

Managing RH / CentOS with SUSE® Manager

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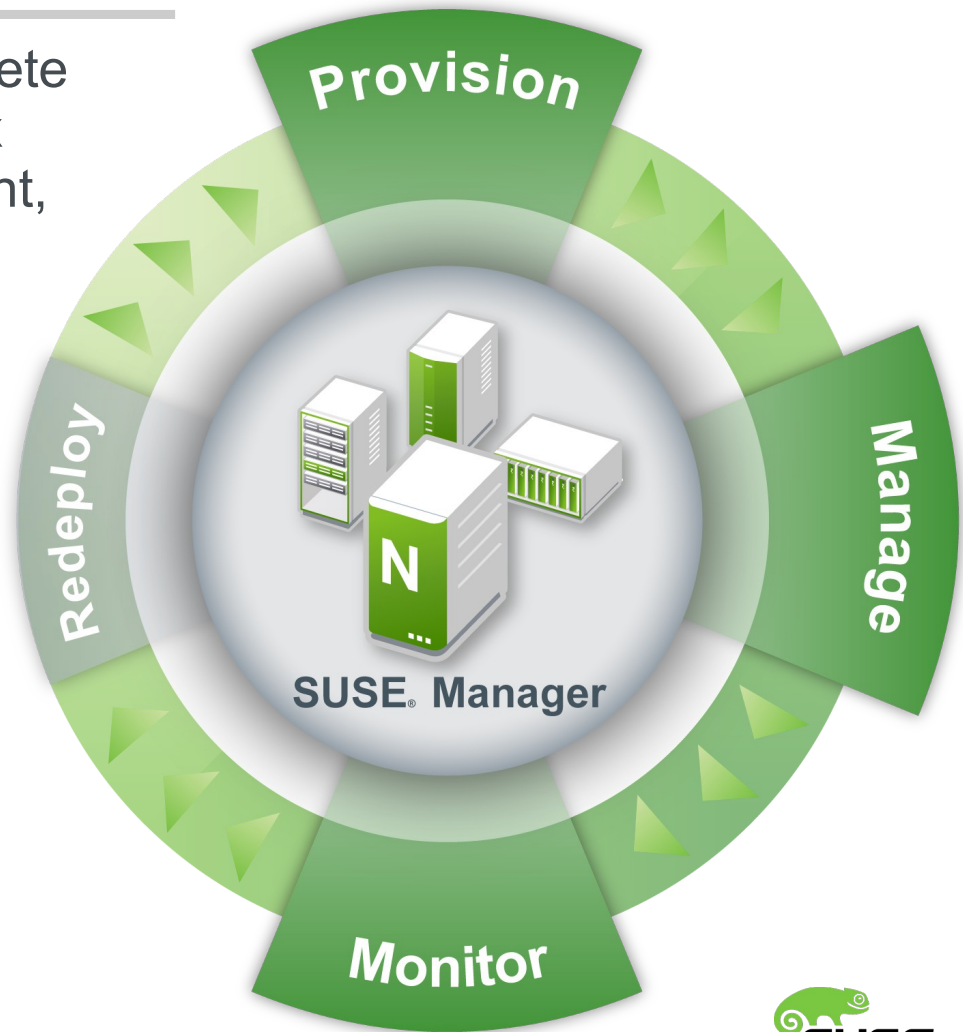
Agenda

- SUSE Manager overview
- SUSE Manager and non-SUSE distributions
- RHEL and CentOS Maintenance with Expanded Support
- CentOS Native Maintenance
- Red Hat Native Maintenance
- Satellite/Spacewalk Migration
- Appendix

SUSE Manager Overview

Modular Approach

SUSE Manager delivers complete lifecycle management for Linux servers through its management, provisioning, and monitoring modules



SUSE Manager is Open Source

What is the Spacewalk Project?

