# 6.3. CONFIGURING RED HAT SATELLITE'S DISCOVERY SERVICE

Red Hat Satellite provides a method to automatically detect blank hosts on a network. These hosts boot a special image that performs hardware detection and relays this information back to the Satellite Server. This provides a method to create a pool of ready-to-provision hosts on the Satellite Server and without needing to enter the MAC address of each host.

SATELLITE6_376339_1115
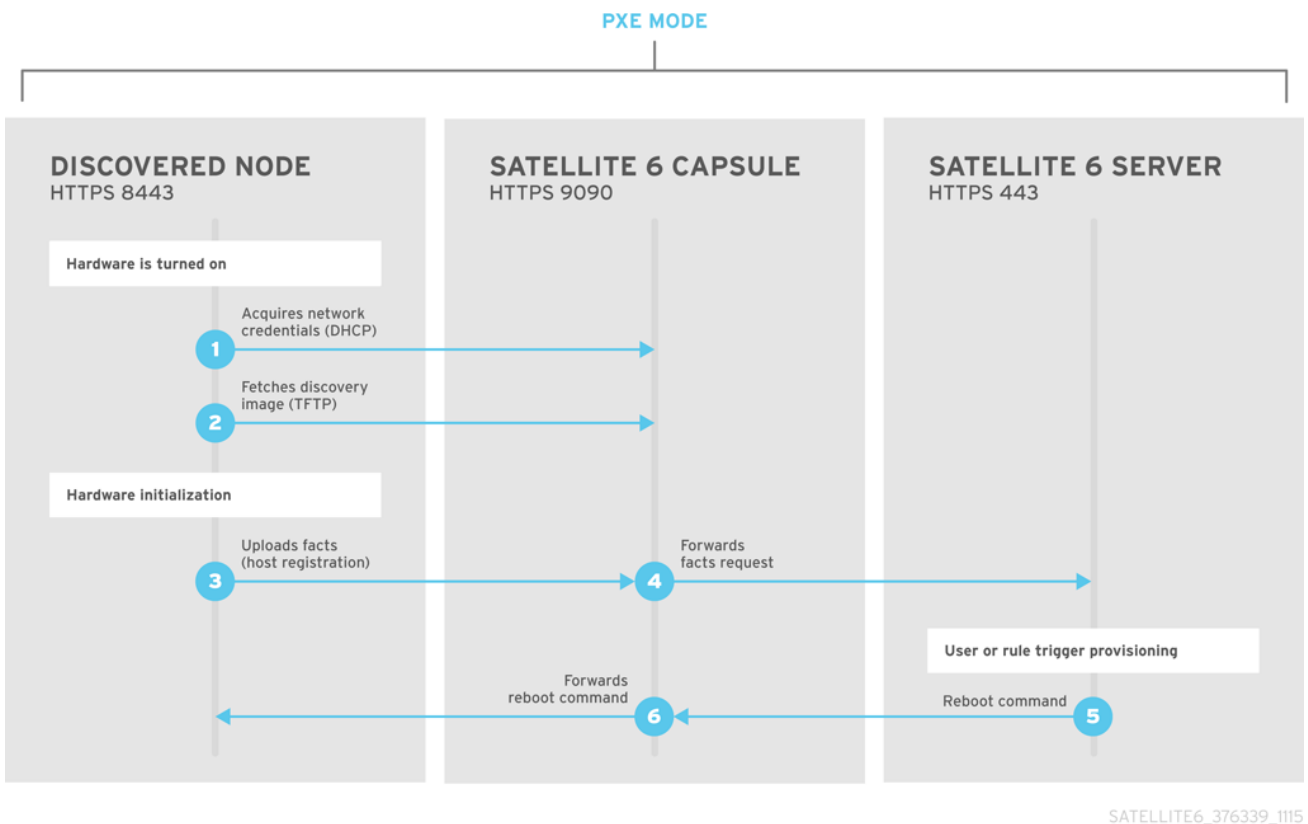
Installation

The Discovery service is enabled by default on Satellite Server. To use Satellite Server to provide the Discovery image, install the following packages:

```
# yum install foreman-discovery-image rubygem-smart_proxy_discovery
```

▶ The **foreman-discovery-image** package installs the Discovery ISO to the **/usr/share/foreman-discovery-image/** directory and also creates a PXE boot image from this ISO using the **livecd-iso-to-pxeboot** tool. The tool saves this PXE boot image in the **/var/lib/tftpboot/boot** directory.

