



Red Hat Network

Joachim Schröder
Red Hat GmbH

What is Red Hat Network?

A systems management platform designed to provide complete lifecycle management of the operating system and applications.

- A single solution for lifecycle management of compute resources
 - Installing and provisioning new Enterprise Linux systems
 - Installing applications and packages.
 - Updating / patching systems
 - Deploying and managing configuration files
 - Monitoring systems and applications.
 - Rolling systems back to previous states.
 - Redeploying for a new purpose



Why use Red Hat Network?

Red Hat Network makes Linux:

Deployable

Provision thousands of machines at once without touching them

Scalable

Expand IS/IT capabilities without expanding resources

Manageable

Update 1,000 systems as easily as 1

Consistent

Ensure that security fixes and configuration changes are applied across your organization

How can your business benefit from RHN?

Lower system administration costs

- Management tools let you maximize your hardware investment
- Complete installation takes only minutes (Hosted) to 1-2 days (Satellite)
- Professional installation and one week training available, but no long-term consulting needed

Increase productivity

- 4-10X system admin productivity, easily allowing 150+ systems/system admin
- Flexible architecture allows use of GUI, API, or CLI (scripted) interface
- All tasks automated - allowing you to move beyond “guru bottleneck”

Improve security

- Content stream comes directly & immediately from Red Hat
- Complete audit trail and various pre-defined reports
- Policies and permissions provide centrally managed role-based administration

Example: Using RHN for adaptive infrastructure

Many enterprises want to use hardware more efficiently

- Demand for externally-facing services often shifts. In order to adapt to changing demand conditions, administrators need flexible systems
- It can take hours to manually re-deploy a single system

Detect when demand increases

- Red Hat Network can alert you when systems or applications reach defined levels of performance
- Allows you to take action before customers notice performance degradation

Re-deploy systems quickly

- Red Hat Network stores profiles that can include packages, custom applications, configuration files, and more
- Use the profiles to change under-utilized systems to the type of system needed to meet current business needs
- In 20-30 minutes, you can have hundreds of systems re-deployed

Red Hat Network components

Service Modules

- Update
- Management
- Provisioning
- Monitoring

Architectures

- Hosted
- Satellite



Update Module

Easily obtain security updates, patches, and new OS versions



Remove undesired packages through the simple RHN web interface

Automatically update systems with the latest security fixes



- **Included in every Enterprise Linux subscription**
- All content is digitally signed for added security
- Full dependency checking ensures the integrity of your system

Management Module



Manage groups of systems as easily as a single system

Assign permissions to administrators for managing different groups or roles



Schedule updates to occur during maintenance windows

- Powerful search capabilities let you identify systems based on packages, system information, and much more
- Compare package profiles between systems to quickly spot differences
- Manage both Enterprise Linux and Solaris systems within the same RHN interface

Provisioning Module

Provision existing or bare metal systems using predetermined profiles or system cloning



Improve consistency by using RHN to manage and deploy configuration files

Undo problematic changes with snapshots and rollback



- Use **Provisioning** to deploy Enterprise Linux, other applications, and customized configuration files
- **Kickstart writer** lets you quickly create templates used for provisioning
- Issue **remote commands** to perform additional pre- and post-install instructions

Monitoring Module



Dozens of low-impact probes can be set for each system

Group probes into suites for fast deployment



Receive email or pager notices when a probe reaches a pre-defined warning or critical threshold

- Monitor systems, as well as applications from Oracle, BEA, Apache, and MySQL
- View reports and graphs of probe performance over time
- Temporarily disable notifications – helpful when performing system maintenance
- Monitoring Module requires a Satellite deployment model

What can be monitored?

System Probes

Linux: CPU Usage, Disk I/O Throughput, Disk Usage, Interface Traffic, Load, Memory Usage, Process Health, ...

Network: FTP, HTTP, HTTPS, IMAP, Ping, POP, RPCService, SSH, SMTP, ...

Log Agent: Log Size, Pattern Matching, ...

Application Probes

Oracle 8i/9i: Availability, Client Connectivity, Disk Sort Ratio, Index Extents, Locks, Sessions, Tablespace Usage, TNS Ping, ...

BEA Weblogic: Heap Free, JDBC Connection Pool, Server State, ...

