The First Step to Service Assurance

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Outline

- Introduction
- System architecture
  - QCT CORD ready pod
  - Data collection
- Inside the QCT service assurance framework.
  - Data collection
  - Display and event driven actions
- System prototype
- Conclusions

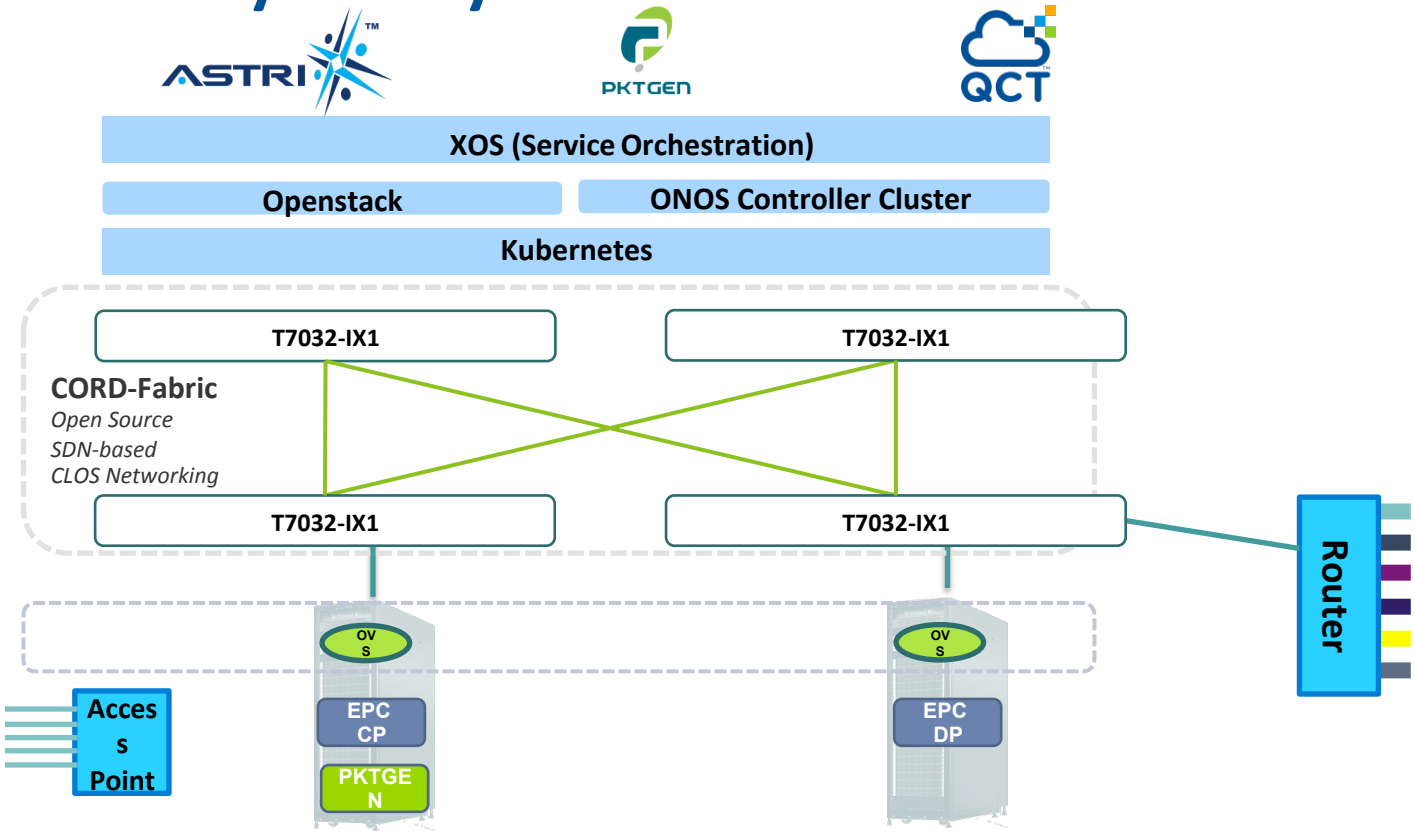
Introduction

- With the growth of the complexity of the network functions, it is difficult to take care about the status of each function elements.
  - Physical infrastructure
  - Virtual network functions
- The CORD usecase- QCT service assurance architecture (QCT-SA) was born to reduce the effort of monitoring.
- Monitored elements include:
  - QCT hardware
  - NFVI, ex. openstack
  - VNFs
- The intelligence- analysis and events.
  - QCT-SA proactively notifies the events when abnormal monitored data happens.
  - Closed loop automation

