

# packet

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## SmartOS

Mo - 2019-07-23 - in Operating Systems

Packet's Custom iPXE boot option allows users to boot a system image like that of SmartOS persistently across boots, on top of a local storage ZFS pool for the VM and zone data on the node itself, to provide a fast and easily administered hypervisor operating system experience.

### Booting

After acquiring the [SmartOS archive image](#), decompressing it in any web-facing path (this can be in object storage, behind a webserver, etc. as long as the path is web reachable). For example, in the leanest possible example, you can place it in an Nginx path like:

```
/usr/share/nginx/html/smartos
```

And then, in that path, at `/usr/share/nginx/html/smartos.ipxe`, you can add the following iPXE manifest:

```
#!ipxe

dhcp

set base-url http://\${YOUR\_HOST\_ADDR}

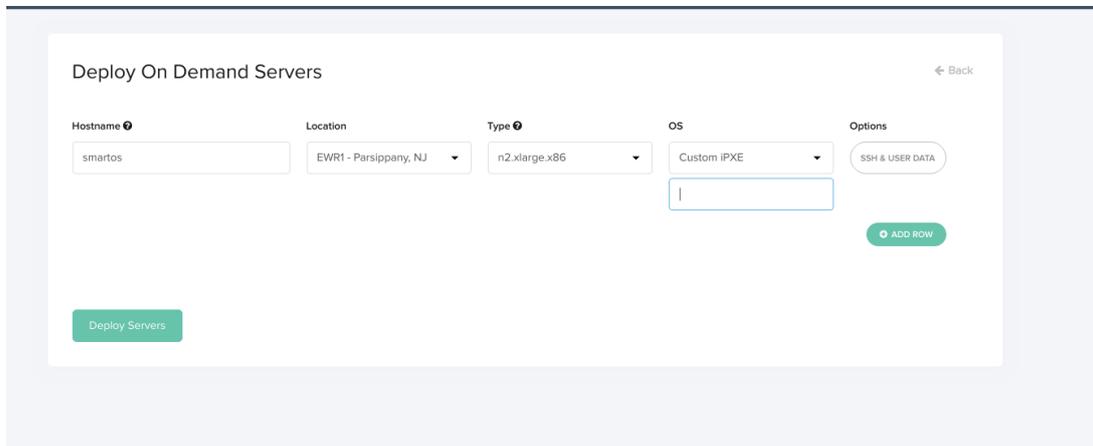
kernel ${base-url}/smartos/smartos/platform/i86pc/kernel/amd64/unix -B
smartos=true,console=ttyb,ttyb-mode="115200,8,n,1,-"

module ${base-url}/smartos/smartos/platform/i86pc/amd64/boot_archive
type=rootfs name=ramdisk

boot
```

Which will, for example, set a relative path for your webserver to refer to the kernel and boot module files on disk.

In your Packet console, you can create a new instance, and select Custom iPXE as your Operating System:



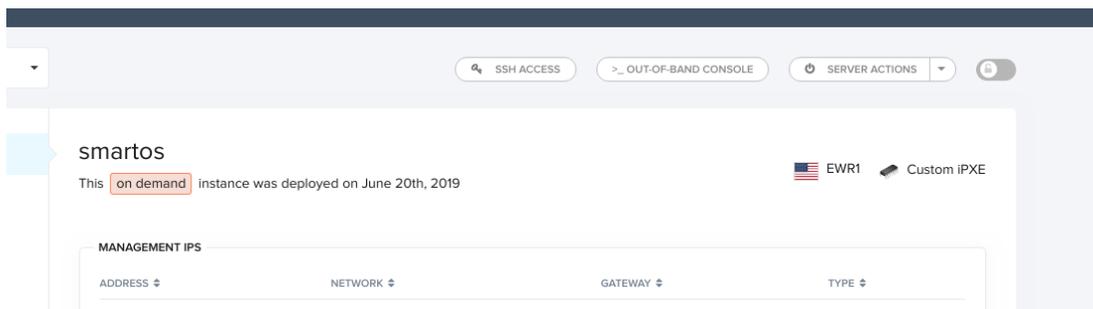
Then, in the text field below that selection, you will paste the full path to your iPXE script:

[http://\\${YOUR\\_HOST}/smartos.ipxe](http://${YOUR_HOST}/smartos.ipxe)

## Configuring SmartOS

Because this is the first boot, you will need to configure things like a root password, a network configuration for your management interface, and the storage pool for your instance.