- Upstream version of SUSE Manager and Red Hat Network (RHN) Satellite Server
- Red Hat open sourced RHN Satellite (GPL v2) in June 2008

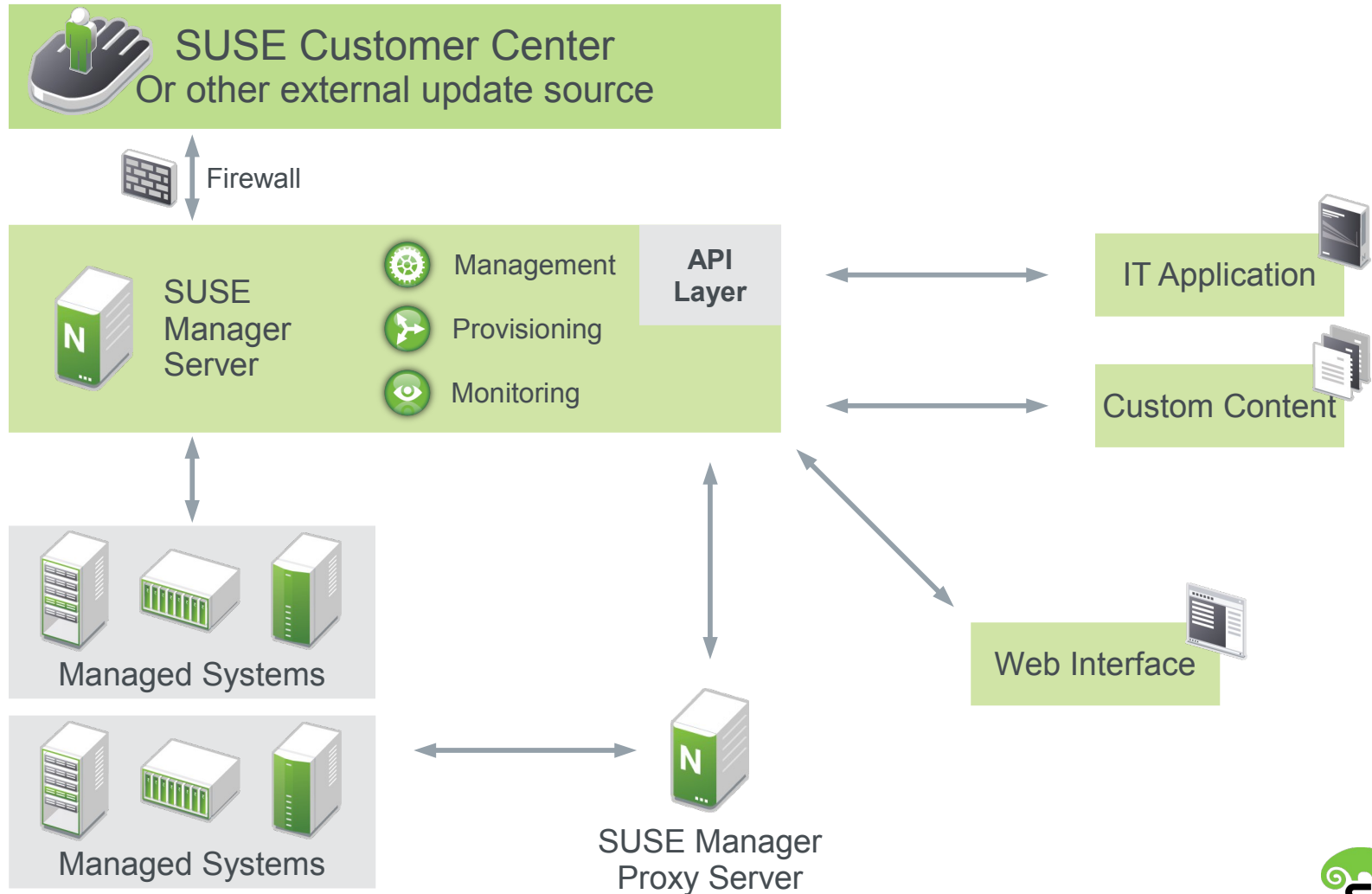


What is the role of SUSE in the Spacewalk Project?

- SUSE Manager is based on Spacewalk, but SUSE has adapted it for SUSE Linux Enterprise
- SUSE is an active contributor to Spacewalk
- SUSE embraces the open source development model and Spacewalk is just one of the many open source projects we support



How Does SUSE Manager Work?