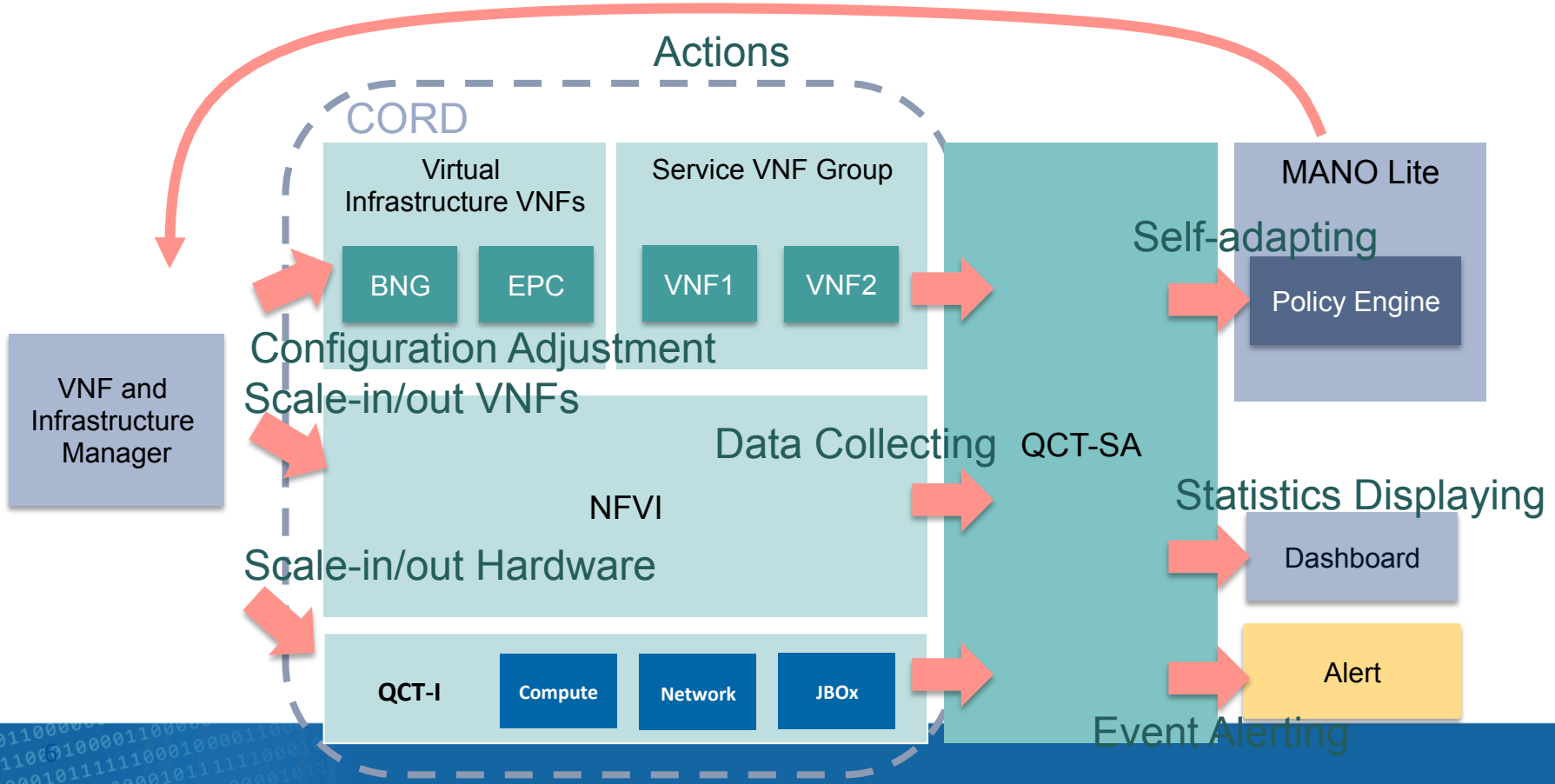
The Goals

- Monitoring everything.
  - QCT 3S 1R, NFVI, and VNFs.
- An exclusive UI is proposed to display the data and events.
- Event notifications and data analysis for maintenance (future work).
- QCT provides
  - Architecture and APIs
- Co-work with QCT
  - Develop and integrate telemetry APIs with vendors.
  - Design telemetry metric, alerting rules, action policies.
  - Customize dashboard for a particular VNF.

