says "Please turn on the devices which were active during the creation of the activation file." and features the NComputing logo. There is a sub-section titled "Load activation file" with a text input field and a button labeled "Select the activation file". At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

**Load Activation File screen**

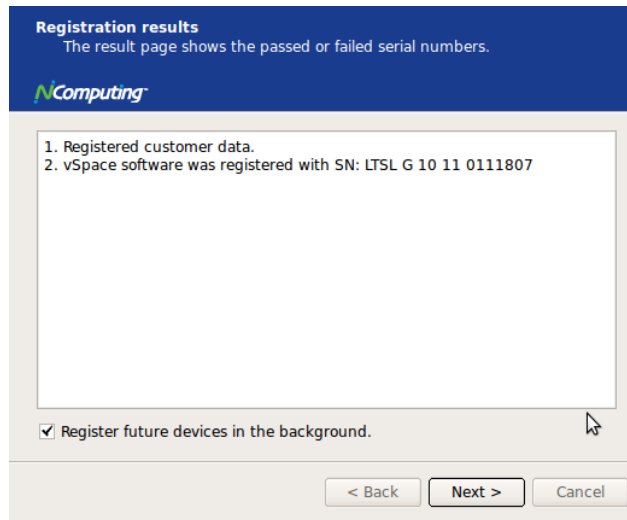
Now, you're presented with a screen where you enter the location of the license file that was returned to you by email.

Click on the "Select the activation file" button to bring up a dialog box to allow navigating to the license file location.

Use this dialog screen to located the license file, and click "Open."

Then the "Load Activation File" screen is redisplayed showing the fully qualified licence filename.

Now click "Next" to complete the activation process.



**Offline registration results screen – showing a successful registration example**

You can click the check box for the “Register future L-series devices in the background,” but it will have no effect because you have used offline registration. The “background registration” feature requires an active standard Internet connection.

Click on “Next,” to complete the offline registration process.

## Adding new users

If you have not yet created Users for this Linux installation, now is a good time to do so using the Linux GUI.

Or

You can launch a Terminal console with sufficient rights to create new users

**Enter the command “sudo adduser <username>”** (The variable **username** refers to the userid or name of the user which should be created, and for the first “sudo” command, you will be prompted for the administrative password before the “adduser” command is executed.)

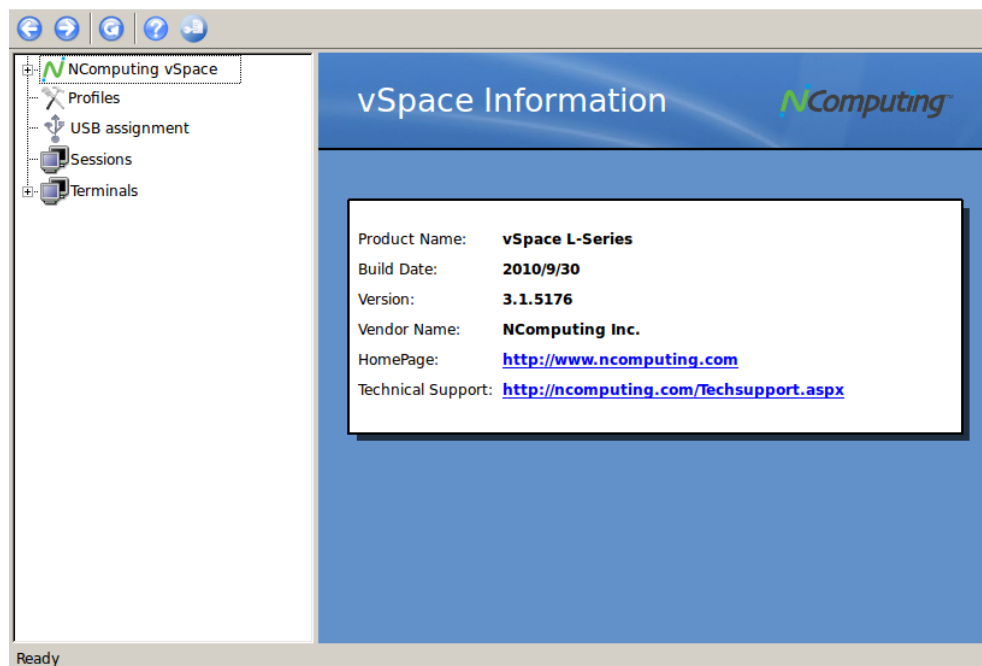
(sudo is the “superuser do” command, and in this context it executes a single “adduser” command as the “superuser”)

For example: `sudo adduser user2`

For each new user, the system asks a series of questions needed to create the account. After all questions have been answered, the new user will be active on the system and he/she can login at any NComputing L-series access device with network access to this system.

## The L-series Administration Console for Linux

The Ncomputing System console provides current data on the L-series sessions and USB assignment. The product information screen shown below provides vSpace version information and contact information.



