Proxy Quick Start
SUSE Manager Proxy 1.2

SUSE® Manager Proxy is a SUSE Manager add-on and caches software packages on an internal, central server. The proxy caches patch updates from Novell or custom RPMs generated by third-party organizations. A proxy allows to use bandwidth more effectively, because client systems connect to the proxy for updates and the SUSE Manager server is no longer required to handle all client requests. The proxy also supports transparent custom package deployment.

This Quick Start explains how to install and set up SUSE Manager Proxy and how to get started with the most important tasks.

Conceptual Overview

SUSE Manager Proxy is an open source (GPLv2) solution that provides the following features:

- Cache software packages in a Squid proxy.
- Client systems see the SUSE Manager Proxy as a SUSE Manager server instance.
- The SUSE Manager Proxy itself is registered as a client system with the SUSE Manager server.

SUSE Manager Proxy's main purpose is to improve the overall SUSE Manager performance by reducing bandwidth requirements and accelerating response time.

System Requirements

The following section informs you about the system requirements. For supported clients and their requirements, see Section "Supported Client Systems" (↑Quick Start).

Hardware Requirements

Hardware requirements highly depend on the customer's usage scenario.

CPU
    Required: Intel™ Pentium 4 or later, AMD Opteron or later, 2 GHz or more, 512 KB cache or equivalent.

    Recommended: Intel or AMD multi-core processor, 2.4 GHz dual processor, 512 KB cache or equivalent.
RAM
    Required: 512 MB (for base operation).

    Recommended (for production operation): 1 GB or more.
Free Disk Space
    Required: 2 GB for base installation.

    Additionally: At least 25 GB for caching per distribution or channel.

Other Requirements

IMPORTANT: Network Setup

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

Hostname and IP Address
  To guarantee that SUSE Manager Proxy's domain name can be resolved by its clients, the proxy 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 Proxy server must not contain uppercase letters as this might cause the `jabberd` messaging daemon to fail.

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

  • One or more subscriptions for SUSE Manager Proxy

  • One or more subscriptions for SUSE Manager

  • Subscriptions for the products on the client systems you want to register with SUSE Manager via SUSE Manager Proxy

  • Subscriptions to client entitlements for the client system you want to register with SUSE Manager via SUSE Manager Proxy

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

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

  • at least 1 GB of RAM,

  • Bridged network.

  The following virtual environments are supported:

  • KVM,

  • VMware,

  • Xen,

  • Hyper-V.

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

Installation and Setup

SUSE Manager Proxy is an application combined with an operating system (appliance). It can be deployed on industry hardware or in a virtual environment.

If SUSE Manager Proxy is registered with a SUSE Manager instance, it will receive updates directly from the configured SUSE Manager channel.

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.

Installation

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

Procedure 13. Installing the Appliance

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

1. Boot your future SUSE Manager Proxy server from the installation medium. Select *Install/Restore SUSE Manager Proxy*.

2. If your machine contains more than one hard disk, you are asked which one to use for the installation of SUSE Manager Proxy. 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.

3. 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.

4. In the first screen, set the system *Language* and *Keyboard Layout* for your future SUSE Manager Proxy. Proceed with *Next*.

5. In the next screen, set the `root` password for your SUSE Manager Proxy server and confirm it.

Figure 1. YaST Firstboot—Password for the System Administrator
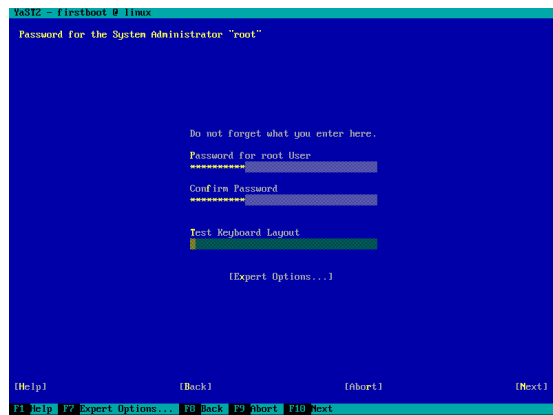
Proceed with *Next*.

6. In the following 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 *Use Following Configuration* or *Change* to modify the network setup according to your wishes.

Figure 2. YaST Firstboot— Network Configuration
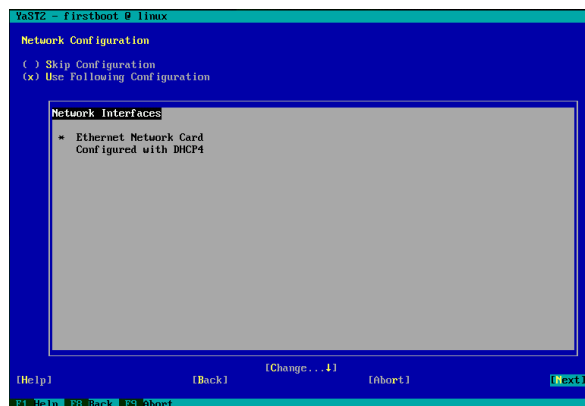
Proceed with *Next*.

