

Quick Start

SUSE Manager 1.2

SUSE® Manager is a server solution for providing updates, patches, and security fixes for single SUSE® Linux Enterprise or Red Hat Enterprise Linux clients. It comes with a set of tools and a Web-based user interface for management tasks. This Quick Start explains how to install and set up SUSE Manager and how to get started with the most important tasks.

Conceptual Overview

SUSE Manager is an open source (GPLv2) Linux system management solution that allows you to execute the following tasks:

- Inventorying your systems (hardware and software information)
- Installing and updating software on your systems
- Building groups to apply (custom) software packages to individual systems
- Provisioning your systems (AutoYaST/Kickstart)
- Managing and deploying configuration files to your systems
- Monitoring your systems
- Provisioning and starting/stopping/configuring virtual guests
- Distributing content across multiple geographical sites in an efficient manner

SUSE Manager's main purpose is to efficiently manage a set of Linux systems and keep them up-to-date. This is done by connecting SUSE Manager to package and update sources, organized as repositories.

Repositories are grouped into channels which are assigned to client systems. SUSE Manager then compares packages installed on the clients with packages available in assigned channels and reports any uninstalled updates.

System Requirements

The following section informs you about the system requirements and some prerequisites for SUSE Manager, including hardware, database, supported clients, and other requirements.

Server Requirements

Hardware Required/Recommended

CPU	Required: Intel™ Pentium 4 or later AMD Opteron or later, 2 GHz or more, 512 K cache or equivalent. Recommended: Intel or AMD multi-core processor, 2.4 GHz dual processor, 512 K cache+ or equivalent.
RAM	Required: 2 GB (minimum for base installation), for a few client systems: 4 GB

Hardware Required/Recommended

Recommended (for production operation):
8 GB

Free Disk Space Required: 20 GB for base installation
Additionally: At least 50 GB for repository data

Supported Client Systems

Clients with the following operating systems and architectures are supported for registration at SUSE Manager:

System	Supported Architectures
SUSE Linux Enterprise 10	None
SUSE Linux Enterprise 11 SP1	x86, x86_64, Itanium, IBM POWER, IBM System z
Red Hat Enterprise Linux 2.1	None
Red Hat Enterprise Linux 3	None
Red Hat Enterprise Linux 4	x86, x86_64
Red Hat Enterprise Linux 5	x86, x86_64

Supported Databases

Embedded Database

Oracle 10g Express Edition is shipped with SUSE Manager. It can store up to 4 GB of data and is thus limited to small deployments up to 20 clients. Using an external database is recommended.

External Database

In conjunction with SUSE Manager, the following external databases are supported:

- Oracle Database 10g Release 2 (Standard and Enterprise Edition)
- Oracle 11g

Other Requirements

IMPORTANT: Network Setup

For correct installation and setup of SUSE Manager, make sure the following requirements are fulfilled:

Fully Qualified Domain Name (FQDN)

The system on which to install SUSE Manager must resolve its own FQDN properly. If this is not the case, cookies will not work properly on the Web interface.

Hostname and IP Address

To guarantee that SUSE Manager's domain name can be resolved by its clients, the server and the client machines must be linked to a working Domain Name Server (DNS) server in the customer environment.

The hostname of the SUSE Manager server must not contain uppercase letters as this might cause `jabberd` to fail.

Novell Customer Center

For using SUSE Manager, you need an account at the Novell Customer Center (NCC) where your purchased products and product subscriptions are defined. Make sure to have the following subscriptions:

- One or more subscriptions for SUSE Manager
- Subscriptions for the products on the client systems you want to register with SUSE Manager
- Subscriptions to client entitlements for the client system you want to register with SUSE Manager

Network Time Protocol (NTP)

The connection to the Web server via Secure Sockets Layer (SSL) requires correct timing of both server and clients. For this reason, SUSE Manager server and all client systems must use NTP. If SUSE Manager is used in conjunction with a stand-alone database, the machine of the separate database must be set to the same time zone as SUSE Manager.

Supported Browsers

SUSE Manager can be used with Mozilla Firefox and Microsoft Internet Explorer 6 or greater. Other browsers might work, but are not tested.

Virtual Environments

For running SUSE Manager server in virtual environments, use the following settings for the virtual machine (VM):

- At least 2 GB of RAM
- Bridged network

The following virtual environments are supported:

- KVM
- VMware
- Xen
- Hyper-V

For running SUSE Manager in KVM, VMware, or Hyper-V, use the SUSE Manager ISO image. For Xen, use the Xen VM image.

Prerequisites

For the basic SUSE Manager setup, you need to have your mirror credentials from the NCC at hand. To look up your credentials and the e-mail address with which you are registered in NCC, proceed as follows.

Procedure 1. Looking Up Mirror Credentials in NCC

1. Start a Web browser and go to `http://www.novell.com/center`.
2. Log in to the NCC.

- From the left navigation bar, select *My Products* → *Mirror Credentials*. A Web page opens showing your credentials (username and password).
- Memorize the username and the password listed there.
- Select *My Profile* → *Login Profile* and memorize the e-mail address with which you are registered.
- Log out from the NCC.

Installation and Setup

SUSE Manager is a management server application combined with an operating system (appliance). It can be deployed on industry hardware or in a virtual environment and used in conjunction with an embedded or a stand-alone database.

If your future SUSE Manager server is connected to the Internet, it will receive any updates directly from the NCC. For a disconnected setup scenario, configure SUSE Manager to receive any updates from an internal update server (like SMT) instead.

The YaST graphical user interface will guide you through the installation and the setup process. It is started in text mode. Use the →| key to navigate among individual elements. To select a value from a list, use the ↑ and ↓ arrow keys and press Enter. To activate an option, press the Space key.