Product Information screen

# USB Port Assignment

“Assigning” USB devices (i.e., associating them with a particular station or access device), is started by clicking on the “**USB assignment**” icon in the left-hand-pane of the NComputing vSpace Administration Console. This function permits assigning a host USB port (or USB devices attached to a host port) to be accessible to specific virtual desktop sessions, all sessions associated with L-series access devices, or to the host console session.

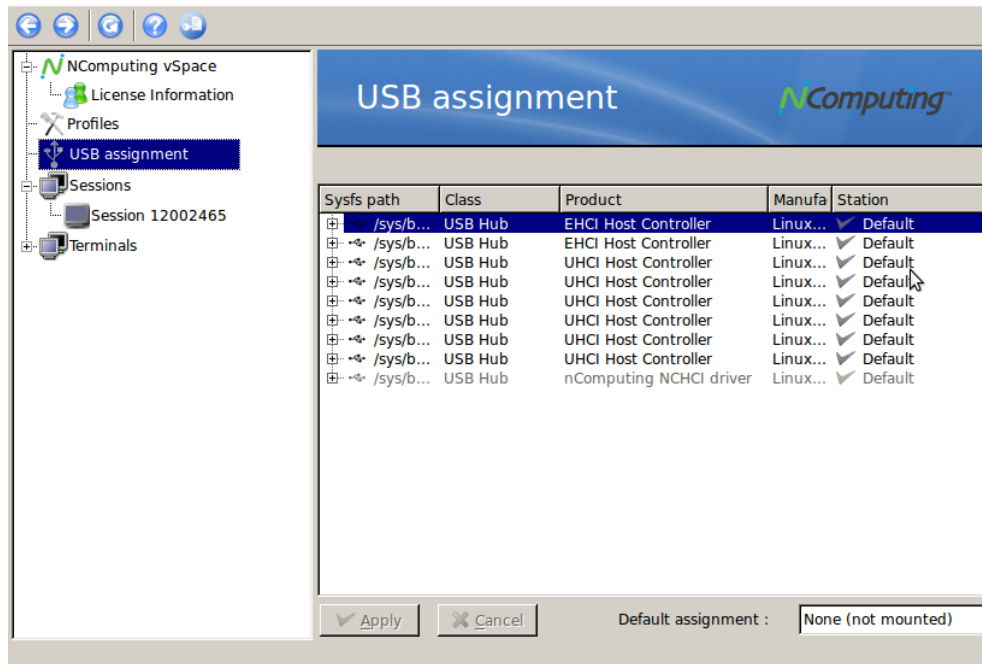
In the current implementation, users can manage USB devices that mount automatically through the Gnome Volume Manager (USB memory stick, HDD, etc.).

Please note that assignment cannot be changed for devices previously present and mounted with a different user's rights. Therefore, to ensure your USB port assignment configuration works as intended, please disconnect all non-essential USB devices and re-boot the machine BEFORE attempting to assign USB ports to L-series device connected stations.

After the reboot, please Login as user “root” (or an admin authorized user) to define the USB port assignments.

To prevent un-authorized access by other non-root system users, some multi-user Ubuntu deployments may require USB removable storage to be mounted with specific security attributes. The following options are available:

- Assign the device just to the Host console:
  - Only the console session can see or have any access to the USB device when it gets attached to the system.
- Assign the device as Shared read-write:
  - All sessions/stations will see the device when it is plugged in, all sessions are allowed to read/write associated contents.
- Assign it as Shared read-only:
  - All sessions/stations can read from the storage device, but they cannot write or delete files. Example: when a teacher wants to share pictures or media with students logged on other stations but do not want them to alter the storage device files in any way.
- Assign it to one particular Station associated with a specific L-series station for the duration of the current session:
  - With this attribute, the removable USB storage device will only be seen at that particular station, and that station is the only one with permissions to read/write/delete files on the USB device.



**USB assignment screen**

To identify the Linux port that you wish to assign to a particular Access Device or Station, insert a USB memory device into the physical USB port you wish to use for that station and click the Refresh button on the USB assignment toolbar. (The refresh button is denoted with curved arrow, and the button is located to the left of the toolbar’s Question Mark button.) Clicking “Refresh” updates the USB connectivity information list and causes the new device to appear in the list.

- Double click on the “Default” item corresponding to the USB port you’ve just identified and select the “Session” to which you wish to assign the port.

