

TripleO Heat Templates Overview

Steve Hardy (shardy@redhat.com)

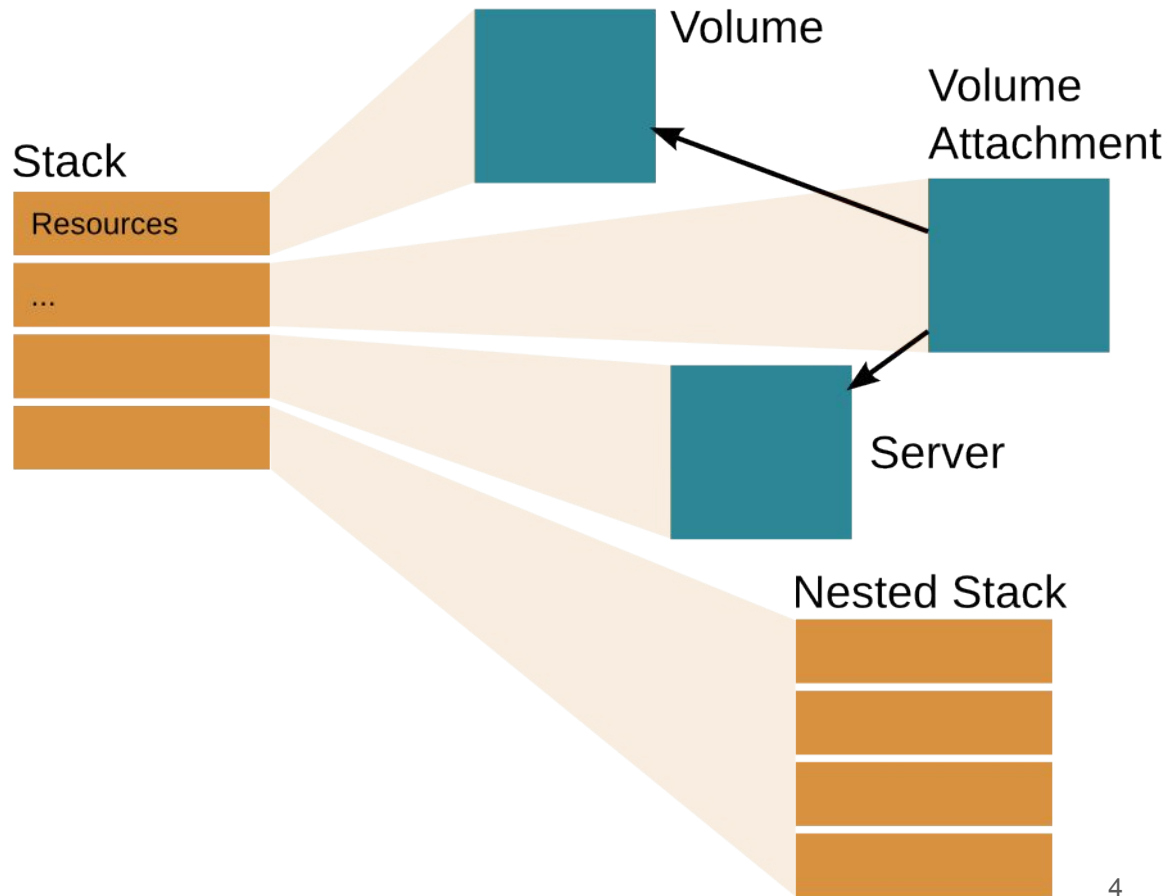
14th July 2016



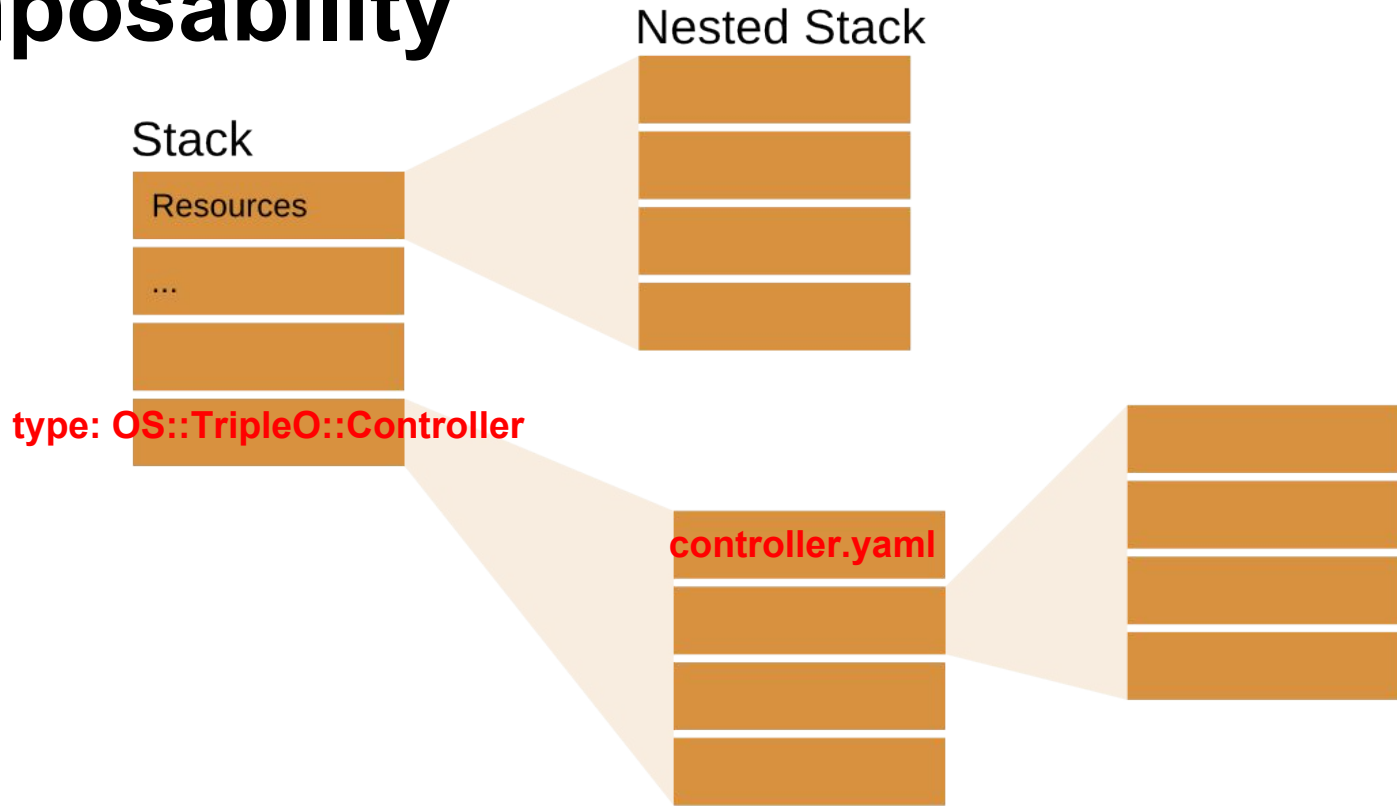
Heat Template Overview

- Standard Declarative HOT DSL
- Abstraction & reuse via template composition
- Configuration via SoftwareConfig resources
- SoftwareConfig deploys hieradata & applies puppet manifests
- http://docs.openstack.org/developer/heat/template_guide/index.html
- <http://hardysteven.blogspot.co.uk/>
- TripleO makes heavy use of the resource_registry (for composability)

Heat “Stack”



Composability



Composability

- Optional type aliases via “environment” file

resources:

Controller:

type: OS::TripleO::Controller

properties:

image {get_param: image_id}

...

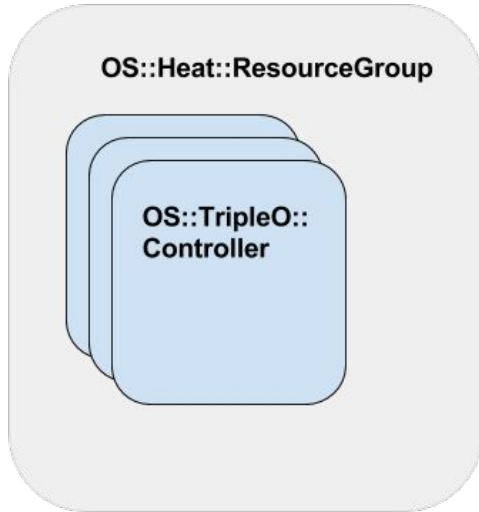
--

resource_registry:

