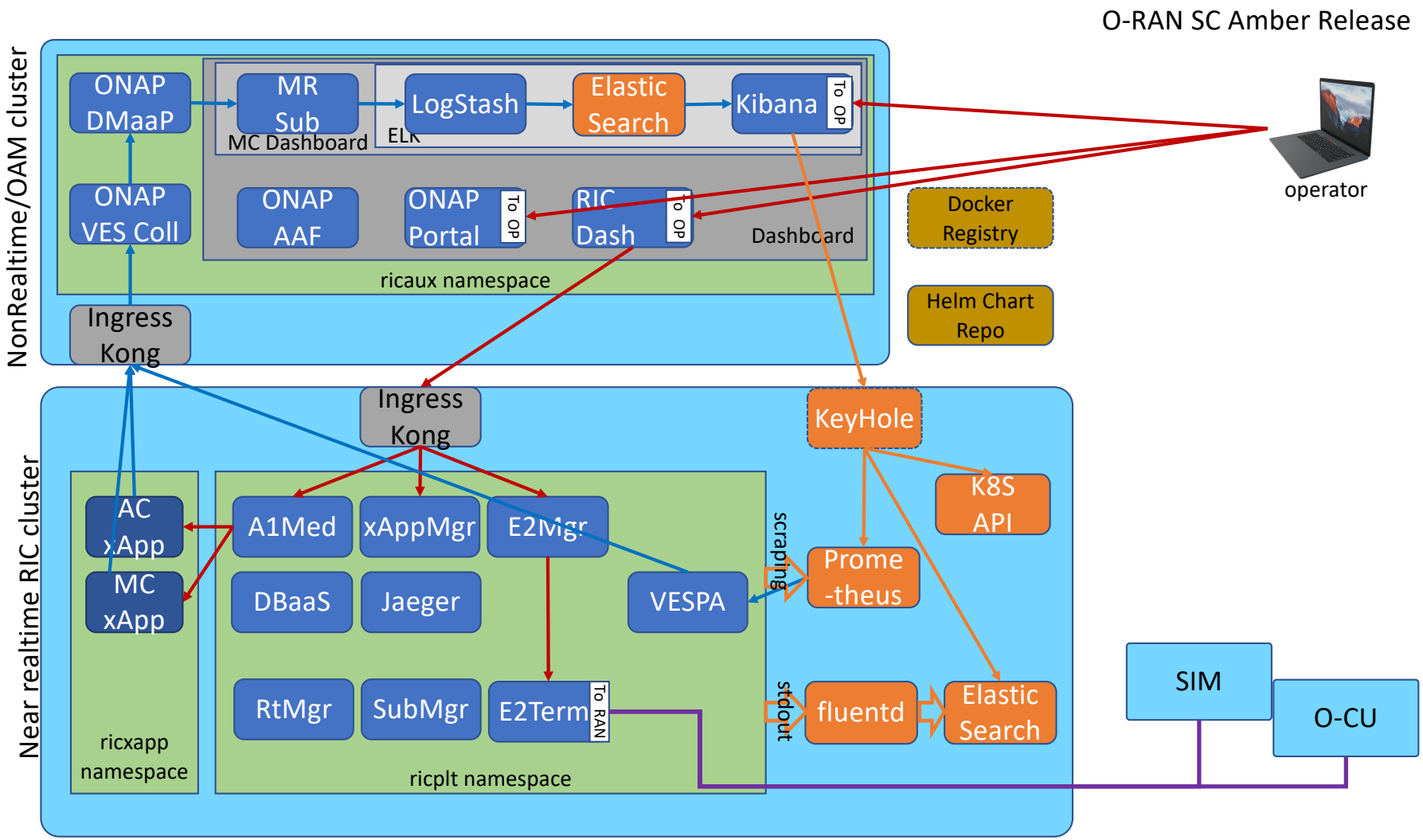
Integration and Testing Meeting 20190918

O-RAN SC Amber Deployment

- Integrated so far
  - Near Realtime RIC Platform
  - Near Realtime RIC Applications
  - Partial Non Realtime RIC / OAM
- Docker-Kubernetes-Helm
  - All software components packaged as Docker containers
  - Kubernetes orchestrates containerized applications
  - Helm provides component level Kubernetes definition packaging and component to component integration
- Akraino Radio Edge Stack as infrastructure for production uses
- Dev-testing deployment serving development and functional testing needs

Deployment

- Separate Kubernetes clusters
  - Near Realtime RIC (Platform and Applications)
  - Non Realtime RIC / OAM
    - In productions may further separation
- Deployment grouping
  - ric-infra (deployed in each K8S cluster)
    - Repo and other resource access secrets, certificates, etc
    - Tiller
    - Ingress controller
  - ric-platform (deployed in the Near Realtime RIC cluster)
    - All Near Realtime RIC components
  - ric-aux (deployed in the Non Realtime RIC / OAM cluster)
- xApps are deployed at runtime through dashboard/API.


