



Installing NComputing X300 Terminal Services for Linux on Ubuntu 7.04

Prepared by:

NComputing

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Overview – NComputing X300 TS-L (Terminal Services for Linux) Ubuntu 7.04 Package installation procedures, On-line registration, configuring audio, USB Assignment, and uninstall

Prerequisites:

- Linux derivative: Ubuntu 7.04 pre-installed and updated with latest security patches from the Ubuntu repository.
- NComputing X300 PCI card installed in PCI slot and connected to at least one terminal box.
- Sound card (or device) on host system enabled and supported by the Linux OS
- Review the Readme for the release you are installing

Installation Procedure:

Note:

An Internet connection must be available during the installation in order to download and install any dependant packages located in the Ubuntu package repository maintained by the Ubuntu community.

1. Log into your PC as user “root” or with appropriate system “administrative rights”.

The Username and password that were used during the system’s initial Ubuntu 7.04 install will be recognized to have “administrative rights.”

2. Click “Computer” in the Taskbar and select the “File Browser”

3. Locate the NComputing X300 Linux installation files and copy them to your desktop

4. Double click on the x300_2.0.xxx_i386.deb file,

A screen like one of the following two (Figures 1 and 2) will be displayed:
(xxx is replaced by the currently available version number)

5. If the install screen does not have a grayed out “Install Package” button:

→ Click on “Install Package” to continue

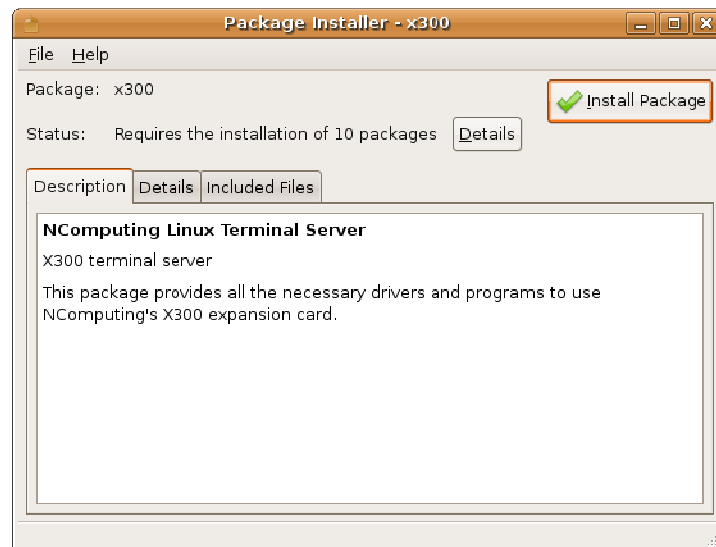


Figure 1 – Example package installer screen with no missing dependencies

6. If the “Install Package” button is grayed out and cannot be clicked:

The install screen may be showing missing dependencies. To resolve this issue, you need to make sure this system points to the appropriate online repositories to supply the needed dependencies.

