

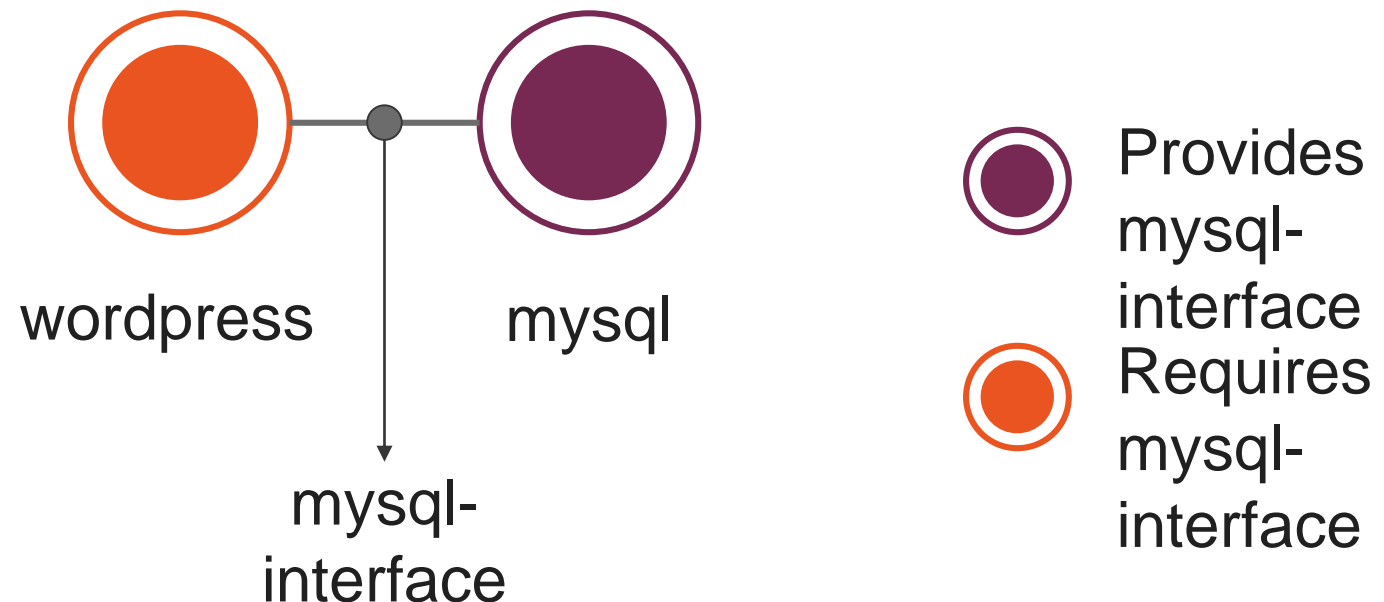
Open Source
MANO

OSM Hackfest – Session 6
Introduction to Proxy Charms
Dominik Fleischmann, David Garcia (Canonical)

1. Introduction
 - a. What is a charm?
 - b. What is Juju?
 - c. Proxy charms in OSM
 - d. Charm actions - VNF primitives
2. Setting up a charming environment

What is a charm?

