

OpenSUSE Leap 15.1 Installation & Configuration

Version 1.1 January 2020

Introduction

This document outlines the procedure for installing openSUSE Leap 15.1 together with any configuration required when utilising OpenSUSE Leap 15.1 as the underlying operating system for running core and embedded SelectVoice applications; Soft PBX, Voice Processing, Vision and SSL Gateway.

Prerequisites

Splicecom recommend the following Server/Computing Platforms for supporting SelectVoice applications, running on the OpenSUSE Linux operating system.

Size			Processor Max. no. of users	Memory	Max. no. of trunks
Small (MAP Solo)	Dual Core	2Gb	20	15	
Medium (MAP)	Quad Core	4Gb	500	90	
Large	Quad Core	8Gb	1,000	120	

Please be aware that your choice of platform is important. We strongly recommend you contact your Splicecom account manager to discuss the best platform to use for your customers application.

Please ensure that your Linux machine has an Ethernet connection that is active, make sure a USB keyboard, mouse and DVD player are connected and that the machine is connected to a monitor.

SelectVoice/Maximiser Software

The following versions of SelectVoice software have been tested with openSUSE Leap 15.1.

SelectVoice 1.2.68 and above.
SSL Gateway 1.2.68 and above.

S8000 4.1.18 and above.
SSL Gateway 4.1.18 and above.

Vision Software

Vision 1.7.65 and above

**** IMPORTANT ****

Please make sure you complete **ALL** the stages especially the section **Update Network Drivers** Failure to do so will render Manager and Vision pages unusable.

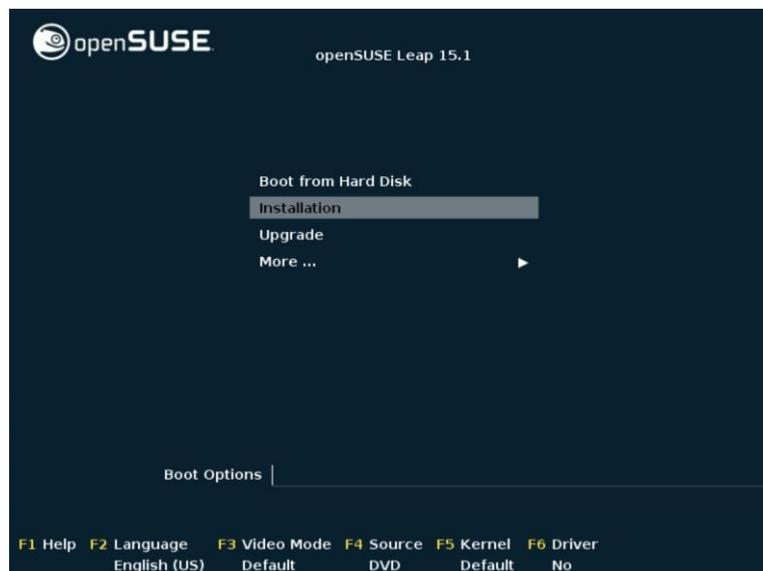
Installing OpenSUSE Leap 15.1

Insert the installation openSUSE Leap 15.1 DVD into the attached drive and restart the machine. Press F12 (This may differ for different machine BIOS's) whilst the machine is booting. You will see the following boot menu.

Use the arrows keys to select the device you are using to upgrade the system.



After a short period of time the main start-up menu will be shown, Use the arrow keys, select Installation and press Return.

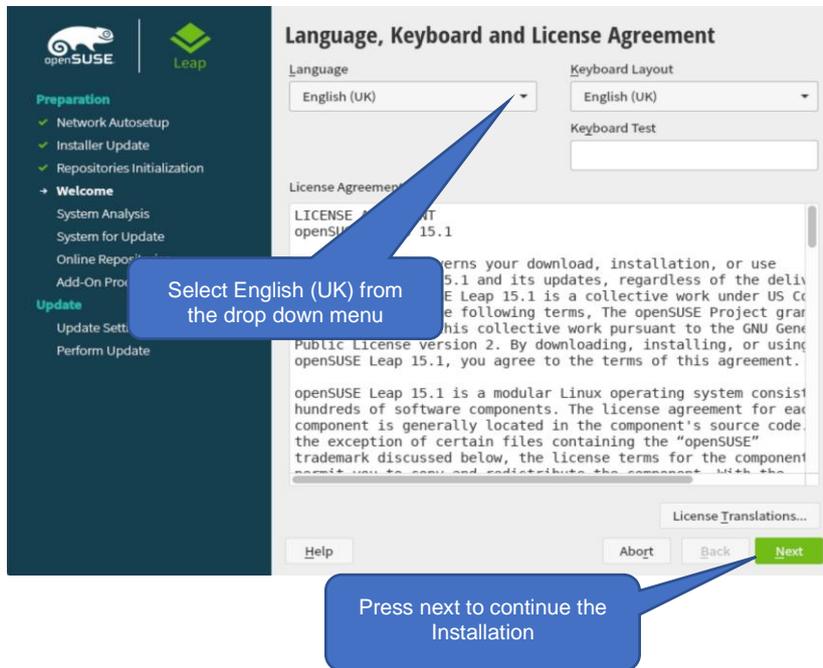


The upgrade process will now load, this may take a few minutes.

