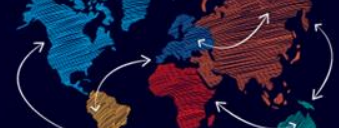




JAGUAR: **Open Source Solution for Kubernetes Network**

GengXingyuan : Expert of Software Engineering, ZTE

Derek Jee : Co-Founder, SDNLAB



JAGUAR

- **Project for Kubernetes Network**
- Launched (*Jul. 23, 2018*)
- First Release (*Oct. 10, 2018*)
- <https://gitlab.com/sdnlab/jaguar>

- **Project of Education**
- PBL (Project Based Learning)
- OpenDaylight & kubernetes courses

Project Based Learning

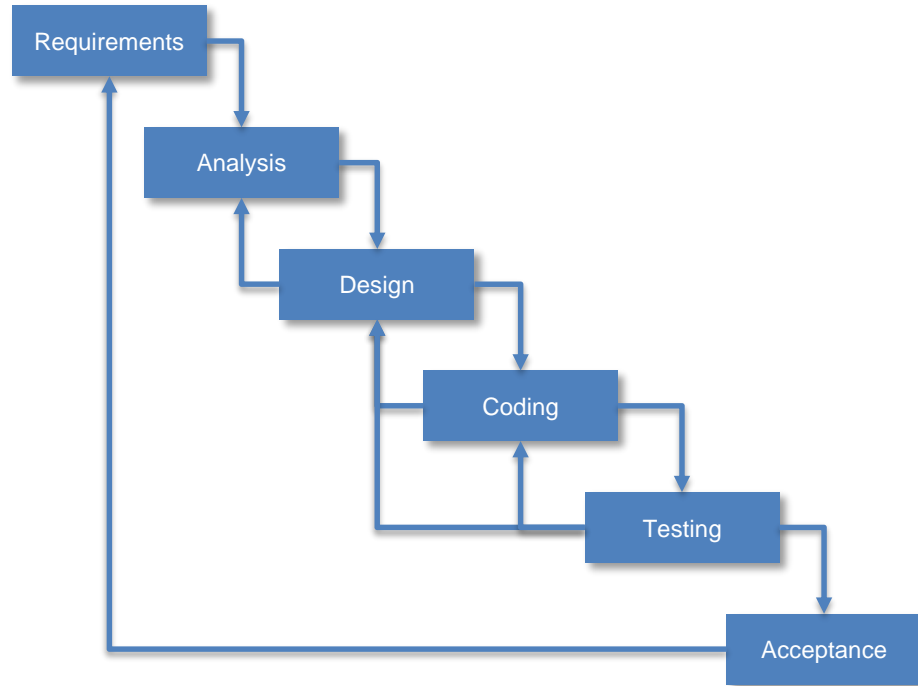


Personal ability

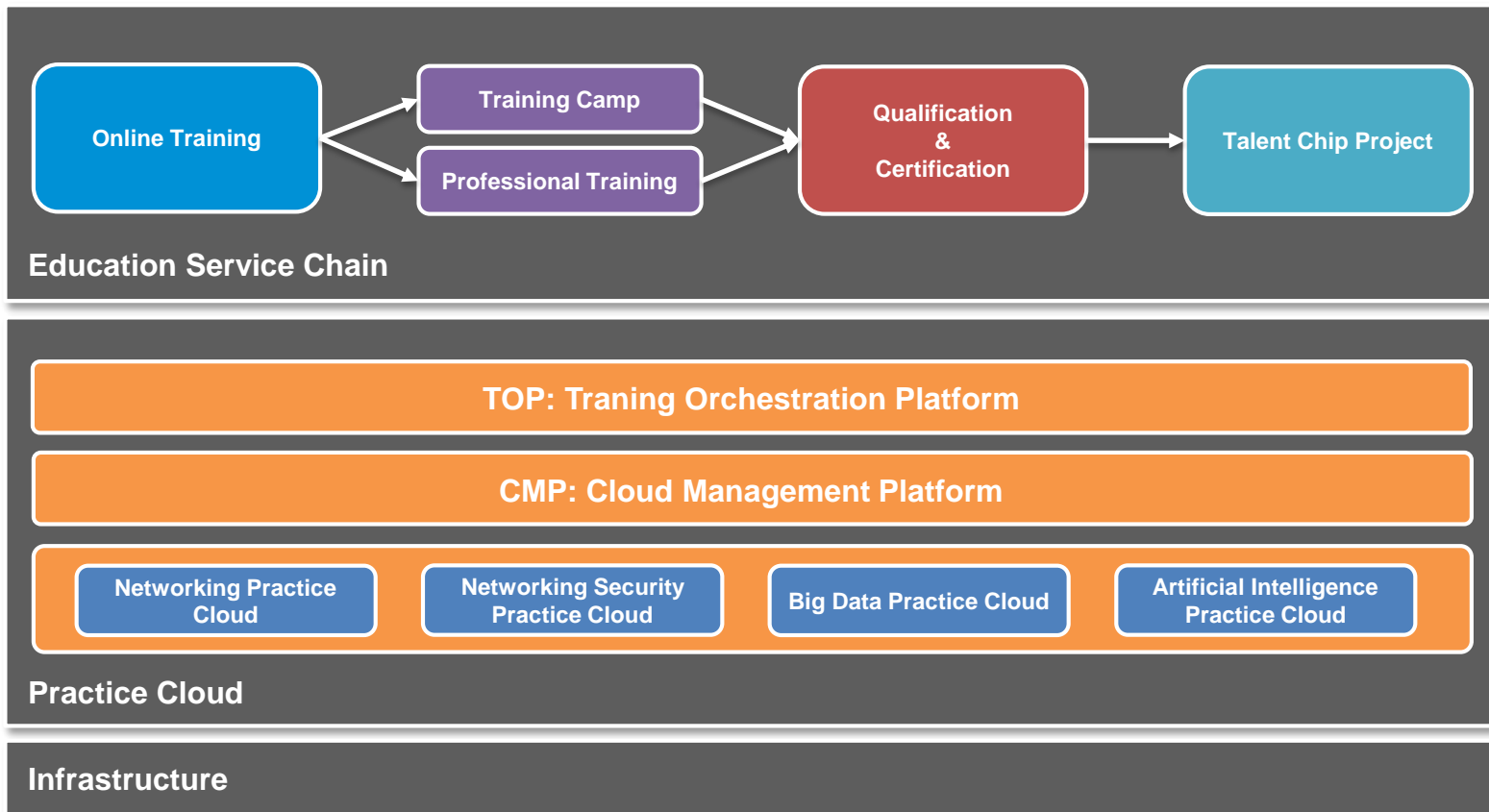
- Knowledge reserve
- Code style
- Requirement analysis
- Test design
- Engineering realization
- Release management

Teamwork

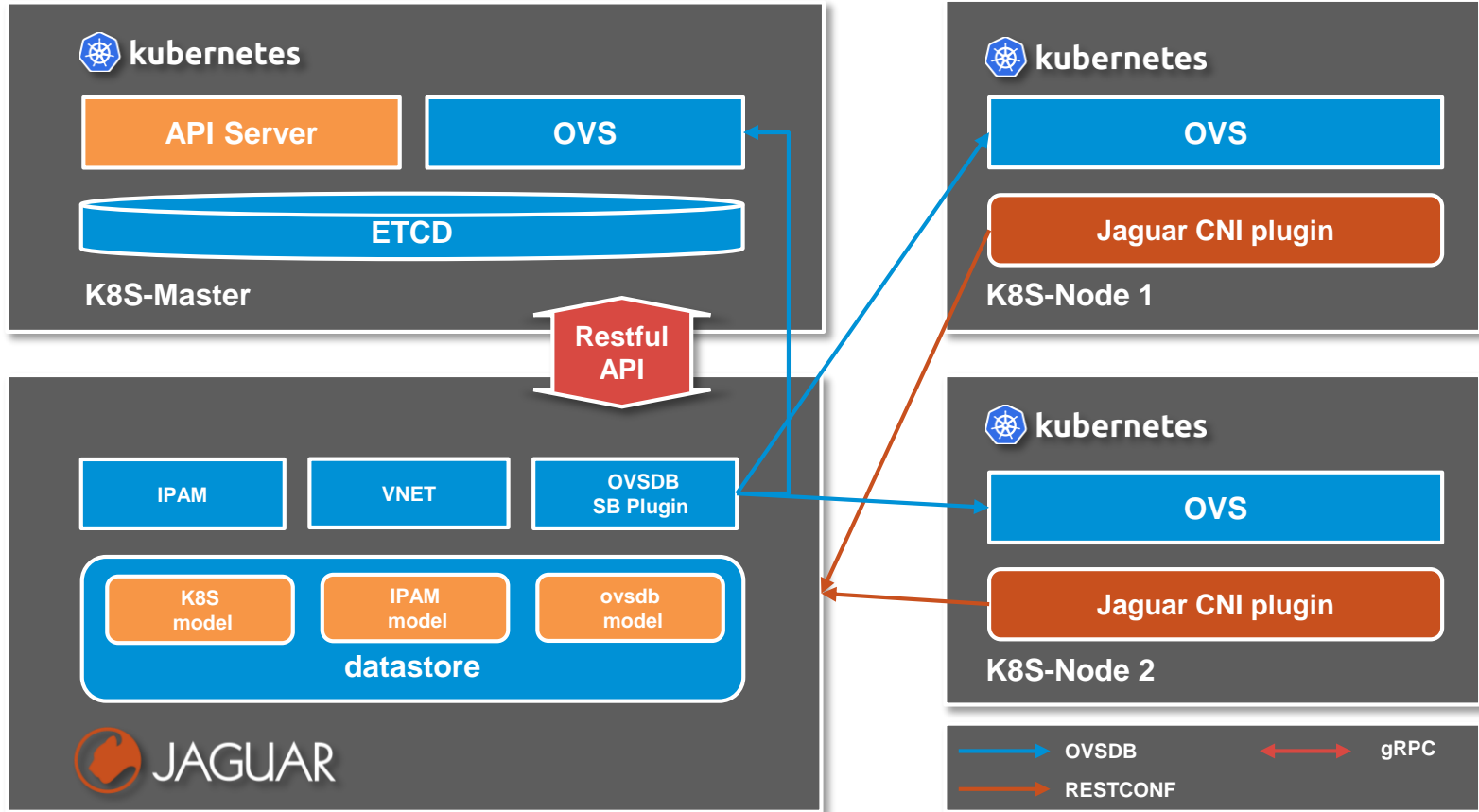
- Conceptual abstraction
- Effective presentation
- Project review
- Team collaborative Tools
- Project Show



Practice Cloud



OpenDaylight & kubernetes Courses



Design Principle



Simplicity

- Simple Design, Convention over configuration

Flexibility

- Modular(OSGi) , Event Driven

Interface-Oriented

- Model Driven
- Parnas' Principles - separation of interface and implementation



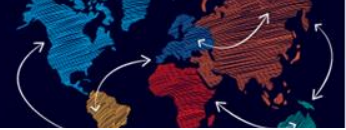
- Kent Beck's Four Rules of Simple Design
 - Passes its tests
 - Minimizes duplication
 - Maximizes clarity
 - Has fewer elements
- Convention Over Configuration - Jaguar's Convention
 - default bridge name – br0
 - default pod's CIDR – 172.100.0.0/16
 - default IPAM policy