Apache: Processes, Traffic, Uptime

MySQL: Database Accessibility, Opened Tables, Query Rate, Threads Running

You can also create your own probes using tools provided through Red Hat Network.

Combine Monitoring with Provisioning

Many enterprises want to use hardware more efficiently

- Demand for externally-facing services often shifts. In order to adapt to changing demand conditions, administrators need flexible systems
- It can take hours to manually re-deploy a single system

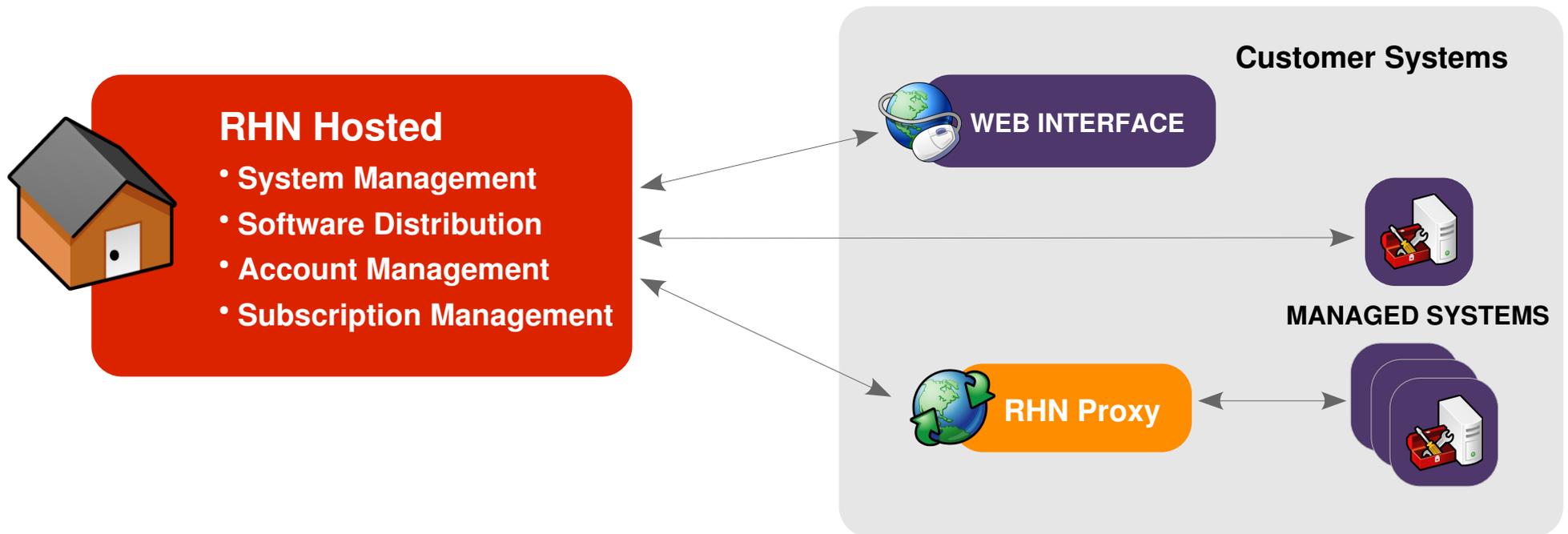
Detect when demand increases

- Red Hat Network can alert you when systems or applications reach defined levels of performance
- Allows you to take action before customers notice performance degradation