Note: The definition for the “Default” setting for this Ubuntu installation is stored in the “vspace.com” file located at:

```
/etc/ncomputing/vspace.com
```

Port defaults are specified by the following numeric convention:

- 0 None (device will not be mounted)
- 2 Mount device to Host station/session
- 3 Mount device Shared read-write
- 4 Mount device Shared read-only

After all specific USB assignments have been made using the NComputing Administration Console, those device specific assignments are then stored in the “usb.com” file located at:

```
/etc/ncomputing/usb.com
```

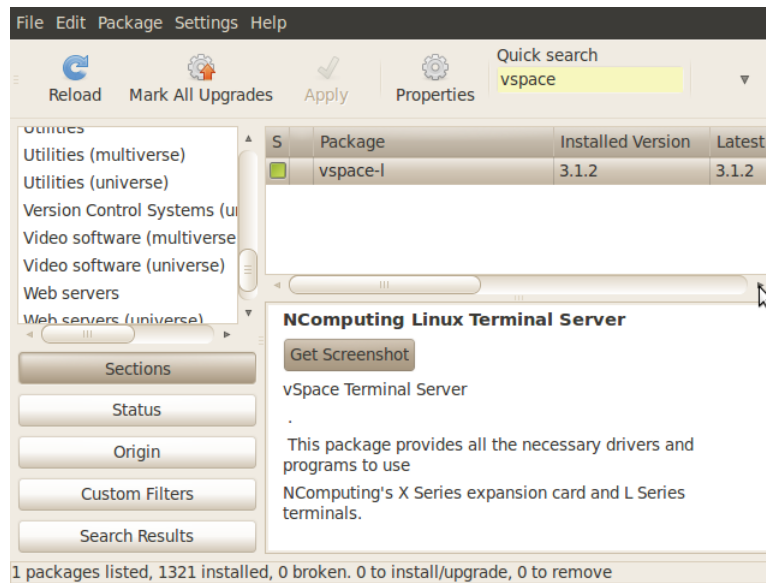
USB 1.1 devices and USB 2.0 devices show up in the assignment screen under two different device types.

- USB 1.1 devices will be shown under a “UHCI Controller” designation in the Product column
- USB 2.0 devices show with the “EHCI Controller” designation in that same Product column.

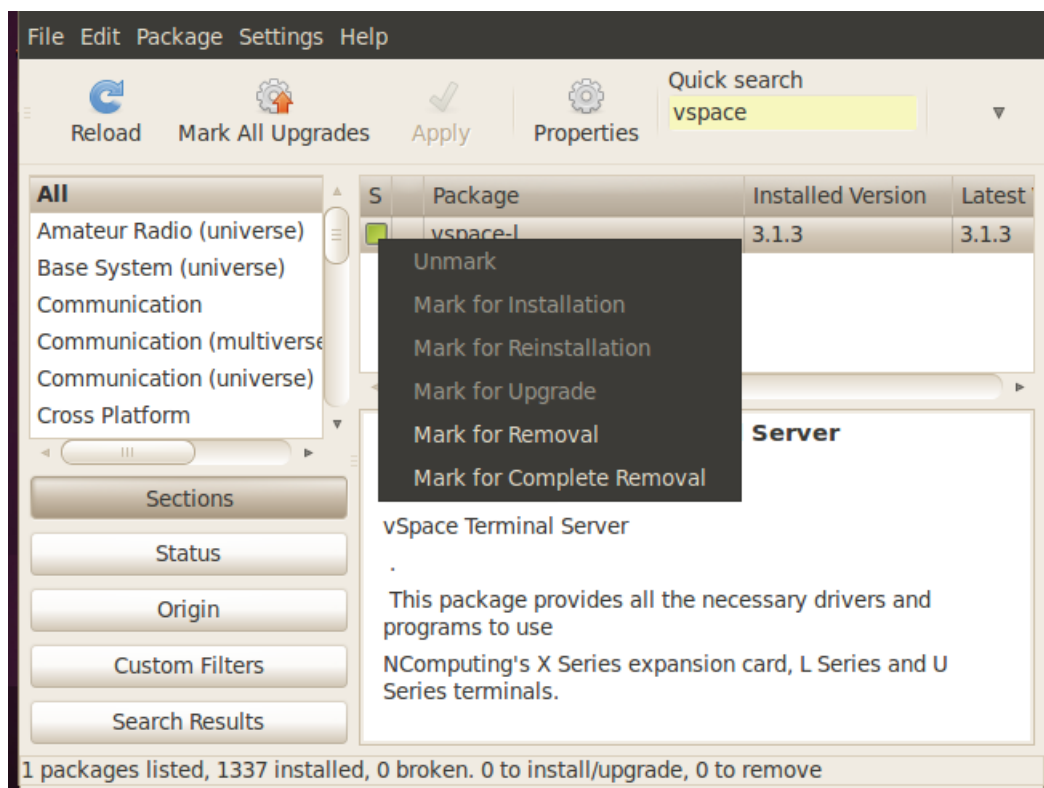
To ensure a device plugged-in to a physical USB port gets assigned to the correct session/station – regardless of whether the device is USB 1.1 or USB 2.0 – the physical port must be double logically identified using both the USB 1.1 device and then using a USB 2.0 device. Then the physical port must be logically “double assigned” under both the “UHCI” and the “EHCI” controller designations.

# Uninstalling vSpace

Uninstalling NComputing's vSpace software can be done using the standard Ubuntu tools. The Synaptic Package Manager will remove the software. vSpace software is identified with the name "vspace-l".



Uninstalling vSpace for Linux



## **GPL Declarations**

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