KubeCon | CloudNativeCon

Europe 2022

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KubeCon CloudNativeCon Europe 2022

Introducing O-Cloud
How 5G Leverages Kubernetes

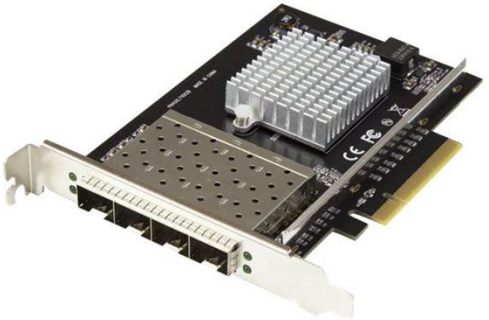
Nikolay Nikolaev, Juniper Networks

Networking Evolution

SDN

Virtualisation

NFV



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Cloud Native Networking

NFV

Cloud Native

CNI

MULTUS

Image source:https://i2.wp.com/ipwithease.com/wp-content/uploads/2016/06/chassis.jpg https://www.x86-guide.net/Photos/Stock_photos/Intel%20Xeon%205500.jpg https://i5.walmartimages.com/asr/7a0fe9e9-ca32-4cc2-be7e-330637e91661_1.6a3b4e0a9ff61a6833bd00406cd55309.jpeg?odnHeight=612&odnWidth=612&odnBg=FFFFFF

