Boosting Helm with AppController

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Helm

- Super awesome!
- Supports dependencies between charts
- No orchestration
- If your application needs it - write it yourself in (init) containers for your chart

https://github.com/kubernetes/helm
https://github.com/Mirantis/k8s-AppController
mkwiek@mirantis.com

Helm architecture - present

Client - helm - gets input from user	Server - tiller - receives user input and acts accordingly

Helm architecture - updated

Client - helm - gets input from user

Server - tiller - receives user input and requests action from **rudder**

Release Server - **rudder** - receives requests for creation, upgrade and rollback of releases and acts accordingly
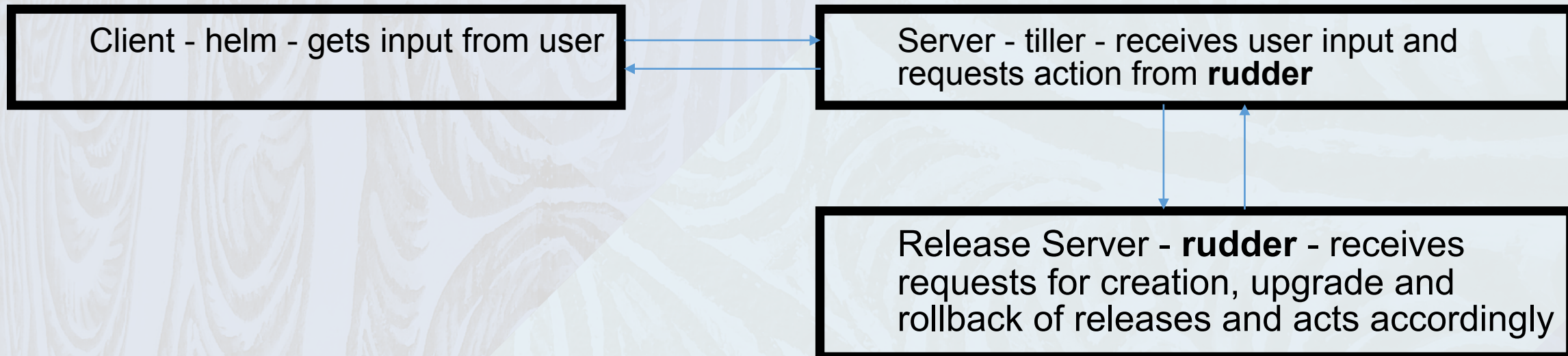
Rudder is an interface

- Communication to rudder is done via grpc
- As long as it implements grpc interface, you can write your own rudder
- Proposal is here: https://github.com/kubernetes/helm/issues/1924

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Default Rudder

Nothing changes - it works exactly the same as tiller did - no orchestration at all

AppController

- All it does is orchestration
- Define deployment graph and store it in K8s storage
- Runs as a standalone Pod
- Run AppController after loading your deployment graph into cluster
- Advanced status checks

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AppController Rudder - example

Wordpress chart

Helm dependency

MariaDB chart

AppController Rudder - example

Wordpress chart

deploy   service   others

AppController dependencies
used by orchestrator

deploy   service   others

MariaDB chart

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AppController Rudder - example