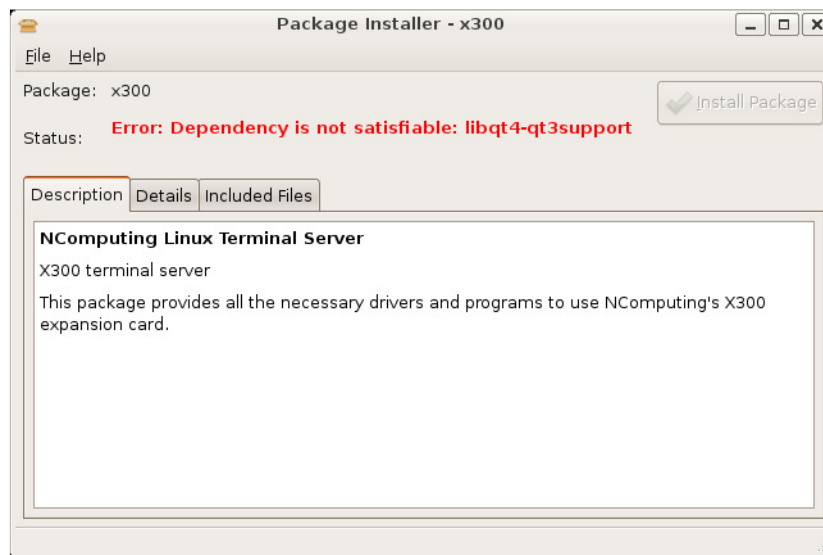


Figure 2 - Example package installer screen with missing dependencies

If you have missing dependencies, you need to add the following lines to your `/etc/apt/sources.list` file:

```
deb http://old-releases.ubuntu.com/ubuntu/ feisty main restricted universe multiverse
deb http://old-releases.ubuntu.com/ubuntu/ feisty-updates main restricted universe multiverse
deb http://old-releases.ubuntu.com/ubuntu/ feisty-security main restricted universe multiverse
deb http://old-releases.ubuntu.com/ubuntu/ feisty-backports main restricted universe multiverse
deb http://old-releases.ubuntu.com/ubuntu/ feisty-backports main/debian-installer
deb-src http://old-releases.ubuntu.com/ubuntu/ feisty-backports main restricted universe multiverse
```

Please comment out all other source entries in the `/etc/apt/sources.list` file before saving the file back to disk..

The easiest way to perform the edit is to open a terminal window and enter the following command:

```
sudo gedit '/etc/apt/sources.list'
```

You will then be asked by the system to supply your “password” and it needs to be the “administrative rights” password discussed earlier in this document.

After completing the edits and saving the `/etc/apt/sources.list` file, you need to update the repository lists by issuing the `apt-get update` command as follows:

```
sudo apt-get update
```

The “`apt-get update`” command will generate a long string of messages that are logged to the terminal window. Some of the messages indicate new lists being loaded and others indicate files skipped or even not found. A mixture of messages like this is normal and should be expected.

Now when you double click on the `x300_2.0.xxx_i386.deb` file, there should be no missing dependencies, and a screen like the following (Figure 3) should be displayed. The “Install Package” button should not be grayed out:

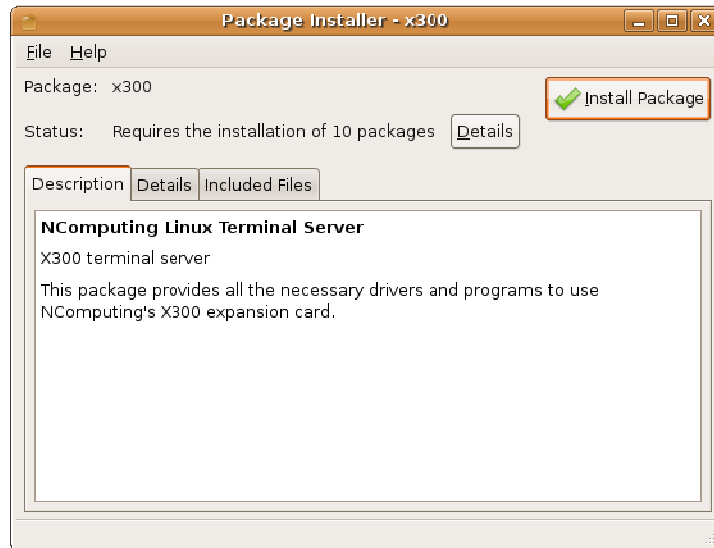


Figure 3 – Example package installer screen after pointing to appropriate repositories

→ Click on “Install Package” to continue

7. Message “Install unauthenticated software”

Depending on the status of your current Linux installation, additional third party software packages may or may not be required. Please click “Yes” if asked to install any required packages. Clicking “No” may result in a non-functional X300 configuration.



Figure 4 - Authorizing additional software

→ Click on “Yes” to continue.

As before, you may be asked by the system to supply your “password” and again, it needs to be the “administrative rights” password discussed earlier in this document.. If so, click OK to continue.

The product dependencies will be downloaded and the installation will begin.