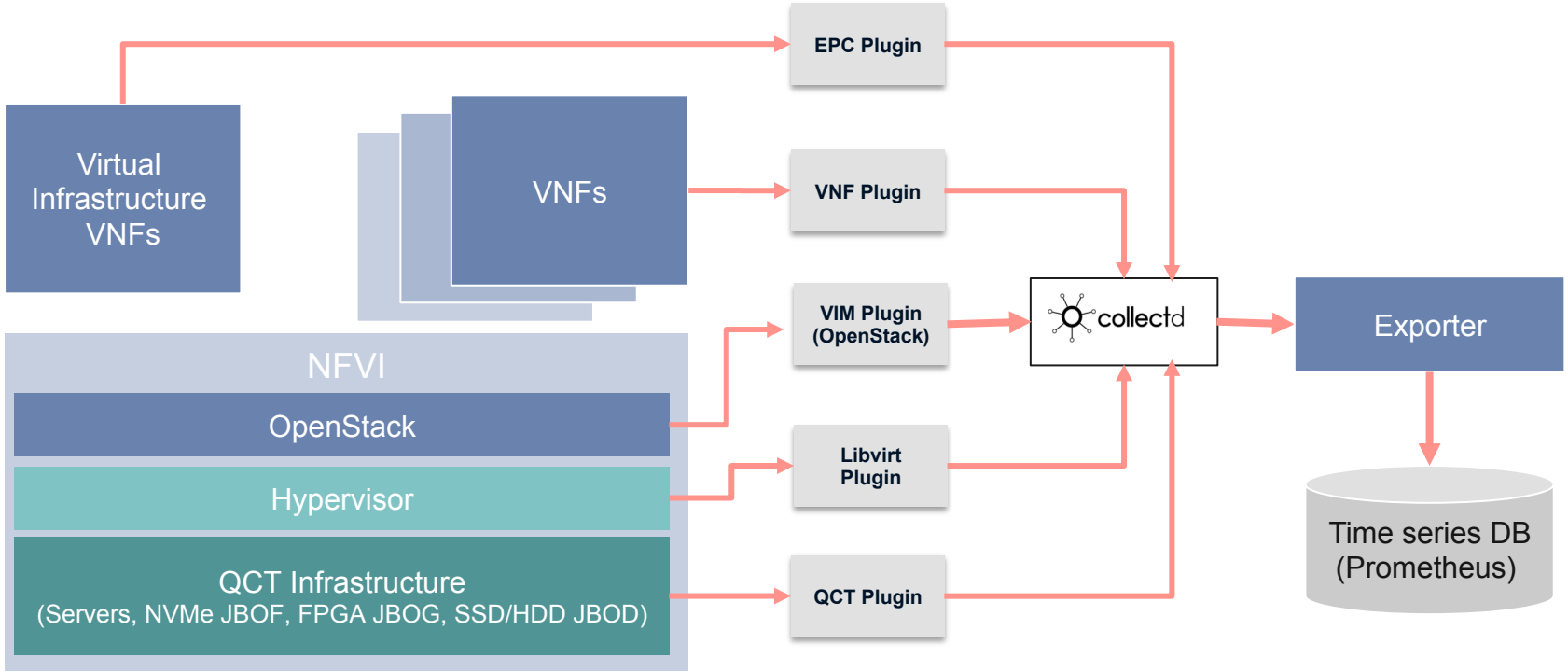
QCT CORD Ready Pod System Architecture



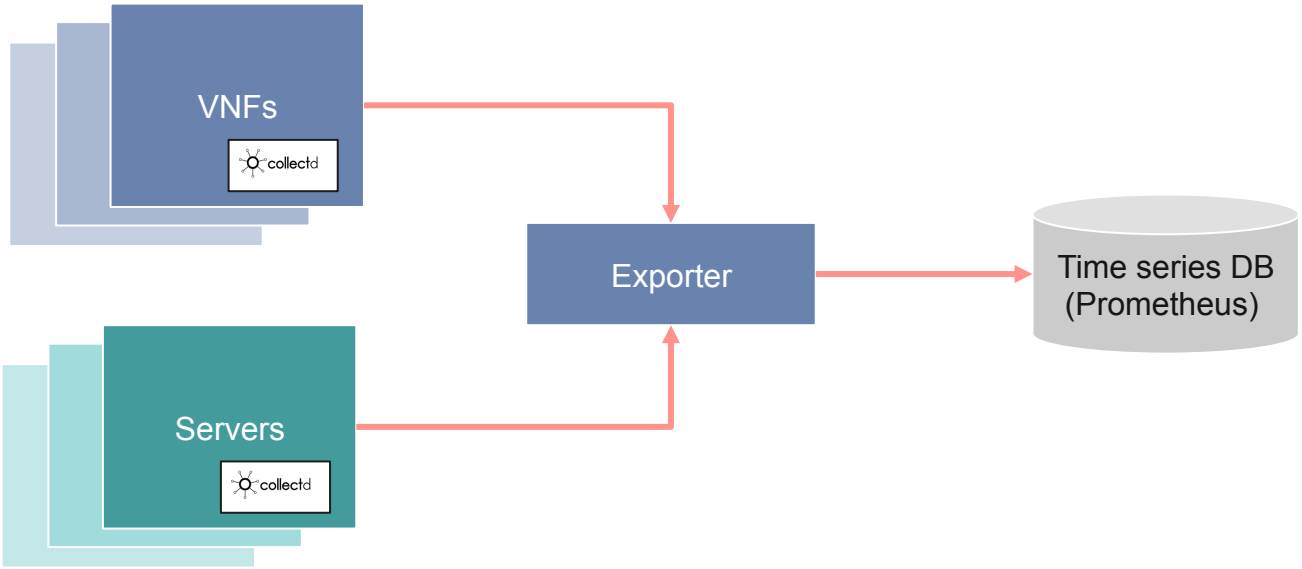