Re-deploy systems quickly

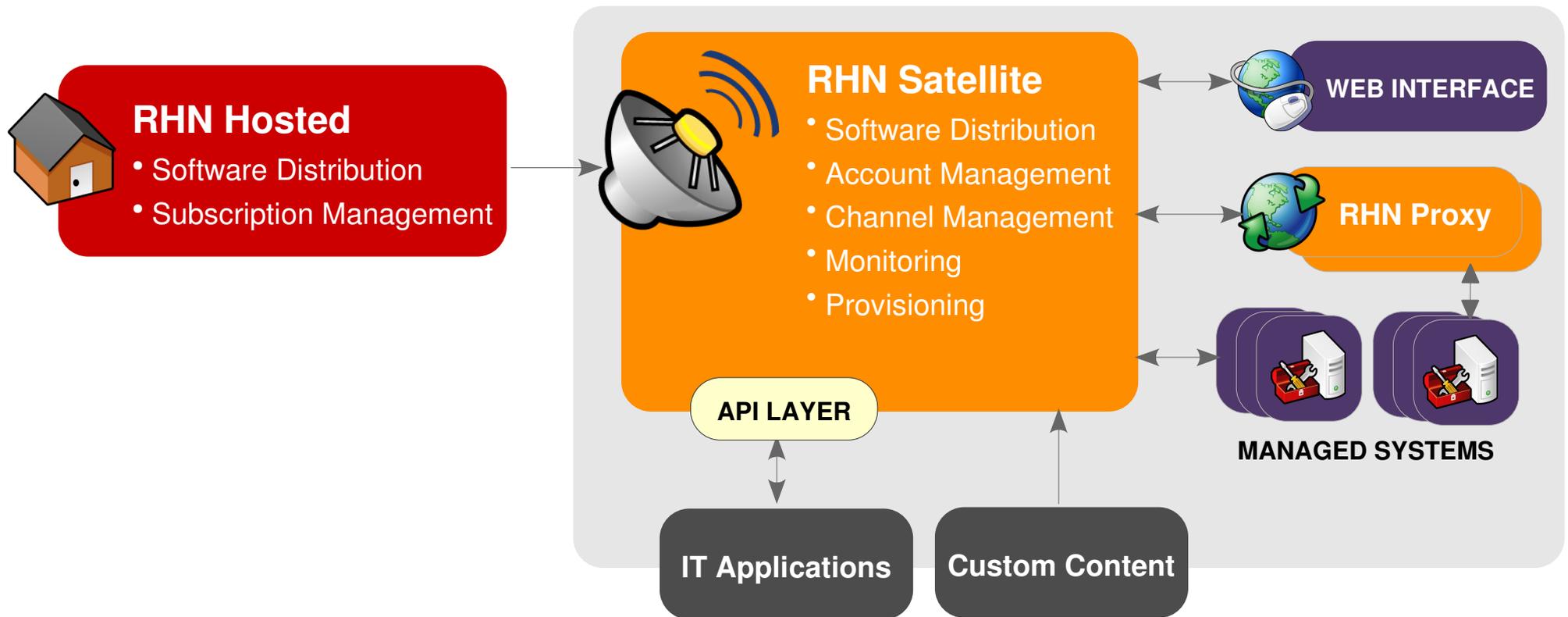
- Red Hat Network stores profiles that can include packages, custom applications, configuration files, and more
- Use the profiles to change under-utilized systems to the type of system needed to meet current business needs
- In 20-30 minutes, you can have hundreds of systems re-deployed

Hosted deployment model



- Quick setup is designed to enable management for small deployments
- All system information, profiles, and packages are stored in Red Hat's servers
- Each managed system connects across the Internet for all managed actions
- RHN Proxy can be added to lower bandwidth use by caching packages locally

Satellite deployment model



- Enterprise management solution – enhanced control
- Local database stores all packages, profiles, and system information
- Syncs content from RHN Hosted
- Custom content distribution
- Can run disconnected from the Internet

Proxy Server

Reduce Internet bandwidth use by caching content locally.