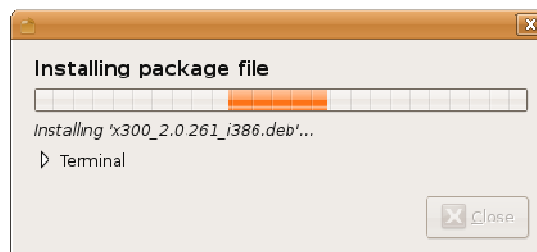


Figure 5 – Installing additional software

8. Accept the “End User License Agreement”

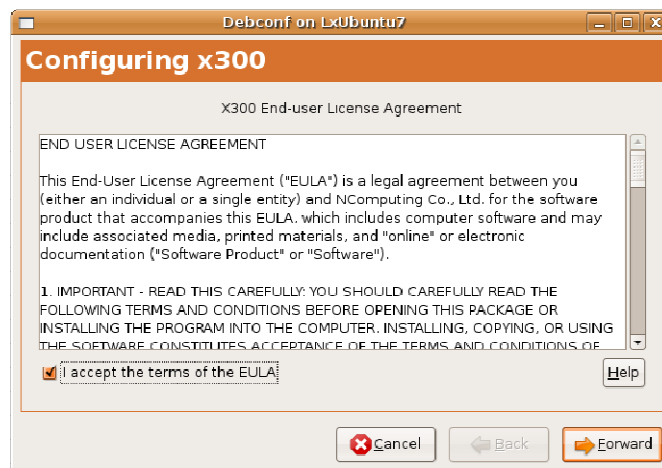


Figure 5 – The X300 EULA

→ Mark the checkbox “I accept the terms of the EULA” and click on “Forward”

9. Accept the X300 terms of Use statement

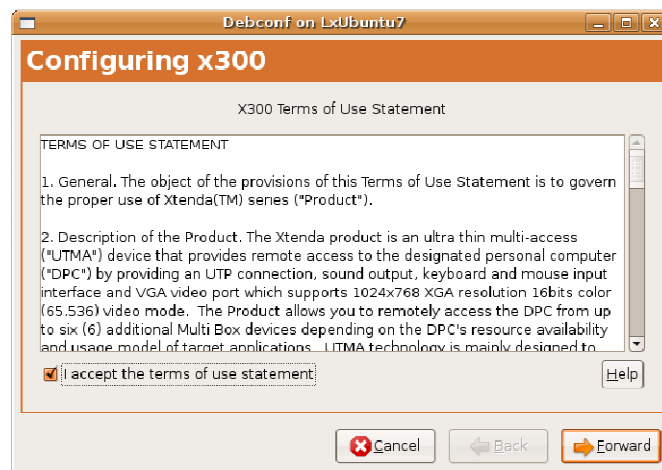


Figure 6 – X300 Terms of Use statement

→ Mark the checkbox “I accept the terms of use statement” and click “Forward”.

10. X300 post-configuration message

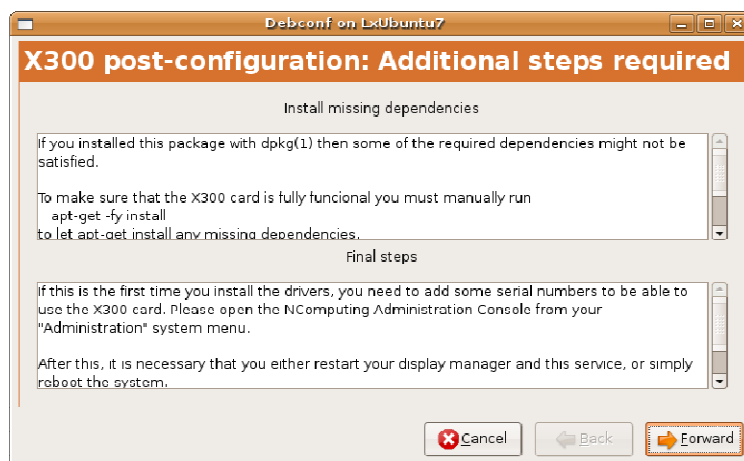


Figure 7 – Post-Configuration message

→ Please read carefully and click on “Forward” to continue

11. Finishing up

After the installation completes, the loaded drivers will start and any monitors connected to the X300 terminal boxes will display a blue screen pattern.

