

Linux OpenSUSE Leap 15.3 Installation & Configuration

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Installation & Configuration

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Linux OpenSUSE Leap 15.3

Installation & Configuration

Introduction

This document outlines the installation and configuration required when utilising OpenSUSE Leap 15.3 as the underlying operating system for running core and embedded SelectVoice applications; Soft PBX, Voice Processing, Vision and SSL Gateway and specifically targets hardware supplied by Splice.com.

In a virtual environment, be aware of what share you are getting of the real resources, for example the latencies involved when the host is overloaded or over-subscribed. It is best to allocate and lock all your cores and RAM so you don't get locked out or starved when passing voice traffic which can cause a break up in speech.

Before you start

The minimum specification of platform required to run one or more SelectVoice applications can be found in the following document:

- [Recommended Computer Platforms For Splice.com Apps](#)

Which can be found on the IRIS web site.

Please be aware that your choice of platform is important. We strongly recommend you contact your Splice.com account manager to discuss the best platform to use for your customer's application.

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

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Installation of OpenSUSE Leap 15.3

First insert the installation DVD into the 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.

```
Please select boot device:
-----
P0: HGST HTS725032A7E630
TSSTcorpCDDVDW SE-S084F TS00
Realtek PXE B01 D00
Realtek PXE B02 D00
UEFI: TSSTcorpCDDVDW SE-S084F TS00
UEFI: TSSTcorpCDDVDW SE-S084F TS00
Diagnostic Program
Enter Setup
-----
↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults
```

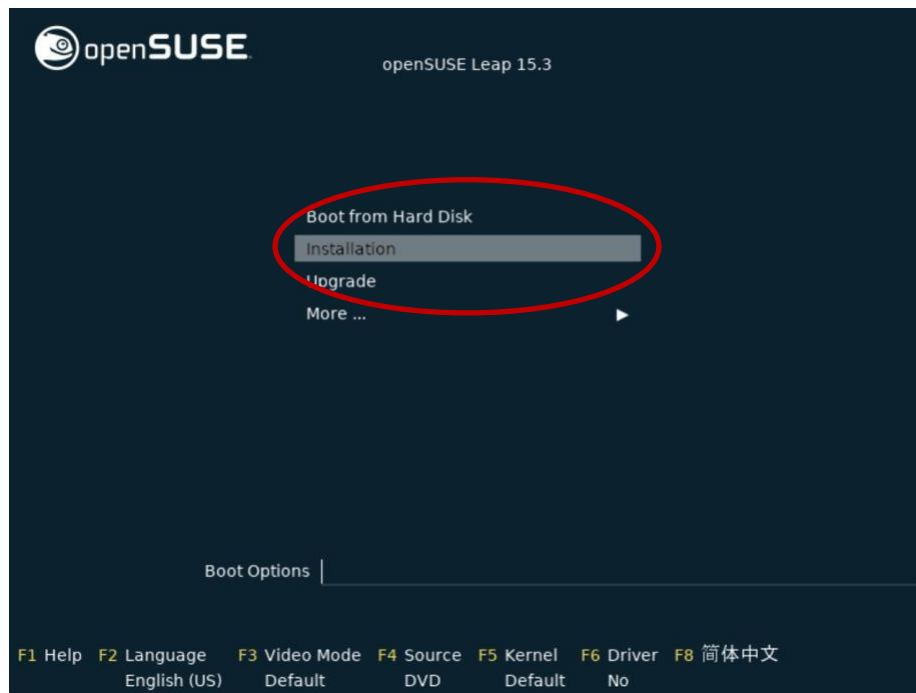
Select the appropriate DVD Device that has the OpenSUSE Leap 15.3 DVD loaded.

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Installation & Configuration

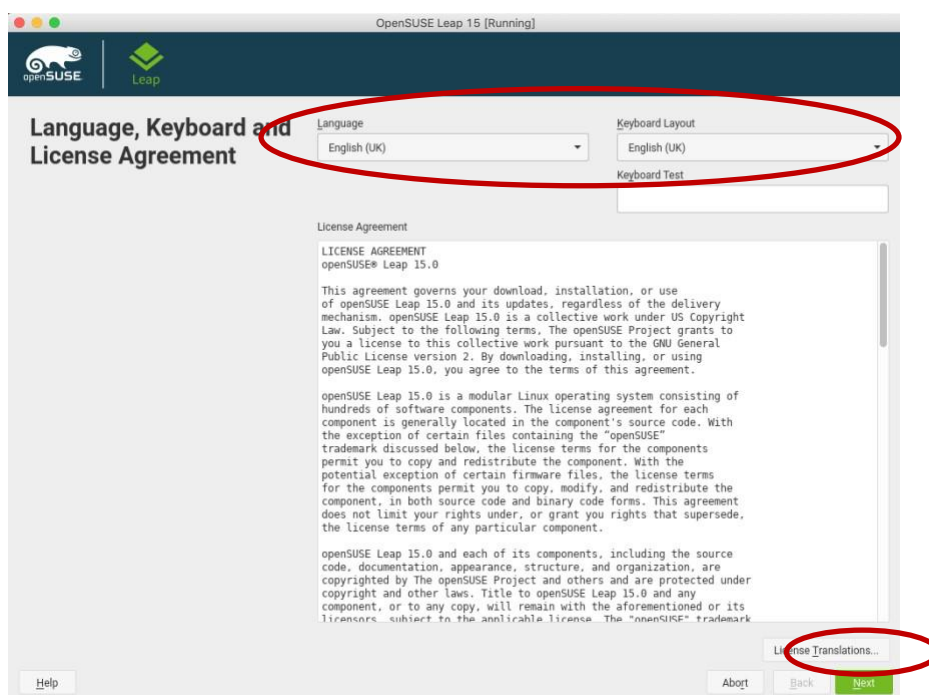
openSUSE Boot Menu

The machine will boot up from the chosen device and present you with the OpenSUSE installer window. Use the arrow keys to select Installation and press Return.