Overview and Summary of Steps

The Quick Start covers the following installation and setup scenarios:

Setup From Scratch—With Internet Connection

For installation and initial setup, you need to execute the following basic steps:

- If using a stand-alone database: Preparing your database instance according to the formula provided in *Requirements* (↑Installation Guide).
- Installing the Appliance (page 3)
- Setting Up SUSE Manager (page 5)

Setup From Scratch—Without Internet Connection

For installation and initial setup, execute the same basic steps as listed above, but skip the registration of the product at NCC. For details, see Step 10 (page 4) in Procedure 2, “Installing the Appliance” (page 3).

During basic configuration, the setup of Novell channels differs from the standard procedure: Instead of importing channels from NCC, you need to create custom channels, and add repositories to be synchronized with the custom channels. For details, refer to the section called “Channels” (↑Reference Guide) and the section called “Manage Software Channels → Manage Repositories” (↑Reference Guide), respectively.

Migration from a Satellite Server

Instead of setting up a SUSE Manager server from scratch, you can also migrate from an existing Satellite server.

For details, refer to Section “Server Migration” (page 11).

Installation

The following procedure describes the installation on a physical machine. Make sure the machine you intend to use fulfills the “Server Requirements” (page 1). If you want to install the appliance in a virtual machine, additionally check the settings listed in Virtual Environments.

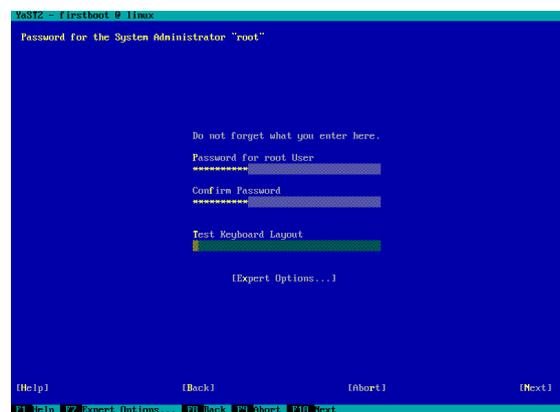
Procedure 2. Installing the Appliance

WARNING: Loss of Data

Installing SUSE Manager on a physical machine will completely erase any data on the hard disk that will be used for installation. Before you start the installation process, create a backup of your hard disks.

- Boot your future SUSE Manager server from the installation medium. Select *Install/Restore SUSE Manager*.
- If your machine contains more than one hard disk, you are asked which one to use for the installation of SUSE Manager. Navigate with the arrow keys, and use the space key to mark the desired hard disk. You are asked if you want to continue and you are warned that the installation will destroy all data on the disk.
- To proceed, answer with Yes. The deployment process takes over. This step may take some time as large amounts of data need to be unpacked and verified. After the verification, YaST firstboot is started.
- In the first screen, set the system *Language* and *Keyboard Layout* for your future SUSE Manager server. Proceed with *Next*.
- In the next screen, set the `root` password for your SUSE Manager server and confirm it.

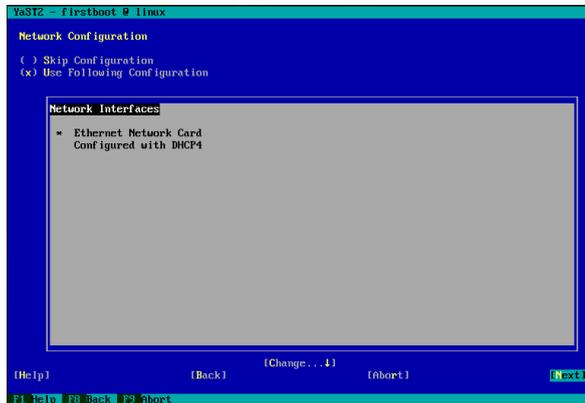
Figure 1. YaST Firstboot—Password for the System Administrator



Proceed with *Next*.

6. In the next screen, read the licenses and agree to them. Proceed with *Next*. The installation routine checks some basic system requirements and depending on the results, lets you decide whether to proceed with the installation or cancel.
7. In the next screen, configure the network settings. Note the network requirements listed in Section “Other Requirements” (page 2). Either choose to *Use Following Configuration* or *Change* the network setup according to your wishes.

Figure 2. YaST Firstboot— Network Configuration



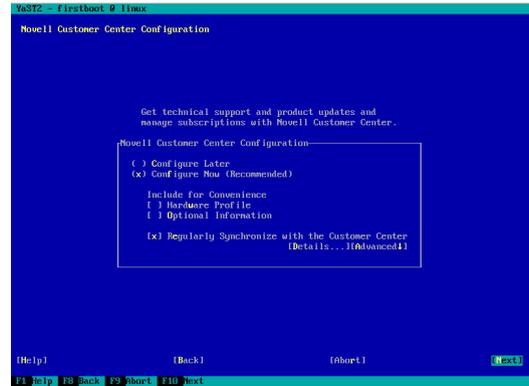
Proceed with *Next*.

8. In the next screen, configure the *Clock and Time Zone* to use for your SUSE Manager server. Proceed with *Next*.
9. In the next screen, configure the NTP settings according to your wishes. For more information about the options, refer to *Help*. Note the NTP requirements listed in Section “Other Requirements” (page 2). Proceed with *Next*.
10. In the next screen, your are asked to register and activate your product at NCC. During registration, the respective online update repositories are automatically configured.

IMPORTANT: NCC Registration And Updates

Proper registration is mandatory for the system to receive updates and to ensure that any known installation problems are fixed. In case of a disconnected SUSE Manager setup, skip this step by selecting *Configure Later*.

Figure 3. YaST Firstboot—NCC Configuration



If you decide to *Configure Later*, you can any time call the respective YaST module on the SUSE Manager server with the `yast inst_suse_register` command.

To register directly:

- a. Select *Configure Now (Recommended)*.
 - b. Confirm that you want to continue. A text-based browser (w3m) appears. Use the `→|` key or the arrow keys to navigate among individual elements. To enter data into an input field, activate text input mode by pressing the Enter key once, then enter the value and press Enter again to confirm.
 - c. After all values are entered according to your wishes, *Submit* your input and press Shift + Q to close the text-based browser.
11. On the *Installation Completed* screen, select *Finish* to close YaST firstboot. The boot process continues.
 12. Wait for the boot process to finish.