Installing OpenSUSE Leap 15.1

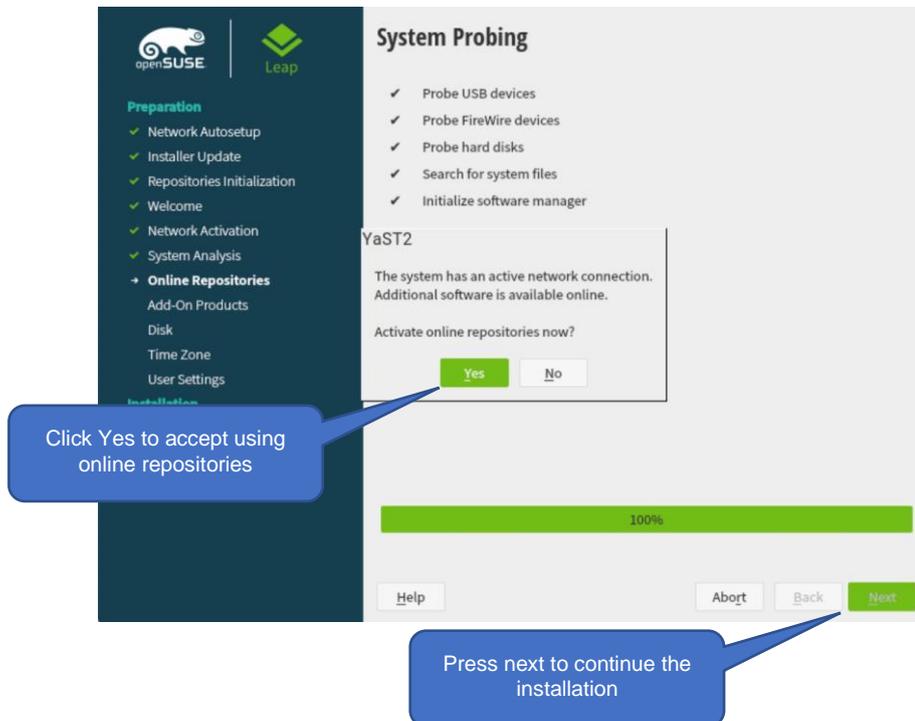


You will then be taken to the Language, Keyboard and Licence Agreement window, select 'English (UK)' from the drop down list for the Language, the keyboard layout settings should automatically change.

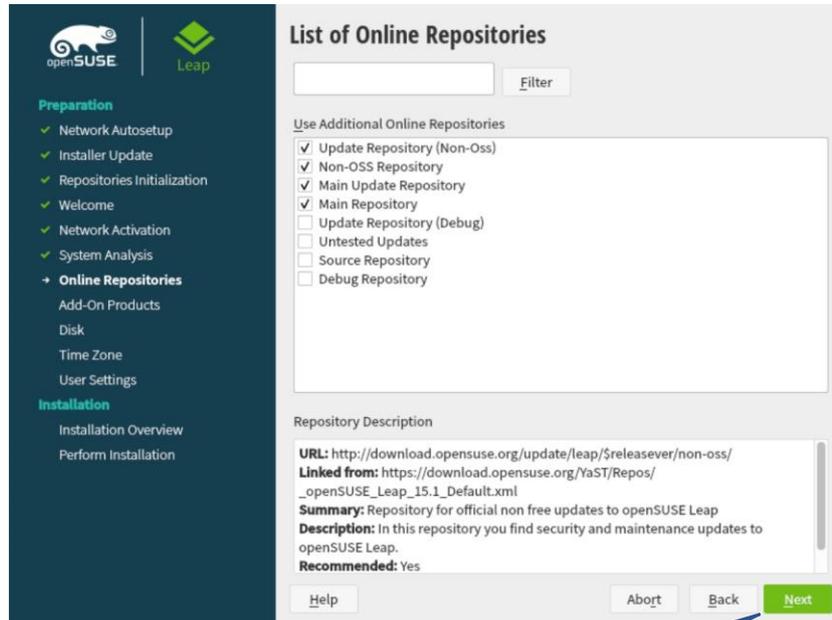


The installation process will progress with some system analysis so that it can continue with the installation.

If the system has a live internet connection you will be asked if you wish to use the online repositories, click yes to accept this option, and then click next to continue the installation.