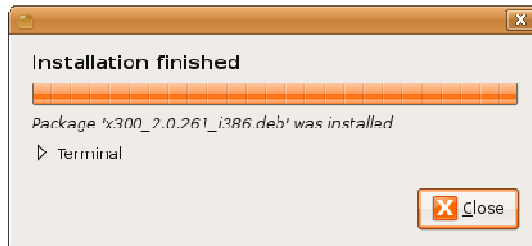


Figure 8 – Installation finished

→ Click **“Close”** to end the program. Please reboot your system at this time.

12. Adding Serial Numbers

After you reboot the system, you'll be required to enter one set of serial numbers per X300 station that you wish to enable. To do this, please start the NComputing Administration Console as follows:

Click on **System → Administration → NComputing Console**

The first time you open the NComputing Console the **“Adding Serial Number”** window automatically pops up.

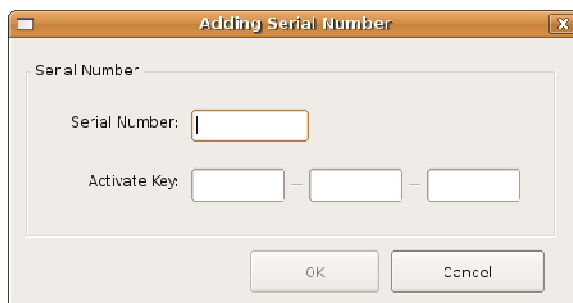


Figure 9 – Adding a serial number

After typing a serial number and its activation key (which can be found on a label on the bottom of the access devices supplied in the X300 kit), the Administration Console window will be displayed.

13. The NCX Administration Console Window

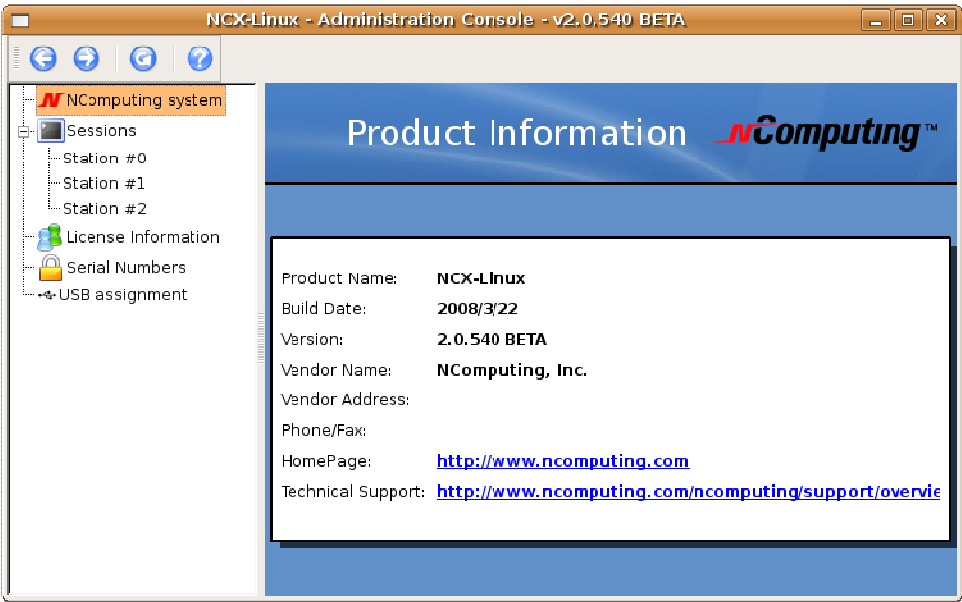


Figure 10 – Administration Console window

To add more serial numbers or display the ones you may have already entered, click the golden padlock on the left pane of the Administration Console window as shown below.