IMPORTANT: SUSE Manager Update Required

After installation, update your SUSE Manager server to apply the latest patches before starting the setup process. To receive updates, registration at NCC (or a connection to an internal update server like SMT) is required. For details on how to execute the update, refer to the section called “Updating Packages on SLE” (↑Reference Guide).

Setup

After running YaST firstboot and updating SUSE Manager server, run a setup script via YaST. It will display several consecutive screens that let you configure the basic data for setup and the connection to the database. Enter a value in each input field, otherwise the setup may fail.

In the setup screens, you will also be prompted for two passwords.

NOTE: Password Criteria

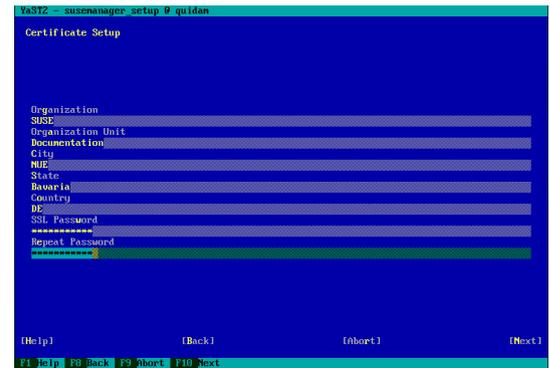
Both passwords must match the following criteria (otherwise the connection to the database or the creation of the certificate might fail):

- Length: At least 7 characters.
- Special characters: Must not contain any of the following characters:
 - Spaces
 - Quotation marks (neither " nor ')
 - Exclamation marks (!)
 - Dollar symbols (\$)

Procedure 3. Setting Up SUSE Manager

1. Log in to the machine as `root` with the password you set during the installation in Step 5 (page 3).
2. Execute `yast2 susemanager_setup` to start the setup process.
3. The first setup screen lets you choose between setting up SUSE Manager from scratch and migrating to SUSE Manager from a Satellite/Spacewalk compatible server. Choose *Set up SUSE Manager from scratch*. Proceed with *Next*.
4. In the next setup screen, enter an e-mail address for the SUSE Manager administrator. It is used for notifications by SUSE Manager and is associated with the SSL certificate to be created in the next step. Proceed with *Next*.
5. In the next setup screen, enter the details needed for the creation of an SSL certificate. The certificate is used for a number of purposes like connections to a proxy, HTTPS protocol in browsers, and more.
 - a. Enter the name of your organization, the organization unit, and the city, state and country that your SUSE Manager server is located in. The *Organization* name defines the name of the default administrative organization that is automatically created during setup.
 - b. Set an SSL (Secure Sockets Layer) password and repeat it in the next field.

Figure 4. Setup—Certificate



Proceed with *Next*.

6. In the next setup screen, set the details for the setup of the server and the database:

- a. Decide whether to use the embedded (local) or a remote database for SUSE Manager.

If you select *Local Database*, YaST automatically sets the *Port* and *Protocol*.

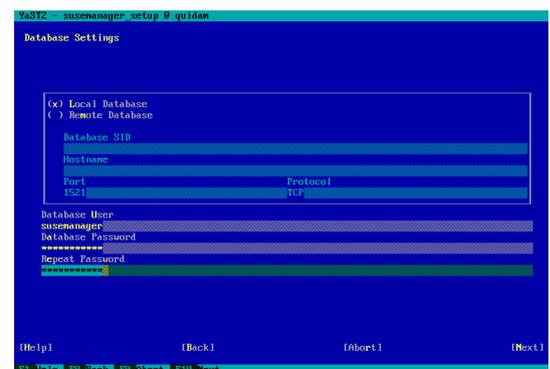
To use an existing, remote database instead, select *Remote Database* and enter the following details for the connection to the database: the database system (SID) used to identify a particular database instance, the FQDN of the remote database, the external *Port* to use (usually 1521), and the *Protocol* to use (usually TCP).

- b. If you use the embedded database, set a user name and a password for the SUSE Manager database user (that is used to connect to the database).

For a remote database, enter a user name that already exists in the database configuration, and enter the correct password for this user. Otherwise the connection to the database will fail.

- c. Repeat the password in the next field.

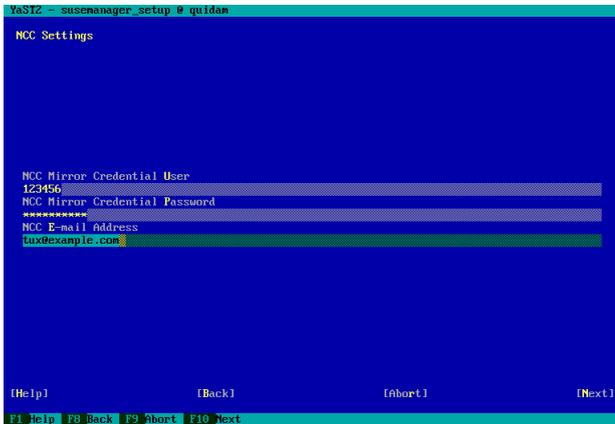
Figure 5. Setup—Local Database



Proceed with *Next*.

- The last setup screen asks for your mirror credentials from the NCC. Enter your *NCC Mirror Credentials Username*, the *NCC Mirror Credentials Password*, and your *NCC E-mail Address*.

Figure 6. Setup—NCC Settings



- Proceed with *Next* and confirm with *Yes* to start the setup.

NOTE: Long Operation

This step may take some time. Wait until the *Setup is completed* message appears in the upper part of the YaST screen.

- Click *Next* and read the instructions about the next steps. Close YaST by pressing *Finish*.