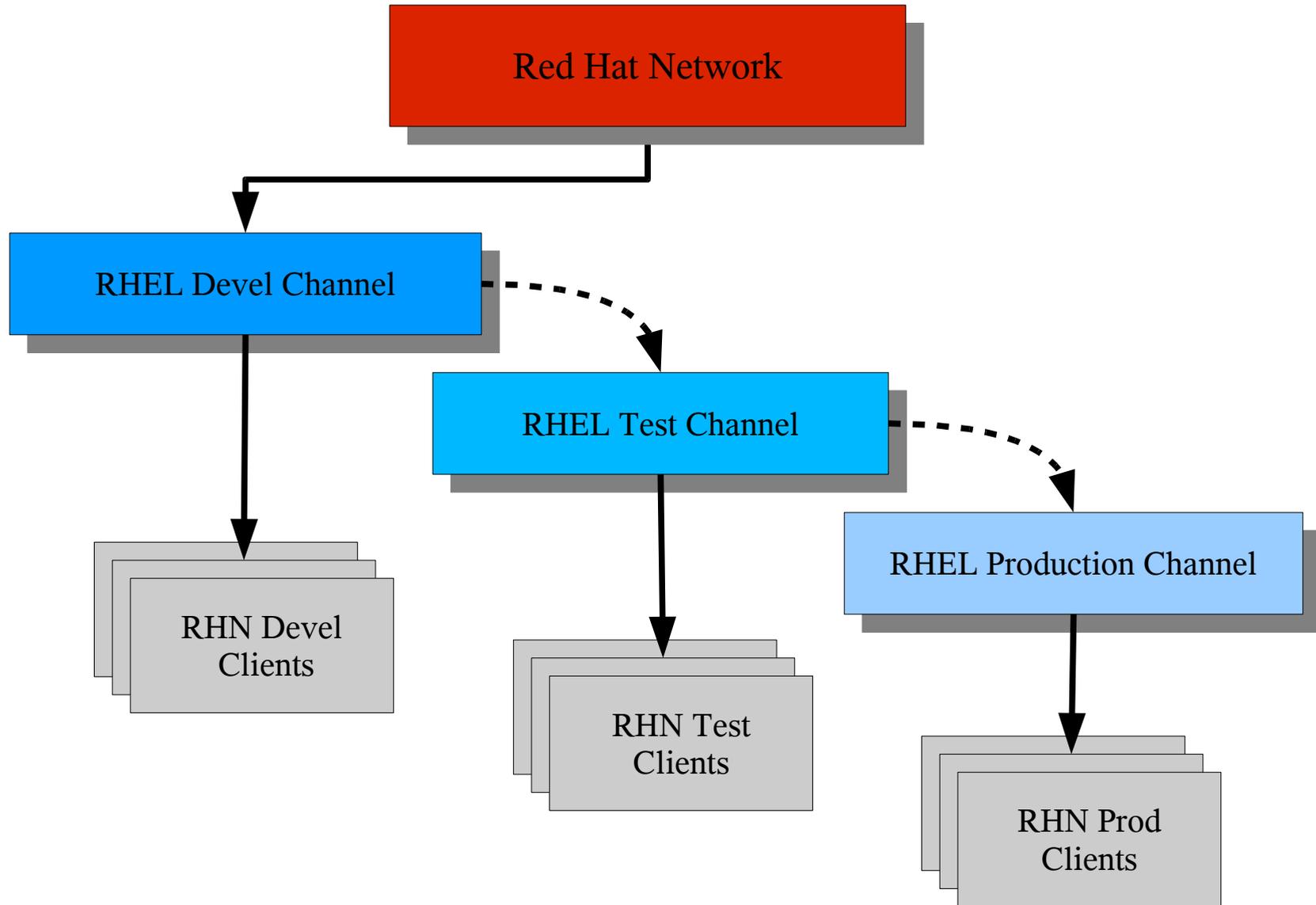


Improve performance for groups that are in remote offices.