SUSE manager and Non-SUSE Distributions

SUSE Manager

Support for **Non-SUSE Distributions**

- RHEL, CentOS 5/6 are supported clients with SUSE Manager
- RHEL, CentOS 5/6 may be patched using SUSE Linux Enterprise Server with Expanded Support channels¹ or native software update channels
- Plug-ins for connectivity to RHN are not contributed to upstream spacewalk project by Red Hat
- External / custom software channels may be imported using spacewalk-repo-sync against any YUM repository

Any other distro, no matter how functional through upstream Spacewalk, is technically unsupported

¹ <https://www.suse.com/products/expandedsupport/>

Red Hat / CentOS Maintenance with Expanded Support

Why Choose SUSE® to Support Red Hat?

- SUSE Linux Enterprise Server with Expanded Support is a full service maintenance and support offering covering:
 - SUSE Linux Enterprise Server 11
 - Red Hat Enterprise Linux 5 and 6
 - CentOS 5 and 6
- Focus: Mixed environment support, no vendor lock-in, consolidated support offering
- Binary compatible package updates for RHEL, CentOS
- Minimal disruption to existing Red Hat infrastructure
- Existing Installation media, profiles, and core image build processes are used going forward
- Savings could be as much as 50% of current spend



SUSE Manager

SLES with Expanded Support 1/2

- Initial maintenance subscription purchased from Red Hat
- Renewal maintenance contract between customer and SUSE – adding support for currently deployed RHEL/CentOS workloads
- Expanded Support package updates are built by SUSE, based on Red Hat source releases
- RPMs and patches are delivered via Customer Center
- Patch errata information published to SUSE patchbuilder and RES software channel metadata
- SUSE Manager clients use native package management tools (yum, up2date.)