The basic SUSE Manager settings are written to `/etc/rhn/rhn.conf`. If you have chosen to use a local database, the initial database is created and populated. If you have chosen to use a remote database, the setup script connects to the database.

The setup script also runs the `/usr/sbin/mgr-ncc-sync` command which downloads the subscriptions listed in your NCC Mirror Credentials. The respective *Software Channel Entitlements* will be listed in the SUSE Manager Web interface (select *Admin* → *Subscriptions*).

Basic Configuration

To complete the basic SUSE Manager configuration, you need to execute the following steps:

- Creating the SUSE Manager Administrator Account (page 6)
- Importing Novell Channels from NCC (page 7)

In case of disconnected setup with an internal update server like SMT, you need to create custom channels, and add repositories to be synchronized with the custom channels.

- Creating Activation Keys (page 7)

- Generating the Bootstrap Script (page 8)
- Editing the Bootstrap Script and Registering Clients (page 8)

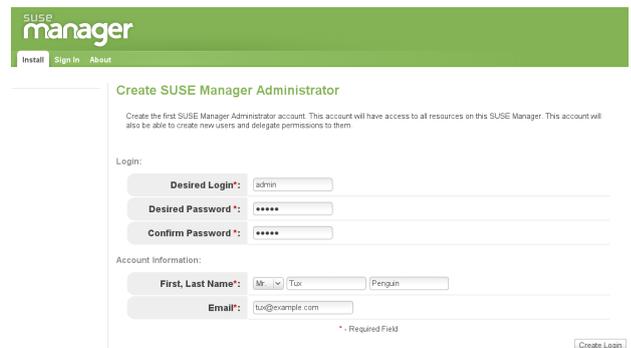
Login to the Web Interface

After installation of the appliance, you need to log in and create the first administrator account for SUSE Manager. This administrator has access to all resources on SUSE Manager and has the right to create and manage user accounts. Additionally, he is given the role of an *organization administrator* for the default organization created during SUSE Manager installation and setup.

To access the SUSE Manager Web interface, ask your system administrator for the URL of your SUSE Manager server. It is shown on the console after completion of the installation— see Step 8 (page 6) from Procedure 2, “Installing the Appliance” (page 3).

Procedure 4. Creating the SUSE Manager Administrator Account

- Start a Web browser. Enter the URL of your SUSE Manager server, using the Fully Qualified Domain name as in the following example: `susemanager.example.com`. The SUSE Manager Web interface appears. Upon first login, you are prompted to create the SUSE Manager administrator account.
- Enter the data for the administrator account and click *Create Login*.



You will be logged in as administrator.

- On the *Overview* tab, a message notifies you to finalize your basic system configuration. To make use of the monitoring features provided by SUSE Manager, click the link in the message, activate *Enable Monitoring* and click *Update*.

Monitoring allows an organization to install probes that can immediately detect failures and identify performance degradation on client systems.

Setup of Novell Channels

Channels are collections of repositories which are assigned to client systems. Without a channel, clients cannot be grouped nor can they receive updates.

Procedure 5. Importing Novell Channels from NCC

NOTE: SUSE Manager Server Without Internet Connection

This procedure only applies to scenarios where your SUSE Manager server is connected to the Internet.

For disconnected scenarios (if you want to use SUSE Manager in conjunction with an internal update server like Subscription Management Tool), create custom channels and add repositories to be synchronized with the custom channels. For details, refer to the section called “Channels” (↑Reference Guide) and the section called “*Manage Software Channels* → *Manage Repositories*” (↑Reference Guide), respectively.

During installation, a first synchronization between Novell Customer Center and SUSE Manager is automatically done by `mgr-ncc-sync`. At this point in time, it only downloads the subscriptions to the products you have registered for, but it does not synchronize any channel data yet. After installation, you need to import the channels you need.

1. On a shell, log in to the SUSE Manager server as `root`.
2. Execute `mgr-ncc-sync -l` to view all channels that you are allowed to synchronize with SUSE Manager. The output lists both parent and child channels. The following notation is used to mark each channel:
 - `[.]`: A channel not imported or synchronized yet.
 - `[p]`: A previously imported or synchronized channel.
3. Select the channels you want to import. You can only import child channels if their respective parent channels is already imported.

WARNING: Novell Channels Cannot Be Deleted

Once imported, Novell channels cannot be deleted. Only custom software channels can be deleted.

4. For each channel that you want to import, run `mgr-ncc-sync` with the `-c` option and add the respective channel label. For example:

```
mgr-ncc-sync -c suse_sles_11.i586-base
```

The respective channel data is imported into the SUSE Manager database and a full synchronization is triggered for that channel.

NOTE: Client Tools Channel

Make sure to also import the `client tools` channel. It provides the packages that need to be installed on a system to make it a SUSE Manager client system.

Any channel that has been imported is also displayed in the SUSE Manager Web interface. To see a list of all channels, go to the *Channels* tab and select *Novell Channels* from the left navigation bar.

Client Setup

For a list of client systems supported by SUSE Manager, refer to Section “Supported Client Systems” (page 2). Registering clients to SUSE Manager is done with a bootstrap script that deploys all necessary information to the clients. The bootstrap script refers some parameters (like activation keys or GPG keys) that depend on your particular setup.

Procedure 6. Creating Activation Keys

Activation keys define entitlements, and which channels and groups the client system is allowed to subscribe to. This information is passed on to all systems registered with a key. Each activation key is bound to the organization for which it has been created.

NOTE: Activation Keys for New Organizations

If you created a new organization for which to create activation keys, you need to assign system entitlements first. For details, refer to Procedure 10, “Assigning Entitlements to an Organization” (page 10) and Section “Organization Management” (page 9). The default organization has all necessary prerequisites by default.

1. Log in to the SUSE Manager Web interface as administrator.
2. Switch to the *Systems* tab and select *Activation Keys*.
3. Click the *Create New Key* link at the upper right corner.
4. Enter a *Description* to identify the generated activation key.
5. If you want the key to be generated automatically, leave the *Key* input field empty. If you want to use a certain string for the key, define the desired string in the *Key* input field.

