




ZYPP explained #ZENworks and Yast Patch and Package management

### Some types of packages

**rpm** Rpm package manager format; rpm program checks dependency resolution, reports error(s), but cannot automatically download dependencies (unless red hat's `--aid` option of RHEL3 and 4 is used, not 5).

**deb** Debian package manager format for e.g. debian, ubuntu, xandros. Dependency resolution and resolving included via e.g. `apt-get` (another package tool).

**rpm patches**  Patches, starting from SLE10, are just meta data and describe:

1. if a system is affected (i.e. if a buggy package is installed)
2. what the bug is (user readable documentation)
3. what the fixed packages are (name + minimal version)

Patches do not(!) contain any package(s), they just describe (via rpm-like dependencies) which package(s) should be installed. (This is different from SLE9 where patches were the actual containers for fixed packages. In SLE9, in order to get a fixed package, you have to use patches. In SLE10, you can access the fixed package directly without going through patches. SLE10 patches just give additional information about the if/why/how of getting your system up-to-date).

### Some types of rpm repositories

**bunch of rpm's:** No dependency resolution, only checking and warnings.

**yast** (free): Bunch of rpm's plus meta data created with e.g. `create_package_descr` command (or `yast`, yet another setup tool for SUSE).

**yum-server** (free): (yellow dog updater modified, originated from 'yellow dog' Linux.) Created from a bunch of rpm's using the `createrepo` package to create the 'yum' xml metadata called: **rpm-md** (Command: `createrepo -q -c /dir`) and hosting the directory tree with http (e.g. using an alias in apache).

**rce** Former ximian's red carpet enterprise rpm repo, used until ZENworks linux management 6 (zlm old), using 'libredcarpet'.

**zypp** ZENworks linux management 7 (zlm new) format.

**nu** Official novell update subscription server using a zypp (zlm new) or rce (zlm old) server repository. 'NU' is a ZLM7 specific type of service. It does not provide package, but channel information. This way, the ZLM server can change the channels the client is subscribed to.

**rhn** Official Red Hat Network subscription repository. Can also be mirrored into ZLM.

### Alternative rpm installers with embedded dependency resolution

**yast2 sw\_single** or `yast2 -i` Yet another setup tool for SUSE.

**rug** Formerly ximian's `rce-updater`, red carpet enterprise update and installation tool, used until zenworks linux management 6 (zlm old), using 'libredcarpet'. Now, since SLE10, using 'libzypp', a new library, which combines `yast2 -i` functionality with ximian's rce updater/installer functionality, using best of both worlds. The client can connect to repos from the type rce (zlm old), zypp (zlm new), nu (novell's subscription zypp/rce repository) and rpm-md (yum).

**zen-updater** Default GUI and daemon (zmd) in SLE10 and for warning/downloading updated packages). This tool can download/install from rce/zypp/nu/yum repos, using 'libzypp'.

**yum client** (yellow dog updater modified). Option in SLE10 as alternative for `zen-updater`.

**apt-rpm** (openSUSE option. See also: **zypper** and **smart**)

**up2date** (rhel2,3,4 RHN updater and rhel5 yum client)

### Some repository mirror tools

**yup** (free): yellow dog updater proxy. Script from the SUSE Linux Developer Kit (not available from the CD's, but on line) to download complete novell update repositories and create a yum (rpm-md) directory tree (but not yet shared by http). See **TID 3065146** and <http://www.novell.com/coolsolutions/appnote/19124.html> Download [page](#).

**zlmirror** Command of ZENworks Linux Management (**ZLM (QR9)**) to import rpm's into ZLM from multiple repositories of types: zlm, rce, yast, rhn, or just download to a directory (type: static).

**yum2zlm.sh** Demo-script in yup rpm described on Novell wiki ([http://wiki.novell.com/index.php/SUSE\\_Linux\\_Enterprise\\_Server](http://wiki.novell.com/index.php/SUSE_Linux_Enterprise_Server) "Advanced Patch Management with ZLM 7.2") or read/use the above yup links. Yup2Zlm is used for importing rpm's from a yum tree into ZENworks Linux Management 7.2 (ZLM). The script shows the option of importing every rpm update to several department groups and divide them into folders of type: **security, recommended, optional, kernel security, kernel non-security**.

**you** (free) `yast` on line update server. Server for downloading a novell subscription repository. Embedded in SUSE Linux until SLES9. Offers html `yast2` repository format for updating hosts using a you-client.

**RH Satellite srv** RHEL solution to mirror the RHN repository only.

**Summary** [http://en.opensuse.org/Libzypp/Package\\_Management](http://en.opensuse.org/Libzypp/Package_Management)

**Note:** You should have your original install packages available somehow (e.g. original install tree, copied DVD (via `Yast`, [Software](#), [Installation Source](#)), or **ZLM Distro Catalog (QR9)**, because updated packages might require additional packages.



**Create an installation source** #Repository, repo, installation tree

#e.g. use the installation DVD copied to a subdir on the hard drive, or Yast, Miscellaneous, Installation Server, ...