QCT-SA Architecture



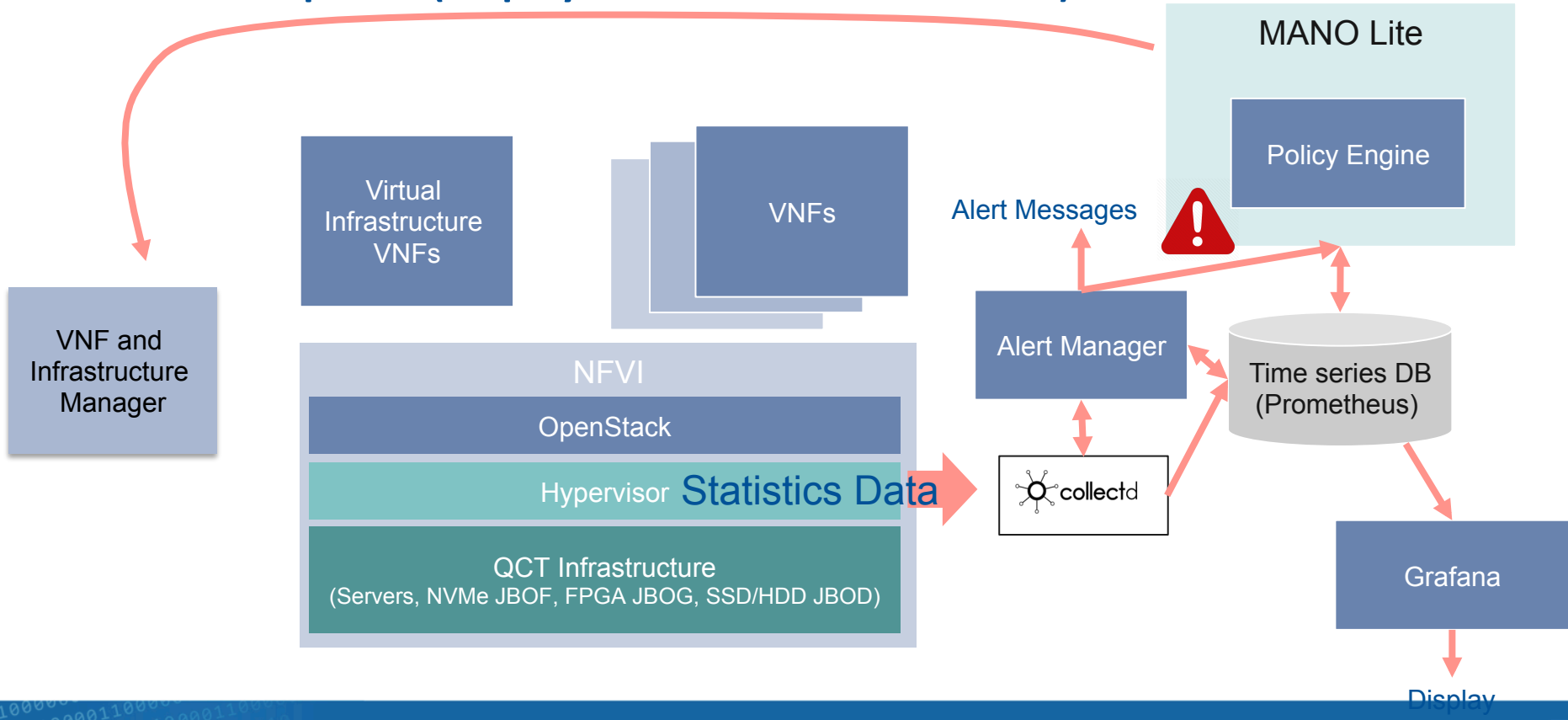
QCT-SA Deep Dive (Data Collecting- Collectd Cluster Type)