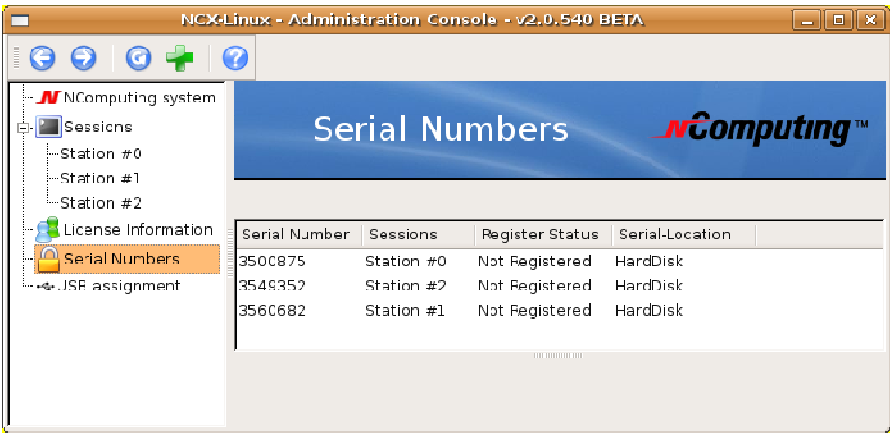


Figure 11 – Installed serial numbers

Clicking the Green Plus sign on the top menu bar will pop up the “Adding Serial Number” window (as shown in figure 8). Please add a Serial Number for every station to be enabled (up to six if you have two X300 cards installed on your system). To enable/start the stations please restart your machine.

14. Registering your product

Once all serial numbers have been entered, you need to register them with NComputing using the registration Wizard procedure, which can be started by right clicking on the background of the serial number pane, shown in figure 10.

NCX-Linux - Registration wizard.

Customer information

Please fill in the following fields:

Name:

Company:

Country:

Address:

City:

Zip code:

Phone:

Fax:

e-mail:

< Back Next > Cancel

Figure 12 – Adding your registration data

→ Fill out all fields on this form and select Next.

This next screen prompts you to choose between Registering or Unregistering serial numbers on our server. If you wish to move the X300 card and its associated terminal boxes from one computer to another, you need to unregister the serial numbers first. Failure to unregister may prevent you from re-installing the LTS software using the serial numbers that were previously registered on our servers.

NCX-Linux - Registration wizard.

Registration method

Online

☒ Register via the Internet

☐ Unregister via the Internet

< Back Next > Cancel

Figure 13 – Registration Wizard option

→ To proceed with Serial number registration, click Next.

The next window presents information you entered via the initial registration form along with the currently installed serial numbers. You can edit this data if necessary. Once you click next, the following registration status screen should be displayed:

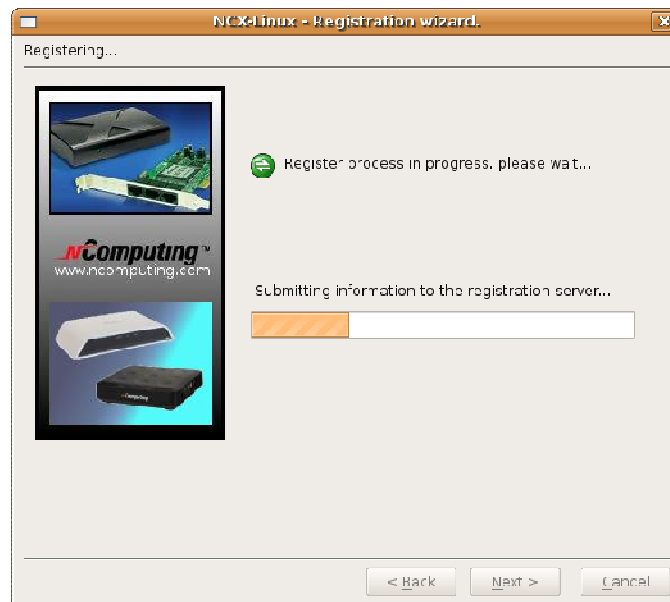


Figure 14 – Communicating with the Registration Server

The outcome of the registration process will be displayed on the next screen. Click OK to finish the registration process and go back to the Administration Console window.

15. Adding new users

If you have not yet created Users for this Linux installation, now is a good time to do it using the Linux GUI or the Terminal console as described below:

Enter the “Terminal console” with sufficient rights to create new users

Enter the command “adduser <username>” (The variable **username** refers to the userid or name of the user which should be created.)

For example: adduser user2

For each new user, the system asks a series of questions necessary 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 X300 terminal attached to this system.

16. Activating audio output on the stations

Audio output on the X300 station(s) will be only available if the user is a member of the “**Audio**” group which enables the necessary privileges to use audio devices. When Ubuntu creates a new user, he/she is automatically added to the audio group.