**Add ons for the install tree** #Add custom or extra RPM's

How to add add-ons in an installation source is described at:

[http://www.suse.com/~ug/autoyast\\_doc/CreateProfile.Software.html#id2552471](http://www.suse.com/~ug/autoyast_doc/CreateProfile.Software.html#id2552471)

How to create the add-on iso/repository is described at:

[http://developer.novell.com/wiki/index.php/Creating\\_Add-ons](http://developer.novell.com/wiki/index.php/Creating_Add-ons)

or Creating Add-on media with Yast at:

[http://developer.novell.com/wiki/index.php/Creating\\_Add-On\\_Media\\_with\\_YaST](http://developer.novell.com/wiki/index.php/Creating_Add-On_Media_with_YaST)

There are two ways to add the extra installation source:

1) Create a file call add\_on\_products on CDI, or

2) Add the following entries to the autoyast profile, e.g.:

```
<add-on>
<add_on_products config:type="list">
  <listentry>
    <media_url>http://srv.sles10/CD1/updates</media_url>
    <product>SuSE-Linux-Updates</product>
    <product_dir></product_dir>
  </listentry>
</add_on_products>
</add-on>
<general> #Optional
<signature-handling>
  <accept_file_without_checksum config:type="boolean">true</accept_file_without_checksum>
  <accept_non_trusted_gpg_key config:type="boolean">true</accept_non_trusted_gpg_key>
  <accept_unknown_gpg_key config:type="boolean">true</accept_unknown_gpg_key>
  <accept_unsigned_file config:type="boolean">true</accept_unsigned_file>
  <accept_verification_failed config:type="boolean">>false</accept_verification_failed>
  <import_gpg_key config:type="boolean">true</import_gpg_key>
</signature-handling>
</general>
```

**Share the installation tree** #Example share over http:

```
vi /etc/apache2/conf.d/inst_server_sled10_32.conf
Alias /sled10_32/ /home/isos/inst-sources/sled10_32/
<Directory /home/isos/inst-sources/sled10_32/>
  Options +Indexes +FollowSymLinks
  IndexOptions +NameWidth=*
  Order allow,deny
  Allow from all
</Directory>
```

**Announce the tree over SLP** #Optional, e.g. using NFS:

```
vi /etc/slp.reg.d/install.suse.nfs.reg
# Register the NFS Installation Server
service:install.suse.nfs://$HOSTNAME/path_to_instsource/CD1,en,65535
description=NFS Installation Source
```

**Install from the network** #First boot from CDI, or PXE, then

#Linuxrc boot parameters, e.g.:

```
install=http://1.2.3.4/sled10_32/ netsetup=-dhcp hostip=1.2.3.20 \
netmask=255.255.255.0 gateway=1.2.3.254 nameserver=1.2.3.250
http://www.suse.de/~ug/autoyast\_doc/invoking\_autoinst.html
http://en.opensuse.org/Linuxrc
install=http://xxx insmod=pcnet32 hostip=192.168.100.1 \
netmask=255.255.255.0 gateway=192.168.100.254
```

**Autoyast example XML codes** #See, e.g.

<http://www.suse.com/~ug/> #Contains latest documentation  
<http://forgeftp.novell.com/yast/doc/SLES10/autoinstall/>  
<http://forgeftp.novell.com/yast/doc/SLES9/autoinstall/9.1/html/index.html>  
[http://wiki.novell.com/index.php/Category:SLED10\\_Deployment\\_Tips](http://wiki.novell.com/index.php/Category:SLED10_Deployment_Tips)  
Yast, Misc, Autoinstallation, #Create example XML code  
Tools, Create Reference Profile, #Create XML from installed system  
Create,  
View, Source #Used to copy and paste XML to template  
<!-- comment --> #Add comment in an XML file  
Autoyast SLES9 Whitepaper #See [link](#)  
Autoyast IP Autoconfiguration #Cool solution [18955](#)  
#See autoyast logs at [/var/adm/YaST/](#)

**Use ZLM for the Updates** #See [Quick Reference 9](#)

**Extra yast package repos.** #Install VLC or mplayer via yast?  
For SLE10 GA, SP1 and higher use openSUSE 10.1 (not 10.2, not 10.3)  
**Disable openSUSE repos on SLES/SLED aft installing an rpm set!**  
Otherwise your machine changes into openSUSE

**SLE10 Repo Examples** #Add via: YaST, Installation Source  
<http://ftp.skynet.be> : #or use a close by mirror  
/pub/ftp.opensuse.org/opensuse/distribution/SL-10.1/inst-source/  
/pub/ftp.suse.com/suse/install/10.1/inst-source-extra/  
/pub/ftp.opensuse.org/opensuse/distribution/SL-10.1/non-oss-inst-source/  
/pub/packman/suse/10.1/  
/pub/user-guru/rpm/10.1/  
<http://download.videolan.org> : #10.1=SUSE Version for SLES/SLED10  
/pub/videolan/vlc/SuSE/10.1

**MP3 Enabling Amarok** #Already enabled in openSUSE 10.3  
#Using some of the extra repos #'Packman' and 'Guru'  
#Check out possible patent violation  
On a SLED10 Gnome Desktop with KDE enabled, and the extra repos:  
Yast, Software Management  
Delete Amarok #Ignore the KDE Desktop requirement  
#Auto deleted, e.g.: #amarok-xine, -libvisual, speex  
#Auto installation, e.g.: #libxine1, Kaffeine  
#Test: Kaffeine is now .wmv enabled?  
#Amarok has libtunepimp dependencies (-mad, -mp4), so first:  
Update libtunepimp  
Add libtunepimp-mad, libtunepimp-mp4  
#Test: Amarok can play mp3's #Finish of by enabling Totem  
Update totem  
Add totem-browser-plugging, libxine1-gnome-vfs  
#Test via e.g. [www.bbc.com](http://www.bbc.com) broadcasts via Windows media or real player  
#See also link: [Real licensed decoding Windows Media into Linux](#)