QCT-SA Deep Dive (Data Collecting- Collectd Agent Type)



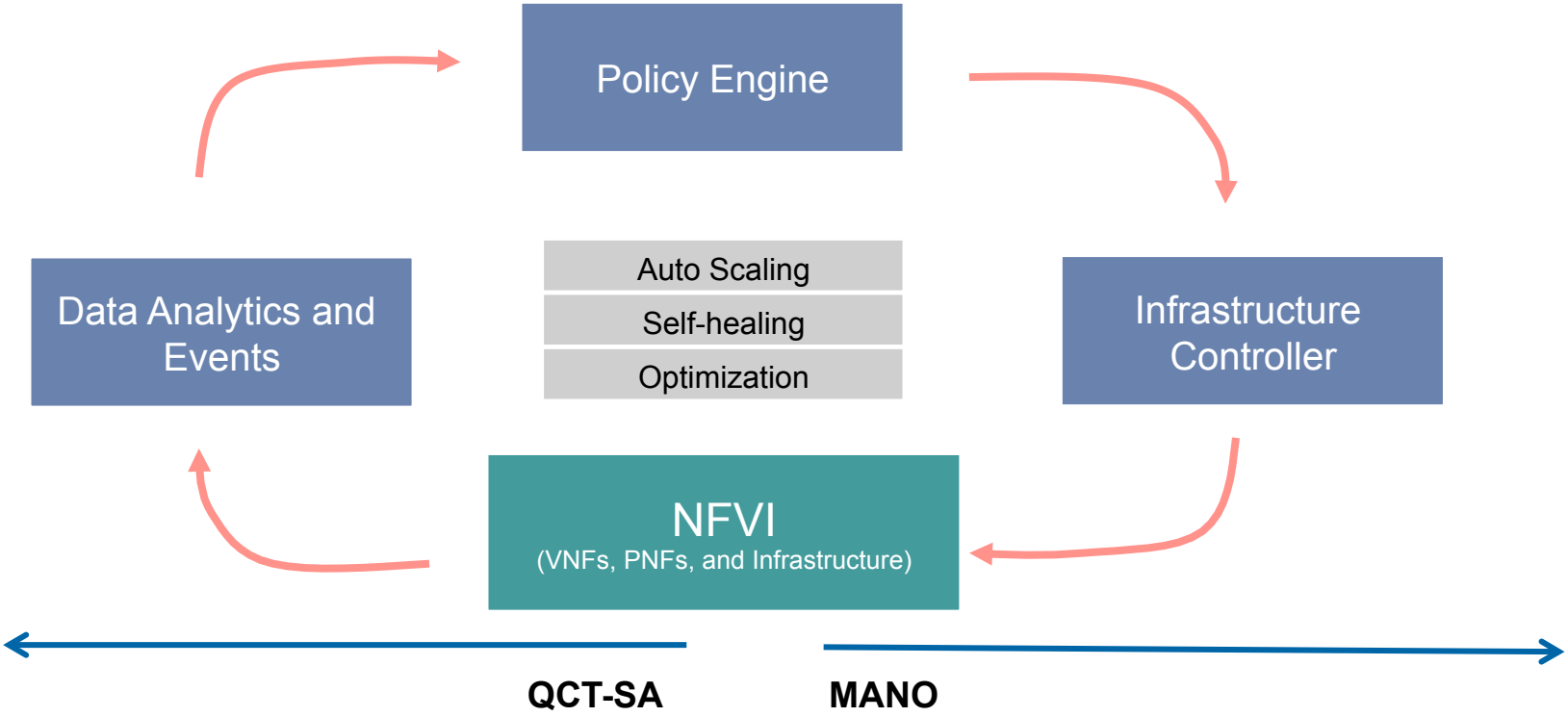
QCT-SA Deep Dive (Display and Event Driven Actions)