5G Network Evolution

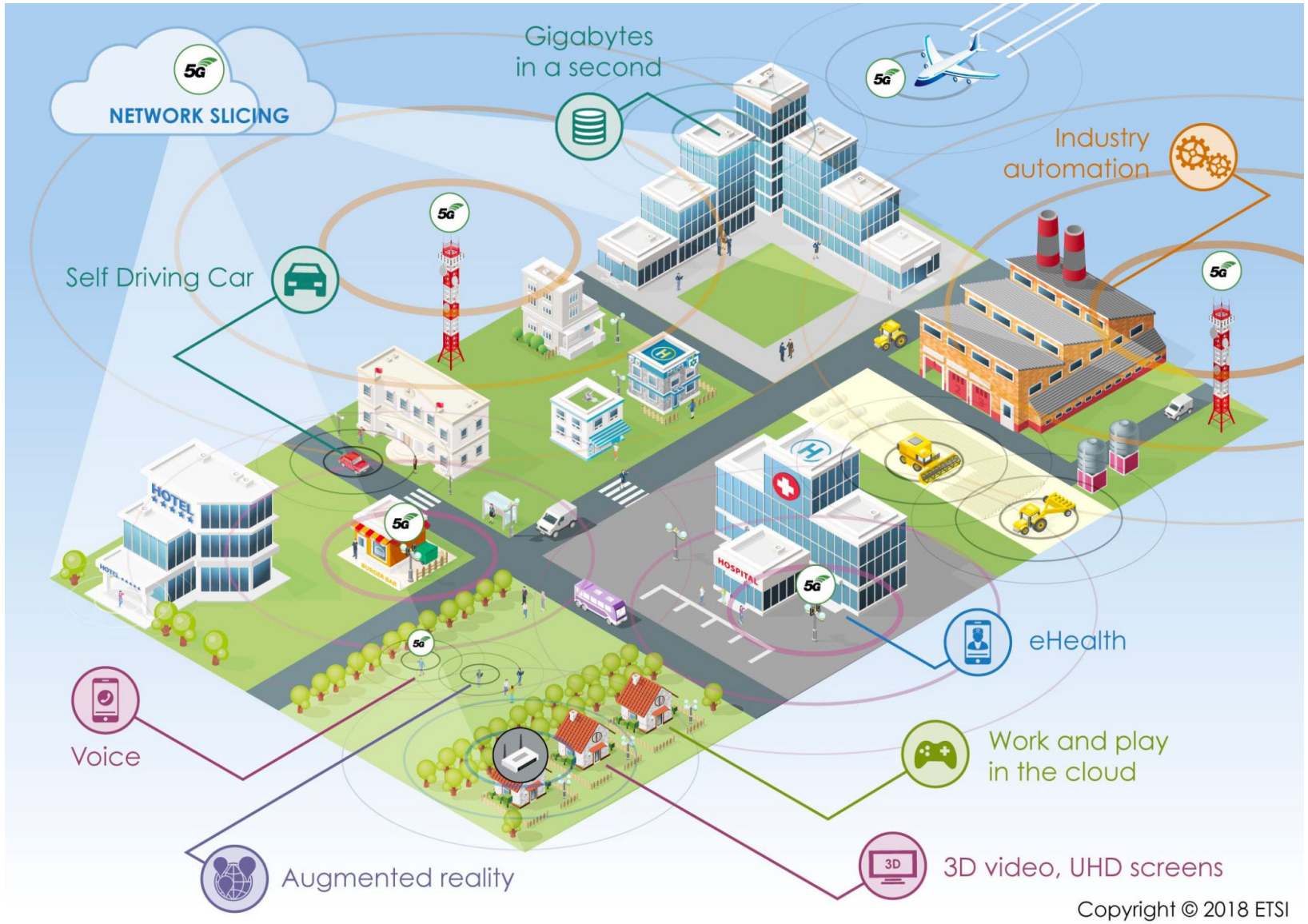
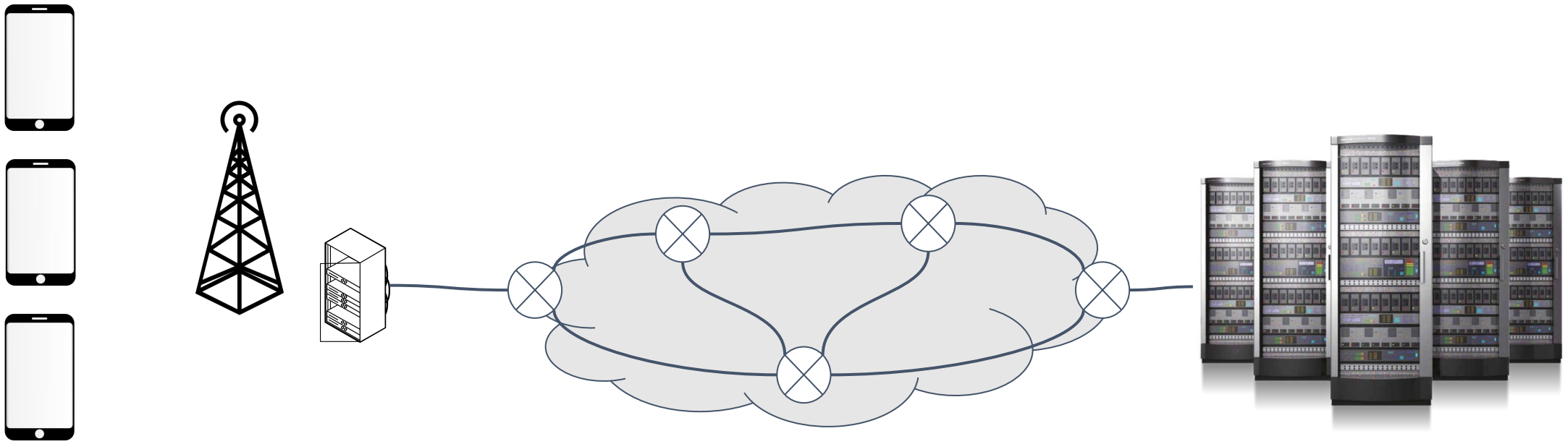


Image source: https://www.etsi.org/images/articles/5G_use_cases_ETSI_illustration.jpg