You can manually add users to the group “**Audio**” using the following terminal console command:

“adduser <username> audio”

For example: adduser user2 audio

When a new user in the “**Audio**” group logs in for the first time, his audio volume will be set to MUTED. To un-mute the audio, left click on the speaker symbol located on the upper taskbar, and select a new default volume level.



Figure 15 – Location of audio level control

You can verify that sound is working correctly by running the following script from the command prompt:

`/usr/share/ncomputing/testaudio`

17. USB Port Assignment

To “assign” USB devices (i.e., associate them with a particular station or access device)), please use the “**USB assignment**” tab in the NComputing Administration Console. This function assigns a USB port on the host to one access device.

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 does not work for devices already present and mounted with a different user's rights); so, to ensure port assignment works as intended, please disconnect all non-essential USB devices and re-boot the machine before assigning USB ports to stations. After the reboot, please Login as user “root”.

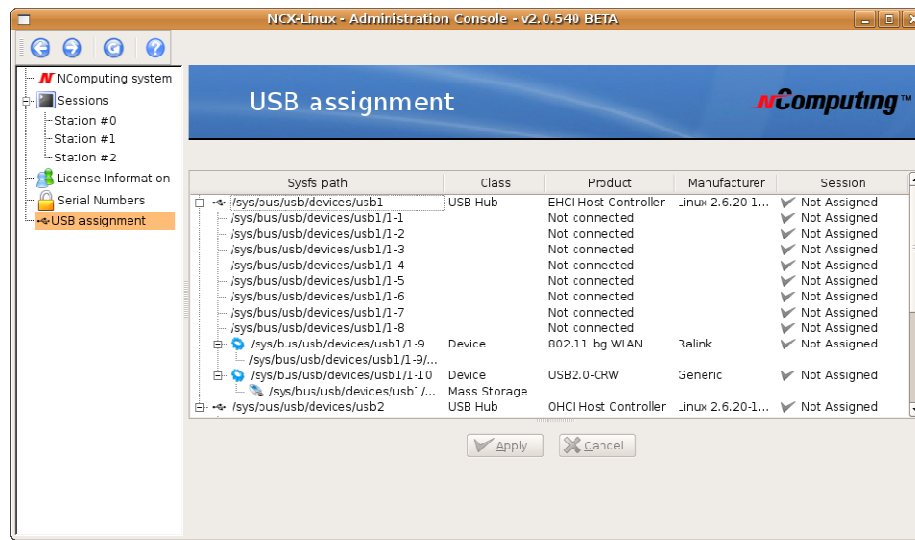


Figure 16 – USB assignment screen

First, you need to identify the Linux port that you wish to assign to a particular Access Device or Station. To do that, 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 button with a curved arrow to left of the Question Mark button). This updates the USB connectivity information list and the new device should now appear. See example below:

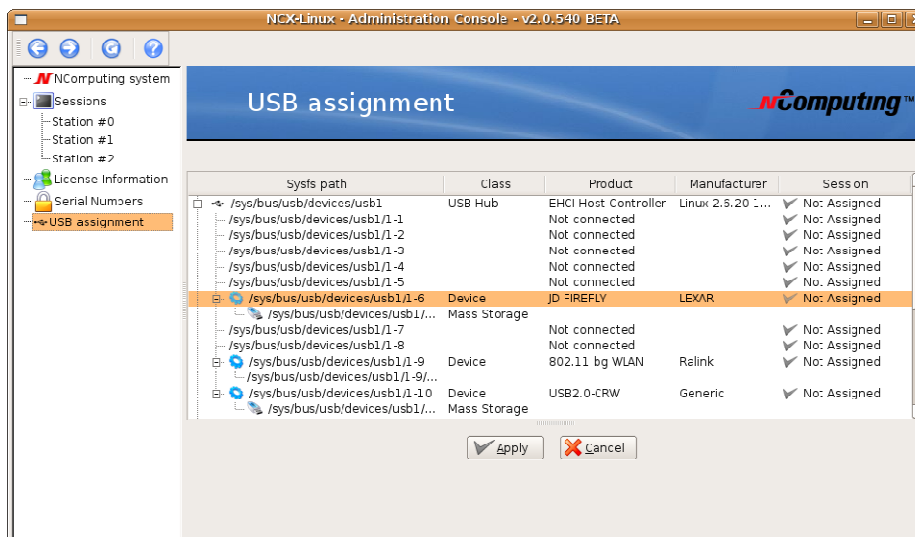


Figure 17 – Identifying USB ports

➔ Right click on the “Not Assigned” text corresponding to the USB port you have just identified and select the Session to which you want to assign that port.