OS::TripleO::Controller: puppet/controller.yaml

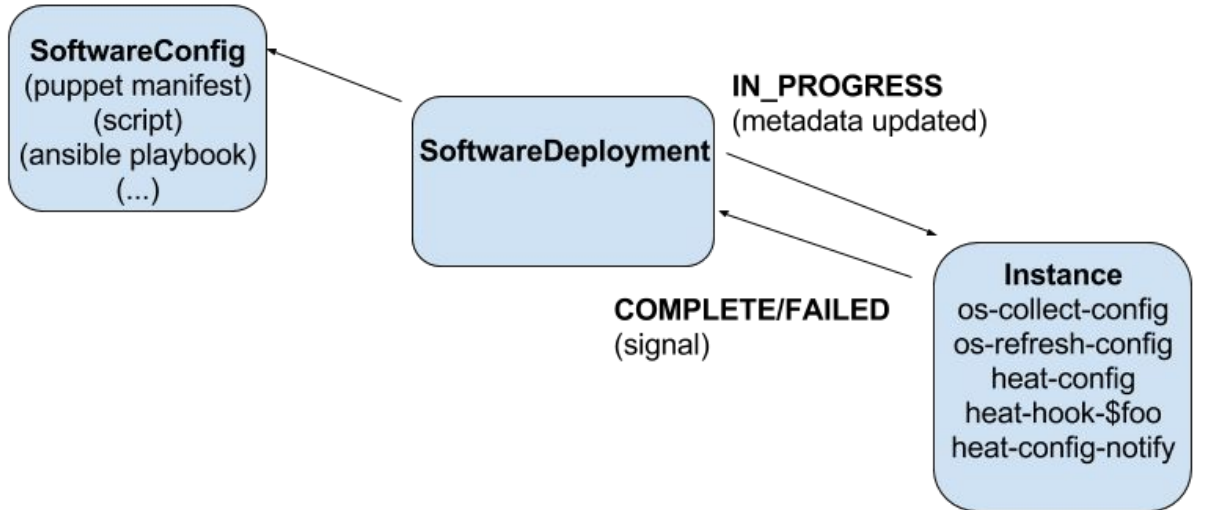
heat stack-create mystack -f the_template.yaml -e the_environment.yaml

Grouping



```
resources:  
  Controller:  
    type: OS::Heat::ResourceGroup  
    properties:  
      count: {get_param: ControllerCount}  
      resource_def:  
        type: OS::TripleO::Controller
```