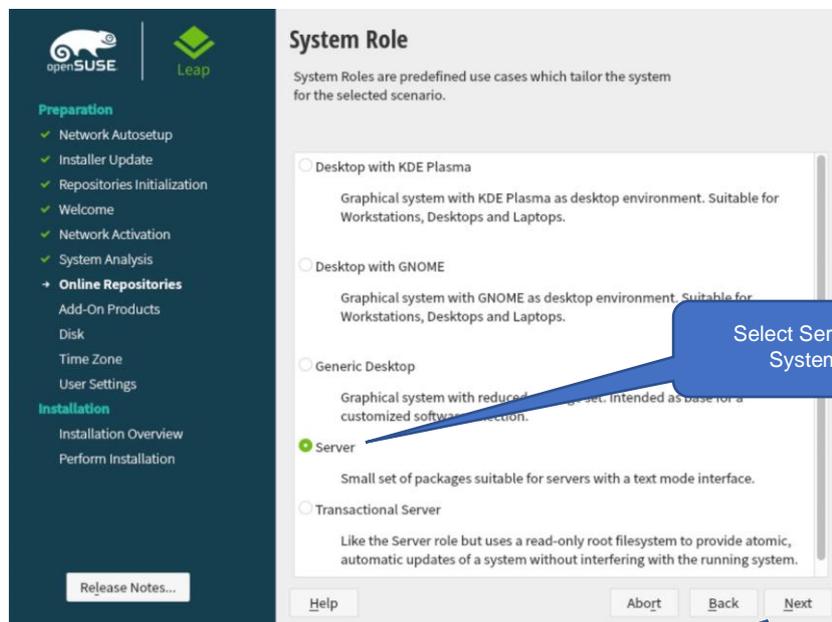


Click Next to accept the repositories.



Press next to continue the installation

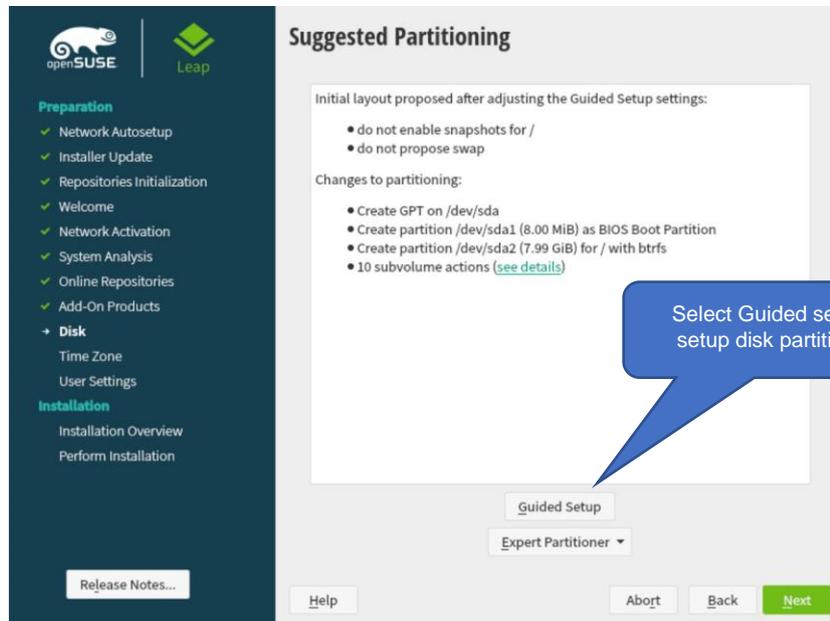
You will now be asked to select the system role. Splice.com only recommends the use of a server (Text mode interface only) installation as GUI installations have proved in the past to use system resources.