- High speed
- Low latency
- Power consumption
- Versatility

Telecom Network Architecture



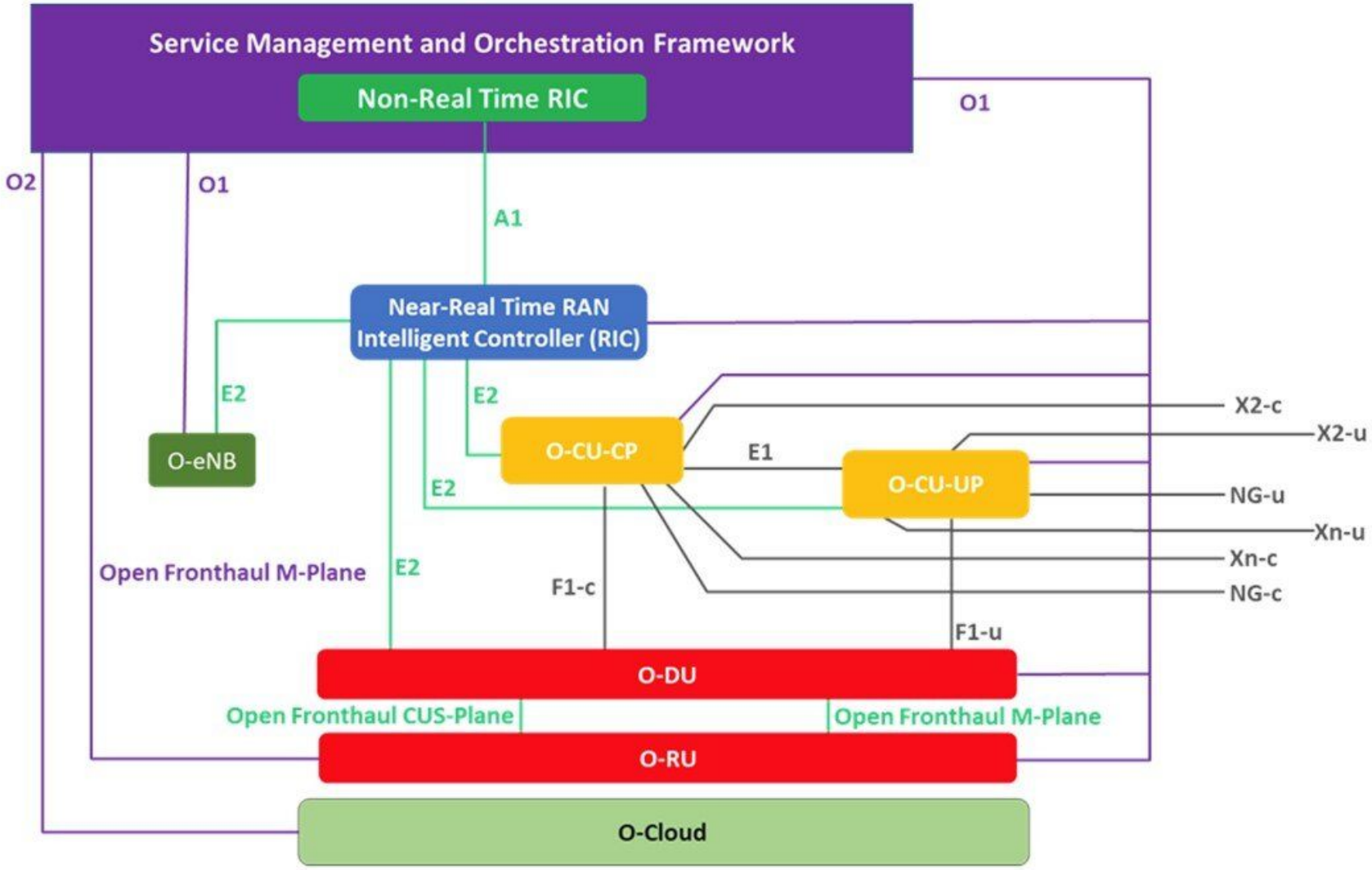
Radio Access Network | Backhaul | Core Network

