

Open Optical & Packet Transport (OOPT)

Together We Build, Test & Deploy



Agenda

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TIP Overview

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Disaggregated Optical Systems (DOS)

4

Disaggregated Open Routers (DOR)



What is TIP?

FOUNDED IN 2016

Telecom Infra Project (TIP) is a collaborative community accelerating and transforming the way telecom infrastructure is created, taken to market, and deployed.

Together We Build

Telecom Infra Project

Over 500+ Member Companies

NOKIA

vodafone

Telefonica

facebook

T ..

intel

BT

LSA INTERNEXA

Globe

MTN

SK telecom

kontron

Deloitte.

LITEON

Amphenol

P

Inphi

Telia Company

MyRepublic

TELSTRA

MTL
everyone everywhere

BRCK

EQUINIX

ciena

NEXIUS

axiata

NRAN WIRELESS

Quanta Computer

orange

OPENET

JUNIPER NETWORKS

accenture

telic

TATA

SAMSUNG RESEARCH AMERICA

COBHAM

radisys

Gilat

EE

Tech Mahindra

TOWERSHARE

swisscom

Fujikura

verveba Telecom

infinera

Quortus

AMN du

indosat ooredoo

TIM

INTERDIGITAL

iDIRECT

BROADCOM

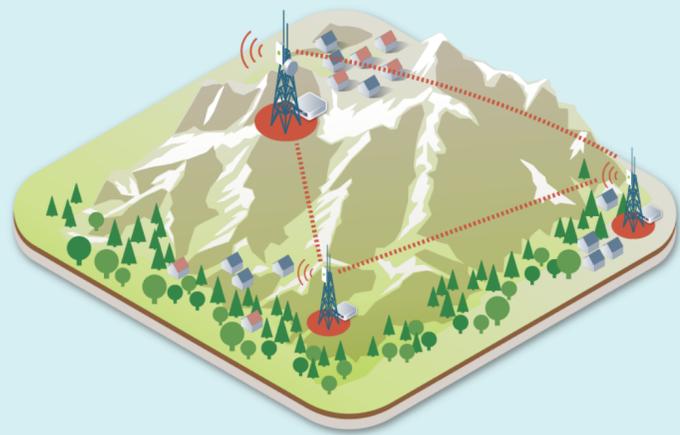
Coriant

LUMENTUM

Aricent

TURKCELL

TIP IS ADDRESSING Connectivity challenges in every environment



Ultra rural



Rural



Suburban

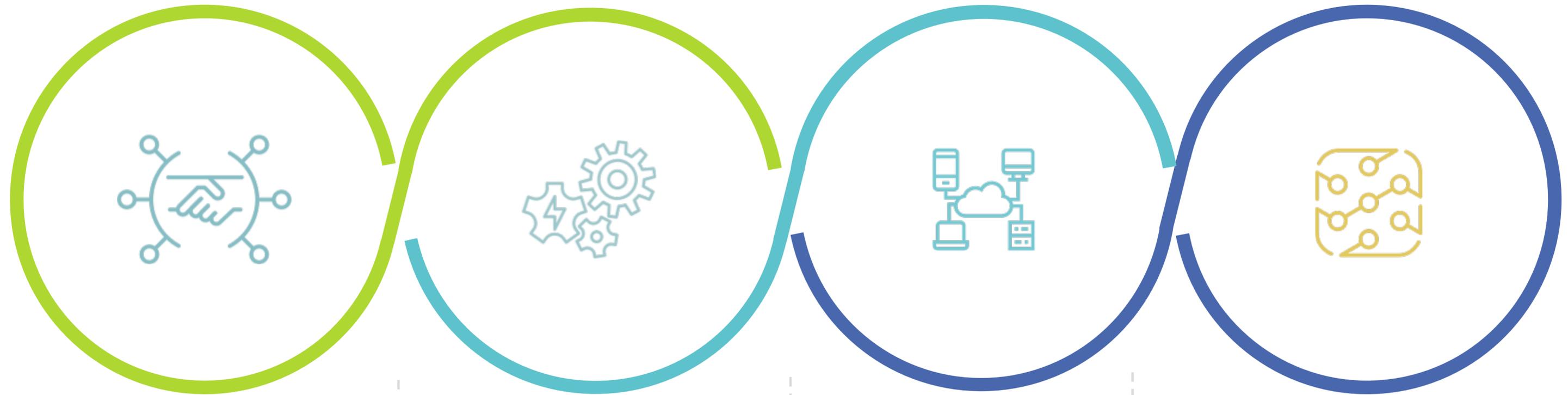


Dense urban



TIP IS CONNECTING

A diverse community



SERVICE PROVIDERS

Satellite ISPs
MNOs MSOs

TECHNOLOGY PARTNERS

Established & Smaller
OEMs
Startups
Research Institutes

SYSTEM INTEGRATORS

Professional
Integrators

CONNECTIVITY STAKEHOLDERS

Municipalities Enterprise
Internet Companies

WHY DOES OOPT EXIST?

To accelerate Innovation

Our goal is to accelerate innovation
in optical and IP networks
and ultimately help operators
provide better connectivity for communities
all around the world

Open Optical & Packet Transport (OOPT)



TELECOM INFRA PROJECT

Open Optical & Packet Transport Project group Structure



Victor Lopez
(Telefónica)



Hans-Juergen Schmidtke
(Facebook)

SUBGROUP #1



Co-Leads



Contributors

Track #1

Deliverable

Deliverable

Deliverable



Contributors

Track #2

Deliverable

Deliverable

Deliverable



Contributors

Track #N

Deliverable

Deliverable

Deliverable



SUBGROUP #N



Co-Leads



Contributors

Track #1

Deliverable

Deliverable

Deliverable



Contributors

Track #2

Deliverable

Deliverable

Deliverable



Contributors

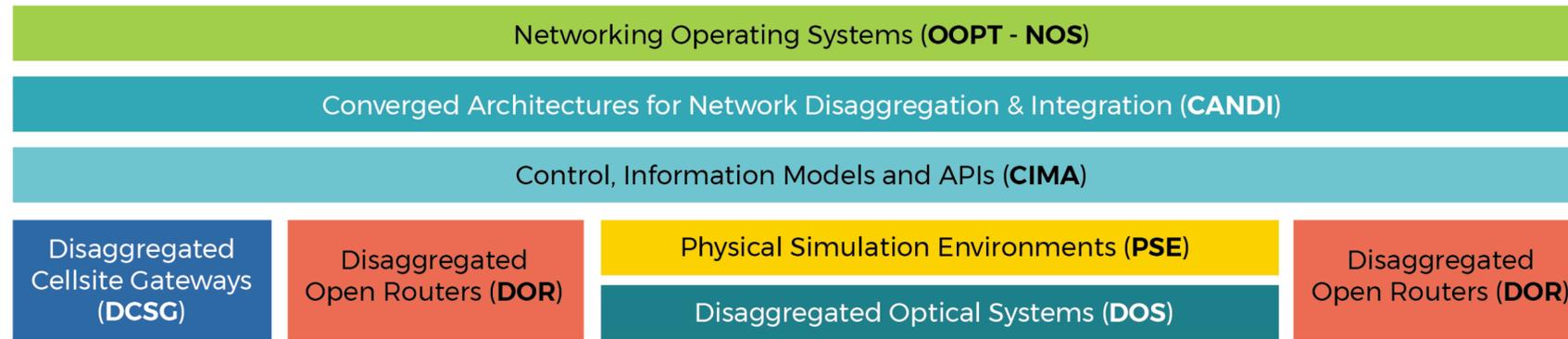
Track #N

Deliverable

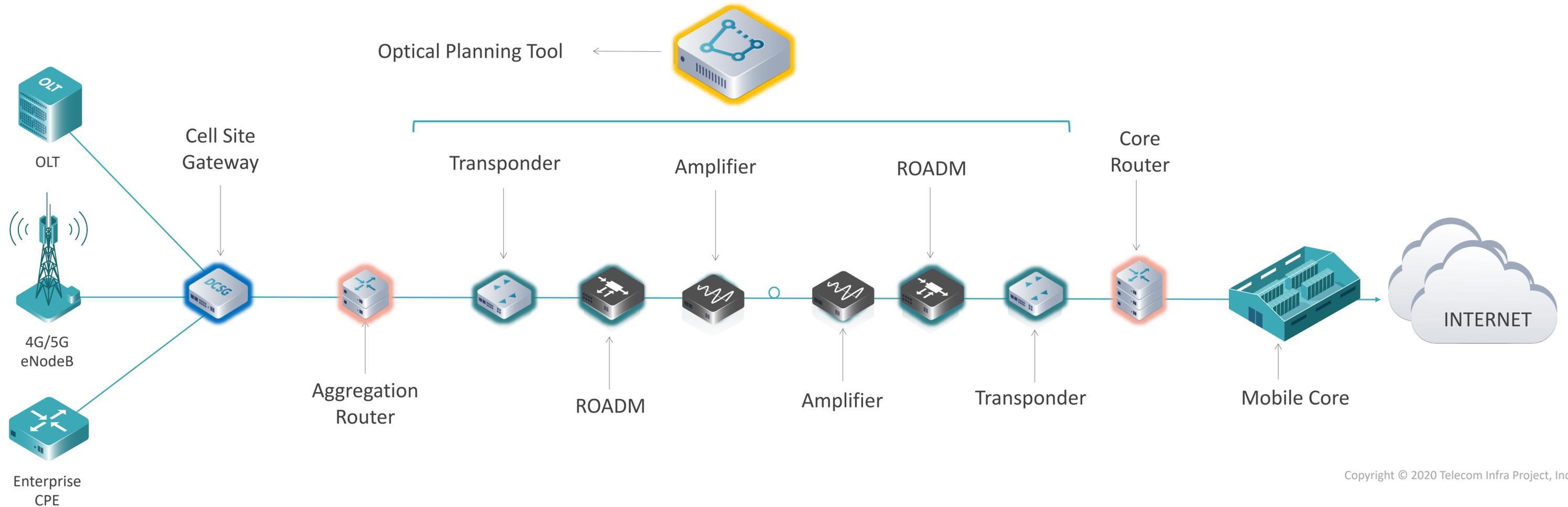
Deliverable

Deliverable

Open Optical & Packet Transport Subgroups Overview



Current structure of the OOPT Project Group



Disaggregated Optical Systems



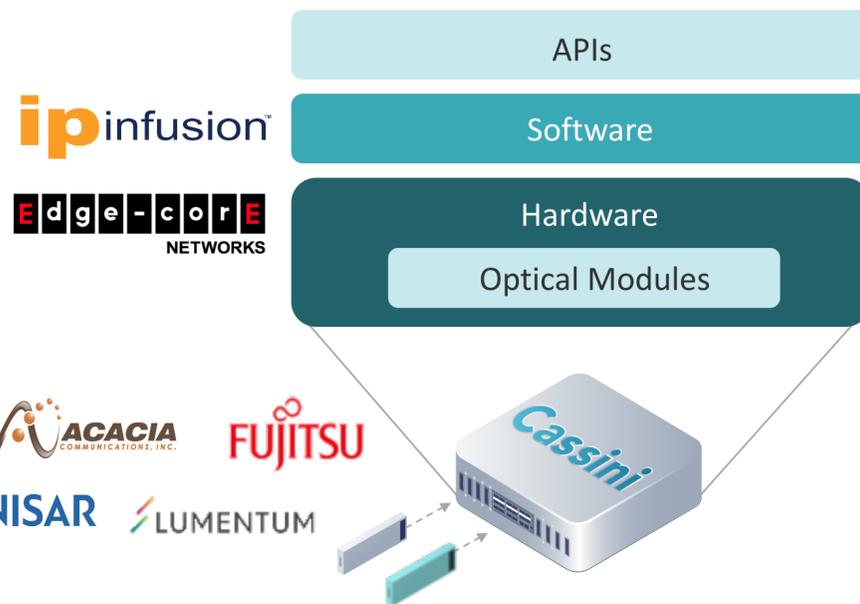
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Cassini