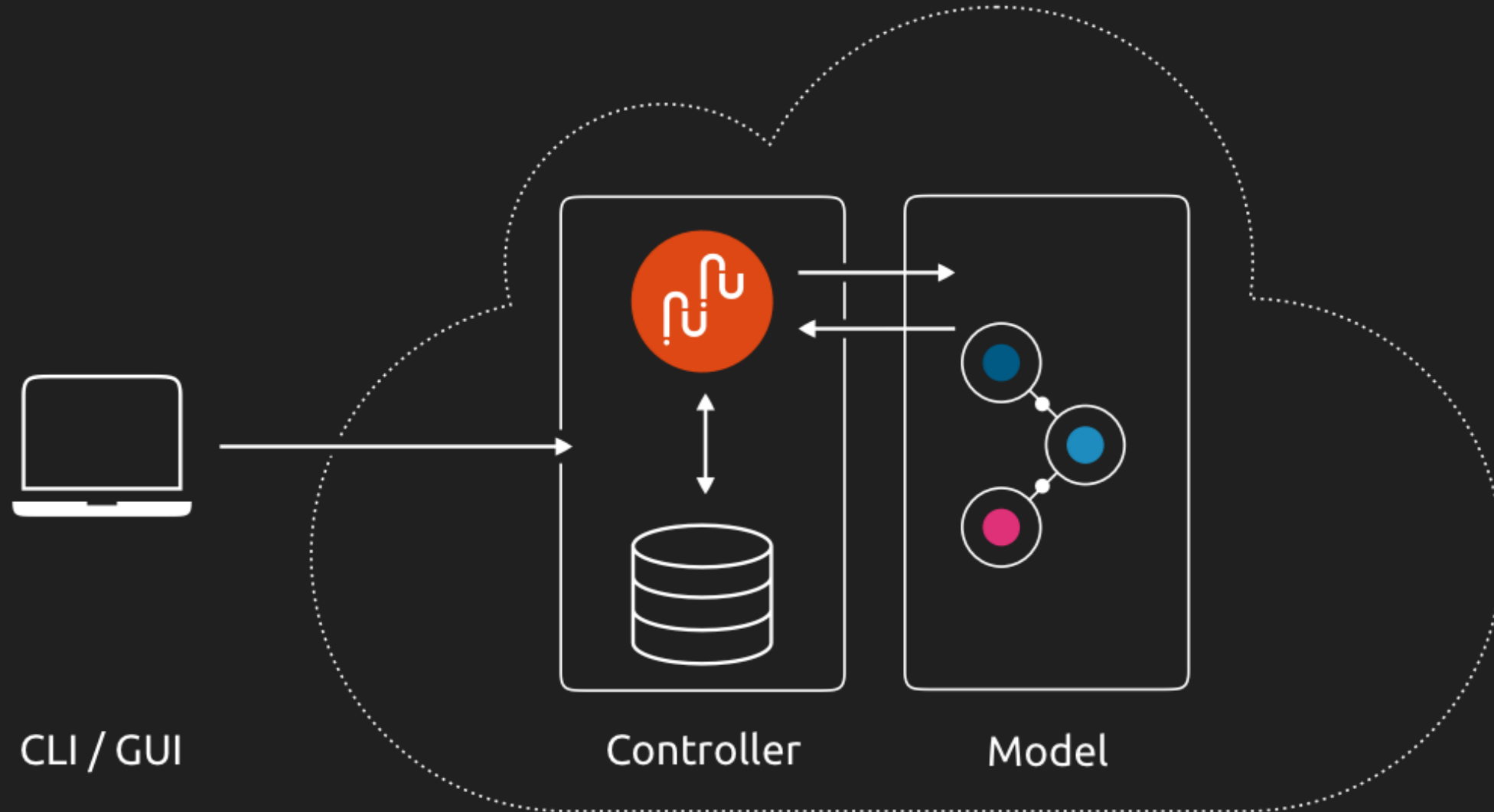
- A charm is a set of scripts for deploying and operating software
 - Event handling built in
 - It's organized by layers → Helps reusing code
 - It can provide/require interfaces to exchange data with other charms
 - Utilizes Juju to deploy across multiple substrates
- Example:



What is Juju?

- Juju is an open source modeling tool, composed of a controller, models, and charms, for **operating software in the cloud**.
- Juju can handle configuration, **relationships** between services, **lifecycle** and **scaling**.
- This ensures that common elements such as databases, messaging systems, key value stores, logging infrastructure and other ‘glue’ functions are available as charms for automatic integration, reducing the burden on vendors and integrators.

What is Juju?