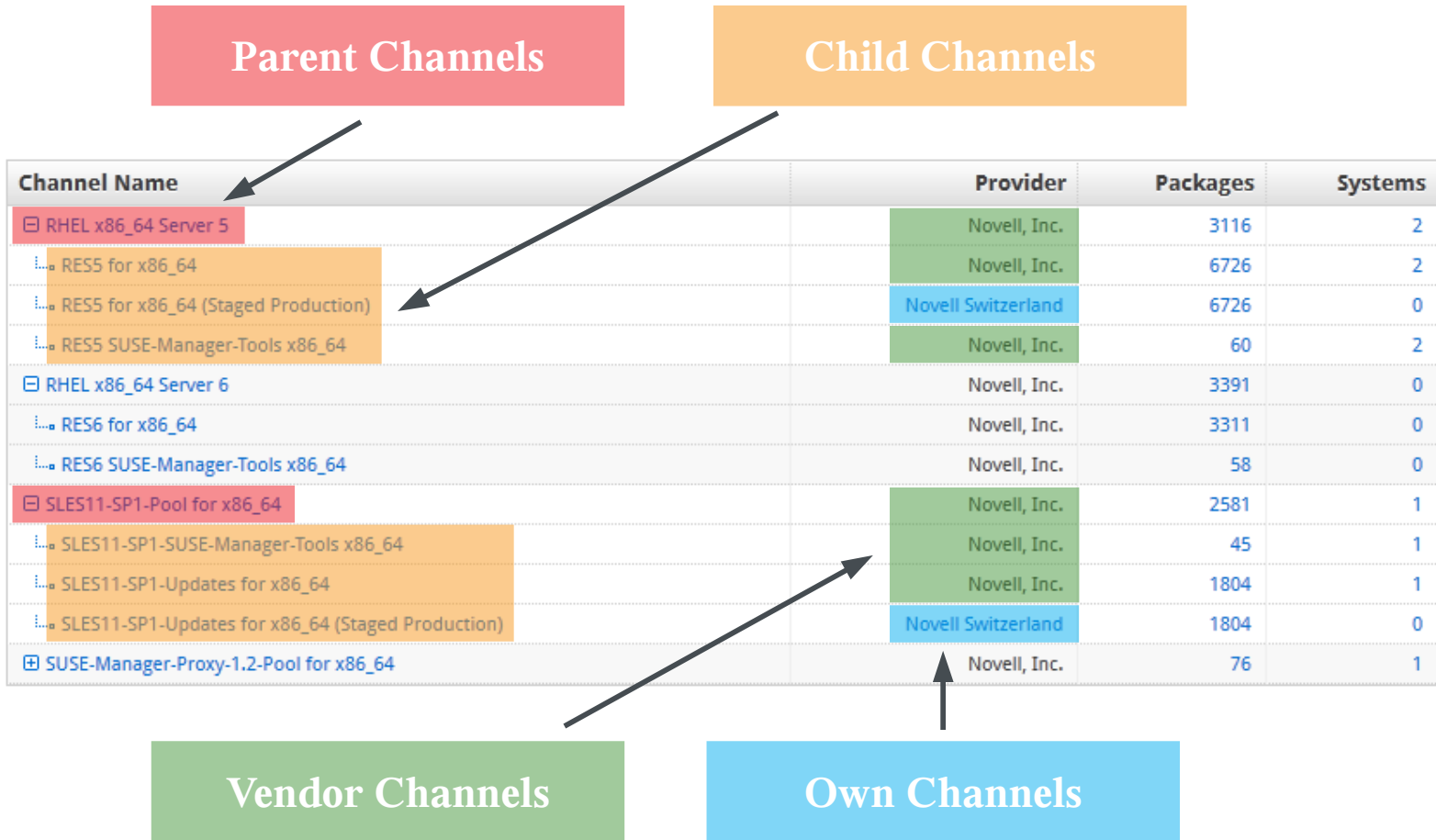


SUSE Manager

Expanded Support 2/2

- Expanded Support program is available for the following Red Hat Enterprise Linux and CentOS x86_64 and i386 versions:
 - 5.2 or newer
 - 6.0 or newer
- Binary relationship – Subscription terms of service require that ***ALL*** RHEL and SLES deployments be under maintenance. Service may be provided by Red Hat or SUSE – NOT BOTH.

