Boot from a openSuSE 10.3 DVD (or CD if no DVD available)

Preparations

Have the following available to follow this installation instructions:

– openSuSE 10.3 DVD or CD

– bootable external DVD or CD Drive in case the server you are installing on does not have a DVD or CD Drive.

– 45 minutes to 4 hours of time depending on the speed of your server, Internet connection and DVD/CD-drive, the drive might have the bigger influence on speed then anything else.

– Internet connection. If you have a very fast Internet connection (10mbit or more) you might want to consider installing the second part of the OS install from Internet rather then CD/DVD.

– A Desktop or Laptop computer connected to the same Network segment as the Server you are installing.

– Access to the Router that connects this Server to the Internet. (For enterprise installs you will want to get your Network Admin in on this, you need at least a static IP for the Server and Internet access to download updated packages. If using this Server from with and without the Network you should consider putting it in a DMZ).

– Patience to follow the instructions even when you think you know it better. (Friendly suggestions are welcome however we do not expect all of them to be useful.)

– These instructions assume that you do not have a mouse connected to this computer if you happen to have one at hand you can use it alternatively as well.

As a general remark, The Keyboard Navigation uses [Tab] to move between sections and the cursor Keys to move within fields or sections. The [Space]-bar usually just selects a option while the [Enter]-Key selects and commits the selection in one step.

Whenever you see one of these sections, make sure that you

read them,

even when you think that you know what you are doing!

Getting Started

Boot the Computer and put the disk in the drive. Make sure the disk can be found upon boot-up and that booting from CD/DVD is enabled in the BIOS. If you are not sure how to do this please consult your computers manual or a PC-Consultant.

Boot Screen

The first screen has the following options:
– Boot from Harddisk
– Installation
– Repair installed System
– Rescue System
– Firmware Test
– Memory Test

use the up and down Keys to move the highlighted bar to **[Installation]** and press [Enter].

Kernel Loading

Please wait for the first Part of the Operating System to Load. If your CD/DVD-drive is not very fast or you booted via USB this can take a while.

Language

Please choose the Language for this Server. For the purpose of this walk-through document we assume you choose [English]. If your Server has a Mouse attached you can use it for the next few screens, we are however not planing to install a graphical environment, so do not get too used to it.

User your mouse or cursor keys to highlight English (in the future I will just say pick or select for this). Then press **[Alt] & N** to pick the **[Next]** button.

> As a rule of Thumb whenever you see a button with a caption that has a underlined letter you can type [Alt] and the Letter that is underlined to pick this option.

Media Check

If you want to be sure that the Disk you are using is complete and readable by your installation driver. You have the option to check this here. This however takes some time.

When done you can press **[Alt] & N** to pick the **[Next]** button.

License Agreement

When satisfied with the License press **[Alt] & Y** to select "Yes, I agree to the License agreement."

You have to accept the license agreement to continue with the installation.

When done you can press **[Alt] & N** to pick the **[Next]** button.

System Probing

OpenSuSE is now checking your hardware configuration, this can take a few minutes on a slower server, but usually should not take more than 2-3 minutes.

Installation Mode

Select Mode
(*) New Installation
( ) Update
( ) Other Options
[ ] Add Online Repositiories Before Installation
[ ] Include Add-On Products from Separate Media

New Installation is what we need anyway so you can just hit **[Alt] & N** to pick the **[Next]** button.

Initializing

System loads Data from your installation Source in to a RAM drive for the further progress of the installation.

Clock and Timezone

Pick your Region and Timezone.

Hardware clock should be set to [Local Time].

> Make sure the time that is displayed in the lower right hand corner is correct, otherwise fix it. This is an important step, if you skip it OS updates may fail and the automatic time synchronization will not engage!

When done you can press **[Alt] & N** to pick the **[Next]** button.

Desktop Selection

Since this is going to be a ViciDial™ Server, it is not necessary to have a Graphical User Interface (GUI), it would actually decrease the performance of the system to run one at the same time.

Important: Please select **[Other]** -> **[Text Mode]** here!
If you skip this the System will not only install a Graphical Desktop on your Server, but a large selection of Programs that can be used which these Desktops. Our further Package selection assumes that you pick **[Other]** and **[Text Mode]**!

Exception: If this system is setup somewhere where you do not have access to another Computer on the same Network segment, you might need it to search for information, load leads from the Internet or use it to run the web based configuration of ViciDial™, please pick **[Minimal Graphical System]**

When done you can press **[Alt] & N** to pick the **[Next]** button.

Installation Setting

In Overview mode (Left Tab on the top of screen) you will see the following Sections:

– Partitioning
– Software
– Locale Settings

Please switch to Expert mode (Right Tab on the top of screen). In Expert mode you will see the following Sections:

– System
– Keyboard Layout
– Partitioning
– Software
– Booting
– Timezone
– Language
– Default Runlevel

On this screen we have a number of things to change:

Partitioning

We have two basic options to configure the Partitioning of the Hard-drive(s) on a ViciDial™ System.

a) Systems with **one Hard-drive or Hardware RAID** controller.

Hardware RAID controller, especially those with Cache are generally preferred for ViciDial™, they increase the performance and reliability of a system.

Systems with single Drives, especially those with consumer grade drives as opposed to enterprise grade, **will fail**. Some will fail later then others but we have seen systems fail after as little as one week.