Disaggregated, Open, Optical Packet Transfer

Disaggregation

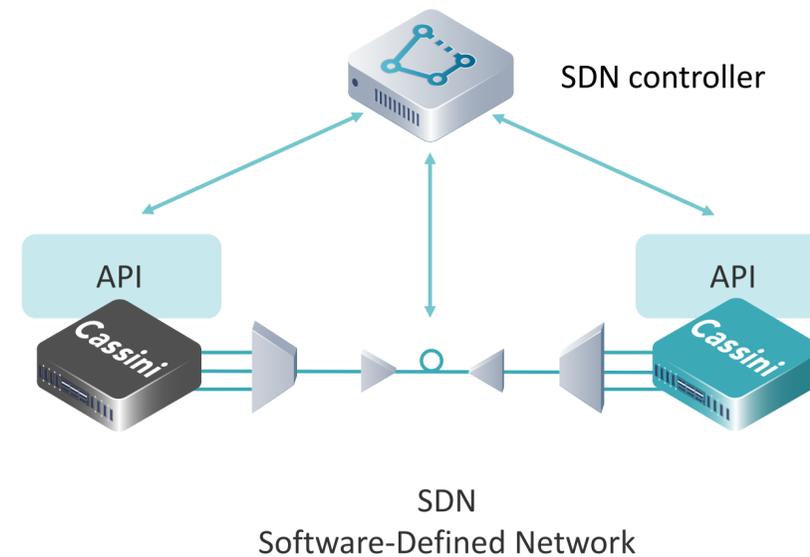
Disaggregated layers



- Facilitate the entry of new players
- Increase competition while reducing total cost of ownership
- Speed up innovation and extends duration of the lifecycle solution

Openness

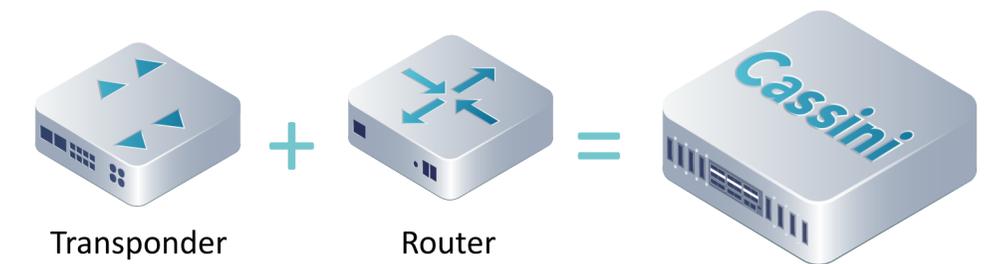
Open APIs



- Reducing operational costs:
 - Automating provisioning (ZTP)
 - Automating network upgrades (Automated lifecycle Management)
 - Eliminate vendor lock-in, new solutions and tech