O-RAN SC Amber Release
NonRealtime/OAM cluster
ONAP DMaaP
MR Sub
MC Dashboard
LogStash
ELK
Elastic Search
Kibana
To OP
ONAP VES Coll
ONAP AAF
ONAP Portal
To OP
RIC Dash
To OP
Dashboard
ricaux namespace
Ingress Kong
operator
Docker Registry
Helm Chart Repo
Near realtime RIC cluster
Ingress Kong
KeyHole
AC xApp
MC xApp
A1Med
xAppMgr
E2Mgr
DBaaS
Jaeger
VESPA
scraping
Prome -theus
K8S API
RtMgr
SubMgr
E2Term
To RAN
stdout
fluentd
Elastic Search
ricxapp namespace
ricplt namespace
SIM
O-CU

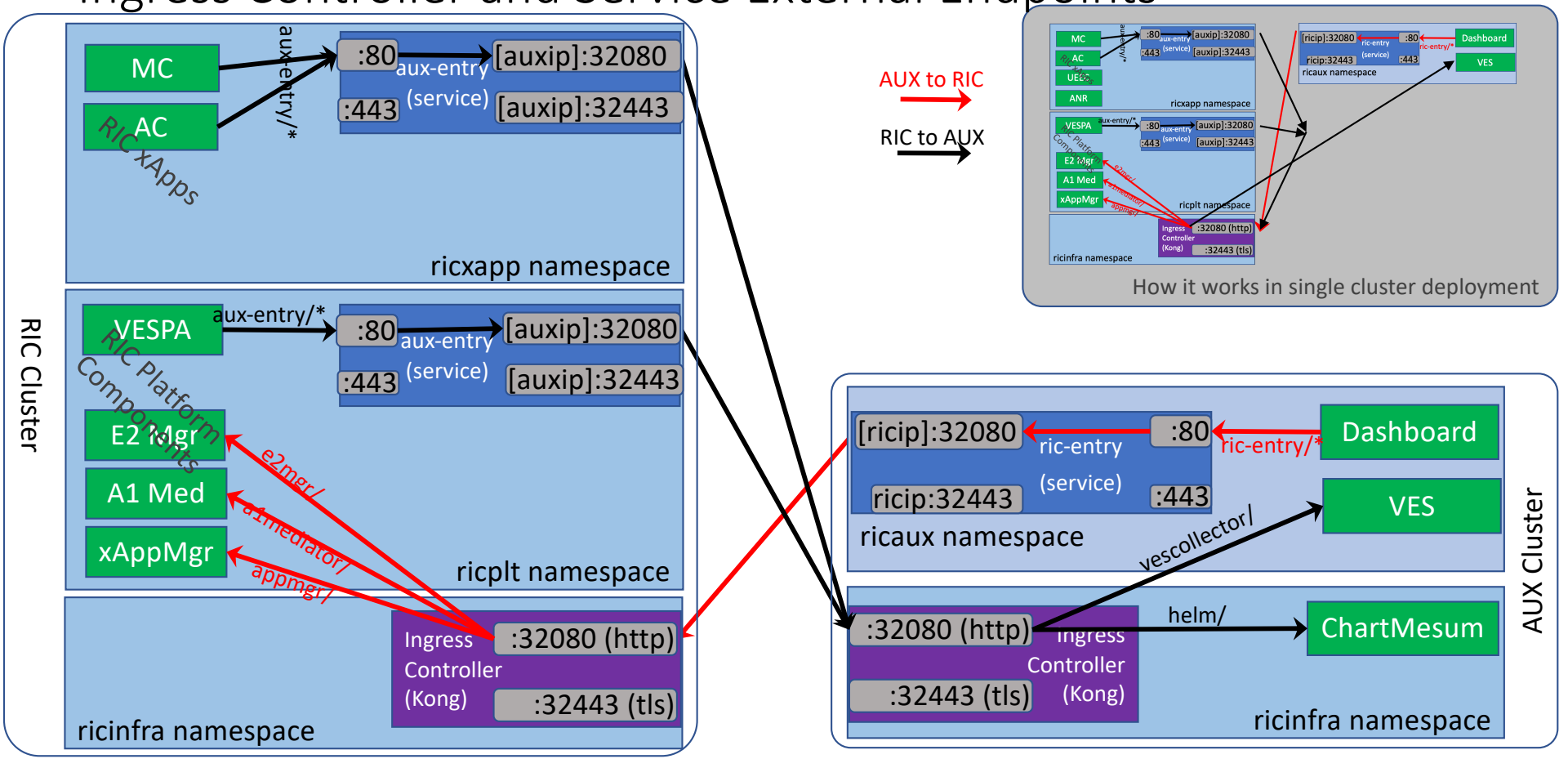
Demo Setup

- Two VirtualBox VMs
  - 2 virtual CPU cores each minimum
- Networking: on the same “NAT Network”
  - Set up port forwarding so from host we can ssh into these two VMs
- Each VM is made into a single node Kubernetes cluster. One used for the Near Realtime RIC cluster and the other for Non Realtime RIC and OAM cluster
- Code and Helm charts available at gerrit.o-ran-sc.org it/dep repo
  - https://gerrit.o-ran-sc.org/r/gitweb?p=it/dep.git;a=tree

What to ”localize” to run the it/dep

- Docker registry and credentials
- Helm repo and credentials
- IP address of the other cluster
- Image tags

Cross Name Space (cluster) Communication Realization with Ingress Controller and Service External Endpoints



Additional Integration Targets for Amber?

- INF: Host OS kernel and host level tools/services
- O-CU:
- O-DU HIGH:
- O-DU LOW:
- SIM: