Rapid Home Provisioning and Maintenance with Gold Images

18ᶜ ORACLE Database

- Enables and enforces standardization
- Single commands to provision, patch, upgrade and scale
- Minimizes the impact and risk of deployment and maintenance
- Increases automation and reduces touch points
- Manages current estate as-is
- Supports large scale deployments

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- Centralized repository of gold images
- Patch and upgrade existing deployments, no local agents or daemons needed
- Provision new pools and databases onto base machines
- Built-in fallback capabilities
- Notification model
- Custom workflow support
- Audit log
- Supports all deployment models

The growing scale of today's data centers puts increasing demands on administrators. In order to keep pace, complexity and manual touch points must be reduced. At the same time, consumers expect fast access to always-on services, so deployment and maintenance must be efficient and non-disruptive. Oracle's solution standardizes and simplifies software distribution and lifecycle management. Automation and efficiency minimize the impact and risk of maintenance, and scale to large deployments.

Rapid Home Provisioning and Maintenance

Customers are often reluctant to patch their systems. There are several reasons for this. First, installed software configurations may not be ready to receive the new software (e.g., the deployment was hand-crafted, or one-off patches were applied to a standard deployment). Each case may require manual inspection and repair. Second, the patched deployment may behave unexpectedly, requiring a rollback to the non-patched configuration. This can be difficult and disruptive to accomplish.

Rapid Home Provisioning and Maintenance (RHP) addresses these concerns by packaging software homes as gold images, enabling standardization. Provisioning new software (such as patched homes) is always out-of-place, so distribution is non-disruptive and can be done outside of maintenance windows. When a current home is switched to a patched home, RHP first confirms that no conflicts will arise. After the switch, RHP can switch back to the prior home as easily as it switched to the new home.

By reducing the risk and impact of software deployment and maintenance, RHP enables software estate management at scale.

How Does Rapid Home Provisioning Work?

The Rapid Home Provisioning Server is a feature of Oracle Grid Infrastructure. The components that form the RHP Server are managed automatically by Oracle Grid Infrastructure.

The RHP Server maintains a space-efficient repository of software you deem to be 'gold images' – standardized software homes that can be provisioned to any number of target machines. These targets may be running Grid Infrastructure 11.2 or 12.x, or non-clustered machines running Single Instance Oracle Database 11.2 or later. None require pre-installation of any agent or daemon, and may be on bare metal, in a VM, or Oracle Multitenant.

Any number of homes can be provisioned from a given gold image, and RHP maintains lineage information so that the provenance of deployed software is always known.

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Gold images can be organized in to series, allowing you to create groupings that track the evolution of a release, with different series for different tailored solutions such as Database patch bundles for specific applications. A notification system informs interested parties when a new image is available in a given series.
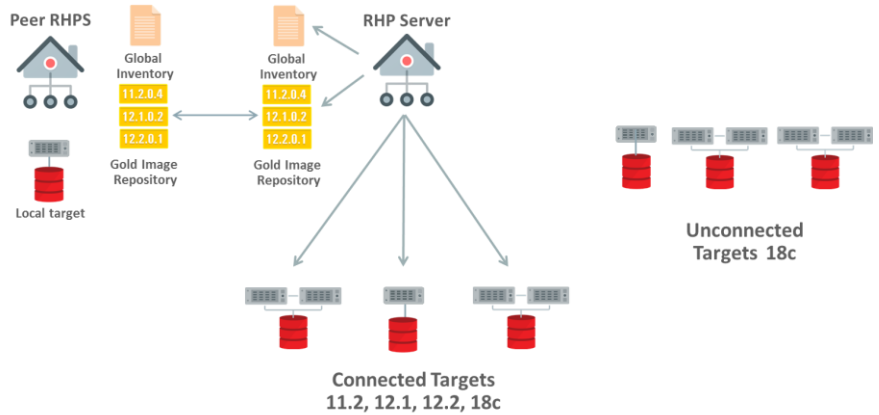

Figure 1. Rapid Home Provisioning architecture

RHP can provision databases, clusterware, middleware, and custom software. RHP offers additional features for creating, configuring, patching and upgrading Oracle Grid Infrastructure and Oracle Database deployments. These capabilities simplify maintenance, reducing its risk and impact, and provide a roll-back option if changes need to be backed out.

Additional capabilities include provisioning clusters and databases onto base machines, and simple capacity on demand by growing and shrinking clusters and Oracle RAC databases.

All of these operations are performed with single commands which replace the numerous manual steps otherwise required. All commands and their outcomes are recorded in an audit log. All workflows allow customization to support the unique requirements of any environment.

Learn more about On-Premises Database Clouds and how Rapid Home Provisioning supports them on our OTN page.

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