Language, Keyboard and License Agreement

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. Once selected, click next to continue.



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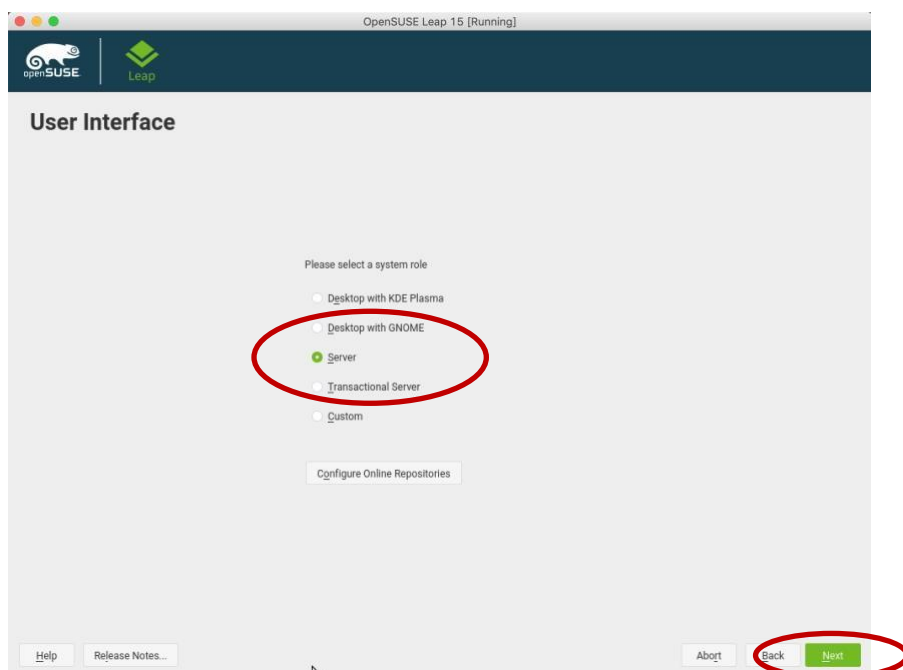
Online Repository

If the system is connected to the internet, and it is detected, it may ask if you wish to use these. For now click no

User Interface

Splicecom **STRONGLY RECOMMENDS** that you **DO NOT** install the **ANY** desktop when setting up LEAP 15. This document will cover the installation of OpenSUSE Leap 15 without a desktop.

Select Server from the user interface screen.



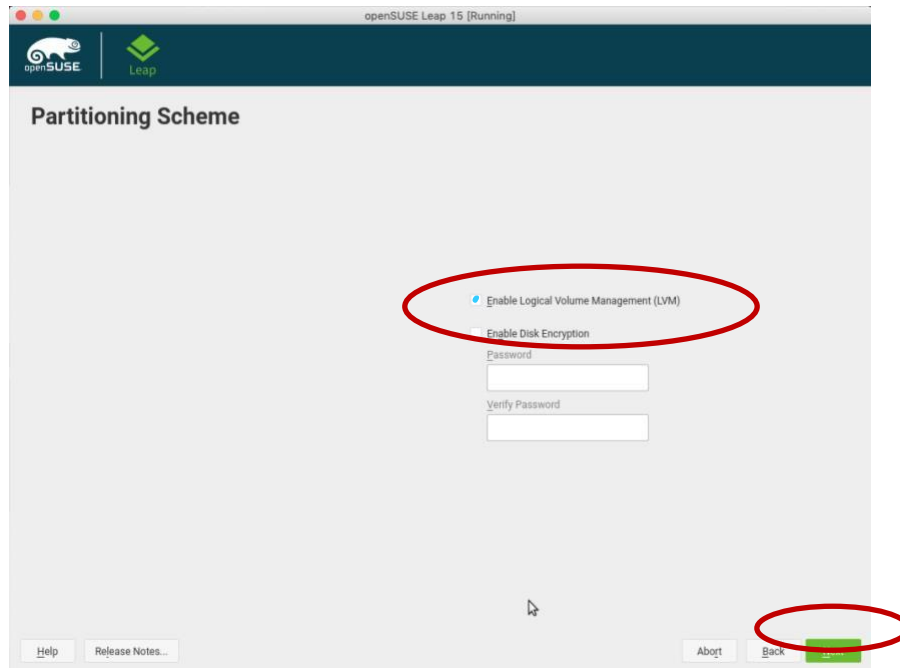
The install process will progress with some system analysis so that it can continue with the installation.