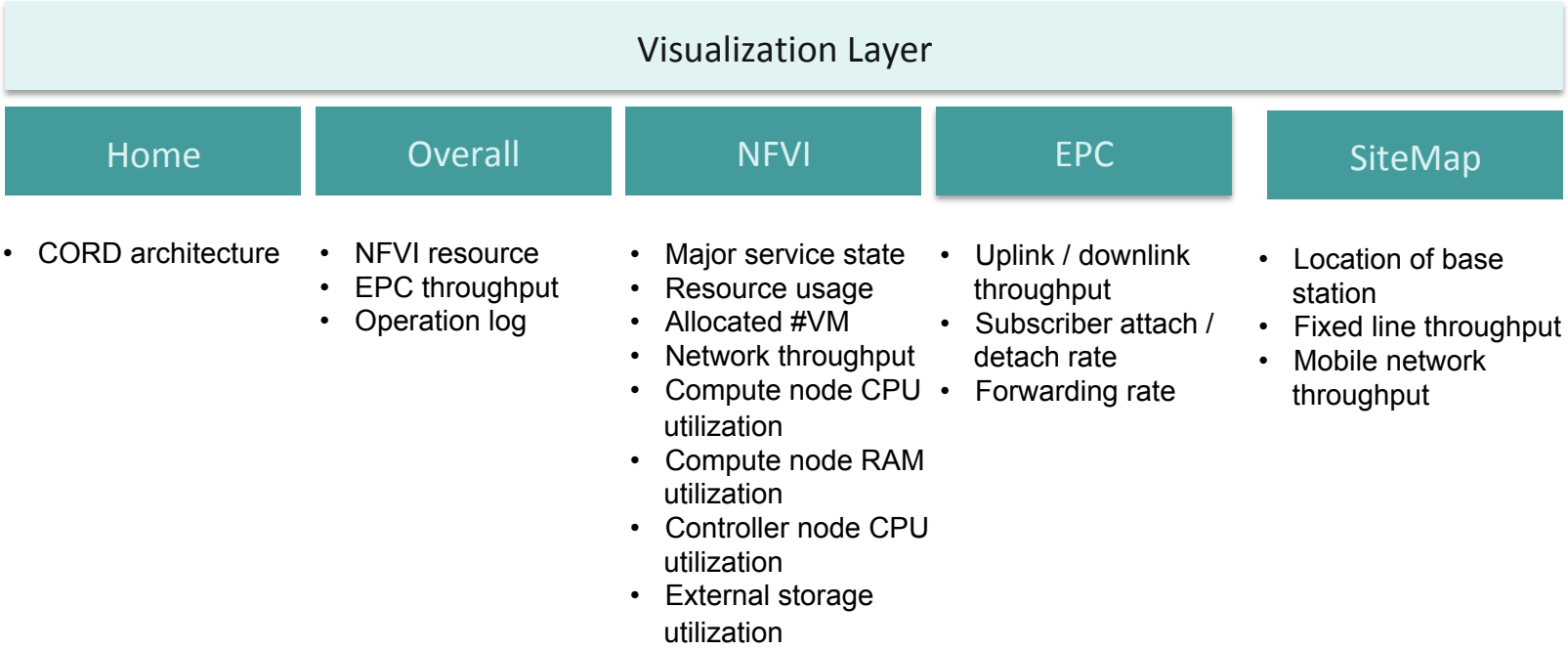
VNF and Infrastructure Manager

- An abstraction layer of device configuration.
  - Provide a common interface for VNF or infrastructure configuration.
  - Isolate the VNF control plane from public network to increase security.
- Using common REST APIs to deliver the configurations to the heterogeneous systems.
  - EPC VNFs
  - OpenStack
  - QCT infrastructure (RSD, IPMI,…etc.)
- Reduce the configuration complexity.