Image source: https://freesvg.org/img/jcartier_antenna_square.png

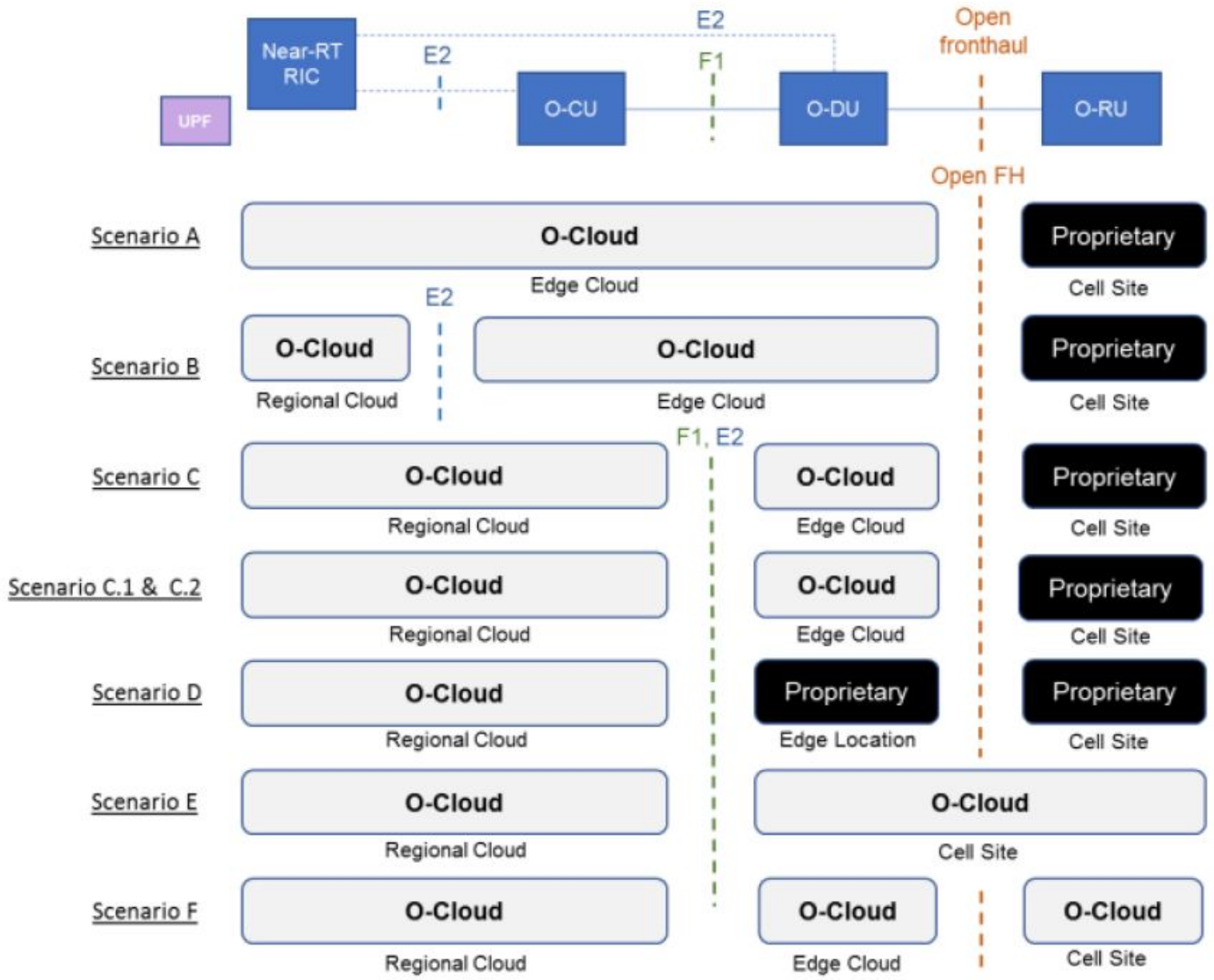
Open RAN Alliance

https://www.o-ran.org/

Open RAN Logical architecture



Open RAN - functional “splits”