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Installation & Configuration

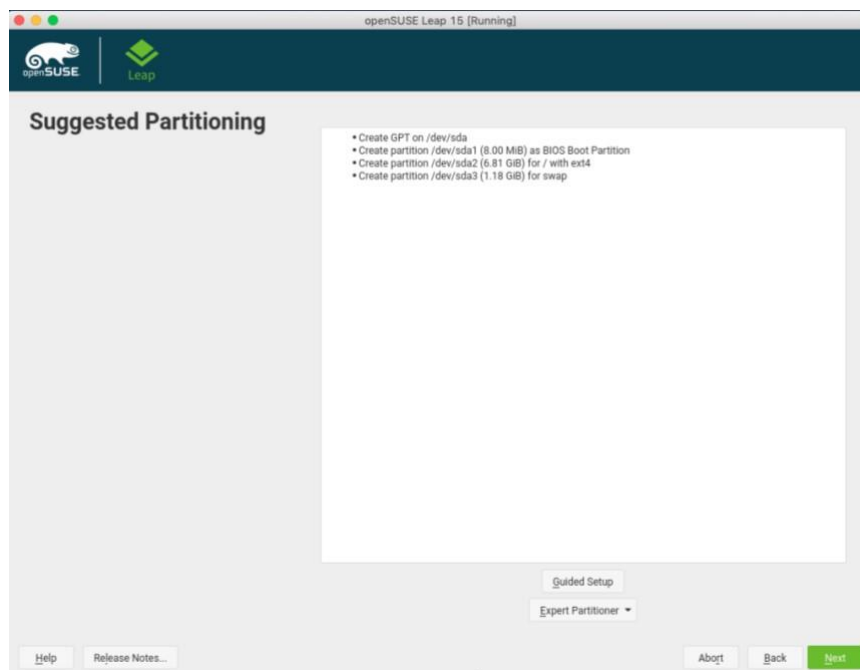
Partitioning Scheme

Next you will then be presented with the Partitioning Scheme window, make sure that LVM is ticked and disk encryption are un-checked.



Suggested Partitioning

You will be presented with a suggested partitioning scheme, click on the Guided Setup button to continue.



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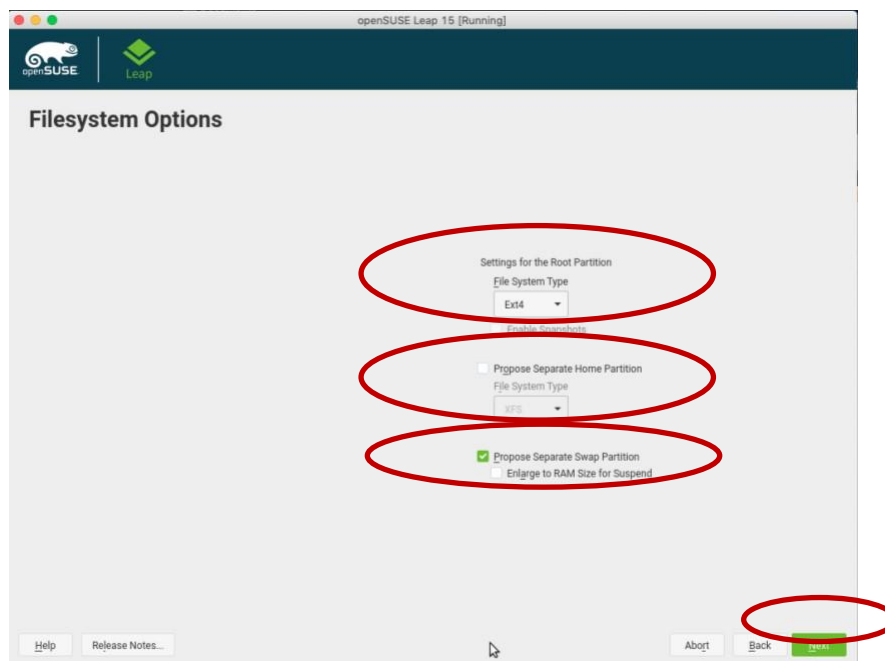
Installation & Configuration

File System Options

Make sure the File System Type for the root partition is changed to Ext4 and make sure that 'Propose Separate Home partition' is unchecked and Propose Separate Swap Partition is Checked. Click next to continue.

NOTE:

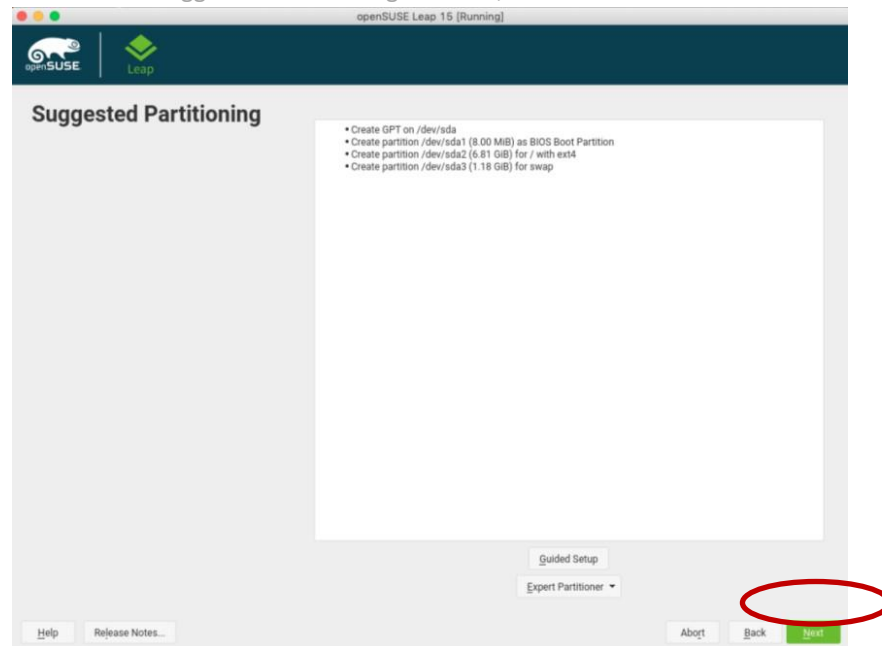
If you are going to run a large database, you may wish to increase this to the size of the RAM by ticking the Enlarge box. Linux will try and allocate all free RAM for disk caching to make the system run as fast as possible. If it notices that some RAM has been allocated to a program but is very rarely if ever used it will move this to swap to make even more disk cache.