WARNING: Allowed Characters

Do not use commas within the key string. All other characters are allowed. (Commas are used as separators when registering client systems with multiple activation keys with `rhn-reg_ks`).

6. To restrict the number of client systems that can be registered with the activation key, set a *Usage Limit* by entering a maximum number of systems.

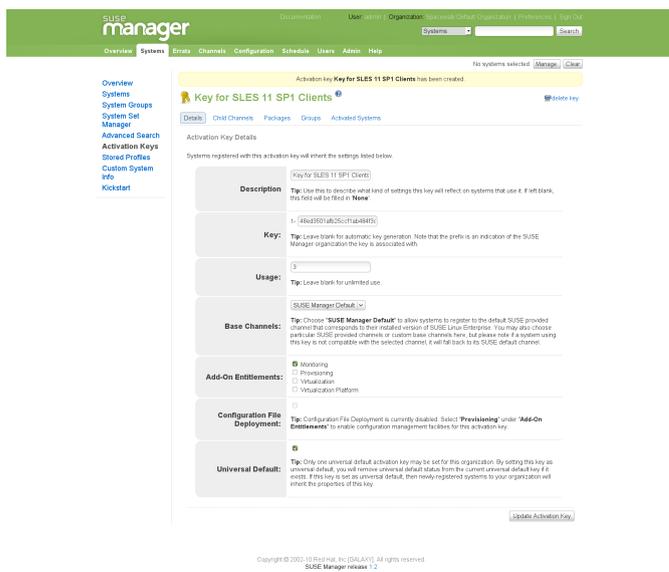
For unlimited use, leave this field empty.

7. With *Base Channels*, set the primary channel for the key. This can be either the SUSE Manager Default channel or a custom base channel.

Choosing SUSE Manager Default allows client systems to register with the default Novell-provided channel that corresponds to their installed version of SUSE Linux Enterprise.

8. Activate the *Add-On Entitlements* that you want to give to the client systems that are registered with that key.
9. If any newly registered client systems of your organization should inherit the properties of this key, activate the *Universal Default* checkbox. Only one universal default activation key can be defined per organization.
10. Generate the key by clicking *Create Activation Key*.
11. To create more activation keys, repeat the steps above.

Figure 7. Example Activation Key



NOTE: Activation Key Update

After modifying or adding any components that are bound to an existing activation key (for example, channels to which to subscribe to), make sure to update the key under *Systems* → *Activation Keys* → *KEY_TO_MODIFY* → *Update Activation Key*.

The next steps are to generate the `bootstrap.sh` script on the SUSE Manager server, to edit a copy of the script and to run the resulting script on each client machine that you want to register with SUSE Manager.

Procedure 7. Generating the Bootstrap Script

Several options in the bootstrap script can be set via the SUSE Manager Web interface, for example, if remote command execution or remote configuration of clients should be allowed.

1. On the SUSE Manager Web interface, switch to the *Admin* tab and select *SUSE Manager Configuration* → *Bootstrap Script*.
2. Check the options listed on the page and activate or deactivate them according to your needs.

NOTE: Remote Command Execution and Configuration

If you choose to *Enable Remote Configuration* and/or *Enable Remote Commands*, make sure that the `rhncfg-actions` package is installed on the client systems:

1. Switch to the *Systems* tab and select *Activation Keys*.
2. From the list of activation keys, click the activation key you want to modify.
3. Click the *Packages* subtab, enter `rhncfg-actions` into the input field and click *Update Key*.

The required package for remote command execution and configuration will automatically be installed on all client systems registered with the respective activation key.

3. Click the *Update* button. The necessary bootstrap script is generated and stored on the server's filesystem in the `/srv/www/htdocs/pub/bootstrap` directory. It is also available from `susemanager.example.com/pub/bootstrap/`.
4. Proceed with Procedure 8, “Editing the Bootstrap Script and Registering Clients” (page 8).

Procedure 8. Editing the Bootstrap Script and Registering Clients

Adjust the generated bootstrap script according to your needs. The minimal requirement is to include the activation key. We strongly recommend to also include one or more GPG keys (for example, your organization key, and package signing keys). Then execute the resulting script on each client machine that you want to register with SUSE Manager (either centrally, from the SUSE Manager server, or decentralized, on each client.)

NOTE: Access to Installation Media During Registration

The bootstrap process triggers installation of packages on the client machines. Before executing the

bootstrap script on a client, make sure the client can access its default installation medium: network access (in case of network repositories) or inserted DVD (in case of physical media).

1. Log in as `root` to the SUSE Manager server.
2. Create a copy of the automatically generated script:

```
cp /srv/www/htdocs/pub/bootstrap/bootstrap.sh \  
  /srv/www/htdocs/pub/bootstrap/bootstrap-edited.sh
```

3. Edit the copy as follows:

- a. Search for the `ACTIVATION_KEYS` entry and enter the activation key from Procedure 6, “Creating Activation Keys” (page 7). Make sure to also include the organization prefix in the key, for example:

```
ACTIVATION_KEYS=1-fef154ddcf0d515fc
```

- b. Search for the `ORG_GPG_KEY` entry and enter one or more GPG keys. Multiple keys must be entered as comma-separated list.

NOTE: Package Signing Key for Red Hat Support

If you receive maintenance and support for your Red Hat client systems through Novell, make sure to include the package signing key you received from Novell. Otherwise the RPM packages cannot be installed on the Red Hat client systems.