IP + Optical

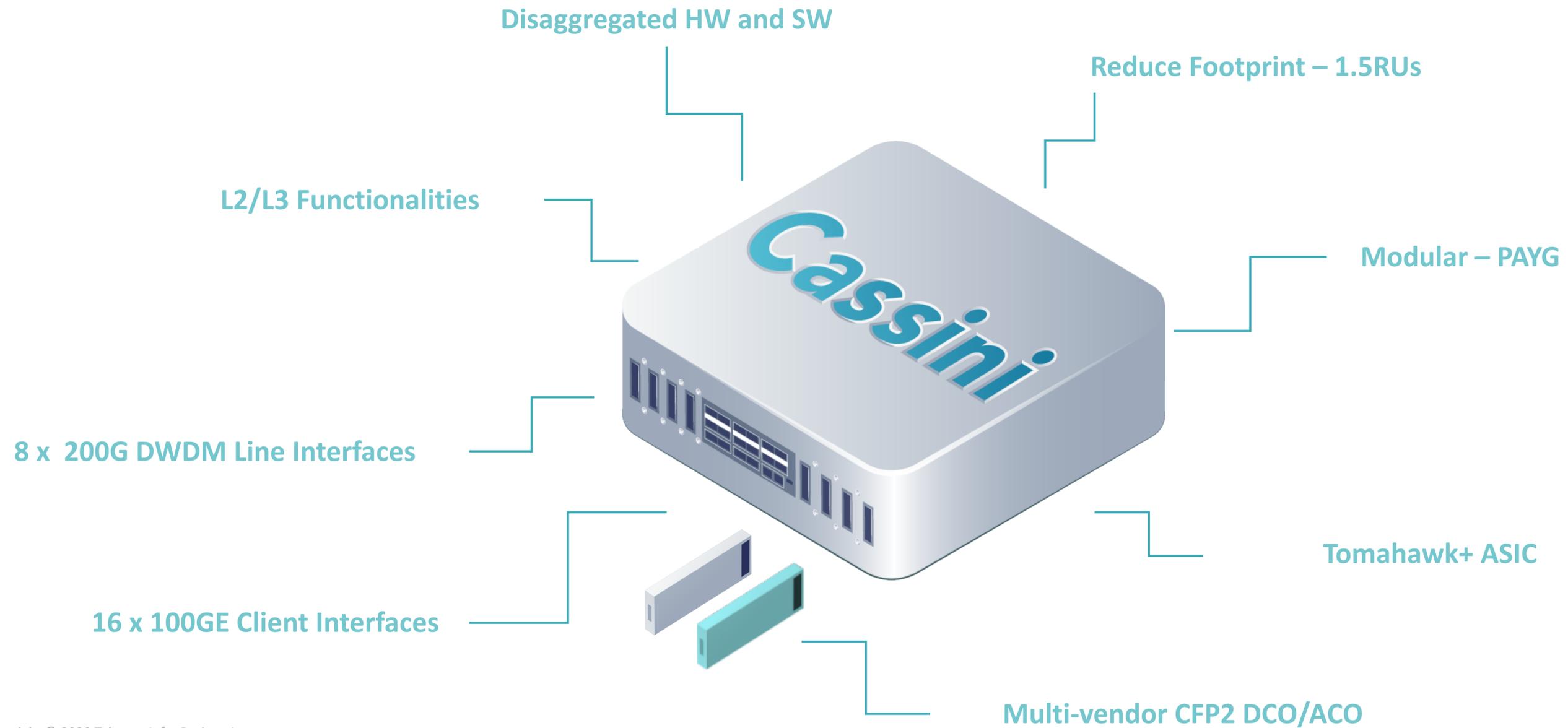
Converged IP/Optical



- Capex savings and reduced footprint
- Reducing network investment in redundant capacity
- Implementing multi-layer optimization and automation

The Solution

Cassini Main Characteristics



The Solution

Phoenix main characteristics



Phoenix Specs

Physical Dimensions

1/2/3 U x 440mm x 300mm (HxWxD)

Capacity

3 Sleds with 4x400G (line) – 4.8 Tb

Equipment

Redundant/field-replaceable power supply
Field-replaceable fan unit
AC or DC Power