8. Configure the *Clock and Time Zone* to use for your SUSE Manager server. Proceed with *Next*.

9. 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. On the *Installation Completed* screen, select *Finish* to close YaST firstboot. The boot process continues.

11. Wait for the boot process to finish.

Setup

After running YaST firstboot, log in as `root`, register SUSE Manager Proxy with SUSE Manager (see Section "Registering with SUSE Manager" (page 3), and run the `configure-proxy.sh` setup script from the command-line (see Section "Running `configure-proxy.sh`" (page 5)).

Registering with SUSE Manager

Registering SUSE Manager Proxy with SUSE Manager is done with a bootstrap script that deploys all necessary information to the proxy. The bootstrap script refers some parameters (like activation keys or GPG keys) that depend on your particular setup.

Procedure 14. 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 need to create activation keys for a new organization, assign system entitlements first. For details, refer to Procedure "Assigning Entitlements to an Organization" (↑Reference Guide) and Section "Organization Management" (↑Quick Start). 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 proxy 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* you want to grant to the proxy systems registered with that key. Activate at least *Provisioning*, which is a requirement for the proxy systems.

9. If any newly registered proxy 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.

   > **WARNING: Changing the Default Activation Key**
   > Only one universal default activation key can be defined per organization. If a universal key already exists for this organization, you will unset the currently used universal key by activating the checkbox.

10. Generate the key by clicking *Create Activation Key*.

Figure 3. 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, then edit a copy of the script and run the modified script on each proxy machine that you want to register with SUSE Manager.

Procedure 15. 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 proxy systems 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* or *Enable Remote Commands*, make sure that the `rhncfg-actions` package is installed on the proxy systems:
   >
   > 1. Switch to the *Systems* tab and select *Activation Keys*.
   > 2. From the list of activation keys, click the one 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 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 16, "Editing the Bootstrap Script and Registering Proxy Systems" (page 4).

Procedure 16. Editing the Bootstrap Script and Registering Proxy Systems

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 proxy system that you want to register with SUSE Manager (either centrally from the SUSE Manager server or decentralized on each system.)

1. Log in as `root` to the SUSE Manager server.

2. Create a copy of the automatically generated script:

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

3. Edit the copy as follows:

   a. Search for `ACTIVATION_KEYS` and enter the activation key from Procedure 14, "Creating Activation Keys" (page 3). 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 a comma-separated list.

   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 proxy 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 proxy client system and execute the following command:

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

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

NOTE: Missing `repodata/repomd.xml`
If the bootstrap script warns about missing `repodata/repomd.xml`, channel synchronizing is still running. Registration will succeed neverthe-

less, and thus package or patch updates will happen later as configured.

To be on the save side, check on the Web interface when *Repo Cache Status* is `Completed`: click *Channels*, then the *Channel Name* to make the *Details* page visible.

Running `configure-proxy.sh`

On the proxy, log in as `root` and execute the interactive `configure-proxy.sh` script; answer questions about SUSE Manager Parent, CA Chain, Proxy version, Traceback email, Use SSL, HTTP Proxy, and provide input for an SSL certificate. Configuration input for monitoring follows. Next steps are CA password, whether to create and populate the configuration channel, and SUSE Manager credentials (user name and password).

If parts are missing, such as CA key and public certificate, the script prints commands that you must execute to integrate the needed files. When the mandatory files are copied, re-run `configure-proxy.sh`.

In the end, `configure-proxy.sh` activates services such as `squid`, `apache2`, and `jabberd`, required by SUSE Manager Proxy.

To check the status of the proxy system and its clients, click the proxy system's details page on the Web interface (*Systems → Proxy*, then the system name). *Connection* and *Proxy* subtabs display the respective status information.

Registering Clients Via SUSE Manager Proxy

Registering clients via SUSE Manager Proxy is basically done the same way as registering clients directly with the SUSE Manager server. The difference is that you create a bootstrap script on the SUSE Manager Proxy with a command-line tool. The bootstrap script then deploys all necessary information to the clients. The bootstrap script refers some parameters (such as activation keys or GPG keys) that depend on your specific setup. For background information, see the Client Configuration Guide.

1. Create the client activation key on the SUSE Manager server using the Web interface as explained in Section "Client Setup" (↑Quick Start).

2. On the proxy, execute the `mgr-bootstrap` command-line tool as `root`. If needed, either edit the resulting bootstrap script or use additional command-line switches such as `--activation-keys`:

   ```
   mgr-bootstrap --activation-keys=key-string
   ```

3. Execute the bootstrap script on the clients as described in Procedure "Editing the Bootstrap Script and Register-

ing Clients" (↑Quick Start) or above for the proxy systems in Procedure 16, "Editing the Bootstrap Script and Registering Proxy Systems" (page 4).

The clients are registered with the SUSE Manager Proxy specified in the bootstrap script. To check the status of the proxy connected client system, click the client system's details page on the SUSE Manager Web interface (*Systems*, then select the system name). The *Connection* subtab displays the connection path to the client.

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

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