- c. Adjust further parameters, if needed. For details, refer to the comments in `bootstrap.sh`.
- d. To enable the script for execution, remove the `exit 1` entry from the message block. The last lines of the message block should now read:

```
echo "the exit below)"  
  echo
```

4. Save the edited version of the script.
5. Use one of the following possibilities to execute the edited script on all client machines that you want to register with SUSE Manager:

- Log in as `root` on the SUSE Manager server and execute the following commands:

```
cd /srv/www/htdocs/pub/bootstrap/  
cat bootstrap-edited.sh | ssh \  
root@client_hostname /bin/bash
```

- Log in to each client and execute the following command:

```
curl -Sks https://server_hostname/pub/  
bootstrap/bootstrap-edited.sh | /bin/bash
```

The clients are registered with the SUSE Manager server specified in the bootstrap script. The SUSE Manager Web interface shows the registered client systems on the *Systems* tab.

For more information about bootstrapping, refer to *Using Bootstrap* (↑Client Configuration Guide).

Organization Management

During installation and setup, SUSE Manager automatically creates a default administrative organization. It gets the organization ID 1 and the organization name that you entered in Step 5.a (page 5) in Procedure 3, “Setting Up SUSE Manager” (page 5). For management of larger environments, create multiple organizations: for example, for different departments within your company—or for administering several distinct third-party companies.

NOTE: Use of Default Administrative Organization

For managing multiple organization, create new, dedicated organizations within SUSE Manager. The default administrative organization receives special treatment with regards to subscriptions and entitlements. Therefore do *not* use the default administrative organization for registering client systems and creating users in a multi-organization setup. For details, refer to the section called “General Tips for Multi-Org Usage” (↑Reference Guide).

Procedure 9. Creating and Deleting Organizations

Administrators can create new organizations and assign entitlements, groups, systems, and users to it. This enables organizations to perform administrative tasks on their own without affecting other organizations.

1. Log in to the Web interface as SUSE Manager administrator or organization administrator.
2. To create an organization:
 - a. Switch to the *Admin* tab to see a list of all *Organizations* within SUSE Manager.
 - b. Click the *Create New Organization* link at the top right corner.
 - c. Enter an *Organization Name*.
 - d. To create the initial organization administrator for the new organization, enter the *Desired Login* and the *Desired Password* for the new user and confirm the password.

- e. Enter the first and last name and the e-mail address of the new user.
 - f. To finish, click *Create Organization*.
3. To delete an organization:
- a. On the *Admin* tab, select *Organizations* from the left navigation bar.
 - b. Click the desired organization to see the organization details.
 - c. Click the *Delete Organization* link at the upper right corner and confirm by clicking the *Delete Organization* button.
- a. Click the *System Entitlements* sub-tab to view the *System Entitlements Counts*.
 - b. Set the total number of *Management (Base)* entitlements for the current organization by entering a value in the *Proposed Total* field.
 - c. Similarly, set total numbers for any other entitlements you may need (like monitoring, provisioning, virtualization).
 - d. Click *Update Organization* to confirm your changes.
5. To set software channel entitlements for the selected organization:

Management of System and Software Entitlements

One important task after creating a new organization is to assign entitlements to the new organization. There are two types of entitlements that are important:

System Entitlements

Various categories of system entitlements are available: management, provisioning, monitoring, and virtualization entitlements. Having management entitlements is a base requirement for an organization to function in SUSE Manager. The maximum number of systems that may register with an organization in SUSE Manager depends on the number of management entitlements allocated to that organization—regardless of the number of software entitlements available.

Software Channel Entitlements

Apart from system entitlements, software channel entitlements are needed for each organization. For example, you must grant `client tools` channel entitlements to each organization (as this channels contains client software required for extended SUSE Manager functionality, such as AutoYaST or Kickstart or virtualization support).

The default organization automatically gets the needed system and software entitlements during the synchronization with `mgr-ncc-sync`. To transfer the respective entitlements from the default organization to any newly created organization, proceed as follows.

Procedure 10. Assigning Entitlements to an Organization

1. Log in to the SUSE Manager Web interface as SUSE Manager administrator.
2. Switch to the *Admin* tab and from the left navigation bar, select *Organizations*.
3. Select the organization for which to assign or change entitlements and select the *Subscriptions* sub-tab.
4. To set any system entitlements for the selected organization:

- a. Click the *Software Channel Entitlements* subtab to view the *Software Channel Entitlements Counts*.
- b. For any channel that should be available to the client systems of the current organization, enter the desired number of entitlements for this channel in the *Regular Proposed Total* field.
- c. Click *Update Organization* to confirm your changes.

Any number of system or software entitlements assigned to an organization are deducted from the total number of system or software entitlements.

To view the total number of software entitlements across all organizations in SUSE Manager, switch to the *Admin* tab and select *Subscriptions* → *Software Channel Entitlements*.

User Management

Upon first login to the SUSE Manager Web interface, the account for the first SUSE Manager administrator needs to be created, as described in Procedure 4, “Creating the SUSE Manager Administrator Account” (page 6). The SUSE Manager administrator can then add more SUSE Manager users and grant and edit permissions for each user.

NOTE: Users and Organizations

Each user belongs to the organization within which the user account has been created. A user cannot belong to more than one organization. For creating or editing a user account, log in with an `organization administrator` account for the organization to which the user belongs or should belong.

Procedure 11. Creating User Accounts

Only organization administrators or SUSE Manager administrators can create and edit user accounts.

1. Log in to the SUSE Manager Web interface as administrator. The top level row of the Web interface shows the organization you are currently logged in to.

2. Switch to the *Users* tab and click the *create new user* link at the upper right corner.
3. Enter the *Desired Login* and the *Desired Password* for the new user and confirm the password. Both login and password must consist of at least 5 characters.
4. Enter the first and last name and the e-mail address of the new user and click *Create Login*. The Web interface switches to the *User List*, showing either *Active*, *Deactivated*, or *All* users.

