

iPOP2021

Showcase Booth Presentation

**Data, Application, and the Next Generation
Vertical Oriented Network & Compute Platform**

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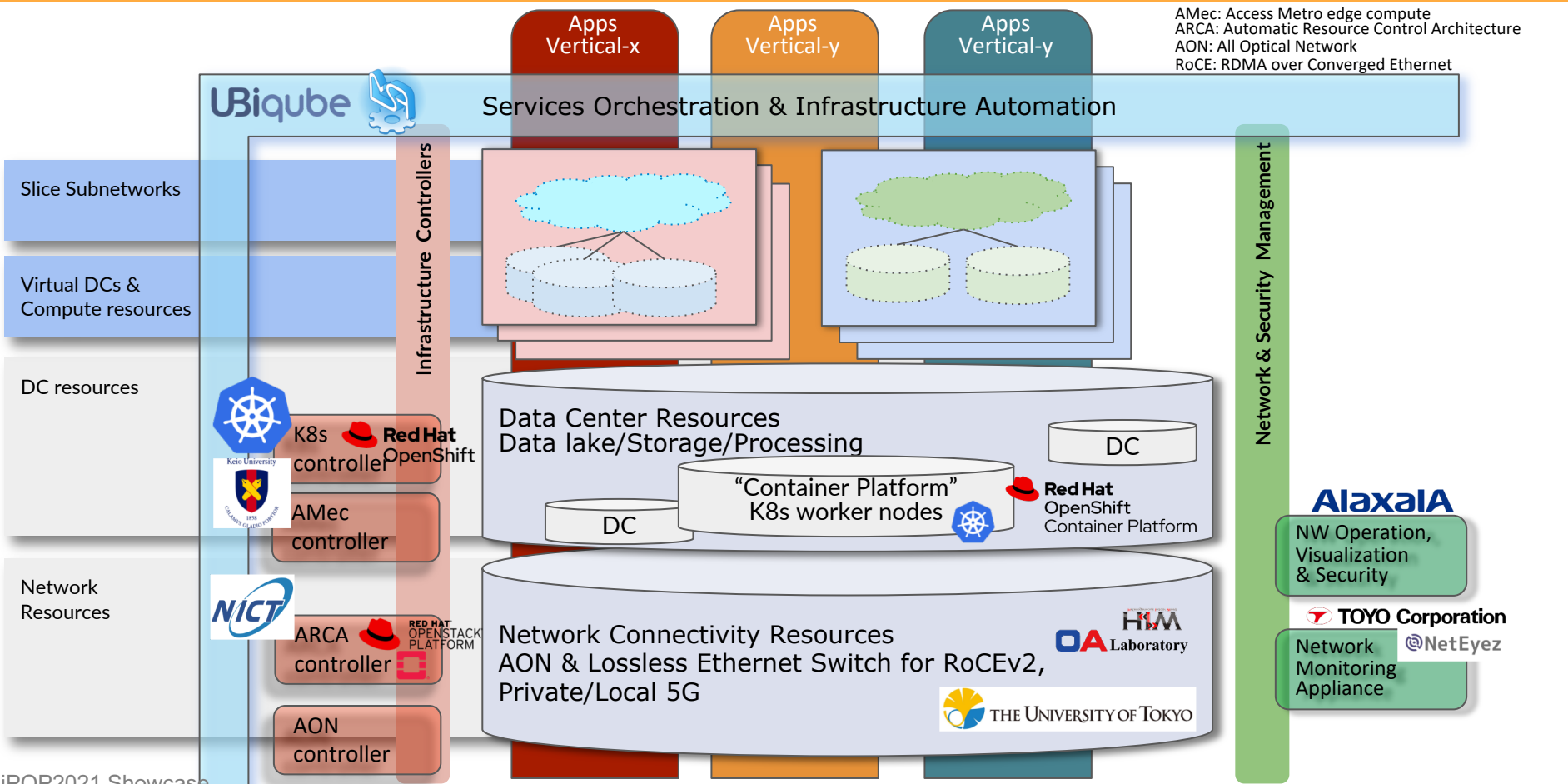
iPOP2021 Showcase Concept

Showcase Theme:

Data, Application, and Vertical Oriented Network & Compute Platform

1. The next generation “Data, Application, and Biz Vertical Oriented Network & Platform” is the platform built on the Cloud Native environments with E2E integrated infrastructure automation.
2. Distributed Data Center Resources (Data Hub / Data Lake) will have the information from various telemetry technologies is collected in the (Data Center resources), and it can be accessed at ultra-high speed connectivity technologies such as optical infrastructure + RDMA with Loss-less Switches.
3. Network resources must provide the flexible connectivity with low-latency, high-reliability, elastic, and secured from cyber threats to the various Biz vertical applications and distributed data applications. Also, Network resources are must monitored and operated by the Network & Security Management Systems.
4. With the connectivity, the dynamic and distributed utilization of compute resources and network resources (slices) can be realized with the Infrastructure Controllers and their integrated orchestration.