Software Configuration



TripleO Roles

OS::Heat::ResourceGroup

**OS::TripleO::
Controller**

OS::Heat::ResourceGroup

**OS::TripleO::
Compute**

OS::Heat::ResourceGroup

**OS::TripleO::
BlockStorage**

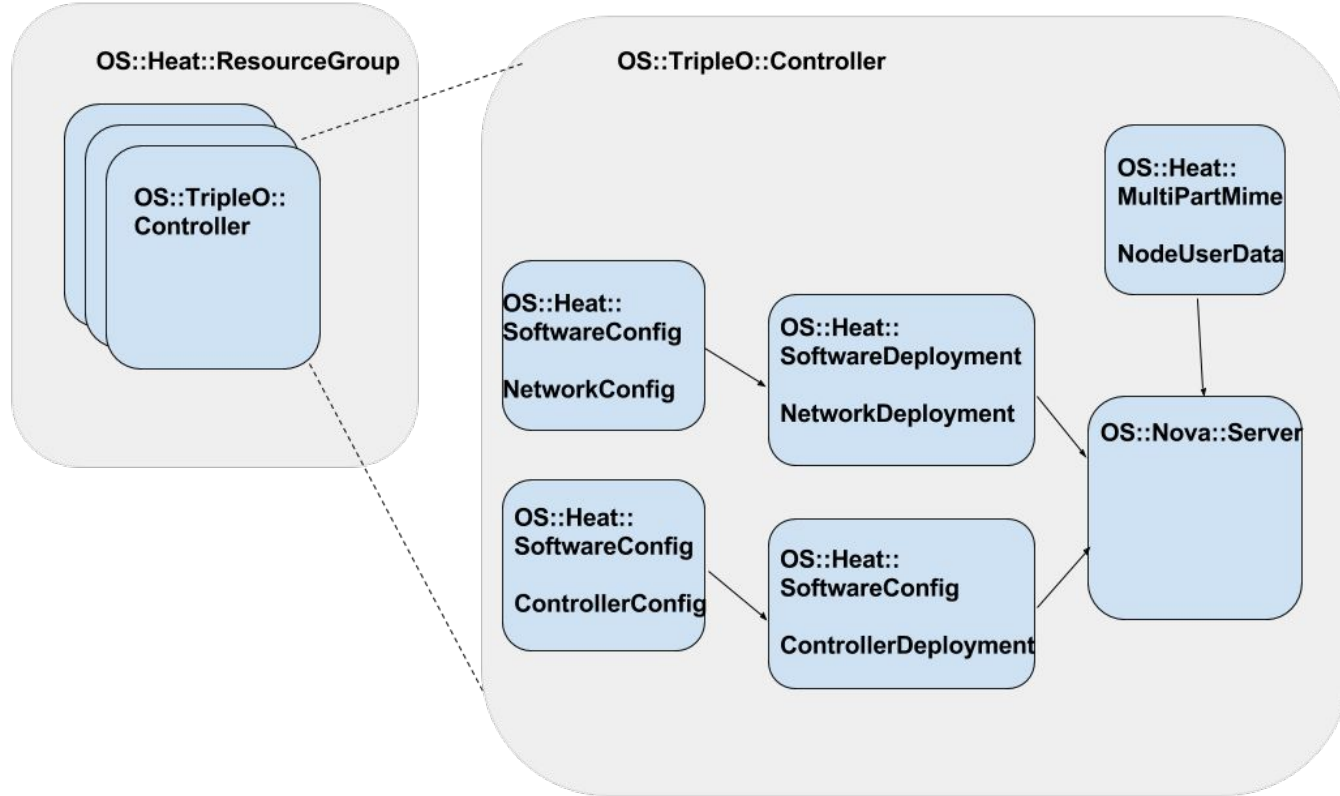
OS::Heat::ResourceGroup

**OS::TripleO::
ObjectStorage**

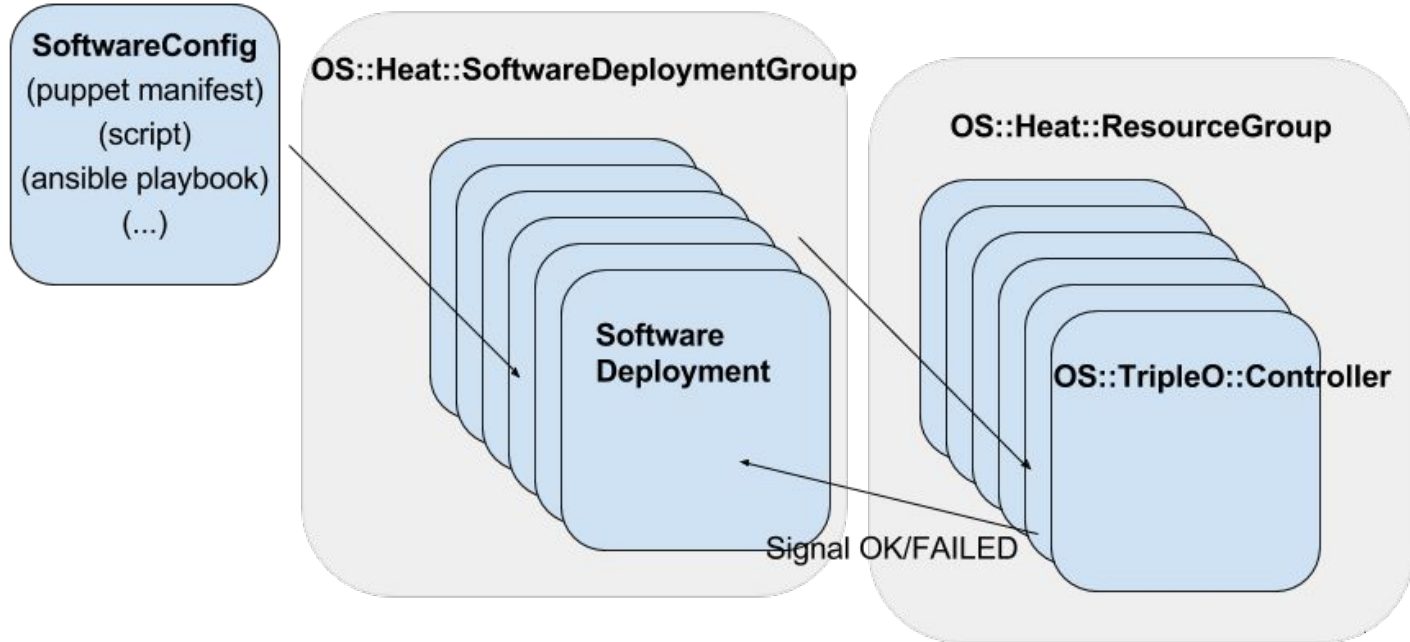