NOTE1: Figure 16 shows that Station 0 will be the terminal that gets physically connected to the topmost RJ45 connector on the X300 PCI card. Station 1 attaches to the middle connector and Station 2 corresponds to the lower RJ45 connector.

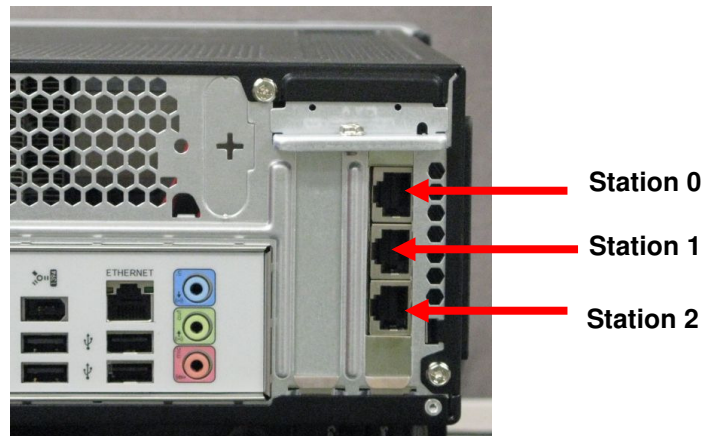


Figure 18 – Station port assignments

NOTE2: For USB assignment in this release, Stations are numbered 1 though 6 (for up to six stations) in the station assignment dropdowns, but the Stations are numbered 0 through 5 in the left-hand console navigation pane. (See Figure 17.) So, please remember that Station 1 in the dropdown corresponds to Station 0 in the left-hand navigation pane, Session 2 in the dropdown is for navigation pane Station 1, and so on.