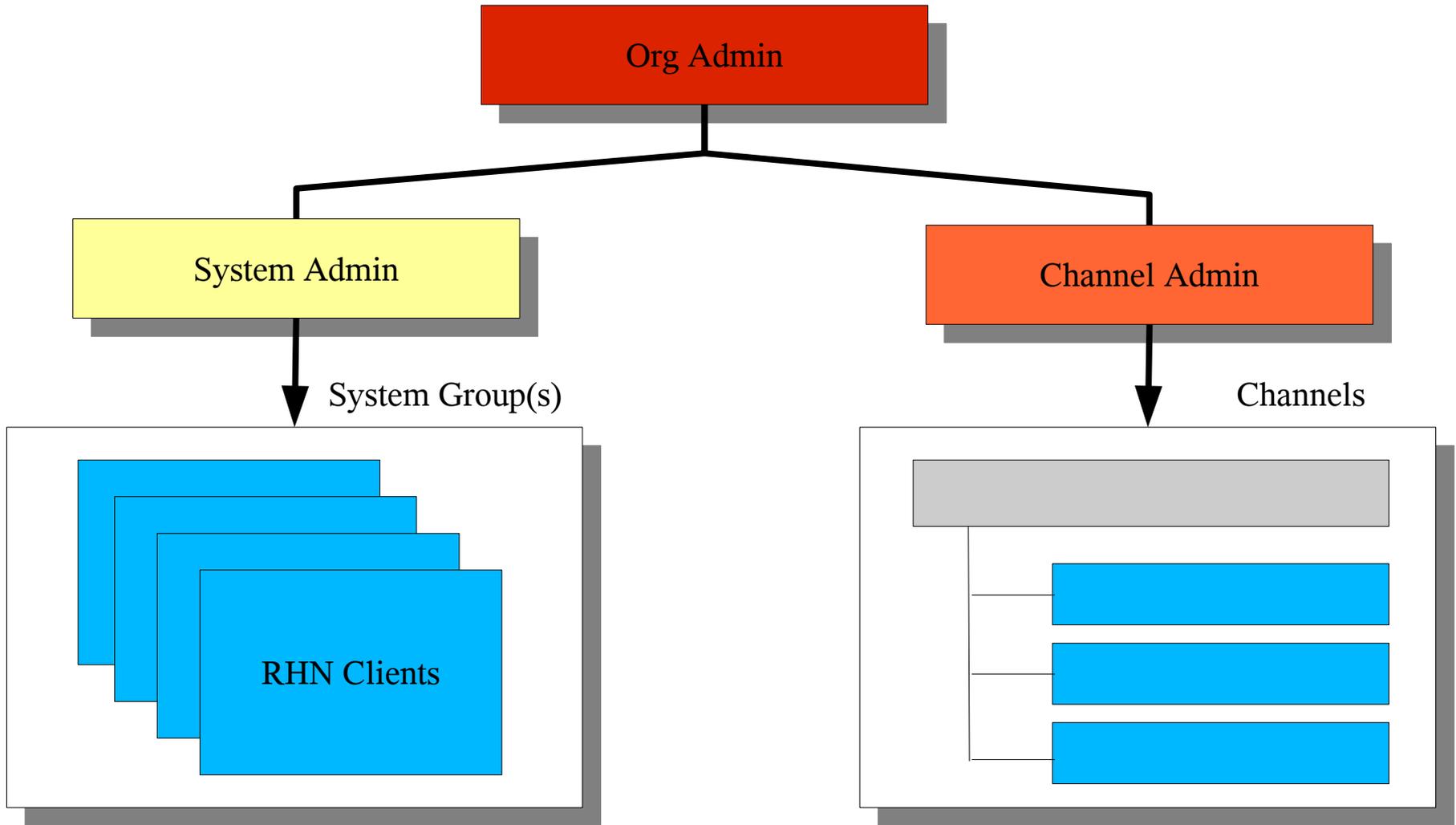
Can be used with either Hosted or Satellite deployment models.



