



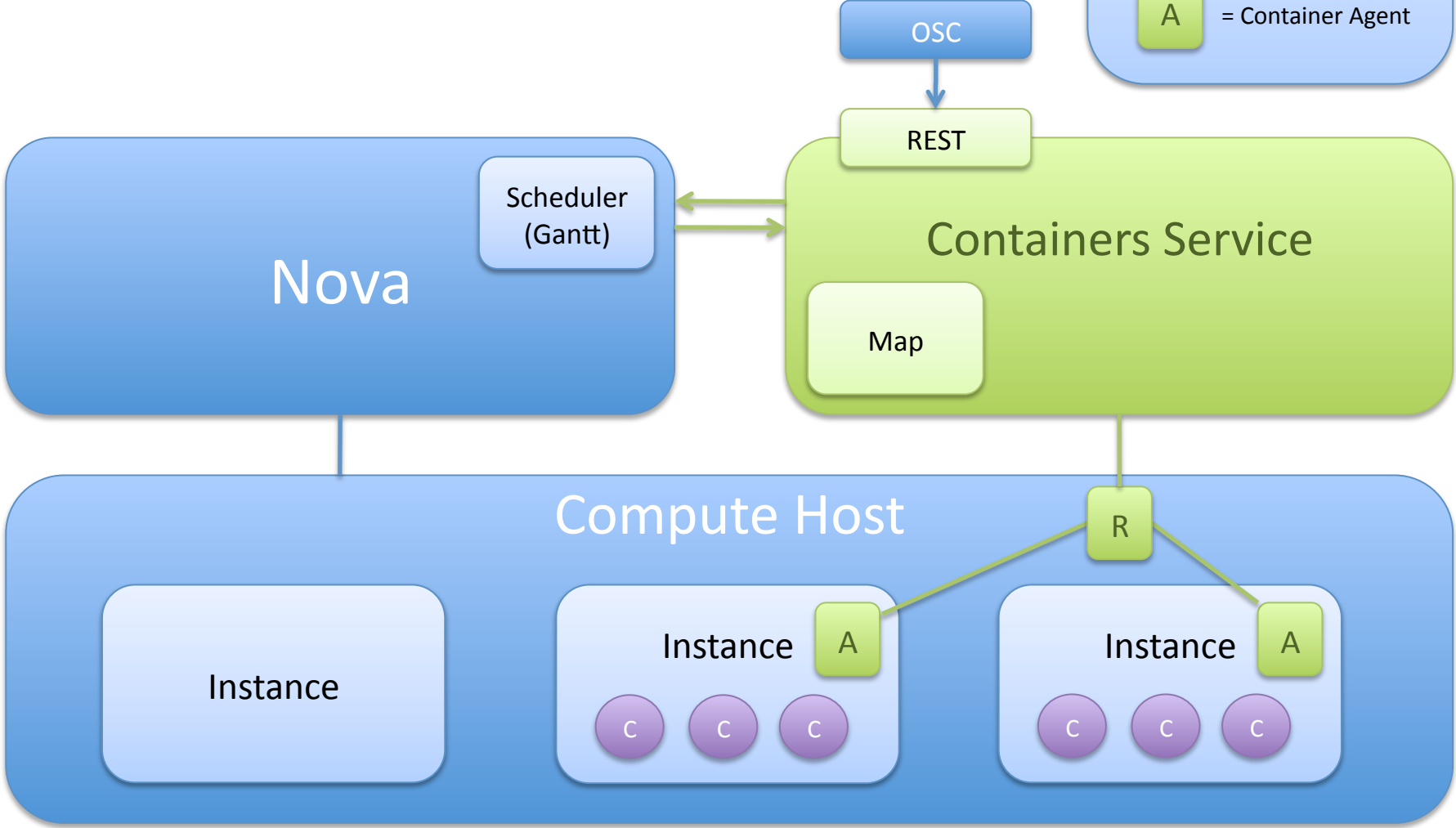
# **Containers in OpenStack**

Containers Team Proposal Overview

2014-07-29

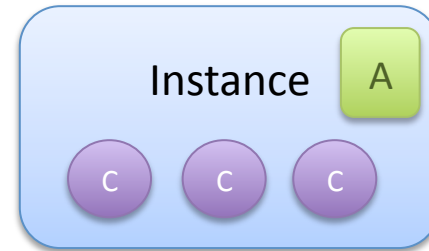
# Containers in OpenStack

C = Container  
R = Agent Relay  
A = Container Agent



# Nova Instances

- Any Nova Instance
  - VM
  - Bare Metal
  - Container
- Run Agent for advanced features
  - Install agent with cloud-init or bake into image



# Containers Service

- High Level API
  - Uses concepts of image, cgroup, namespace
  - “docker run” equivalent
    - kill, remove, start, stop
- Map
  - Maintains instance <-> container relations
- Create Nova instances as needed

# What to Remember

- Nova API remains the same for users
- Basic containers in Nova with virt drivers
  - nova-docker
  - libvirt/LXC
- Containers Service
  - For container specific functionality
  - Creates nova instances with agents on-demand
  - Transparently nests containers for easy usage

# Phase II Plans

- Heat Resource for Containers Service
- Use Gantt to schedule containers on instances
- Glance integration for images
- Emit usage events

# Open Questions

- Out of scope for today
  - Encrypted transport to/from agent
    - Model from vnc bp
  - Unprivileged containers (nesting)

# Docker Client Use Case

```
$ source ./openrc
```

```
$ export DOCKER_SERVER=https://...
```

```
$ docker run -p pub:222:22 -d foo /usr/sbin/sshd -D  
DEADBEEF
```

```
$ osc container-show DEADBEEF | grep ports
```

```
ports: [12.34.56.78:222]
```

```
$ ssh -p 222 12.34.56.78
```

```
foo$
```



# OSC Client Use Case

```
$ source ./openrc
```

```
$ osc container-create --port pub:222:22 --daemon --  
  image <uuid> --cmd “/usr/sbin/sshd -D”
```

```
$ osc container-show DEADBEEF | grep ports
```

```
ports: [12.34.56.78:222]
```

```
$ ssh -p 222 12.34.56.78
```

```
foo$
```

# Credits

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