With the creation of a new user account, the user can log in to the SUSE Manager Web interface, but he does not have any administrative permissions yet. Administrative permissions are granted via roles. Each user can have multiple roles. To assign roles to a user and to set other permissions and options proceed as described in Procedure 12, “Editing User Accounts” (page 11):

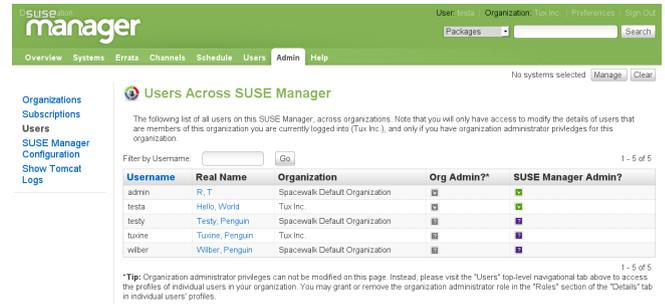
Procedure 12. Editing User Accounts

1. Log in to the SUSE Manager Web interface as administrator. The top level row of the Web interface shows the organization you are currently logged in to.
2. Switch to the *Users* tab.
3. From the left navigation bar, select if you want to see *Active*, *Deactivated*, or *All* users.
4. From the list of users, click the user entry you want to modify. The Web interface shows the *User Details* for the selected entry. Apart from the user's name and password, the *Details* sub-tab also lets you assign roles to the user.
5. Select the roles that you want to assign to the user. For detailed information about the roles, refer to the section called “*User List* → *Active* → *User Details* → *Details* — [Mgmt]” (↑Reference Guide). If you activate the *Organization Administrator* check box, the user will automatically inherit the roles listed below. To assign or remove individual roles, activate or deactivate the respective check boxes.
6. Click *Submit* to confirm your changes on the *Details* sub-tab.
7. To set or modify the user's permissions for system groups, systems or channels that exist within the current organization, switch to the respective sub-tabs and follow the instructions on the Web interface.
8. To modify preferences, addresses or notification methods for the currently selected user, switch to the respective sub-tabs and confirm your changes.

Procedure 13. Adding or Removing the SUSE Manager Administrator Role

As SUSE Manager administrator, you can assign the permission to become SUSE Manager administrator to other users.

1. Log in to the Web interface as SUSE Manager administrator.
2. For an overview of all users that exist within SUSE Manager (across all organizations), switch to the *Admin* tab and select *Users* from the left navigation bar.



A green checkmark in the *SUSE Manager Administrator* column marks users that have the respective permission.

3. To assign or remove the SUSE Manager administrator role, activate or deactivate the *SUSE Manager Administrator* checkbox for the respective user.

For more details about user management, refer to the section called “Users — [Mgmt]” (↑Reference Guide).

Server Migration

If you have a SUSE Manager server installed in parallel to an existing Satellite server, you can migrate your Satellite server to SUSE Manager. The YaST SUSE Manager setup module first collects the necessary information. Then you execute the migration in several steps with the `migration.sh` script as described in Procedure 14, “Migrating a Red Hat Satellite to SUSE Manager” (page 11). Use `-h` to see the available options:

```
/usr/lib/susemanager/bin/migration.sh -h
```

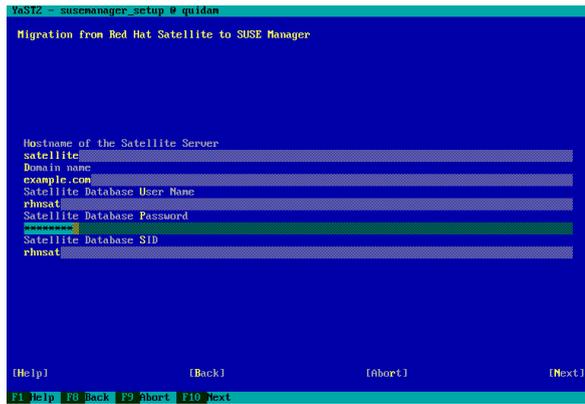
NOTE: Supported Migration

SUSE Manager only supports migration from Satellite 5.3 and 5.4 servers.

Procedure 14. Migrating a Red Hat Satellite to SUSE Manager

1. Log in to your existing SUSE Manager server as `root`.
2. Execute `yast2 susemanager_setup` to start the YaST module.
3. Select *Migrate a Satellite/Spacewalk compatible server*. Proceed with *Next*.
4. In the next screen, enter the *Hostname of the Satellite Server*, its *Domain Name*, the *Satellite Database Username*, the *Satellite Database Password*, and the *Satellite Database SID*.

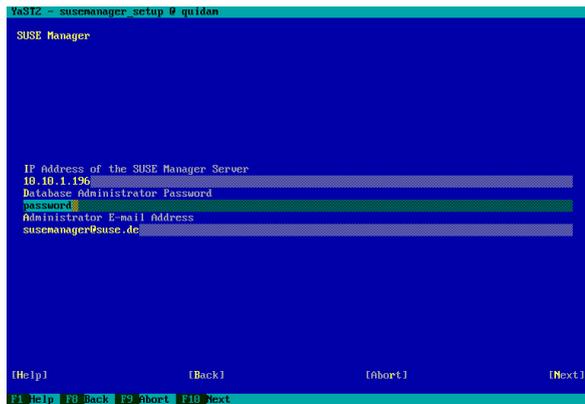
Figure 8. Migration—Satellite Information



Proceed with *Next*.

5. In the next screen, enter the *IP Address of the SUSE Manager Server*, the *Database Administrator Password* (belonging to the database's `root`), and the e-mail address of the SUSE Manager administrator.

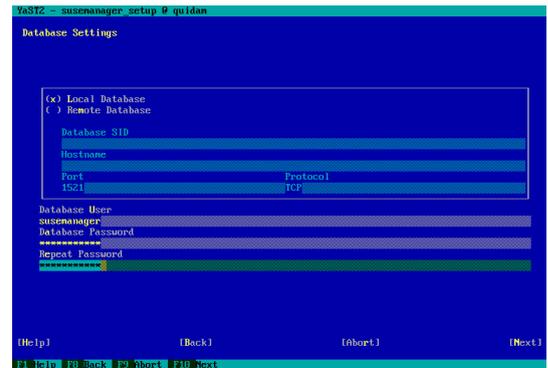
Figure 9. Migration—SUSE Manager Information



Proceed with *Next*.