▶ The **rubygem-smart_proxy_discovery** package configures a Capsule Server (such as the Satellite Server's integrated Capsule) to act as a proxy for the Discovery service.

After installation completes, a new menu option appears in the Satellite Server's Web UI under **Hosts > Discovered hosts**.

Enabling Discovery service on a Capsule Server

Complete the following procedure to enable the Discovery service on a Capsule Server.

1. Enter the following commands on the Capsule Server:

```
# yum install foreman-discovery-image rubygem-smart_proxy_discovery
```

```
# katello-service restart
```

2. In the Satellite web UI, navigate to **Infrastructure** > **Capsule**.

3. Click on the Capsule Server and select **Refresh** from the **Actions** list. Locate *Discovery* in the list of features to confirm the Discovery service is now running.

Provisioning Templates

The **PXELinux global default** template in the **Hosts > Provisioning templates** section includes a snippet **pxelinux_discovery**. The snippet includes the following lines:

```
LABEL discovery
  MENU LABEL Foreman Discovery Image
  KERNEL boot/fdi-image-rhel_7-vmlinuz
  APPEND initrd=boot/fdi-image-rhel_7-img rootflags=loop
root=live:/fdi.iso rootfstype=auto ro rd.live.image acpi=force rd.luks=0
rd.md=0 rd.dm=0 rd.lvm=0 rd.bootif=0 rd.neednet=0 nomodeset
proxy.url=<%= foreman_server_url %> proxy.type=foreman
  IPAPPEND 2
```

The **KERNEL** and **APPEND** options boot the Discovery image and ramdisk. The **APPEND** option contains a **proxy.url** parameter, with the **foreman_server_url** macro as its argument. This macro resolves to the full URL of the Capsule Server to use for provisioning by reading the URL from the **/etc/foreman-proxy/settings.yml** file and appending port 9090. The **/etc/foreman-proxy/settings.yml** file is configured by running the satellite-installer script.

> **Note**
>
> Templates and snippets are locked to prevent changes. If you want to edit a template or snippet, clone it, save it with a unique name, and then edit the clone.

You can change the `proxy.url` argument to the IP address or FQDN of another provisioning Capsule that you want to use, but remember to append the port number, 9090. For example:

```
proxy.url=https://capsule.example.com:9090
```

In this scenario, it is the Satellite Server's integrated Capsule, **satellite.example.com:9090** that is used.

You can change the Discovery service to be the default service that boots for blank hosts. Edit the ONTIMEOUT value in the **PXELinux global default** to the following

```
ONTIMEOUT discovery
```

You need to push the changes from the **PXELinux global default** template to the Satellite Server's default PXE template. Navigate to **Hosts > Provisioning templates** and click **Build PXE Default**. This refreshes the default PXE template on the Satellite Server.

Subnets

All subnets with discoverable hosts require an appropriate Capsule Server selected to provide the Discovery service. To do this, navigate to **Infrastructure > Capsules** and verify if the Capsule Server that you want to use lists the Discovery feature. If not, click **Refresh features** and it appears immediately.

Navigate to **Infrastructure > Subnets**, select a subnet, click the Capsules tab, and select the **Discovery Proxy** that you want to use. Perform this for each appropriate subnet.

Testing

Test the Discovery service and boot a blank bare metal host on the 192.168.140.0/24 network. A boot menu displays and shows two options:

- **(local)**, which boots from the hard disk

- **(discovery)**, which boots to the Discovery service

Select **(discovery)** to boot the Discovery image. After a few minutes, the Discovery image completes booting and shows a status screen.

Navigate to **Hosts > Discovered hosts** and the list includes the newly discovered host. The discovered hosts automatically define their host name based on their MAC address. For example, Satellite sets a discovered host with a MAC address of ab:cd:ef:12:34:56 to have **macabcdef123456** as the host name. You can change this host name when provisioning the host.