SUSE Manager Software Channels

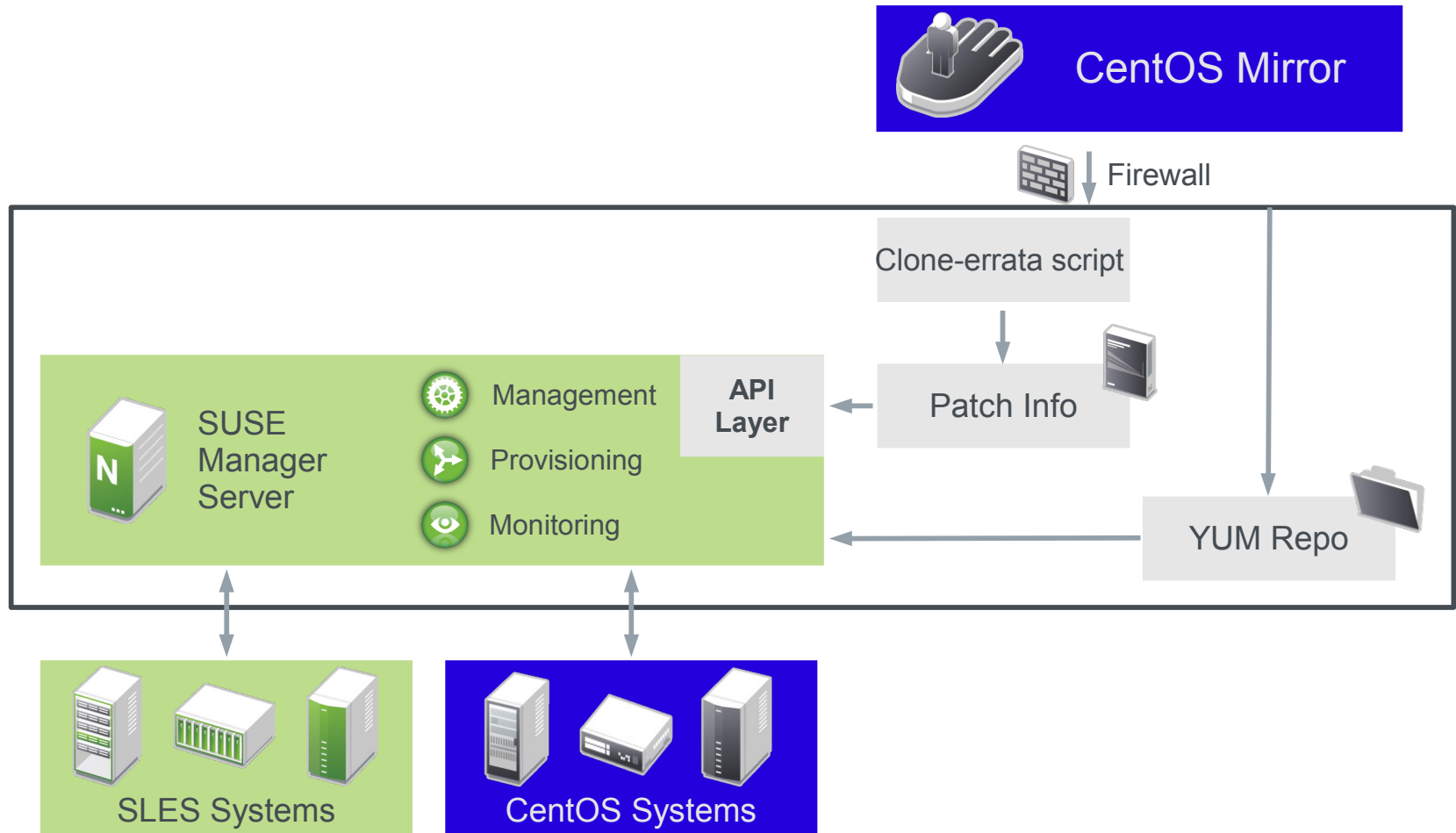


CentOS Native Maintenance

CentOS Native Maintenance

- Updates obtained directly through the CentOS mirrors
- RPMs are built by CentOS.
- Patches (aka Errata) are built by CentOS.
- Info on patches is provided by CentOS.
- SUSE Manager server manage patches and software via custom channels and repositories
- SUSE Manager client works with native package management
- Packages imported with spacewalk-repo-sync

SUSE Manager Architecture for CentOS Native Update



Red Hat Native Maintenance

Red Hat Native Maintenance - Subscriptions

- Valid Red Hat subscription are required for access to `rhn.redhat.com` downloads and `xmlrpc` patch errata
- Software channels: `rhn.redhat.com`
- Errata information: `xmlrpc.rhn.redhat.com`
- Fedora EPEL (Extra Packages for Enterprise Linux) channel supplements the Red Hat optional channels (Required for a few additive software packages needed to mirror rhn channels locally)
 - see: <http://fedoraproject.org/wiki/EPEL>