Linux OpenSUSE Leap 15.3

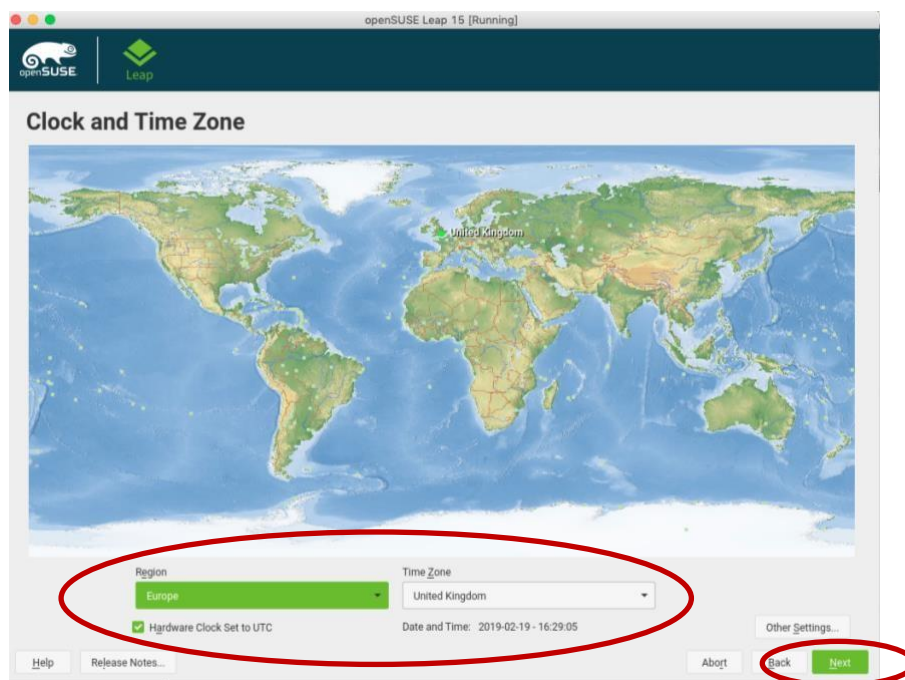
Installation & Configuration

You will be taken back to the 'Suggested Partitioning' window, click Next to continue.



Clock and Time Zone

The next screen you will see is the 'Clock and Time Zone' screen, The correct time zone should be automatically selected, if not make sure the time zone is correct for your region, also make sure that the Hardware Clock Set to UTC is checked as the switch from standard time to daylight saving time (and vice versa) can only be performed automatically when the hardware clock (CMOS clock) is set to UTC. This also applies if you use automatic time synchronization with NTP, because automatic syncing will only be performed if the time difference between the hardware and system clock is less than 15 minutes.

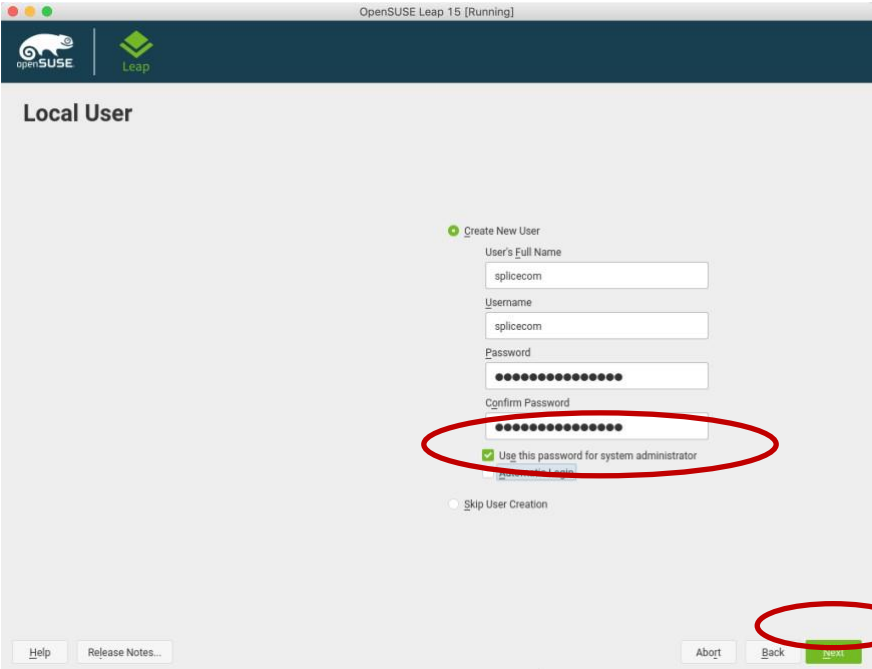


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Installation & Configuration

Local User

On the next screen we create a User. All SelectVoice installations require a user named splicecom we would recommend this user is created at this stage, as below, specifying your desired password. Also untick the Automatic Login option. If the password used is not strong enough when you click next you may be presented with a pop up asking whether you really want to use the password entered, click yes if you are happy with the password, then click next to continue.