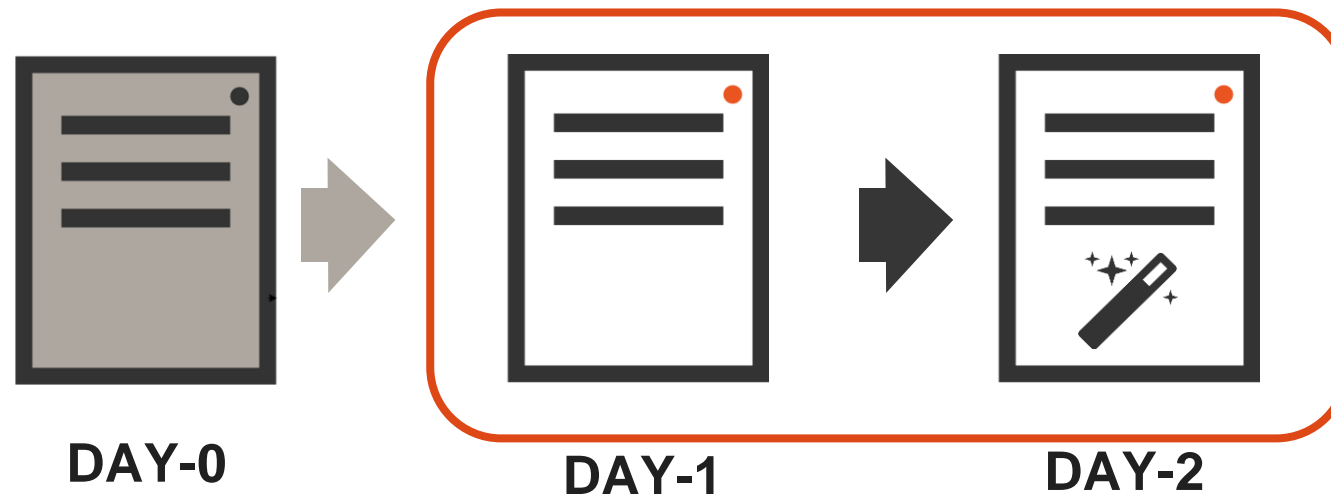


Playing with Juju

www.juju charms.com/store

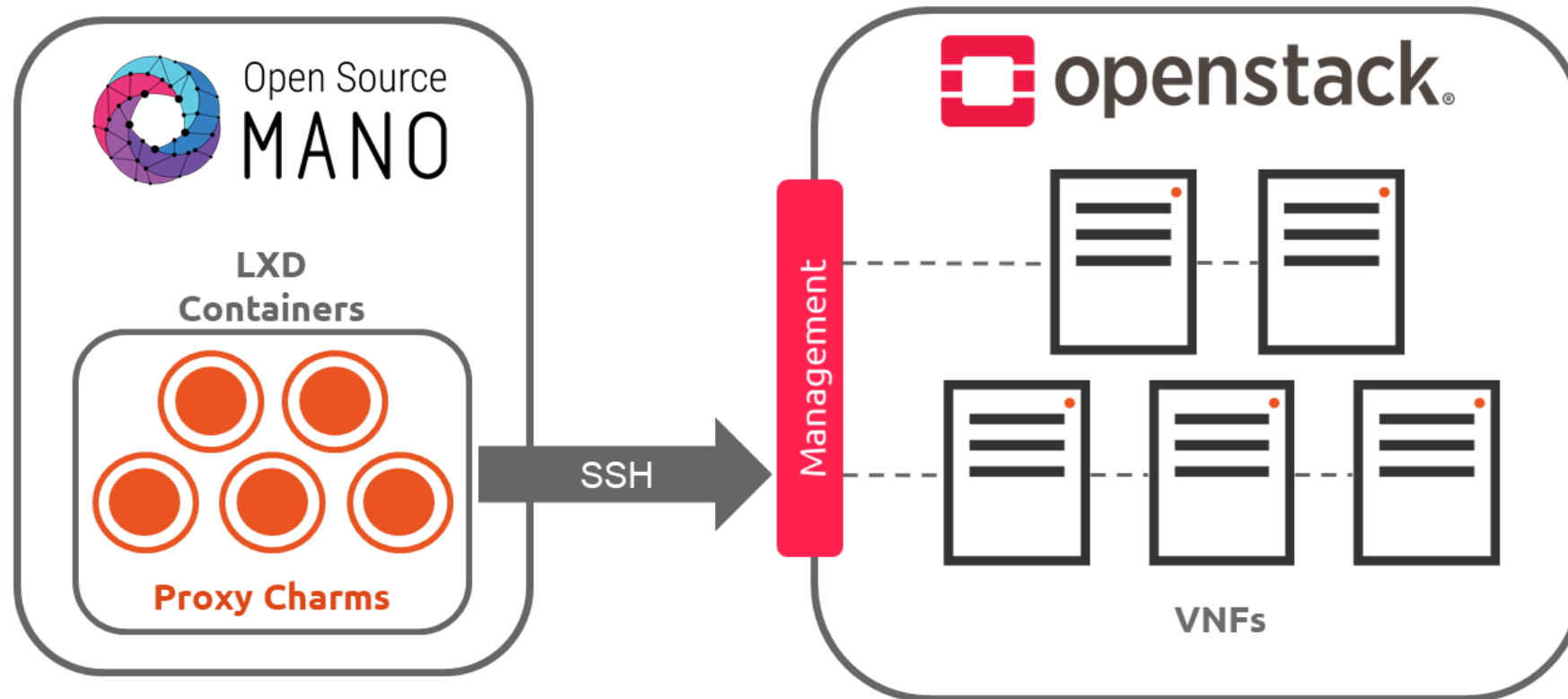
Proxy charms in OSM

- VNF configuration is done in three “days”
 - Day-0: The machine is not ready yet
 - E.g. import ssh-keys, create users/pass, network configuration, etc.
 - Day-1: The machine just became ready
 - E.g.: Configure (install packages, edit config files, execute commands, etc.)
 - Day-2: The machine is ready and configured
 - E.g.: Do **on-demand** actions (dump logs, backup mysql database, etc.)
- Proxy charms cover day-1 and day-2 configuration