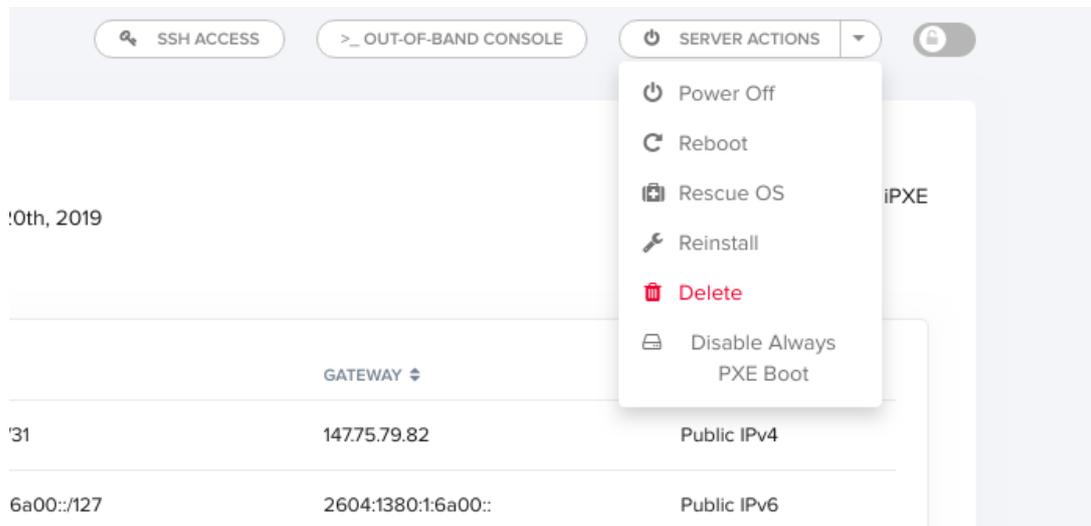
After hitting “Deploy Servers” in your Packet console, you’ll find, once it’s online, you will need to use the SOS console to complete the setup.



You’ll find your SSH information to access the console on the Out-Of-Band Console link pictured. Make note of your network configuration as well, as you’ll need this when connecting to the SmartOS setup screens to follow.

The first thing you’ll want to do, however, before setting up the host is, in the Packet console, clicking “Server Actions” and setting this host to “Always Boot from PXE” in order to ensure that, on each boot, SmartOS is bootable, as this OS is not typically installed to

disk, and will be delivered over the network on subsequent boots (with your persistent installation specific things like passwords, users, VM data, all stored in the node storage pool):



Once you connect to your Console, you'll see a setup screen like this, which will prompt you to select the NIC to use for the admin interface. Ideally, this will not be Internet-facing, however, you are welcome to plug in your Public network details here as well for use with SSH:

```
SmartOS Setup
Networking - Admin
https://wiki.smartos.org/install

-----
The admin network is the primary network in SmartOS. It is the default network
that is created. The configured NIC will be used to access the global zone. If
you wish to use a VLAN on this network, you must configure VLAN ACCESS mode for
this network.

Number Link      MAC Address      State  Network
1      i40e0      e4:43:4b:56:cd:00 up     -
2      i40e1      e4:43:4b:56:cd:01 up     -
3      i40e2      e4:43:4b:56:cd:02 up     -
4      i40e3      e4:43:4b:56:cd:03 up     -
Enter the number of the NIC for the 'admin' interface:
```

From there, you'll be prompted for the IP, netmask, gateway, and DNS resolvers for this interface.

The next step is to configure storage, which SmartOS will make a recommendation for a storage pool:

```
SmartOS Setup
Storage
----- https://wiki.smartos.org/install -----

SmartOS will automatically determine what we think is the best zpool layout from your current disks. You may use this suggestion, change to another built in storage profile, or simply create your own zpool.
vdevs: cit75A000A131971F01d0 total capacity: 3576.98 GB

This is the 'default' storage configuration. To use it, type 'yes'.
To see a different configuration, type: 'raidz2', 'mirror', or 'default'.
To specify a manual configuration, type: 'manual'.

Selected zpool layout [yes]: █
```

If the default works for you, then type “yes”, and continue, however, there are other options for SmartOS storage configurations, or manually defining options if you’ve decided to, for example, attach network storage, or add block devices.

Your final step is to configure a root password for the device:

```
SmartOS Setup
System Configuration
----- https://wiki.smartos.org/install -----

Setup will now go through and prompt for final pieces of account configuration. This includes setting the root password for the global zone and optionally setting a hostname.

Enter root password: █
```

You’ll use the root user and password you set here, once the host has rebooted, to access the admin interface to begin using SmartOS, once the installation has completed:

```
SmartOS Setup
Verify Configuration
----- https://wiki.smartos.org/install -----

Please verify your SmartOS Configuration. After this point the system will set up and all data on the disks will be erased.

Net          MAC          IP addr.    Netmask
Admin e4:43:4b:56:cd:00  147.75.79.83  255.255.255.0

DNS Servers: (8.8.8.8, 8.8.4.4), Search Domain: joyent.com
Hostname: smartos
NTP server: 0.smartos.pool.ntp.org

Is this correct, proceed with installation? [y]: y
Creating pool zones... done
Making dump zvol... █
```

Once complete, you’ll be prompted to hit “Enter” to reboot the host, and complete installation. You can monitor the console to ensure the host comes back online, and if successful, it will boot to the Joyent SmartOS login screen:



You are ready to proceed and login over your configured administrative interface over SSH and begin deploying your zones.