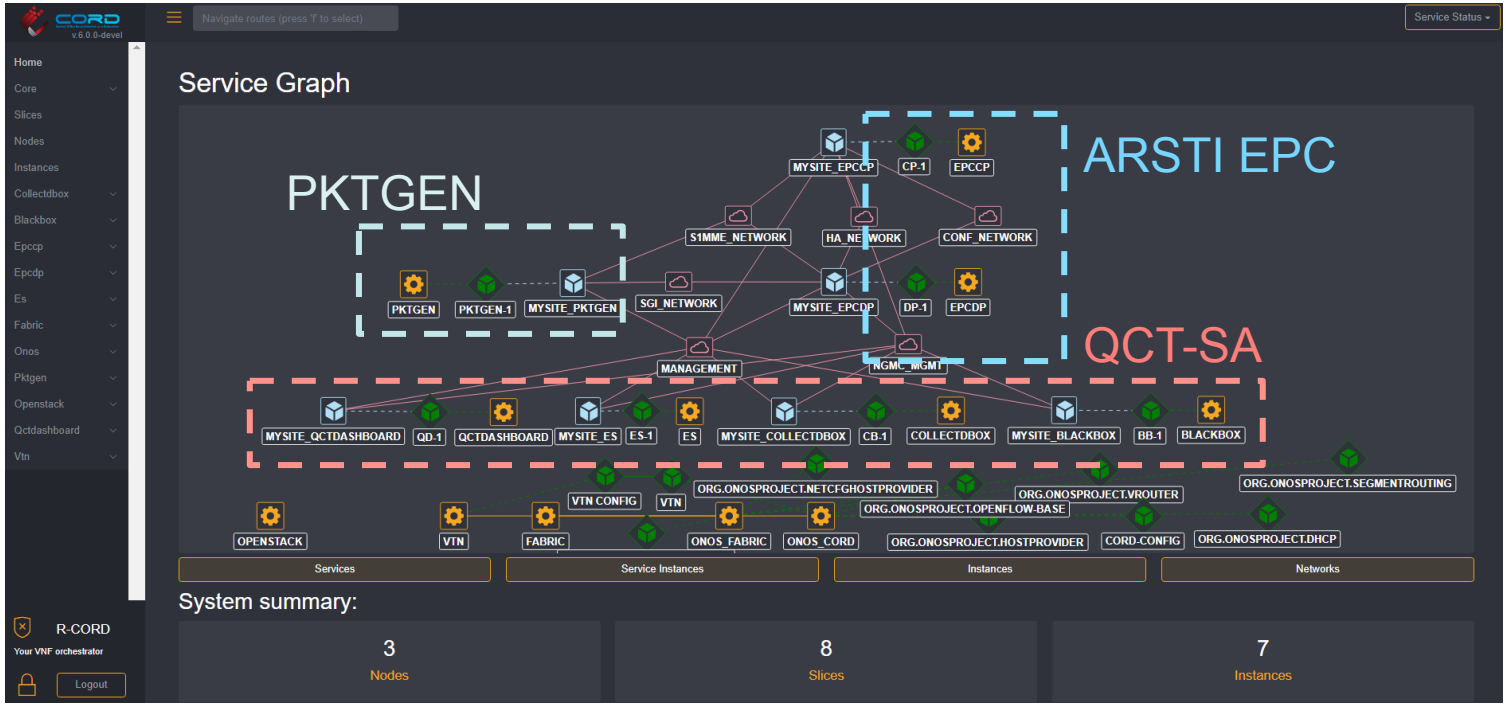
Closed Loop Automation in CORD



Dashboard Map



QCT-SA Onboarding to CORD



We can not hide the innovations!!!

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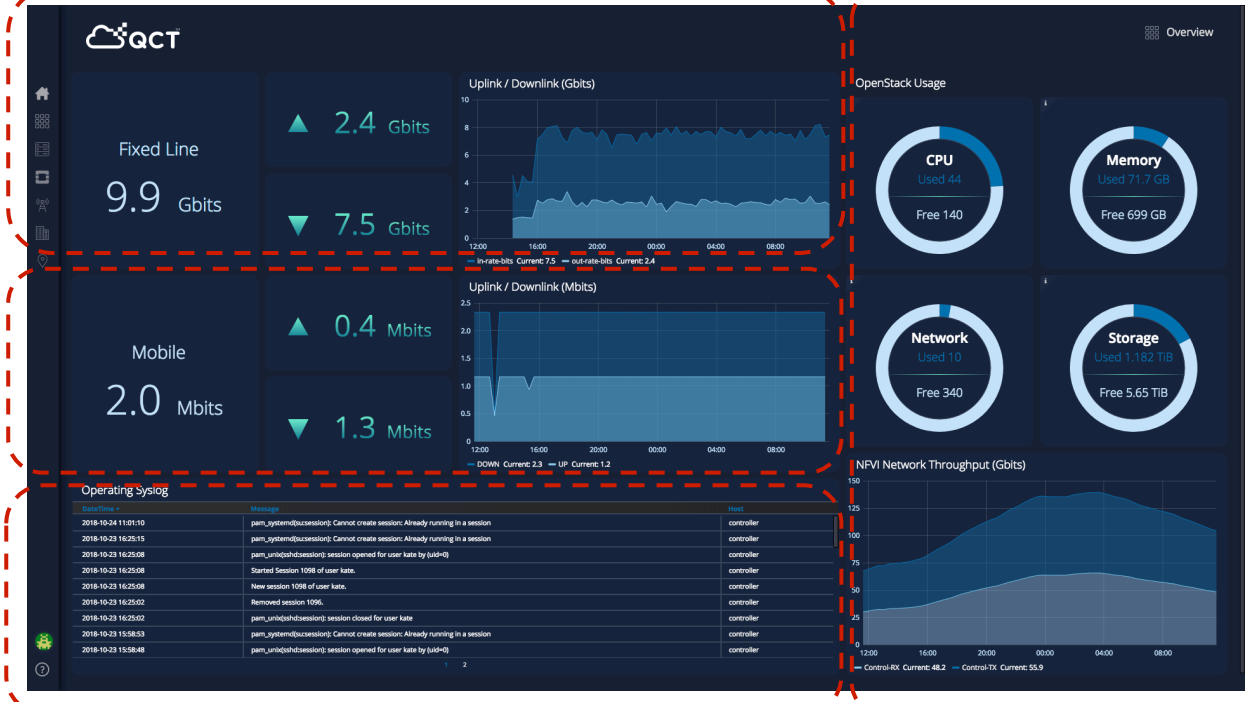
System Prototype