OpenSUSE Leap 15 [Running]

openSUSE Leap

Local User

Create New User

User's Full Name
splicecom

Username
splicecom

Password
●●●●●●●●●●

Confirm Password
●●●●●●●●●●

Use this password for system administrator
(Recommended Login)

Skip User Creation

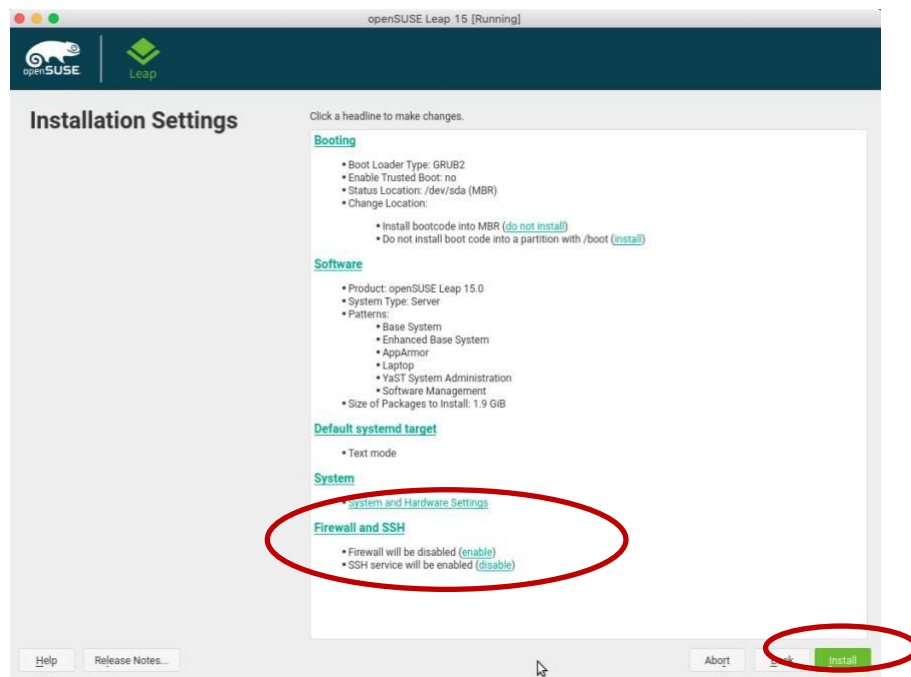
Help Release Notes... Abort Back Next

Linux OpenSUSE Leap 15.3

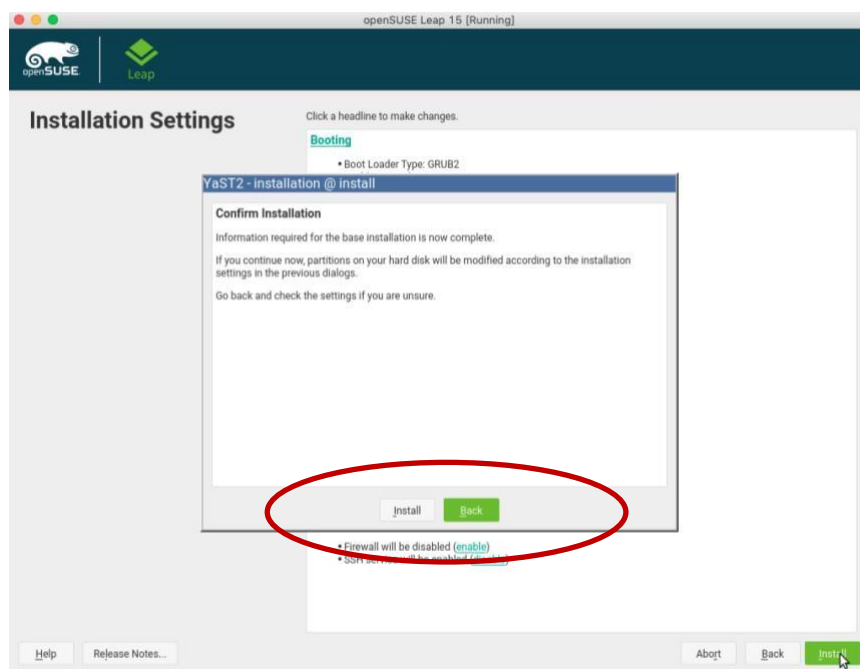
Installation & Configuration

Installation Settings

To complete this part of the installation you need to disable the firewall by clicking on Disable under the Firewall and SSH section, once the screen has refreshed click on enable-to-enable SSH access to the system. Click install to continue.



A popup window will appear asking you to confirm the installation, click install to proceed or back to make any changes.