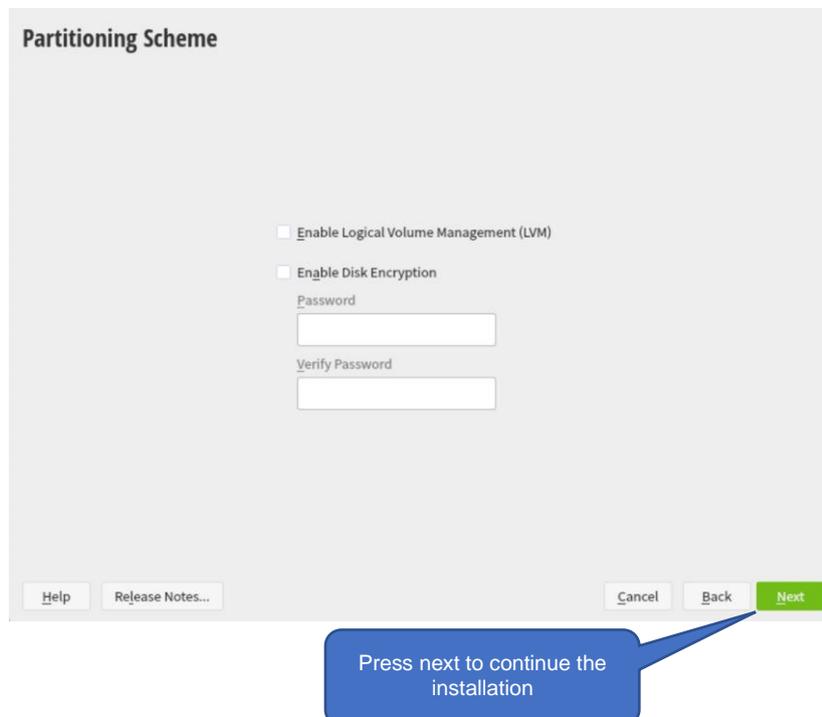
Select Server as the System Role

Press next to continue the installation

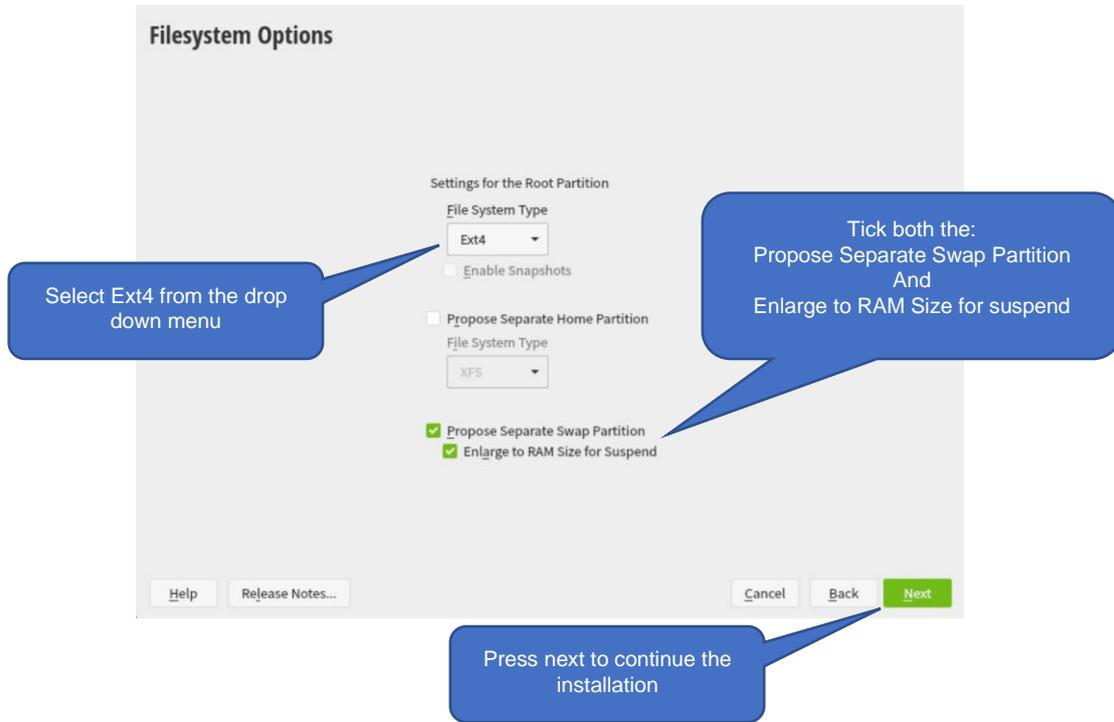
You will now be asked about the systems partition setup, SpliceCom recommends the use of the whole disk without a separate user partition. Select Guided setup to setup the disk partitioning.



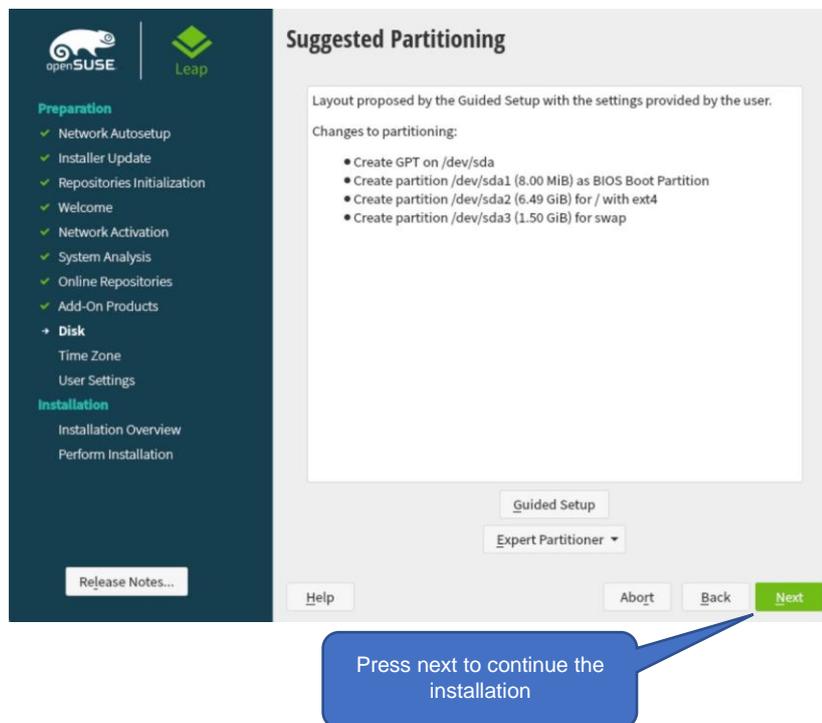
No changes are required for the Partitioning Scheme, click Next to continue the installation.



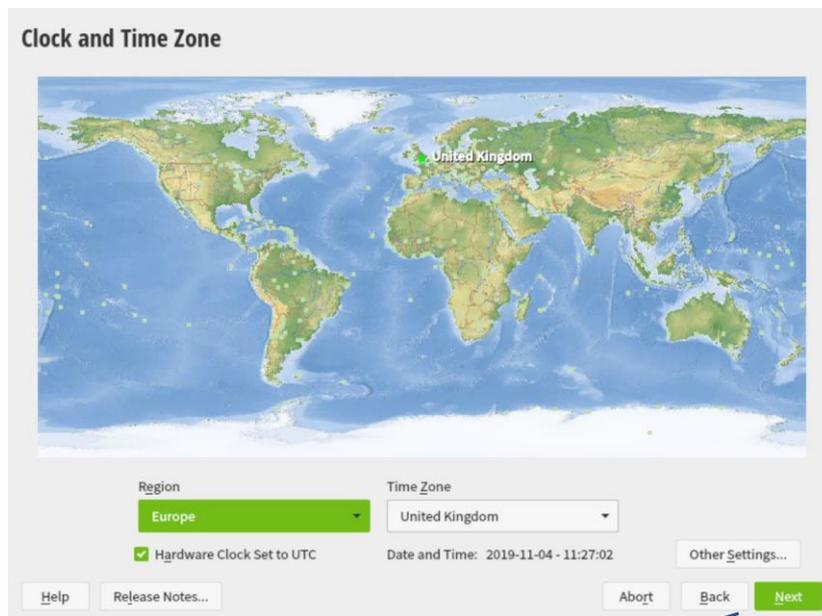
You will now be presented with the Filesystem Options screen, from the drop down list for file system type select Ext4, you should also tick 'Propose Separate Swap Partition' and tick the 'Enlarge to RAM size for suspend'



Click next to accept the Suggested Partitioning (Note: screen may differ)

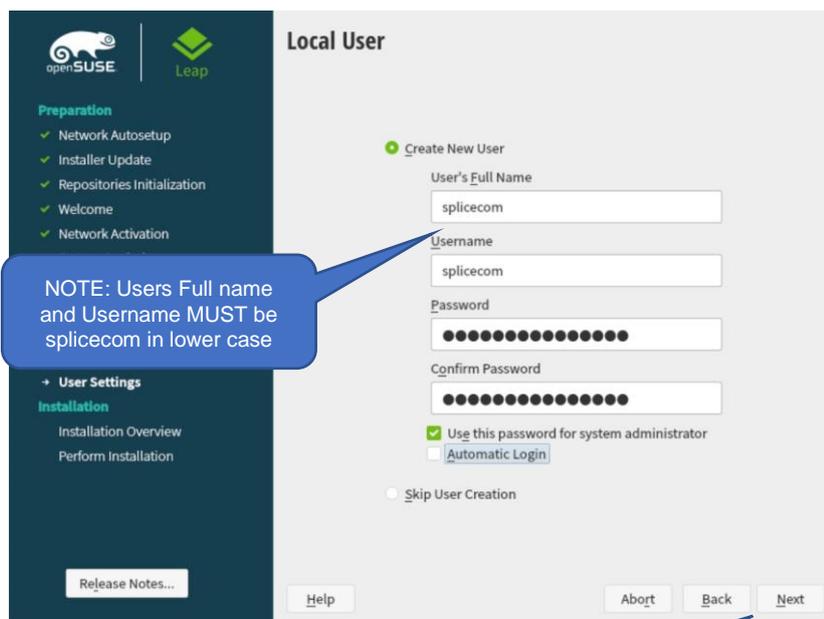


Clock and time zone settings will automatically have been set, click next to continue.



Press next to continue the installation

Setting the local user: You must have a splicecom user to do this enter the Users Full Name as splicecom and the same for Username (Note: splicecom must be lowercase) enter a password (Note: This will be changed when you install the SelectVoice software)



NOTE: Users Full name and Username MUST be splicecom in lower case

Press next to continue the installation

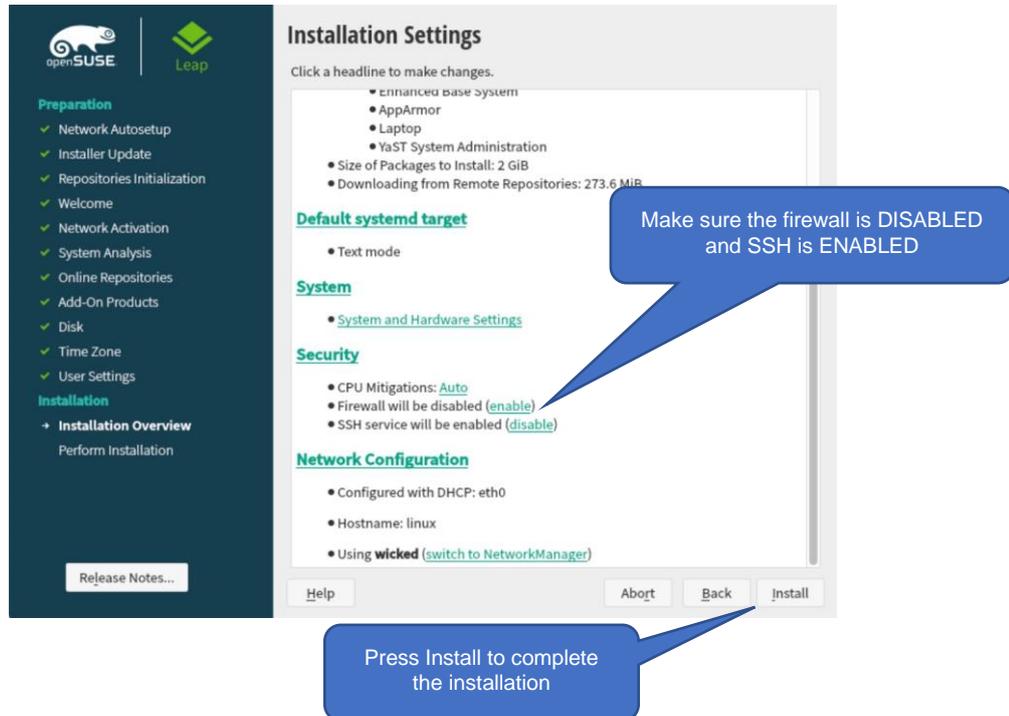
Installing OpenSUSE Leap 15.1



The system will then show you the Installation Settings that are going to be used.

You MUST:

- Disable the Firewall
- Enable the SSH service



Click install to complete the installation, A popup window will appear confirming the installation, click on Install to continue or back to go and make any further changes.



Once the installation is completed the system will restart and you can then login as your user splicecom, using the password set earlier.

Upgrading Network Driver

We have found that the openSUSE leap 15.1 network driver is not compatible with MAP servers, therefore it is IMPORTANT that the following steps are carried out otherwise the Web pages for Manager and Vision will not display correctly.

Login to the system and carry out the following commands in order and exactly as typed:

NOTE: All commands are followed by 'enter'

su

zypper ar http://download.opensuse.org/repositories/home:/Sauerland/openSUSE_Leap_15.1_Update/ nicStuff

zypper refresh

zypper in r8168-blacklist-r8169 reboot

Completing the installation

To complete the installation, it is advised to install any updates to do this use the following command line instructions.

- Login as splicecom
- At the command line enter **sudo zypper update**

enter the password when asked then select yes (y) to install/update the packages.