OS::Heat::ResourceGroup

**OS::TripleO::
CephStorage**

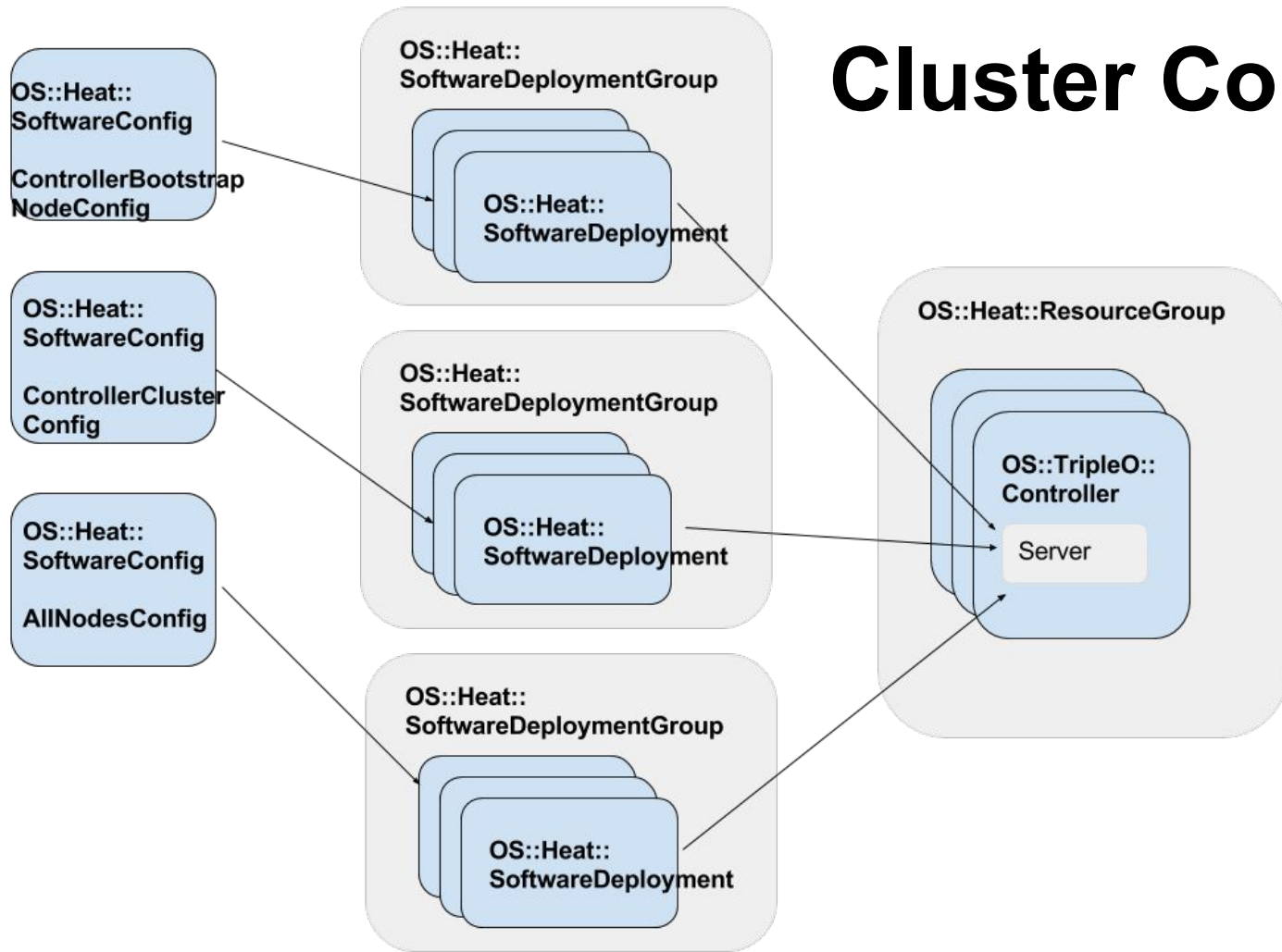
Per-Node deployment/configuration



Cluster Configuration

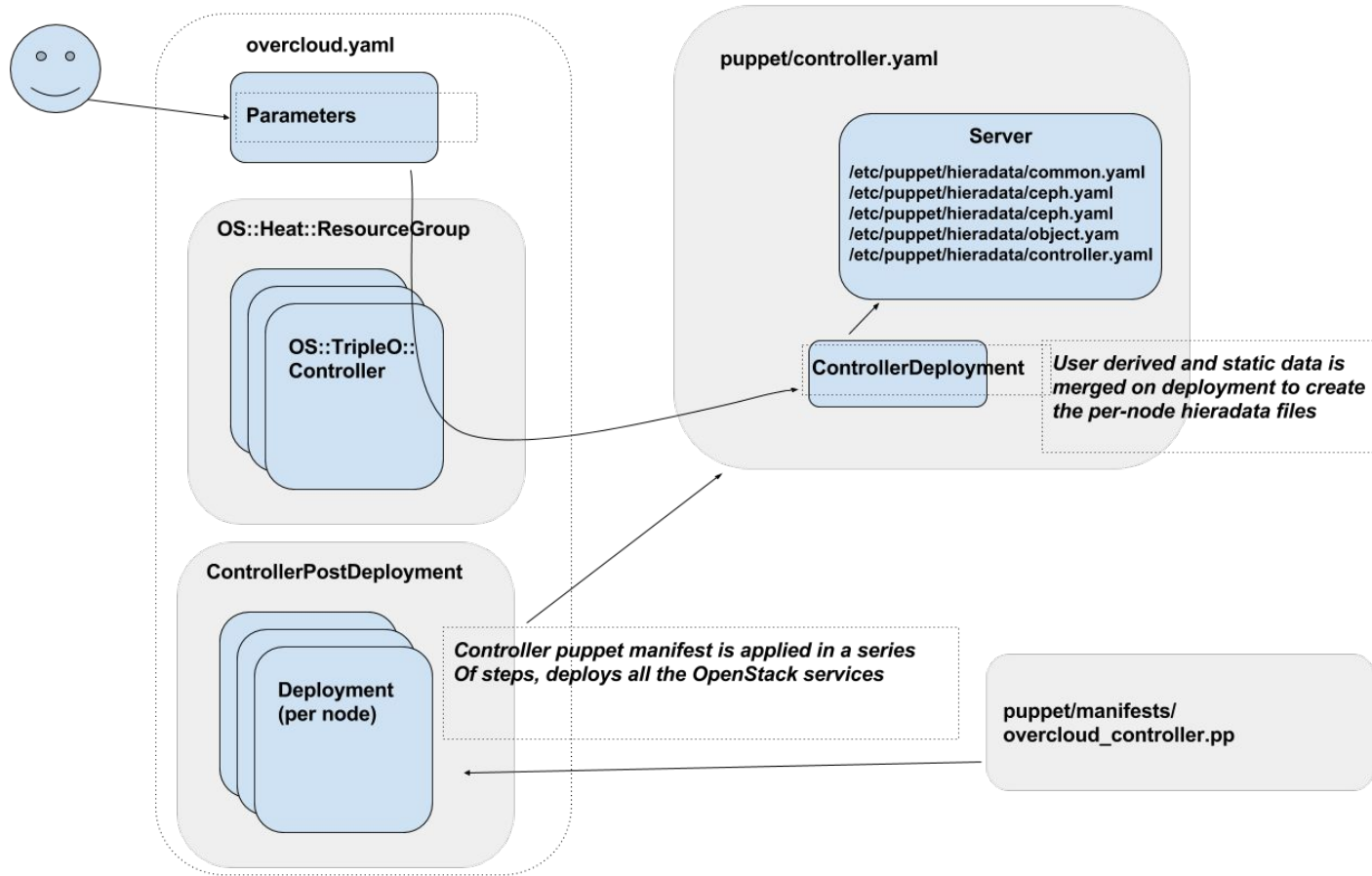


Cluster Configuration

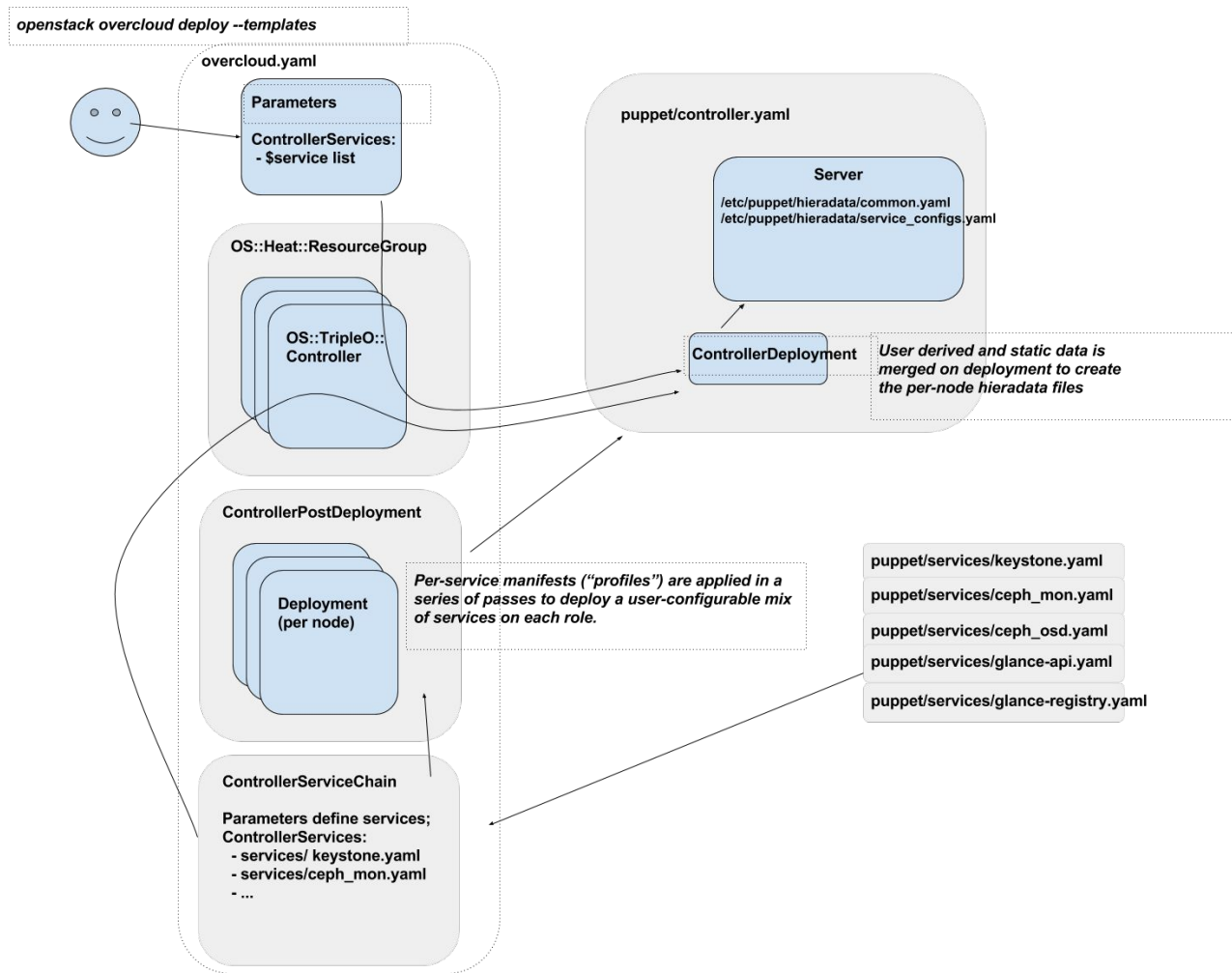


Non - Composable Services (Mitaka)

`openstack overcloud deploy --templates`



Composable Services (Newton)



Composable Services (Newton)

puppet/services/heat-api.yaml (simplified)

outputs:

 role_data:

 description: Role data for the Heat API role.

 value:

config_settings:

 heat::api::workers: {get_param: HeatWorkers}

 heat::keystone::auth::password: {get_param: HeatPassword}

 heat::keystone::auth::region: {get_param: KeystoneRegion}

step_config: |

 include ::tripleo::profile::base::heat::api

Links

- http://docs.openstack.org/developer/heat/template_guide/
- <http://docs.openstack.org/developer/ironic/deploy/user-guide.html>
- <http://docs.openstack.org/developer/tripleo-docs/>
- <http://hardysteven.blogspot.co.uk/>
- #heat and #tripleo on Freenode