Enterprise grade drives are usually designed to withstand 10 times the use of consumer drives.

b) Systems with two identical Hard-drives in a **Software RAID** 1.

> This Solution is less desirable but it works. Typical scenarios to use this setup is for machines that can not take a hardware cache controller. With this option you have to create on each of the drives identical partitions and then tell Linux to mirror the data between them.

Press **[Alt] & C and then [Alt] & P** go into the "Partitioning" section. Then select "Create Custom Partition Setup" by pressing **[Alt] & C** and press **[Alt] & N** to pick the **[Next]** button. On the next screen press **[Alt] & C** to select "Custom Partitioning (for experts)" and press **[Alt] & N** to pick the **[Next]** button. This is the screen where we will be configuring the hard drives.

Two things to note before hand. A physical hard drive is named something like "/dev/hda" or "/dev/sda". A partition is named something like "/dev/hda1" or "/dev/sda4". If the physical hard drive node name starts with a "/dev/hd" you have an IDE hard drives of which basically **all are consumer grade**, and you should consider upgrading your Hard-Drives. Seeing a "/dev/sd" however does not guarantee that the drive is enterprise grade.

The first step for a fresh setup is to delete any existing partitions. But beware:

Please note that
all data on the drives
will be lost.

If this is not what you want and you are following this Guide please contact a professional to take responsibility before continuing here!

To continue with any of two options, select the partition using the up and down keys and press **[Alt] & D** to pick the **[Delete]** button. A small window will pop up asking you to confirm the deletion of the partition. Press **[Alt] & Y** to pick the **[Yes]** button. Do this for all existing partitions.

You are going to want create at least three partitions. A swap partition which Linux uses as Virtual Memory, a "/" partition which is the root of the file system, and a "/var" partition which is where Linux stores the log files and other files that change frequently. The "/var" partition is also where the recordings will be stored before being archived.

> The swap partition should be twice the size as the amount of RAM you have in the system or at least 2GB.

If using option "a)" for your partitioning to create a partition do the following:

Hardware RAID / Single Drive Setup

1. Press **[Alt] & C** to pick the **[Create]** button. Press **[Alt] & P** to select "Primary" then press **[Alt] & O** to pick the **[Ok]** button.

2. Use the tab key to select the file system drop down box. Press the space bar and then use the up and down keys to select the file system type. We suggest using "reiserfs" because of it usually very fast recovery time in cases of Power-loss, etc. The other proven alternative would be "ext3". When creating the swap partition you have to select "swap".

3. Use the tab key to select the "End" text box under the "Size" section. Enter the size you want for this partition in gigabytes followed by "GB".

4. Tab to the "Mount Point" drop down box. This is where you select the place in the file system to mount the partition. When creating the swap partition select the word "swap".

5. Press **[Alt] & O** to pick the **[Ok]** button to create the partition.

If using option "b" for your partitioning to create a Software Raid partition do the following:

Software RAID

1. Press **[Alt] & C** to pick the **[Create]** button. Use the tab key to highlight the first drive and press the space bar to select it. Then press **[Alt] & O** to pick the **[Ok]** button. Now Press **[Alt] & P** to select "Primary" then press **[Alt] & O** to pick the **[Ok]** button.

2. Press **[Alt] & N** to activate "Do Not Format". Then tab to select the "File system ID" drop down box. Use the up and down arrow keys to select "0xFD Linux Raid".

3. Use the tab key to select the "End" text box under the "Size" section. Enter the size you want for this partition in gigabytes followed by "GB".

4. Press **[Alt] & O** to pick the **[Ok]** button to create the first of the Software Raid partitions.

5. Press **[Alt] & C** to pick the **[Create]** button. Use the tab key to highlight the second drive and press the space bar to select it. Then press **[Alt] & O** to pick the **[Ok]** button. Now Press **[Alt] & P** to select "Primary" then press **[Alt] & O** to pick the **[Ok]** button.

6. Press **[Alt] & N** to activate "Do Not Format". Then tab to select the "File system ID" drop down box. Use the up and down arrow keys to select "0xFD Linux Raid".

7. Use the tab key to select the "End" text box under the "Size" section. Enter the size you want for this partition in gigabytes followed by "GB".

8. Press **[Alt] & O** to pick the **[Ok]** button to create the second of the Software Raid partitions.

9. Press **[Alt] & I** to pick the **[Ra<u>i</u>d]** drop down. Then press the down key to select "Create RAID" and hit enter.

10. Press **[Alt] & 1** to pick the "RAID 1 (mirroring)" then press **[Alt] & N** to pick the **[<u>N</u>ext]** button.

11. Use the up and down keys to select the first partition you want to add to the Software Raid Partition. Once selected press the **[Alt] & D** key to add the partition. Now use the up and down keys to select the second partition you want to add to the Software Raid Partition. Once selected press the **[Alt] & D** key to add the partition.

12. Now press **[Alt] & N** to pick the **[<u>N</u>ext]** button.

13. Use the tab key to select the file system drop down box. Press the space bar and then use the up and down keys to select the file system type. We highly suggest using "reiserfs". When creating the swap partition select "swap".

14. Tab to the "Mount Point" drop down box. This is where you select the place in the file system to mount the partition. When creating the swap partition select the word "swap".

15. Now press **[Alt] & F** to pick the **[<u>F</u>inish]** button.

Once you have the partitioning properly setup press the **[Alt] & A** to pick the **[<u>A</u>ccept]** button.