Fix line statistics

Mobile network statistics

Operation and error logs



NFVI usage

System Prototype (cont'd)

Hardware status

Hardware Health Indicator

Summarized CPU and memory utilization

Conclusions

- We proposed a service assurance framework and integrated with CORD.
  - Statistics monitoring
  - Alert
  - Event driven actions (policy)
- QCT provides
  - APIs
  - Customization for VNF vendors
- The intelligence
  - Alert system
  - Data analytics and event driven adaption abilities.
- An exclusive UI interface is proposed to display the iconic statistics of the system.

CENTRAL OFFICE TRANSFORMATION WITH QCT NGCO SOLUTION

What | QCT "NGCO Launch" Event

Where | QCT US Solution Center
1010 Rincon Cir. San Jose, CA 95131

When | January 24th, 2019, 9:30 - 16:00

BRIEF AGENDA FOR THE DAY

- Doors will open at 8:30 am for registration
- Keynote presentations through the day
- Telco Industry EXPO
- Networking with industry experts

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Talk to QCT representatives to find out more

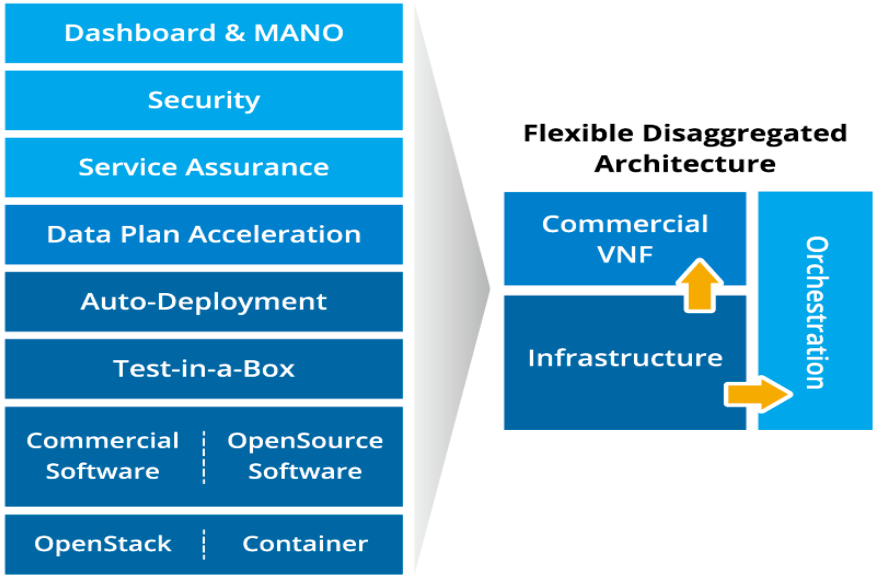
We are pleased to invite you to join our **QCT "NGCO Launch" Event** , on **Thursday, January 24, 2019** at QCT Solution Center in San Jose, California. This event is to officially introduce Intel NGCO architecture based on QCT infrastructure, also to showcase our latest solutions collaboratively developed with strategic VNF partners, and explore more advanced technologies around the 5G era at this event, previewing what will be presented at MWC 2019 in Barcelona, Spain.

Partner speakers include:

intel redhat ASTRI netElastic systems Radisys

and more...

QCT NGCO Architecture



NGCO
NEXT GENERATION CENTRAL OFFICE

Registration Site QR Code

REGISTRATION CODE: **GUE19**

Questions?

THANK YOU

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