You should see a screen similar to this one:

```
splicecom@linux-1sjd:~>
splicecom@linux-1sjd:~> sudo zypper update
[sudo] password for root:
Loading repository data...
Reading installed packages...

The following 5 NEW packages are going to be installed:
  kernel-default-4.12.14-lp151.28.20.1 libmediacheck5 libprocps7 virtualbox-guest-kmp-default virtualbox-kmp-default

The following 257 packages are going to be upgraded:
  aaa_base aaa_base-extras apparmor-abstractions apparmor-docs apparmor-parser apparmor-parser-lang apparmor-profiles apparmor-utils
  apparmor-utils-lang bash bash-doc bash-lang bind-utils bzip2 ca-certificates-mozilla checkmedia cpp7 cron crone cups-filters curl
  dbus-1 dbus-1-x11 device-mapper dhcp dhcp-client dracut e2fsprogs ebttables elfutils elfutils-lang expat ghostscript ghostscript-x11
  glib-networking glib-networking-lang gpg2 gpg2-lang grub2 grub2-i386-pc grub2-snapper-plugin grub2-systemd-sleep-plugin gtk3-data
  gtk3-imodule-amharic gtk3-imodule-inuktitut gtk3-imodule-vietnamese gtk3-lang gtk3-schema gtk3-tools gvfs
  gvfs-backend-afc gvfs-backends gvfs-backend-samba gvfs-fuse gvfs-lang hwinfo lscsiui kernel-firmware kpartx krb5 libapparmor1
  libasm1 libbind9-160 libblkid1 libbluetooth3 libbz2-1 libcdio16 libcom_err2 libcurl4 libdb-4_8 libdbus-1-3 libdcerpc0
  libdcerpc-binding0 libdevmapper1_03 libdevmapper-event1_03 libdns169 libdrm2 libdw1 libebl-plugins libelf1 libexpat1 libext2fs2
  libfdisk1 libfreebl3 libgcrpt20 libgd3 libgnutls30 libgtk-3-0 libimobiledevice6 libirs160 libisc166 libisccc160 libiscfg160
  libjasper4 libjavascripcoregtk-4_0-18 libldap-2_4-2 libldap-data liblmdb-0_9_17 liblvm2app2_2 liblvm2cmd2_02 liblwres160 liblz4-1
  liblzm5 libmount1 libndr0 libndr-krb5pac0 libndr-nbt0 libndr-standard0 libnetapi0 libnetpbm11 libnghttp2-14 libopeniscsiusr0_2_0
  libopensll1_1 libpackagekit-glib2-18 libparted0 libpcap1 libply4 libply-boot-client4 libply-splash-core4 libply-splash-graphics4
  libpng16-16 libpolkit0 libreadline7 libruby2_5_2_5 libsamba-credentials0 libsamba-errors0 libsamba-hostconfig0 libsamba-passdb0
  libsamba-policy0-python3 libsamba-util0 libsamdb0 libseccomp2 libsensors4 libsmartcols1 libsmclient0 libsmclient0 libsmclient0 libsmclient0
  libsoftokn3 libsofv-tools libsqlite3-0 libssh4 libstorage-ng1 libstorage-ng-lang libstorage-ng-ruby libtasn1 libtasn1-6
  libtevent-util0 libuuid1 libvmtools0 libwbclient0 libwebkit2gtk-3-lang libwebkit2gtk-4_0-37 libxml2-2 libxml2-tools libxslt1
  libyui-ncurses-pkg9 libz1 libzstd1 libzypp lvm2 mdadm mozilla-nspr mozilla-nss mozilla-nss-certs multipath-tools netpbm open-iscsi
  openldap2-client openslp openssl openssl-askpass-gnome openssl-helpers openssl-1_1 openSUSE-release open-vm-tools PackageKit
  PackageKit-backend-zypp PackageKit-gstreamer-plugin PackageKit-gtk3-module PackageKit-lang parted parted-lang pciutils-ids
  perl-apparmor perl-Bootloader permissions pinentry plymouth plymouth-dracut plymouth-plugin-label plymouth-plugin-label-ft
  plymouth-plugin-script plymouth-plugin-two-step plymouth-scripts polkit polkit-default-privs postfix procs python3-apparmor
  python3-bind python3-solv quota readline-doc rpcbind rsync rsyslog ruby2.5 ruby2.5-stdlib samba samba-client samba-libs
  samba-libs-python3 samba-python3 shadow sudo supportutils system-user-root tcsh tcsh-lang timezone tuned ucode-amd ucode-intel
  util-linux util-linux-lang util-linux-systemd vim vim-data vim-data-common webkit2gtk-4_0-injected-bundles wireless-regdb xfsprogs xz
  xz-lang yast2 yast2-add-on yast2-auth-client yast2-country yast2-country-data yast2-installation yast2-logs yast2-network
  yast2-ntp-client yast2-packager yast2-pkg-bindings yast2-proxy yast2-security yast2-services-manager yast2-storage-ng yast2-support
  yast2-update yast2-users zypper zypper-aptitude zypper-log zypper-needs-restarting

The following product is going to be reinstalled:
  "openSUSE Leap 15.1"

The following 4 packages require a system reboot:
  dbus-1 kernel-default-4.12.14-lp151.28.20.1 kernel-firmware libopensll1_1

257 packages to upgrade, 5 new.
Overall download size: 273.6 MiB. Already cached: 0 B. After the operation, additional 333.9 MiB will be used.

Note: System reboot required.
Continue? [y/n/v/...? shows all options] (y):
```


Check Additional Required Settings (Continued)

At the command prompt enter:

- `sudo vi /etc/security/limits.conf`

Make sure the following values have been set/added before the # End of file line:

```
*      hard   nproc   16384
*      soft   nproc   8192
root   -       nproc   unlimited
*      hard   core    unlimited
*      soft   core    unlimited
```

Use the Tab key to space the items out over the line.

```
#*          soft   core    0
#*          hard   rss     10000
#@student   hard   nproc   20
#@faculty   soft   nproc   20
#@faculty   hard   nproc   50
#ftp        hard   nproc   0
#@student   -       maxlogins 4

# harden against fork-bombs
*          hard   nproc   16384
*          soft   nproc   8192
root      -       nproc   unlimited
*          hard   core    unlimited
*          soft   core    unlimited
# End of file
```

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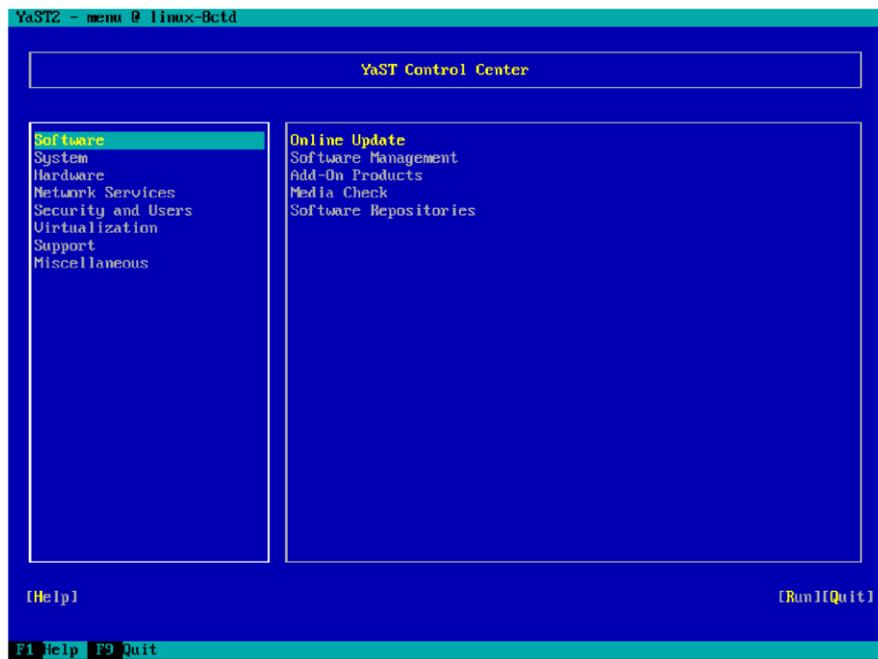
- Reboot the server for the new values to take effect.