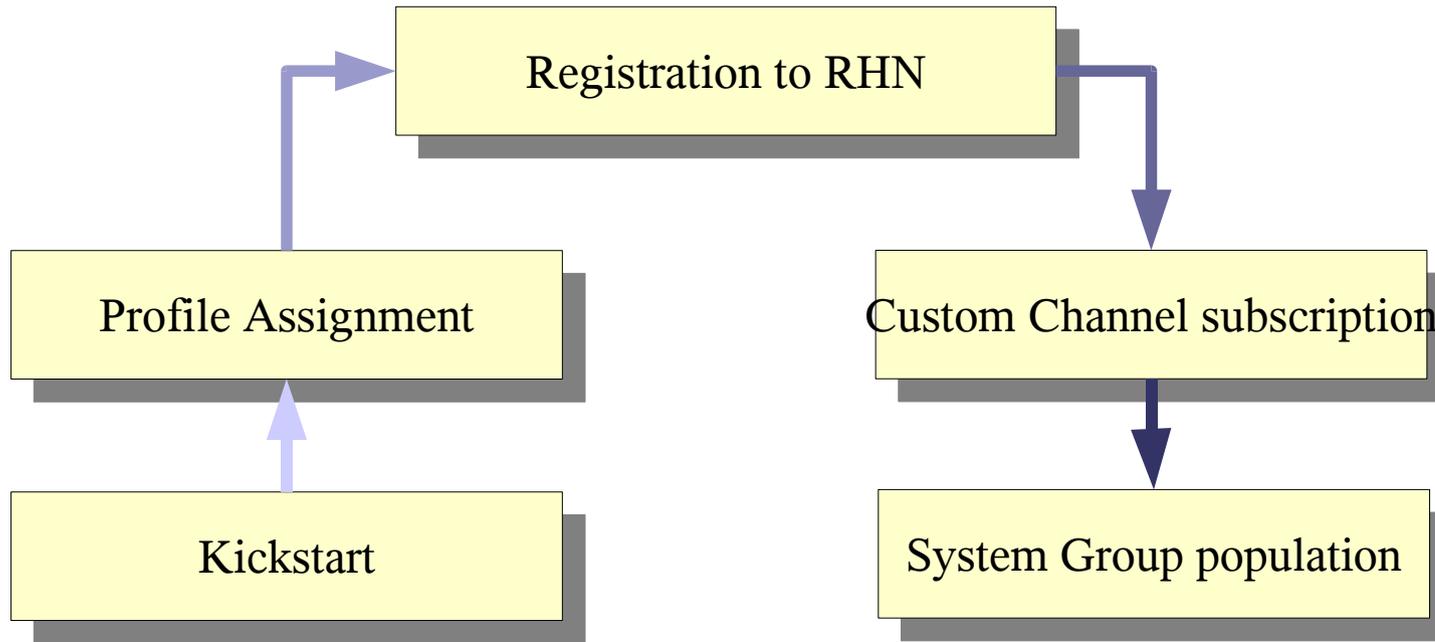
Separate Package Trees



Isolate Administrative Responsibility



Automate the Incorporation of Clients

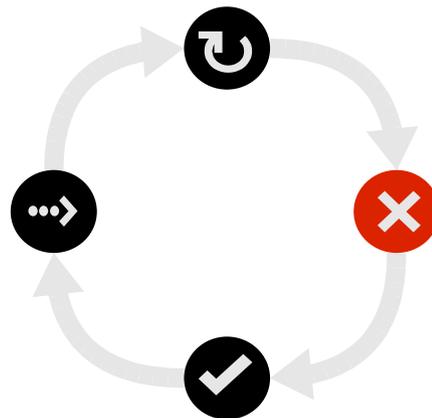


Manage Risk with Snapshots

How do I recover from intentional or unintentional revisions to Enterprise Linux systems?

Snapshots and snapshot tagging enables both changes at the package and configuration file level, as well as system-context changes within RHN, to be reverted over any time period.

- Snapshots
- Snapshot tagging

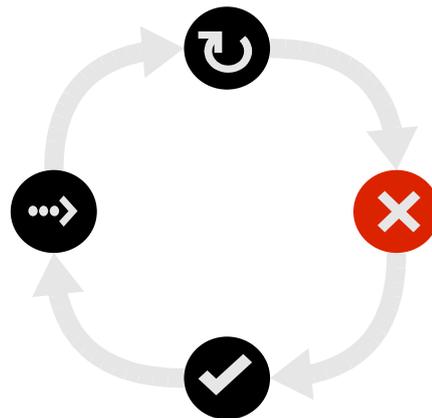


Reclaim and Re-provision

How can I most efficiently reclaim computing resources within my IT infrastructure and put those resources to the best use as quickly and easily as possible?

RHN Provisioning provides the capability to efficiently re-deploy existing Red Hat Enterprise Linux systems without client-side interaction, to new or completely different business roles.

- Re-provisioning
- System Profiles
- Activation Keys
- Migration of RHL



Why use a Satellite Server?

Improved performance

- Systems connect to Satellite instead of each downloading content from Red Hat
- Satellite syncs with Red Hat to get the latest packages and errata
- Embedded Oracle database scales to thousands of connected systems

Better control

- Satellite can run disconnected from the Internet for maximum security
- Use custom channels to distribute in-house or 3rd party content
- Build around your processes – create cloned channels for staged environments

Advanced functionality

- Monitoring and Solaris Management only available to Satellite users
- Satellite enables bare metal PXE kickstarts with Provisioning Module
- Kickstart trees integrated into package repository for easy provisioning
- Store and deploy configuration files from the Satellite to improve consistency

Questions?





Vielen Dank!

Joachim Schröder, Solution Architect
joachim.schroeder@redhat.com