SUSE Manager

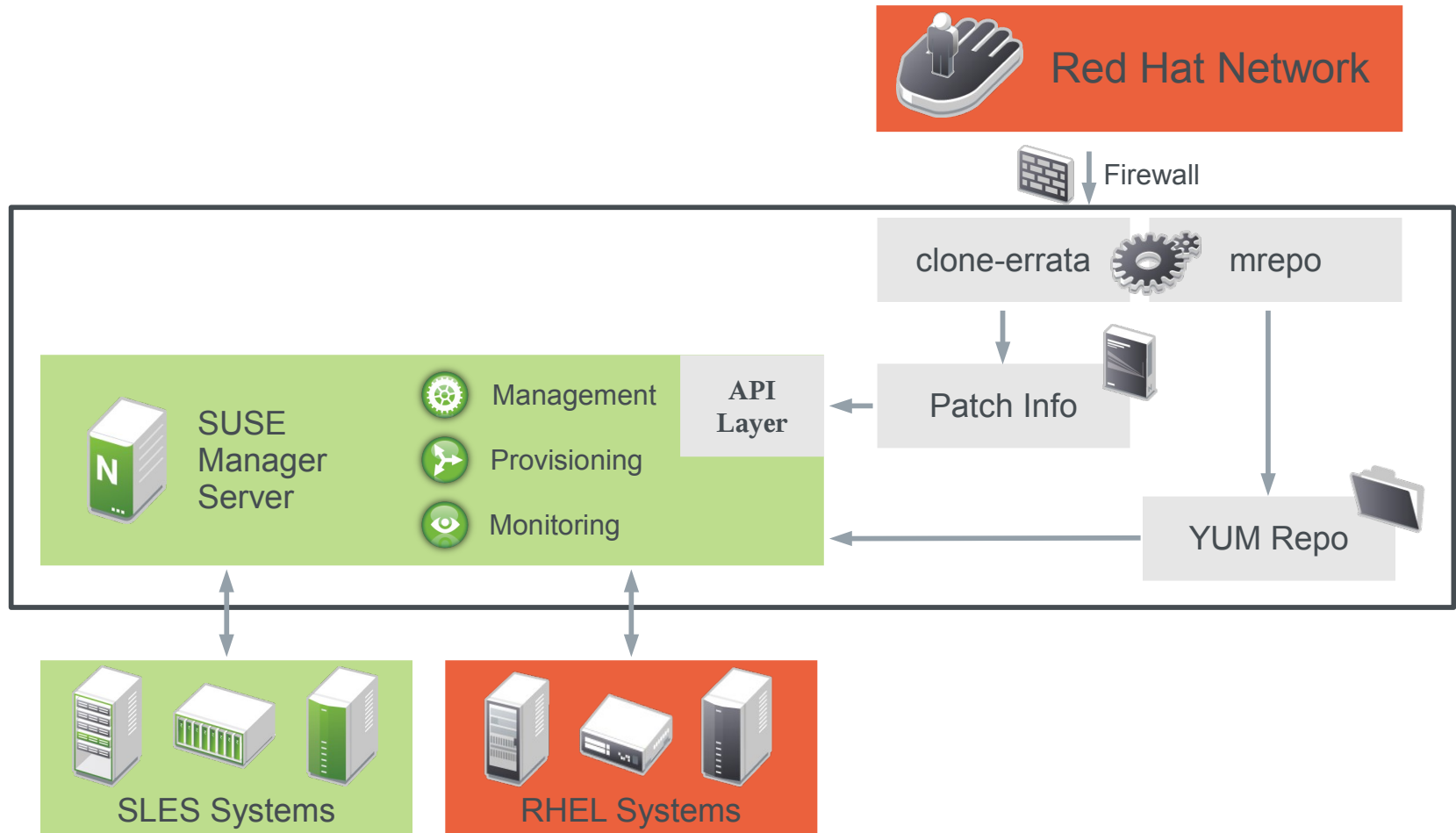
Red Hat Native Maintenance

- RHEL maintenance and support contract is kept between the customer and Red Hat
- Per-server subscriptions and support are purchased from Red Hat.
- RPM software updates, XMLRPC errata are packaged and published by Red Hat.
- Patch notifications are distributed via Red Hat and Red Hat Network website (RHN).
- Software update channels and installation media are downloaded locally; and imported into SUSE Manager using `spacewalk-repo-sync`
- SUSE Manager server is responsible for on-going patch/software management, compliance reporting.
- SUSE Manager does *** not *** synchronize server information to `rhn.redhat.com`
- SUSE Manager client tools use native package management tools (`yum`)

mrepo – Open source software package to mirror and publish software channels

- mrepo builds a local APT/Yum RPM repositories from local ISO files, downloaded updates, and extra packages from 3rd party repositories
- Responsible for mirroring software channels, configuring HTTP access and providing PXE/TFTP resources for remote network installations.
- <http://dag.wieers.com/home-made/mrepo/>
- Initial configuration and on-going support of the mrepo software packages is the responsibility of the customer

SUSE Manager Architecture for Native Maintenance



Assumptions / Concerns / Prep

- Custom Base channel for RHEL5 / RHEL6, arch
 - Child channel for Installation media (dependency resolution)
 - Child channel for Updates channel
 - Child channel for SUSE Manager Tools / Spacewalk Agents
- SUSE Manager Tools -
 - SUSE RES* Tools are functional/supported
 - Spacewalk project external RHEL tools also work
- Activation key, and SUSE GPG signing keys added to bootstrap script

```
ORG_GPG_KEY=suse-9C800ACA.key,suse-307E3D54.key,res.key
```

(see /srv/www/htdocs/pub/bootstrap on the SM Server.)