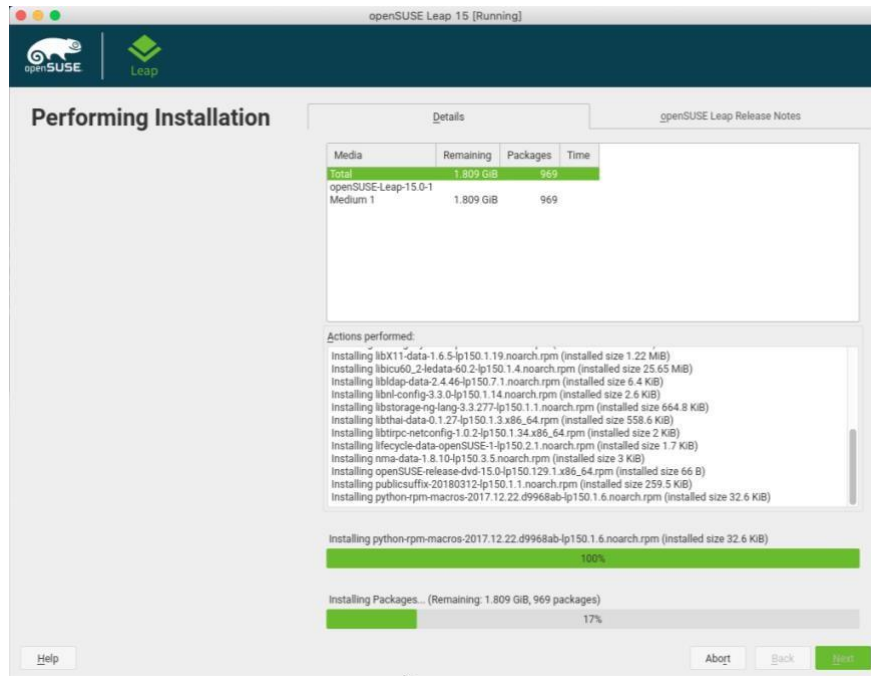


Performing Installation

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Installation & Configuration

The next screen shows the progress of the installation, this could take a while depending on the machine being used or internet speed.



Linux OpenSUSE Leap 15.3

Installation & Configuration

Additional Required Settings

The following additional instructions/parameters have to be used to complete the openSUSE Leap 15 installation. (Note engineers will have to be familiar with the use of vi and use of the command line)

Login as Spliceocom

At the command prompt enter:

Sudo zypper update, enter the password when asked, select yes to install the packages.

```
Welcome to openSUSE Leap 42.3 - Kernel 4.4.76-1-default (tty1).

linux-8ctd login: spliceocom
Password:
Last login: Thu Nov 23 16:54:11 on tty1
Have a lot of fun...
spliceocom@linux-8ctd:~>
spliceocom@linux-8ctd:~> sudo zypper update
[sudo] password for root: _
```

When complete enter the following to install xinetd

sudo zypper install xinetd

```
spliceocom@linux-8ctd:~> sudo zypper install xinetd
Loading repository data...
Reading installed packages...
Resolving package dependencies...

The following NEW package is going to be installed:
  xinetd

1 new package to install.
Overall download size: 126.7 KiB. Already cached: 0 B. After the operation, additional 286.4 KiB
will be used.
Continue? [y/n/...? shows all options] (y): y
Retrieving package xinetd-2.3.15-17.2.x86_64 (1/1), 126.7 KiB (286.4 KiB unpacked)
Retrieving: xinetd-2.3.15-17.2.x86_64.rpm .....[done]
Checking for file conflicts: .....[done]
(1/1) Installing: xinetd-2.3.15-17.2.x86_64 .....[done]
Additional rpm output:
Updating /etc/sysconfig/xinetd...
```

reboot the server to use installed updates.

```
spliceocom@linux-8ctd:~> sudo reboot
[sudo] password for root:
```

Login as Spliceocom again and at the command prompt enter.

sudo vi /etc/systemd/system.conf (enter the password if requested)

Locate the DefaultTasksMax line and un-hash and change two DefaultTasksMax=infinity.

```
#DefaultBlockIOAccounting=no
#DefaultMemoryAccounting=no
#DefaultTasksAccounting=yes
DefaultTasksMax=infinity
#DefaultLimitCPU=
#DefaultLimitFSIZE=
#DefaultLimitDATA=
```


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NOTE: If you are installing SelectVoice 1.3 or Vision 2.0 then you will have to install some extra packages, systems running the latest SV1.4 builds or Vision 2.1 do not need these as they are included within the installation.

At the command prompt enter the following command:

```
zypper in sysvinit-tools libcrypt1-32bit libgcrypt20-32bit
```

Enter y to continue when prompted, when completed you can continue to install SV1.3.

```
splicecom@localhost:~> su
Password:
localhost:/home/splicecom # zypper in sysvinit-tools libcrypt1-32bit libgcrypt20-32bit
Loading repository data...
Reading installed packages...
Resolving package dependencies...

The following 5 NEW packages are going to be installed:
  glibc-32bit libcrypt1-32bit libgcrypt20-32bit libgpg-error0-32bit sysvinit-tools

5 new packages to install.
Overall download size: 2.0 MiB. Already cached: 0 B. After the operation, additional 5.7 MiB will be
used.
Continue? [y/n/w...? shows all options] (y): y
Retrieving package sysvinit-tools-2.99-1.1.x86_64 (1/5), 132.3 KiB (421.6 KiB unpacked)
Retrieving: sysvinit-tools-2.99-1.1.x86_64.rpm .....[done]
Retrieving package glibc-32bit-2.31-9.6.1.x86_64 (2/5), 1.4 MiB ( 4.0 MiB unpacked)
Retrieving: glibc-32bit-2.31-9.6.1.x86_64.rpm .....[done (1.1 KiB/s)]
Retrieving package libgpg-error0-32bit-1.29-1.8.x86_64 (3/5), 72.6 KiB (137.9 KiB unpacked)
Retrieving: libgpg-error0-32bit-1.29-1.8.x86_64.rpm .....[done]
Retrieving package libcrypt1-32bit-4.4.15-2.51.x86_64 (4/5), 89.6 KiB (217.4 KiB unpacked)
Retrieving: libcrypt1-32bit-4.4.15-2.51.x86_64.rpm .....[done]
Retrieving package libgcrypt20-32bit-1.8.2-8.39.1.x86_64 (5/5), 385.3 KiB (897.0 KiB unpacked)
Retrieving: libgcrypt20-32bit-1.8.2-8.39.1.x86_64.rpm .....[done]

Checking for file conflicts: .....[done]
(1/5) Installing: sysvinit-tools-2.99-1.1.x86_64 .....[done]
(2/5) Installing: glibc-32bit-2.31-9.6.1.x86_64 .....[done]
(3/5) Installing: libgpg-error0-32bit-1.29-1.8.x86_64 .....[done]
(4/5) Installing: libcrypt1-32bit-4.4.15-2.51.x86_64 .....[done]
(5/5) Installing: libgcrypt20-32bit-1.8.2-8.39.1.x86_64 .....[done]
localhost:/home/splicecom # _
```