6. The next screen asks for details about the database to be migrated.
 - a. If you want to migrate data from an embedded database, select *Local Database*. YaST automatically sets the *Port* and *Protocol*.
 To migrate data from an existing remote database instead, select *Remote Database* and enter the following details for the connection to the database: the database system (SID) used to identify a particular database instance, the FQDN of the remote database, the external *Port* to use (usually 1521), and the *Protocol* to use (usually TCP).
 - b. Enter or set the name and password of the SUSE Manager database user (that is used to connect to the local or remote database).
 - c. Repeat the password in the next field.

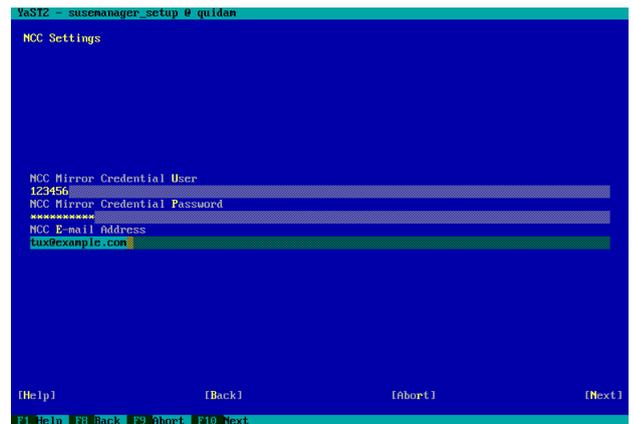
Figure 10. Migration—Local Database



Proceed with *Next*.

7. The next screen asks for your mirror credentials from the NCC. Enter your *NCC Mirror Credentials Username*, the *NCC Mirror Credentials Password*, and your *NCC E-mail Address*.

Figure 11. Migration—NCC Information



Proceed with *Next*.

8. Click *Next* to close YaST and to write the collected information to a file that will be parsed by the `migration.sh` script during the next steps.
9. Using the `-r` option, first copy the RPM packages and configuration files from the Satellite server:

```
/usr/lib/susemanager/bin/migration.sh -r
```

IMPORTANT: Long Operation

This step may take hours to finish.

10. Before you start the final migration process, make sure that nothing is changed on your Satellite server from this point on. Log in to your Satellite server and shut down the Web interface:

```
rcapache2 stop
```

11. On the SUSE Manager server, start the final migration process:

```
/usr/lib/susemanager/bin/migration.sh -m
```

It synchronizes any remaining changes (that may have occurred during the first run with the `-r` option) and migrates the database.

12. After the process has been finished successfully, shut down the Satellite server.
13. In the DNS server, change the name of the Satellite server to the SUSE Manager server's IP address, so that the new SUSE Manager server gets the hostname of the former Satellite server.

From now on, use your SUSE Manager as a replacement for your Satellite server. Since the hostname is the same, all certificates will still work. Any registered clients are automatically directed to the SUSE Manager server.

Troubleshooting

If you have difficulties deploying the appliance, proceed according to the following list.

Installation and Basic Setup

CPU: 64-Bit and Virtualization Support

For running SUSE Manager in a virtual environment you need a machine with a recent Linux Kernel on either an Intel processor with VT (Virtualization technology) extensions, or an AMD processor with SVM extensions (also called AMD-V).

Test if your CPU supports hardware virtualization (and which set of extensions is used) by executing the following command:

```
egrep '(vmx|svm)' /proc/cpuinfo
```

If this command returns no output, your processor either does not support hardware virtualization, or this feature has been disabled in the BIOS. Enable virtualization support in the BIOS and try again. If in doubt, consult your mainboard manual.

If the output contains a `svm` string, your machine uses the AMD-V extensions, if the output contains an `vmx` string, the Intel VT extensions are used.

Database Connection Error

If the setup script reports a database connection error, check if bridged networking is configured correctly on your virtual machine. As repairing the current installation will fail after a database connection error, fix the network settings in your virtual machine and start from scratch with a new SUSE Manager image.

Hostname and DNS

Make sure to fulfill the hostnames and DNS requirements listed in Section “Other Requirements” (page 2).

Basic Configuration

Client Is Not Registered

This is often caused by a missing channel assignment. For example, if you want to register a client running a 64-bit version of SUSE Linux Enterprise Server 11 SP1, you need to add one or more channel for that version of SUSE Linux Enterprise Server 11 SP1. Check if the required steps mentioned at the beginning of Section “Basic Configuration” (page 6) have been executed correctly.

Web Interface: Unavailable Functions

If any functions or entries in the Web interface are not available, check if you have the permission to access these functions. SUSE Manager uses a role-based model for granting permissions. For more information, refer to Section “User Management” (page 10) and Section “Organization Management” (page 9).

Glossary

Repository

A collection of software packages for a specific architecture.

Channel

A channel contains one or more repositories. Channels help you segregate packages by sensible rules: for instance, a channel may contain packages from a specific distribution. A channel may contain packages for an application or family of applications. Users may also define channels for their own particular needs; for example, a company may create a channel that contains packages for all of the organization's laptops.

Base and Child Channels

A base channel consists of packages based on a specific architecture and release. A child channel is a channel associated with a base channel but contains extra packages.

For More Information

SUSE Manager

This guide gave you a short introduction to SUSE Manager. To discover more, refer to the other manuals available for SUSE Manager. Find them at http://www.novell.com/documentation/suse_manager. Alternatively, access them from the SUSE Manager Web interface by selecting *Help* from the top navigation bar.

Novell Customer Center

For detailed information about the NCC, refer to the NCC guide available at <http://www.novell.com/documentation/ncc>.

KVM

For detailed information about KVM refer to the guide *Virtualization with KVM*, available at <http://www.novell.com/documentation/sles11>.

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