Spacewalk RHN Errata Import

- Several solutions have been developed by various members of the Spacewalk community
- Patch / Errata definitions are published separately from rpm package metadata – server: xmlrpc.rhn.redhat.com
- Python / PERL scripting is used with Red Hat Network and Spacewalk APIs to import patch info, package manifest, errata change detail, as well as CVE and bugzilla information
- A good, working option for SM (ya-errata-import) is here: https://github.com/riedekef/spacewalk_scripts

mrepo cookbook: (page 1)

- Install / Activate / Patch a RHEL 5 server
(RHEL 6 works, requires additional packages from outside EPEL)
- Add the RHEL5 supplementary / optional software channel through rhn
- Configure Fedora EPEL repo: Extra Packages for Enterprise Linux (EPEL)
- rpm -ivh \
http://mirrors.kernel.org/fedora-epel/5/x86_64/epel-release-5-4.noarch.rpm
- yum install pyOpenSSL rhn-client-tools rhpl mrepo
- echo "up2date default" > /etc/sysconfig/rhn/sources
- copy 5Server.conf (next slide) to /etc/mrepo.conf.d/
- UUID=\$(uuidgen) ; /bin/echo -e "uuid[comment]=Universally Unique ID for this server\nrhnuuid=\$UUID" > /etc/sysconfig/rhn/up2date-uuid
- gensystemid -u RHN_username --release=5Server --arch=x86_64 \
/srv/mrepo/src/5Server-x86_64/

mrepo cookbook: (page 2)

- `cp `cat /etc/sysconfig/rhn/up2date|grep ^sslCACert=|cut -d= -f2` \ /usr/share/rhn/RHNS-CA-CERT`
- `mkdir -p /srv/mrepo/src/5Server-x86_64`
- `mrepo -ugv`
 - `-u, --update` fetch OS updates
 - `-g, --generate` generate mrepo repositories
 - `-v, --verbose` increase verbosity
- Hurry up and wait... (Full RHEL5 x86_64 Updates channel = ~29GB)
- `spacewalk-repo-sync -c <rhel-5-updates-x86_64> -u \ http://ip-or-fqdn/mrepo/5Server-x86_64/RPMS.updates/`
- Hurry up and wait...

Reference: <https://www.soljerome.com/blog/2011/12/17/mirroring-rhn-with-mrepo-on-rhel6/>



/etc/mrepo.conf

```
### Configuration file for mrepo
### The [main] section allows to override mrepo's default settings
### The mrepo-example.conf gives an overview of all the possible settings
```

```
[main]
srcdir = /var/mrepo
wwwdir = /var/www/mrepo
confdir = /etc/mrepo.conf.d
arch = x86_64
mirrordir-exclude-debug = yes
mirrordir-exclude-srpm = yes
rhngget-download-all = yes
reposync-newest-only = no
#reposync-cleanup = no
mailto = root@localhost
smtp-server = localhost
```

These parms will fully populate the entire back channel of updates.

```
#rhnlogin = username:password
### Any other section is considered a definition for a distribution
### You can put distribution sections in /etc/mrepo.conf.d/
```

/etc/mrepo.conf.d/5Server.conf

```
### Name: Red Hat Enterprise Server v5
```

```
### URL: http://www.redhat.com/
```

```
[5Server]
```

```
name = Red Hat Enterprise Server $release ($arch)
```

```
release = 5
```

```
arch = x86_64
```

```
metadata = repomd
```

```
### RHEL5 repositories
```

```
updates = rhns:///rhel-$arch-server-$release
```

```
#vt = rhns://rhn.redhat.com/rhel-$arch-server-$repo-$release
```

```
#supplementary = rhns://rhn.redhat.com/rhel-$arch-server-$repo-$release
```

```
#fastrack = rhns://rhn.redhat.com/rhel-$arch-server-$repo-$release
```

```
#hts = rhns://rhn.redhat.com/rhel-$arch-server-$repo-$release
```

```
#rhn-tools = rhns://rhn.redhat.com/$repo-rhel-$arch-server-$release
```



errata cookbook: (page1)

- Download tarball / PERL script with supporting configuration files from git repo linked on previous slide (see also link below.)
- ya-errata-import can be put into a cronjob on the mrepo server
- yum install perl-Text-Unidecode \
perl-Frontier-RPC \
perl-XML-Simple \
perl-Net-SSLeay \
perl-Crypt-SSLeay