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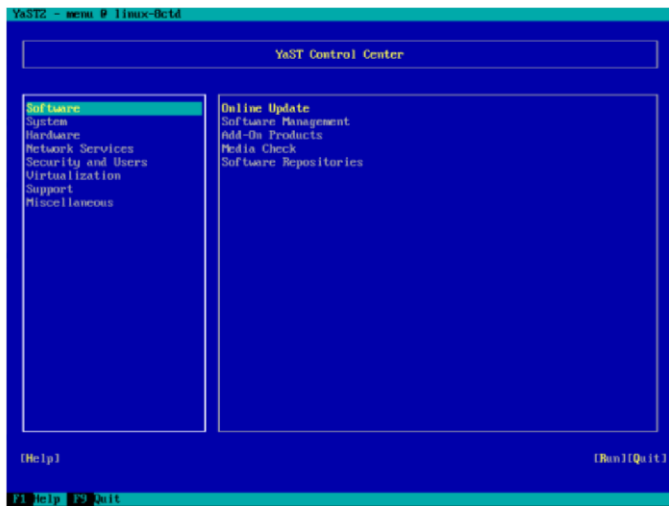
Installation & Configuration

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 will be prompted for your system password, and then be presented with the command line version of Yast



To navigate around 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

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

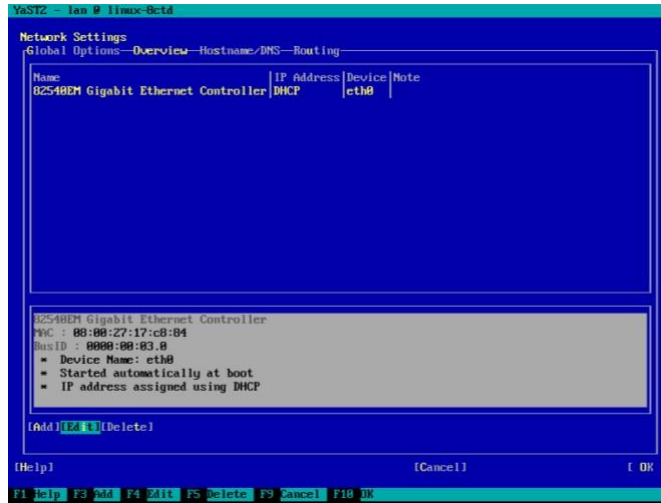
NOTE:

If installing openSUSE Leap15.3 on a Virtual Machine you may need to edit the Network Setup Method from NetworkManager Service to Wicked Service under the Networking Settings - Global Option.

Linux OpenSUSE Leap 15.3

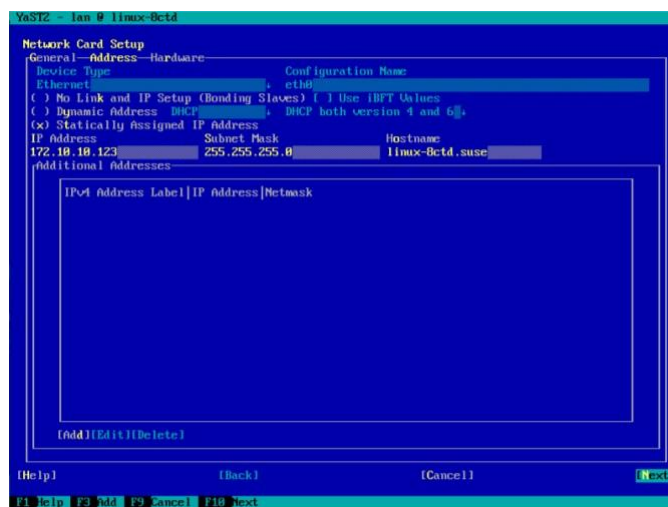
Installation & Configuration

Network Settings (Continued)



To set a statically assigned IP address:

Tab	Keep pressing the Tab key until Edit is highlighted
↵	Press return to select
Tab	Keep pressing Tab until the Statically Assigned IP address field
↵	Press return to select Statically Assigned
Tab	Press Tab again to move to the IP address field
e.g. 192.168.0.1	Enter the IP address
Tab	Press Tab again to move to the Subnet Mask
e.g. 255.255.255.0	Enter the Subnet address
Tab	Press Tab until Next is highlighted
↵	Press return to move onto the initial overview page again