Wordpress chart

deploy   service   others
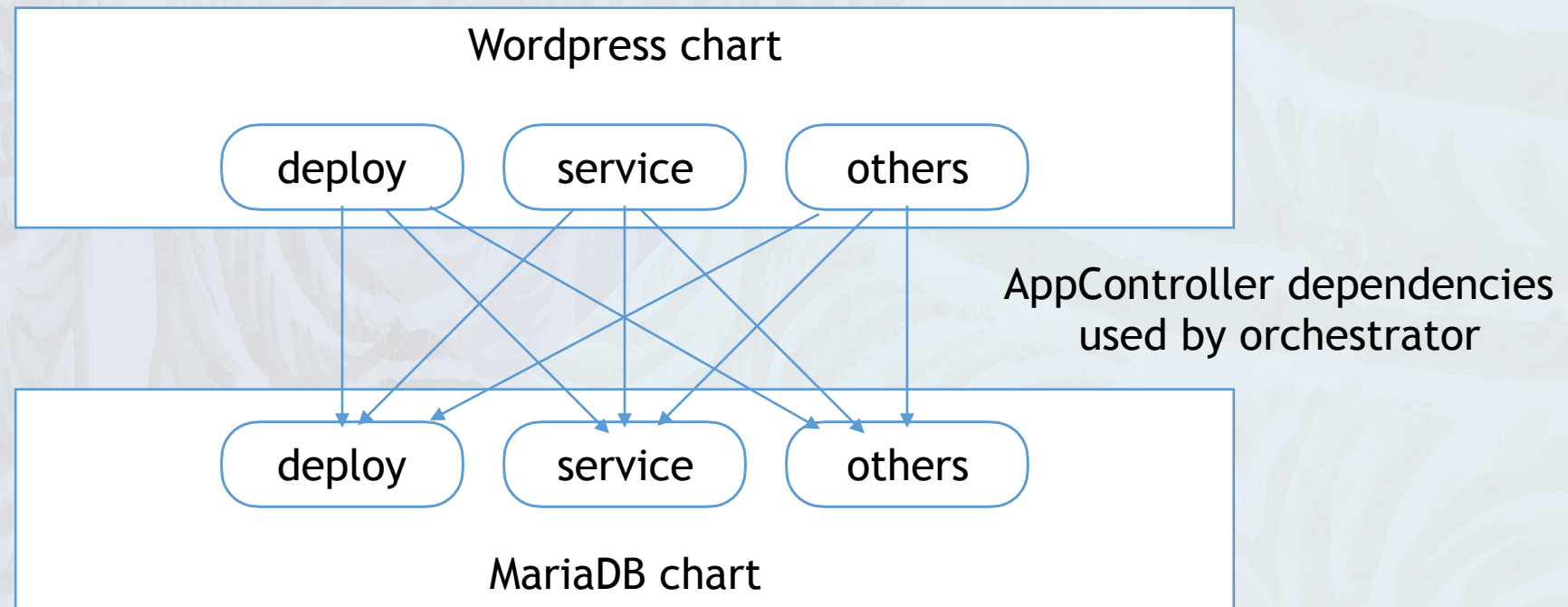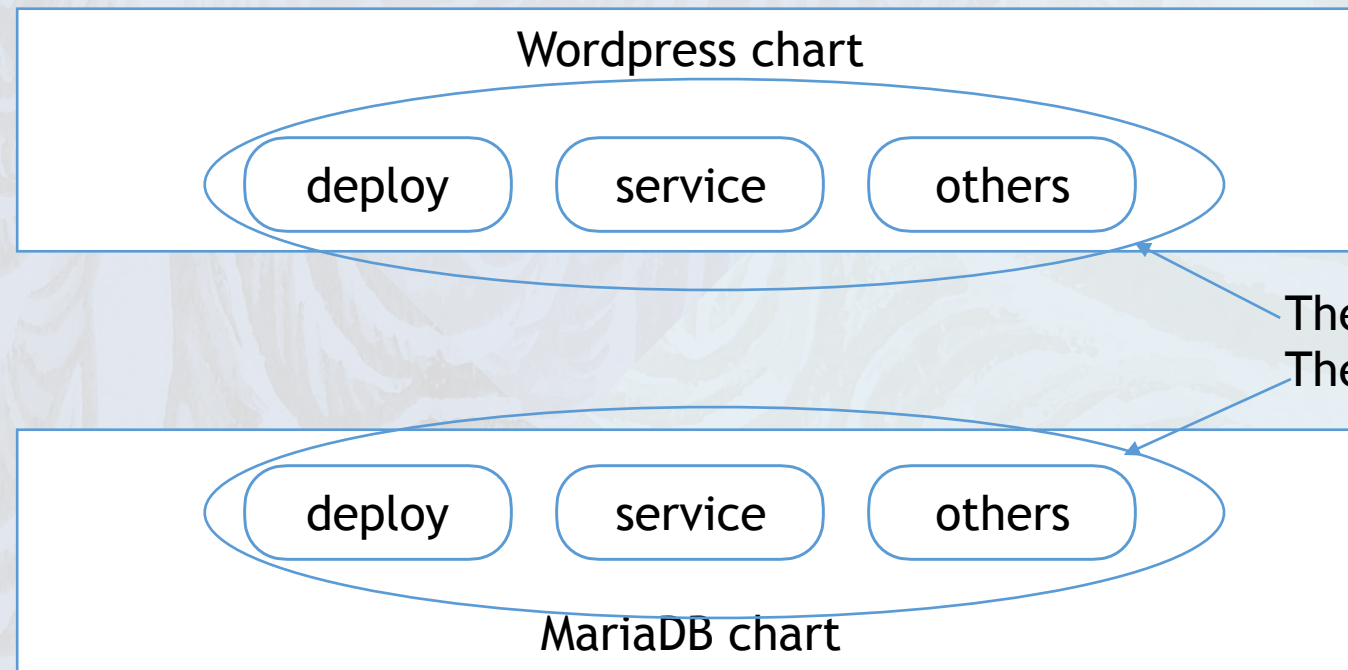
These won't be created until
These are ready

deploy   service   others

MariaDB chart

AppController Rudder - now

- Deployment graph is derived from chart dependencies
- Children charts will not be created until parent charts are ready

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AppController Rudder - future

- Graph is derived from
  - chart dependencies
  - dependencies between k8s objects that form the chart
    - (need to adjust chart format for the above)

Q&A