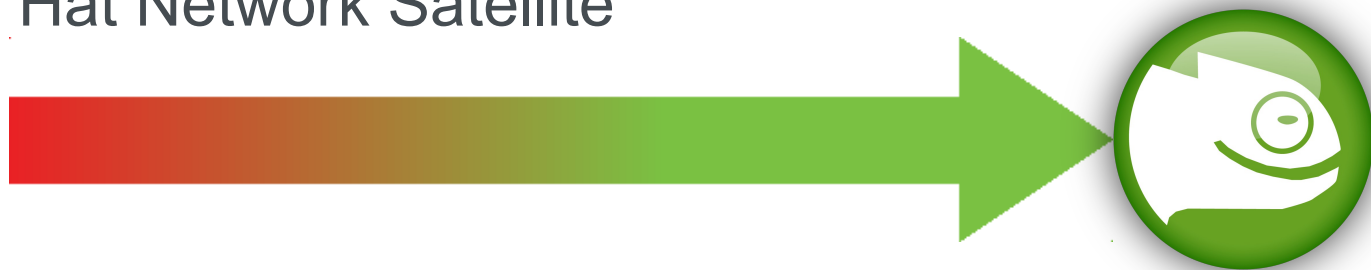
errata cookbook: (page 2)

- Edit `ya-errata-import.cfg` to reflect proper usernames –
 - CFG file is sourced as environment variables when the PERL script is executed.
 - This helps with keeps admin creds out of ps ef output.
- Edit `redhat-clone-errata.sh` to reflect proper server names
 - `SPACEWALK=manager-rhn.demo.com`
 - `ya-errata-import.pl` cmdline must be validated for correct channels
 - `/root/ya/ya-errata-import.pl --server manager-rhn.demo.com --channel q3-20120712-rhel-5.2-updates-x86_64 --redhat-channel rhel-x86_64-server-5 --os-version 5 --redhat --startdate 2013-02-01 --publish --debug`
- Review parms for `ya-errata-import.pl` with `./ya-errata-import.pl --help`
 - Start dates / End dates / incremental are all options...
- Execute `./redhat-clone-errata.sh`

Satellite Migration

Red Hat Network Satellite Migration

- Easily migrate from Red Hat Network (RHN) Satellite to SUSE Manager in one simple process
 - Retain all data and configurations
- Customized scripts, templates and processes developed for Red Hat Network Satellite can be re-used or easily adapted
- IT staff requires virtually no retraining – familiar user interface, logic and terminology as Red Hat Network Satellite



RHN Satellite Migration Technical View

- Install SUSE Manager in parallel
- Run data migration script on SUSE Manager (w/o DB)
- Stop usage of Satellite Server
- Run final data sync script (with DB)
- Shutdown Satellite Server
- Change DNS settings
- Verify connectivity of clients

Migration from Red Hat Satellite to SUSE Manager

Hostname of the Satellite Server

satellite

Domain name

suse.us

Satellite Database User Name

rhmsat

Satellite Database Password

rhmsat

Satellite Database SID

rhmsat

[Help]

[Back]

[Abort]

[Next]

F1 Help F8 Back F9 Abort F10 Next

Links

<https://www.suse.com/products/suse-manager/>
https://www.suse.com/documentation/suse_manager/
<https://www.suse.com/products/expandedsupport/>
<https://www.suse.com/support/>

<http://redhat.com/products/enterprise-linux/rhn-satellite/>
http://en.wikipedia.org/wiki/Red_Hat_Network
http://en.wikipedia.org/wiki/Satellite_%28software%29
https://access.redhat.com/knowledge/docs/Red_Hat_Network_Satellite/
<https://access.redhat.com/security/updates/advisory/>
<https://access.redhat.com/knowledge/articles/28765>
<https://access.redhat.com/knowledge/articles/143253>
<http://spacewalk.redhat.com/>

<http://freecode.com/projects/mrepo>
<https://github.com/dagwieers/mrepo/blob/master/docs/usage.txt>
<http://kmkswamy.blogspot.de/2009/06/howto-privatelocal-mirror-with-mrepo.html>
<https://www.soljerome.com/blog/2011/12/17/mirroring-rhn-with-mrepo-on-rhel6/>
<http://www.codarama.com/drupal/?q=node/4>
<http://www.codarama.com/drupal/sites/default/files/rhn-clone-errata.py.txt>

<http://cve.mitre.org/>

<click>

It's ***SHOWTIME!***

Thank you.





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Appendix