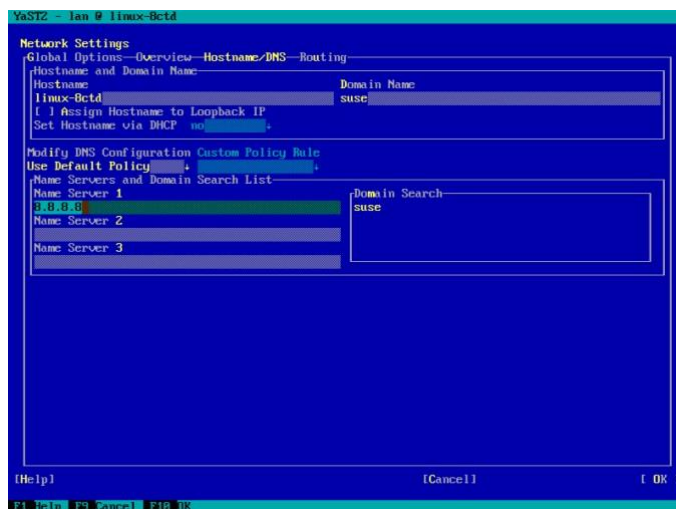


Linux OpenSUSE Leap 15.3

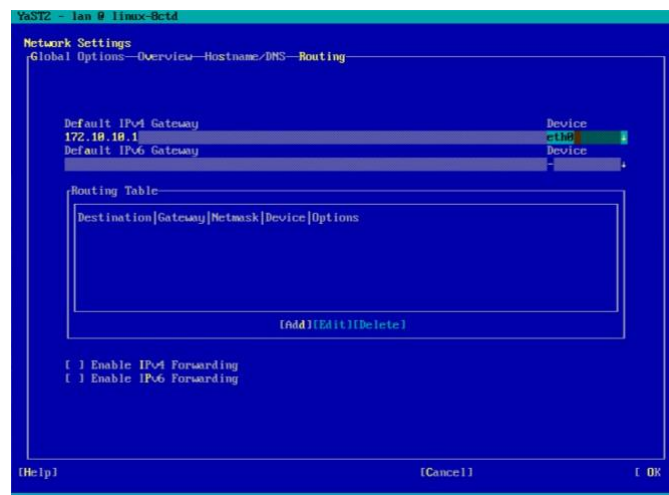
Installation & Configuration

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.

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Tab	Press Tab to move to Quit
←	Press return to select Network Settings

INSTALLATION OF openSUSE LEAP 15.3 IS NOW COMPLETE

Installing and using the MA Installer

One you have re-install Leap 15.3 on your MAP Server you will no longer have access to the MAP installer to load your applications.

NOTE: As in previous steps the MAP server **MUST** have internet access in-order for the installer to load successfully.

Login to the command shell using the SpliceCom user and password setup during the installation of openSUSE Leap 15.3

Then from the command line enter the following commands.

NOTE: Substitute xx.xx.xx with the version of installMA you will be installing

```
cd /home/spliceCom <return>
```

```
rsync -Pav max.spliceCom.com::max/installMA.xx.xx.xx.tar.gz . <return> (Note the full stop at the end)
```

```
tar -xzf installMA.xx.xx.xx.tar.gz <return>
```

```
cd installMA <return>
```

```
sudo ./installMA <return>
```

On running the installer, you will see the software packages that will be loaded (But not installed) NOTE: These versions will change as software is released.

Installing SpliceCom apps with the following versions:

SV1000,SV1.0.82

Vision,1.7.40

SSL-Gateway,1.0.82

Voicemail,SV1.0.82

MAPv3-Dual,3.1.10d

If this is not what you wish then exit (<ctrl>c) and edit firmware.txt hit any key to continue.....

If you want to use different versions of software other than listed edit the firmware.txt file and change the software versions, accordingly, save the file and re-run the installMA script.

If the versions are correct hit return to continue, the installer will then download the SpliceCom MAP packages onto your system.

Once completed you will be able to run the MAP installer (Following the MAP/MAP Solo v3.1 Installation & Configuration) document from the reseller's portal.

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Upgrading an Existing System

SelectVoice servers can also have the operating systems upgraded remotely, however SpliceCom strongly recommends that an on-site upgrade is done with a DVD as if the internet fails during the installation or there is an issue with upgrade in some way then the SelectVoice server could be rendered inoperable and needing a site visit to restore operations.

note that this process could take between 1-3 hours to perform depending on the internet connection.

Prerequisites

- The server to be upgraded **MUST** have a **FULL BACKUP** performed before this process is started.
- The server to be upgraded **MUST** have a fast and reliable internet connection.
- It is not recommended to perform this upgrade remotely because any failures of this process are liable to render the server inoperable. There for it is recommended that this process is performed on-site with a spare server available to restore the Backups on.
- A good knowledge of Linux command line working is required.

SpliceCom has a script that can be run to upgrade openSUSE on MAPs, please call SpliceCom support to get the upgrade script.

Using an SFTP server place the script onto the MAP server into the /home/spliceCom directory

Running the upgrade script:

Open a terminal session to the MAP and enter the following commands: (It is assumed that the script has been placed into the /home/spliceCom directory)

```
sudo chmod +x upgradeOpenSuSE (Enter the root password when requested) sudo ./upgradeOpenSuSE
```

You will have to run the script several times, stepping through each OS version until the system is upgraded to 15.3.

```
spliceCom@MAP:~>
spliceCom@MAP:~> sudo ./upgradeOpenSuSE
This script will upgrade your openSuSE LEAP 0/5 to the next release.

***WARNING***

If you have customised the O/S in any way then you should not use this script to perform the upgrade.
The script will replace the software repositories and may overwrite customisations.

Is this running on SpliceCom hardware, e.g. MAP? (y/n) y
By your use of this script, SpliceCom Limited accepts no liability for any indirect or consequential loss or damage, or for any loss of data, profit, revenue or business (whether direct or indirect) in each case, however caused, even if foreseeable. In circumstances where you suffer loss or damage arising out of or in connection with the use of this script we accept no liability for this loss or damage whether due to inaccuracy, error, omission or any other cause and whether on the part of SpliceCom Limited or our employees or any other person or entity.
Do you wish to continue? (yes) █
```

Enter y if you are running the script on spliceCom hardware. Enter the word 'yes' in full to continue if you wish to continue.