Showcase Concept and Mapping of the Technologies



AMec: Access Metro edge compute
ARCA: Automatic Resource Control Architecture
AON: All Optical Network
RoCE: RDMA over Converged Ethernet



Services Orchestration & Infrastructure Automation

Slice Subnetworks

Virtual DCs & Compute resources

DC resources

Network Resources

Infrastructure Controllers

K8s controller

AMec controller

ARCA controller

AON controller

Network & Security Management

Alaxala

NW Operation, Visualization & Security

TOYO Corporation

Network Monitoring Appliance

Data Center Resources
Data lake/Storage/Processing

DC

"Container Platform"
K8s worker nodes

Red Hat OpenShift Container Platform

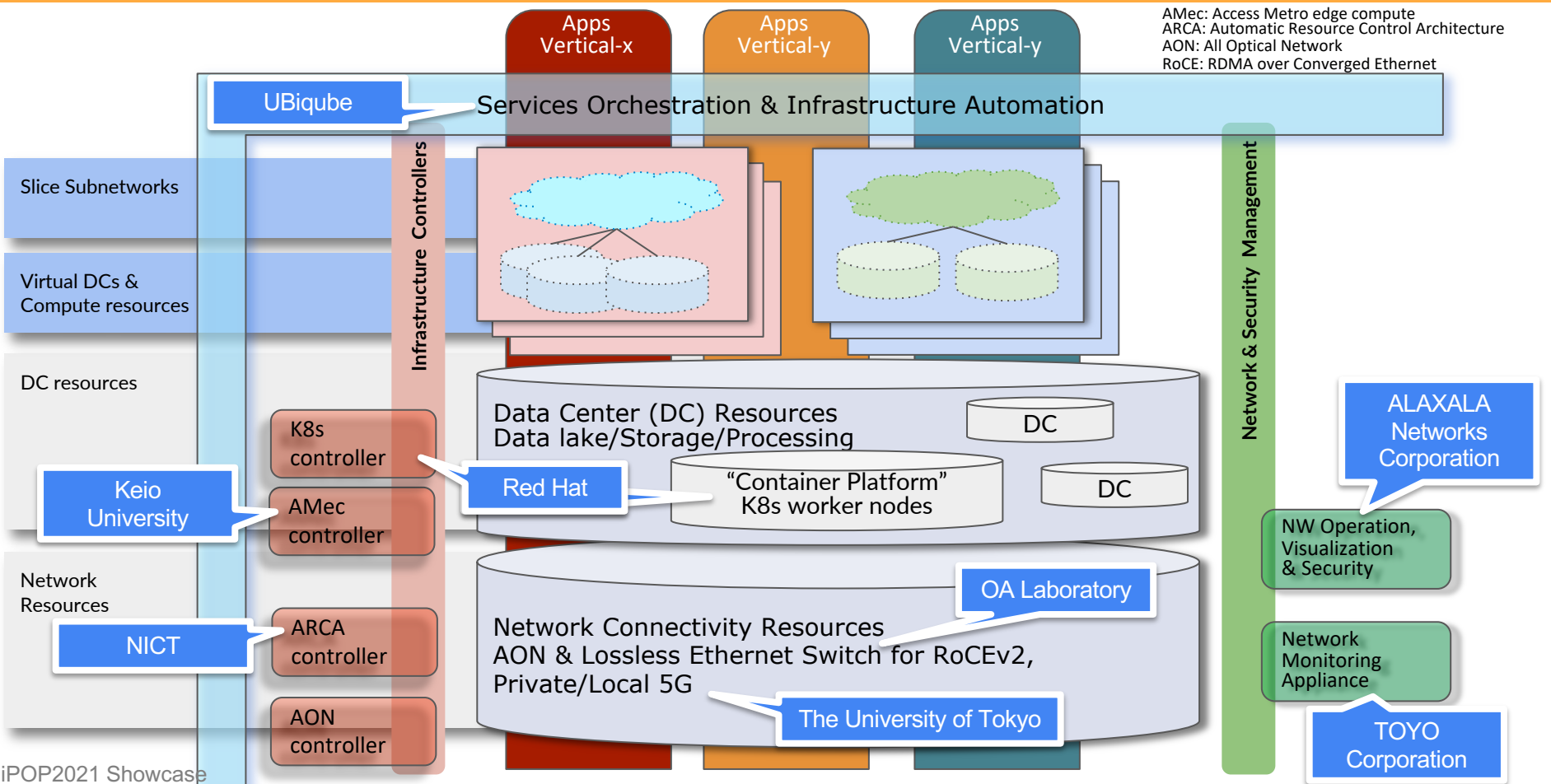
DC

Network Connectivity Resources
AON & Lossless Ethernet Switch for RoCEv2,
Private/Local 5G

HIM Laboratory

THE UNIVERSITY OF TOKYO

Showcase Concept and Mapping of the Technologies



Showcase Participants

Keio University



UBiqube



OA Laboratory



Alaxala

 **TOYO Corporation**



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