O-RAN Workgroups

WG1: Use Cases and Overall Architecture

WG2: Non-real-time RAN Intelligent Controller and A1 Interface

WG3: Near-real-time RIC and E2 Interface

WG4: Open Fronthaul Interfaces

WG5: Open F1/W1/E1/X2/Xn Interface

WG6: Cloudification and Orchestration

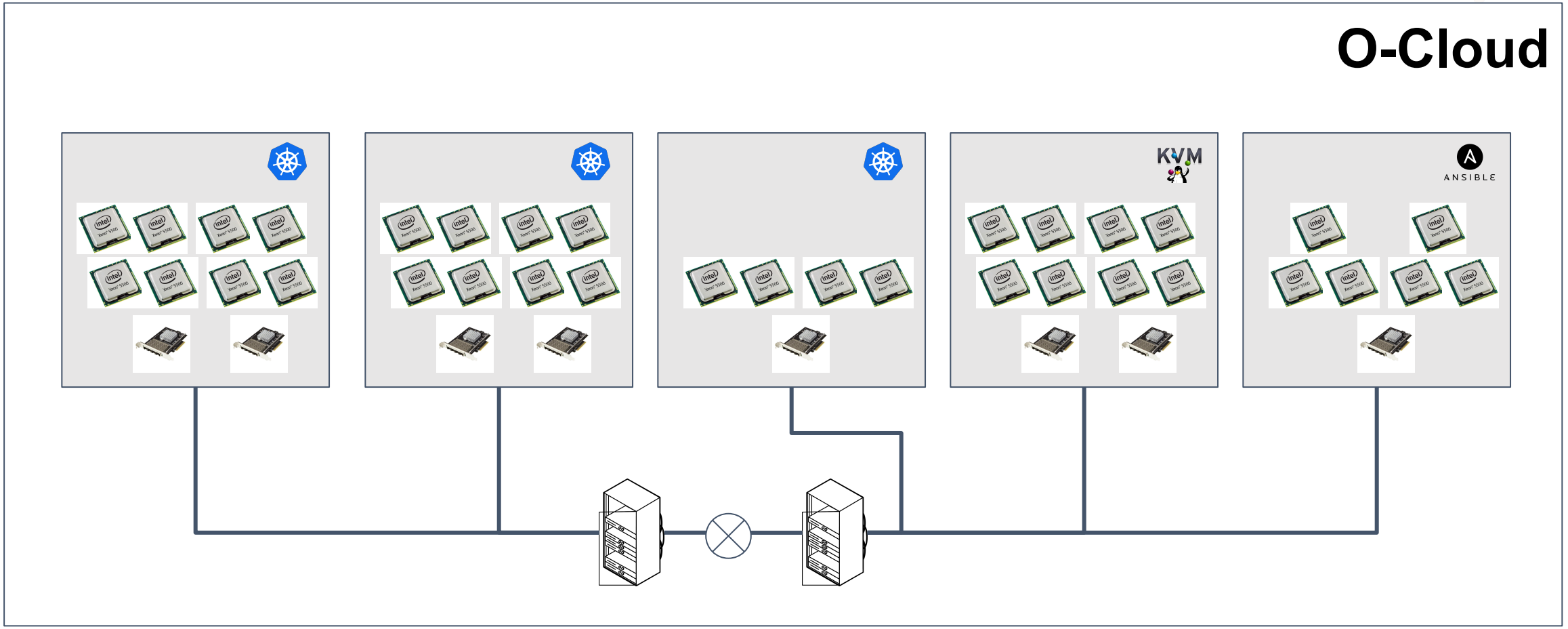
WG7: White-box Hardware

WG8: Stack Reference Design

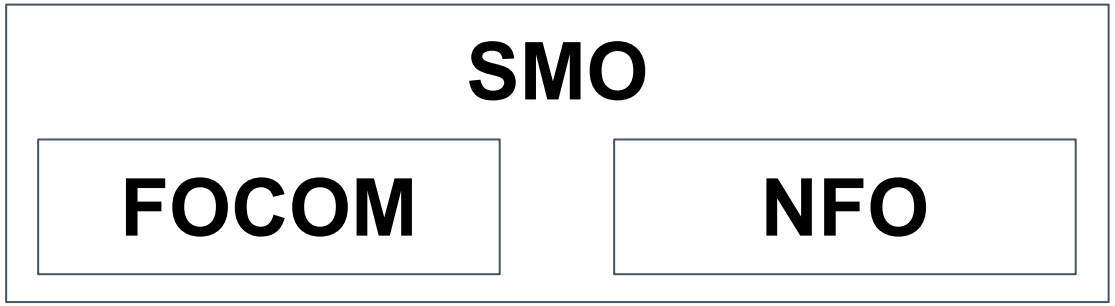