Jaguar's Module



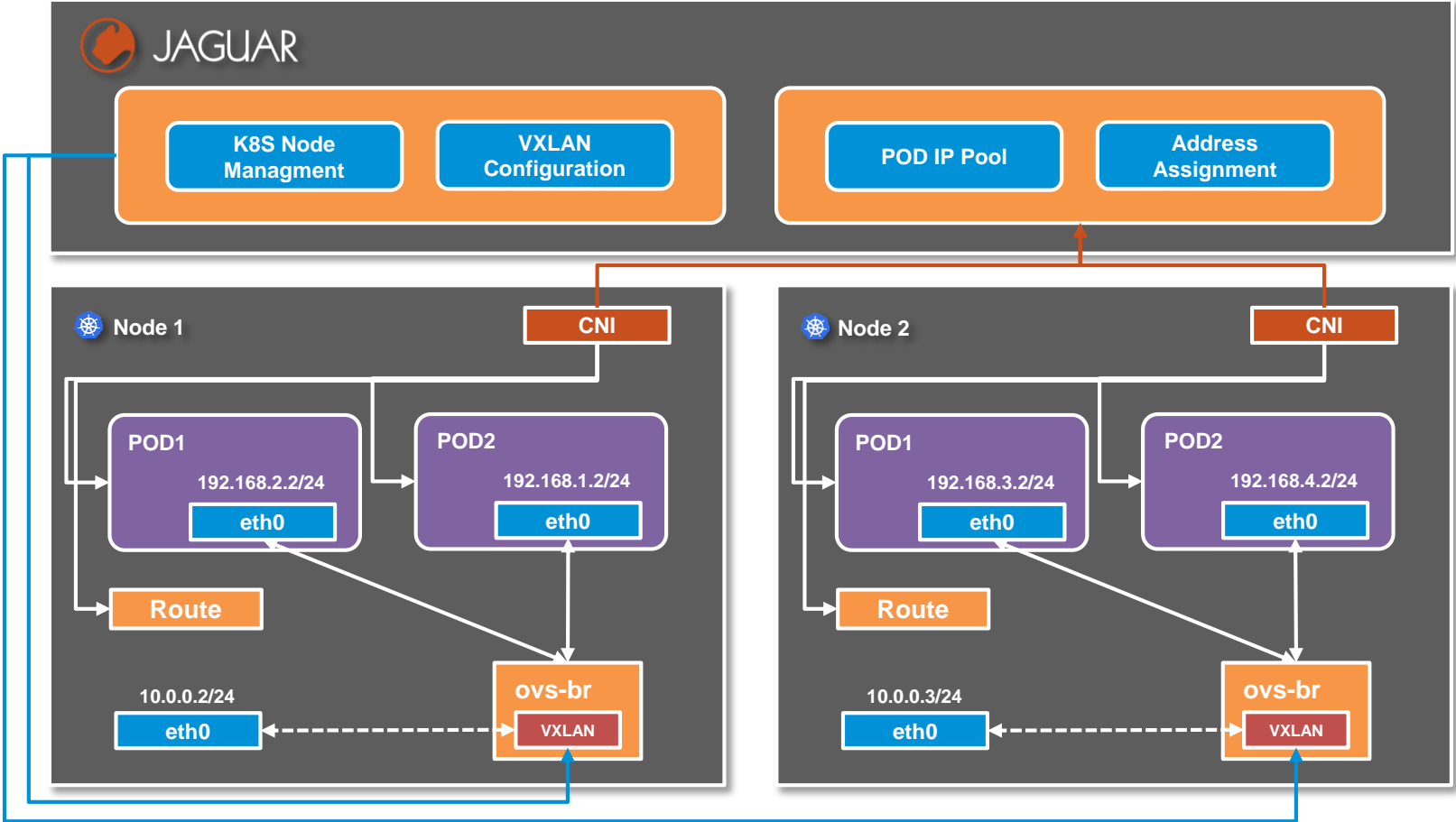
- watcher
- IPAM
- network
- CNIPlugin

Jaguar's Interface

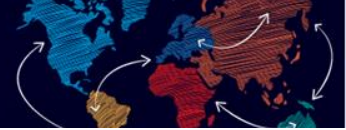


- K8S model
- IPAM model

Jaguar Network Design



Introduction to First Release - Sky



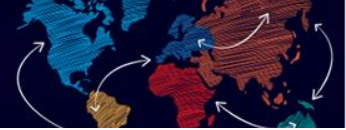
- Features – Kubernetes's fundamental requirements
 - all containers can communicate with all other containers without NAT
 - all nodes can communicate with all containers (and vice-versa) without NAT
 - the IP that a container sees itself as is the same IP that others see it as
- Code quantity
 - UT , IT , ST
- Demo
 - Eat your own dog food.

Future Plan



- Next Release
 - Support Kubernetes Service
- Next Next Release
 - Support Network Policies

Getting involved



- Get the Code, Build the Code, Run the Code
- Became a Jaguar Member
- Join the Public Mailing List
- For more details

<https://gitlab.com/sdnlab/jaguar/wikis/home>

A world map is centered on a dark blue background. The continents are filled with a dense, hand-drawn style of lines in various colors: North America is light blue, South America is yellow, Europe is dark blue, Africa is red, Asia is orange, and Australia is teal. White curved arrows connect the continents in a circular path, suggesting a global network or flow of information. The text 'OPEN SOURCE NETWORKING DAYS' is written across the center in a bold, white, sans-serif font.

OPEN SOURCE NETWORKING DAYS