Network Settings & Changing Device Names

You will probably wish to set the PC with a static IP address to do this you can run Yast from the command line, login to you server and at the command prompt enter the following:

- `sudo /usr/sbin/yast`

You may be prompted for your system password (Enter if requested) The command line version of Yast will then be shown.



To
Yast use the arrow and Tab keys, use return to select an item.

- ← Move Left
- Move Right
- ↑ Move Up
- ↓ Move Down

Tab Use the Tab key to move around the main areas of Yast

- ↵ Press Return

navigate around

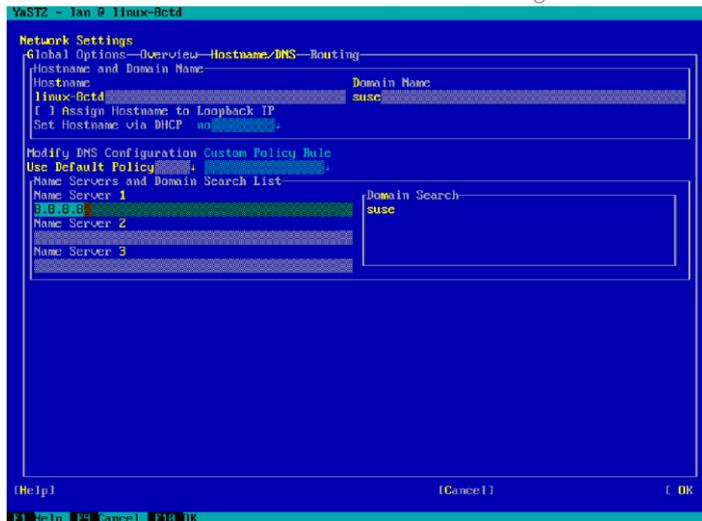
To begin with the Software option will be highlighted.

- ↓ Use the down arrow to highlight the System option
- Use the right arrow to jump across to the main options window
- ↓ Use the down arrow down and highlight Network Settings
- ↵ Press return to select Network Settings

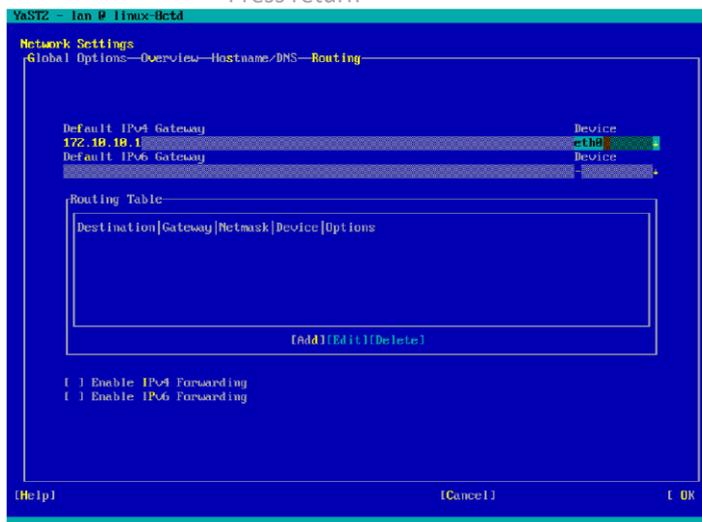
You will now be presented with the Network page (You may be asked to install some extra packages, install any that are required).

Network Settings (Continued)

- Tab Press Tab to Highlight Overview
- Use the right arrow to move to Hostname/DNS
- Tab Press Tab until Name Server 1 is highlighted
- Eg 8.8.8.8 Enter the Name server address
- Tab Press tab to enter another Name server or continue to OK
- ↵ Press return to go back into the main screen



- ↵ Press return to go back to Network Settings
- Tab Press Tab until Overview is highlighted again
- Use the right arrow to move to Routing
- eg 192.168.0.254 Enter the default Gateway address
- Tab Press Tab to move to the Device selection
- ↓ Press the down arrow to get a list of devices
- eg eth0 Select eth0 from the Drop down
- Tab Press tab to move to OK
- ↵ Press return



Network settings are now complete, to quit out of Yast.

- Tab Press Tab to move to Quit
- ↵ Press return to select Network Settings