WG9: Open X-haul Transport

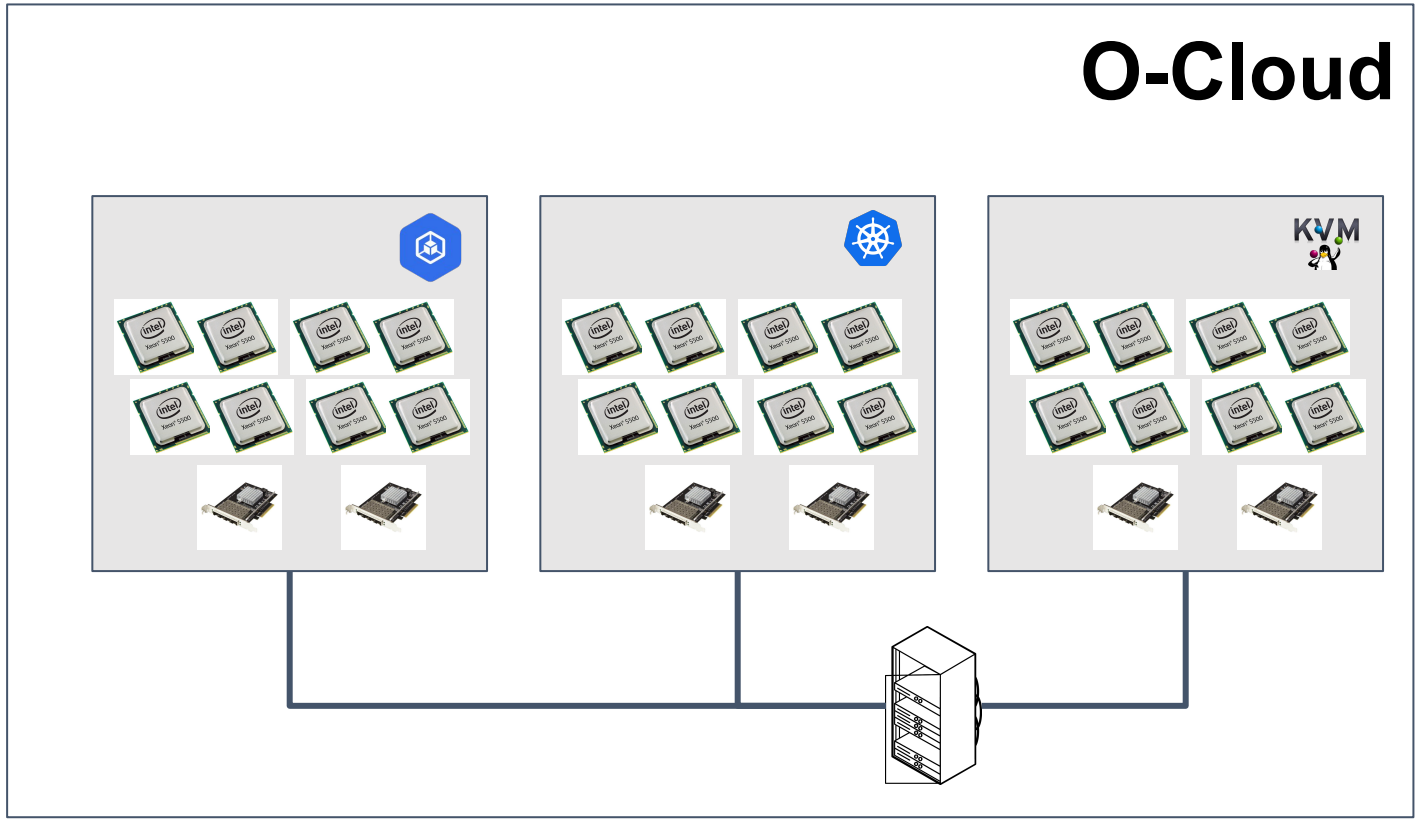
WG10: OAM

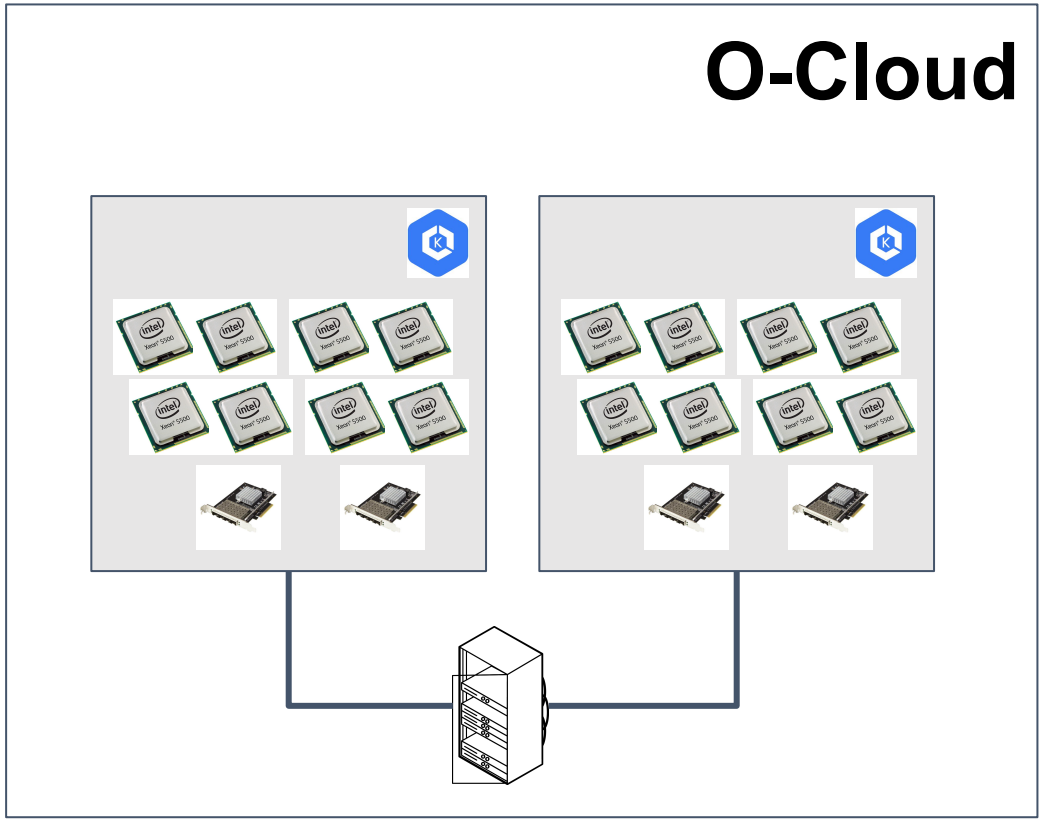
Open RAN Cloud



Open RAN Cloud







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