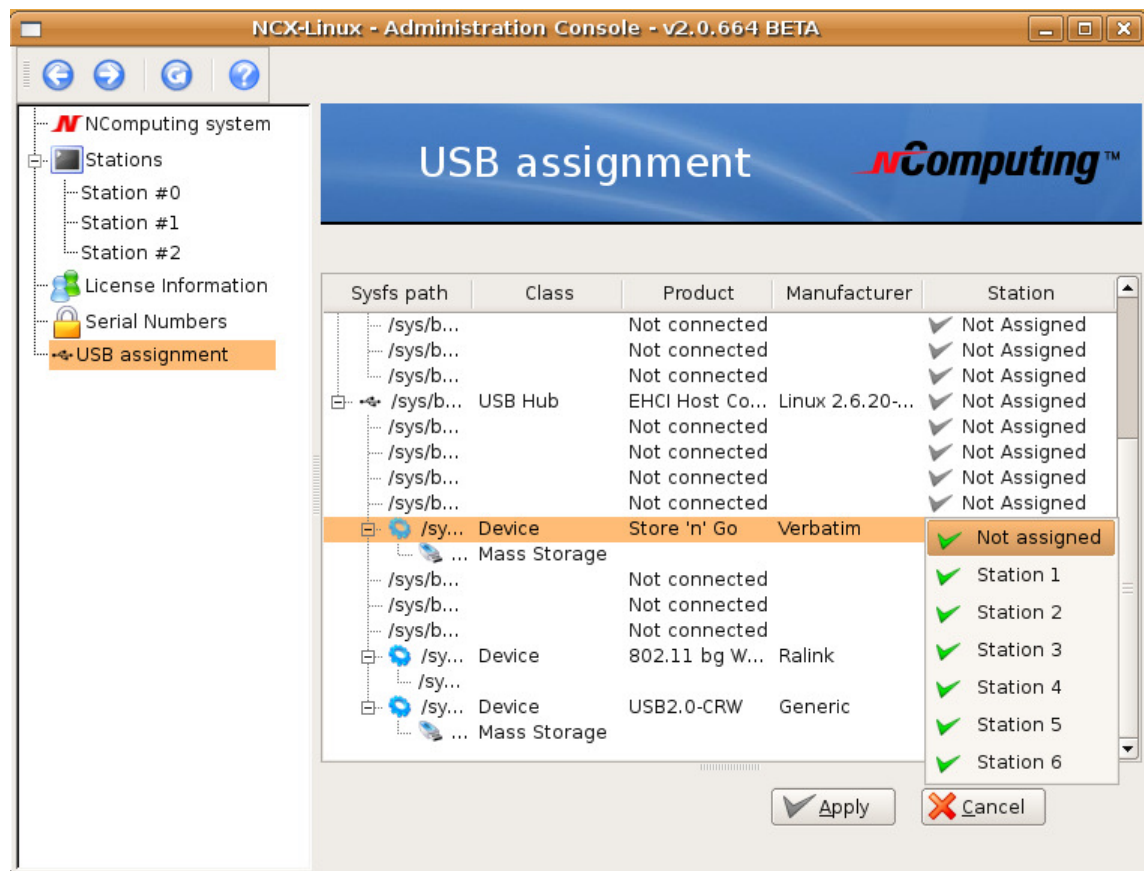


Figure 19 – Choosing the Station number

➔ After selecting the desired station numbers, click “Apply” to save the new settings.

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

• • •

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 84



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Uninstall Procedure:

There are many ways to uninstall and install packages in Ubuntu Linux. Below are three of the methods available for Ubuntu 7.04:

→ Method 1: Using the Synaptic Package Manager

In the upper Menu, click on:

System → Administration → Synaptic Package Manager.

Enter the required password, e.g. the same password as used during logon.

A “**Quick Introduction Screen**” may appear, Click on “**Close**” to continue.

If this user account has sufficient rights, you should be able to successfully perform the uninstall from the Synaptic Package Manager.

Click in the upper right on “**Search**” and input “**x300**” as the search criteria. and hit “**enter**”
Using the right mouse button, click on the “**x300**”.

You will be presented with 2 options:

- “**Remark for removal**” This option will remove the package, leaving previously configured settings intact.
- “**Remark for complete removal**” This option will remove the package including all previously configured settings. Under normal circumstances, Linux will also remove any unnecessary x300 dependency packages.

After selecting the desired removal method, click “**Apply**” in the upper menu bar to carry out the operation. There may be a delay as the uninstall completes.

→ Method 2: Using the “**apt-get**” command line utility.

From the desktop, click

Applications” → Accessories → Terminal

To successfully execute this command, “**root**” user rights are required. To obtain these rights: input “**su**” at the command prompt and press “**enter**”, input the “**root**” password, and press “**enter**” to continue.

Then input “**apt-get remove x300**”, and press “**enter**”

Answer “**Y**” to the question “**Do you want to continue? y/n**” to remove the product.

Similar to the procedure in Method 1, the command argument will define whether or not the package is completely removed.

- The word “**remove**” in the above apt-get example simply removes the x300 package leaving all previous configuration settings intact.
- Replace the word “remove” with “**purge**” in the above example and the apt-get command removes the package along with all previous configuration settings.

→ Method 3: Using the “**aptitude**” command line utility

From the desktop, click

Applications” → Accessories → Terminal

Then enter “**aptitude remove x300**” and the utility will remove the x300 package.

As in Method 3, “**purge**” can be used in place of “remove” to uninstall the package along with all previous configuration settings.

Aptitude can also be used in the available terminal based program to search for and remove the x300 package.

Additional Uninstall Tips:

Since Ubuntu is a Debian distribution. You can install / uninstall / update, using the “dpkg” command directly (see 'info dpkg' for more information).

Examples:

To install or update X300 package;

```
dpkg -i x300_2.0.<rev>_i386.deb
```

To check if x300 package is installed:

```
dpkg -l x300
```

To list the contents of the package:

```
dpkg -L x300
```

To un-install the package (erase):

```
dpkg -e x300
```

To purge all files normally remaining after “erase” (debian packages keep history and configuration for next installations):

```
dpkg -p x300
```

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