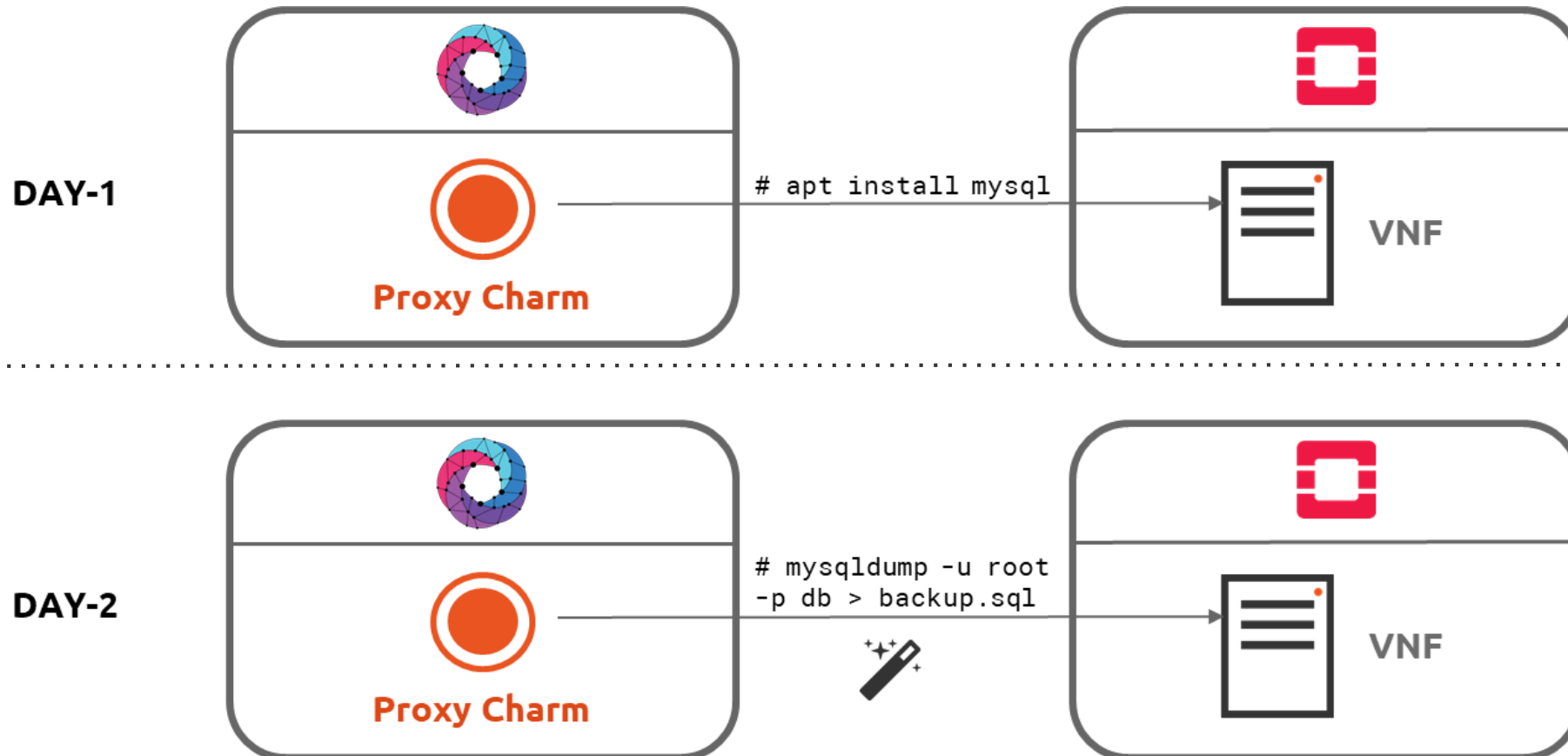
Proxy
Charms

Proxy charms in OSM



Charm actions - VNF primitives

MySQL simplified example



Setting up a charming environment

```
$ sudo snap install charm --classic
```

Create needed directories for building the charm

```
$ mkdir -p ~/charms/layers
```

```
$ mkdir -p ~/charms/interfaces
```

Juju and charms environment variables (Add to ~/.bashrc)

```
$ export JUJU_REPOSITORY=~/.charms
```

```
$ export CHARM_LAYERS_DIR=$JUJU_REPOSITORY/layers
```

```
$ export CHARM_INTERFACES_DIR=$JUJU_REPOSITORY/interfaces
```

Speeding up the charming deployment

```
$ juju model-config enable-os-refresh-update=false enable-os-upgrade=false  
$ git clone https://github.com/AdamiIsrael/osm-hackfest.git  
$ osm-hackfest/bin/update-juju-lxc-images --xenial
```



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