Management

NETCONF, gRPC based on OpenConfig

Environmental

-5 to +55 degrees Celsius

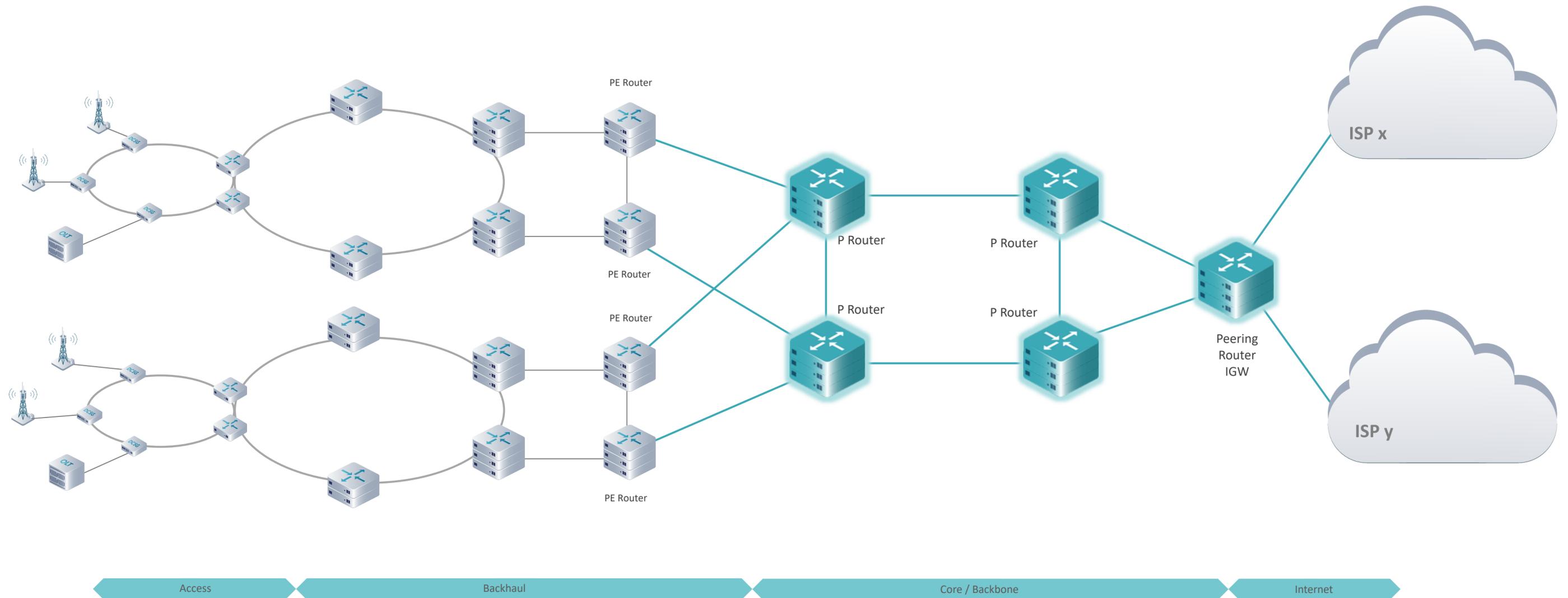
Disaggregated Open Routers



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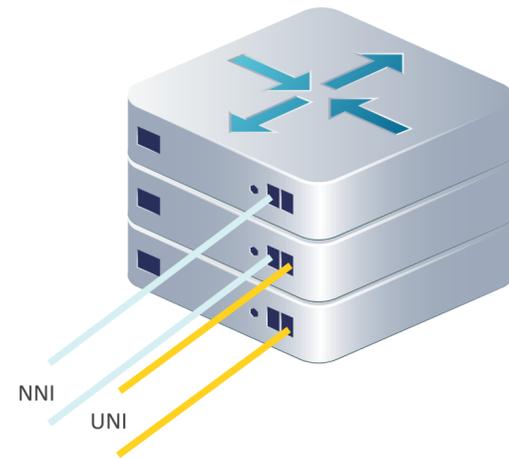
The Scope

Disaggregated Open Routers



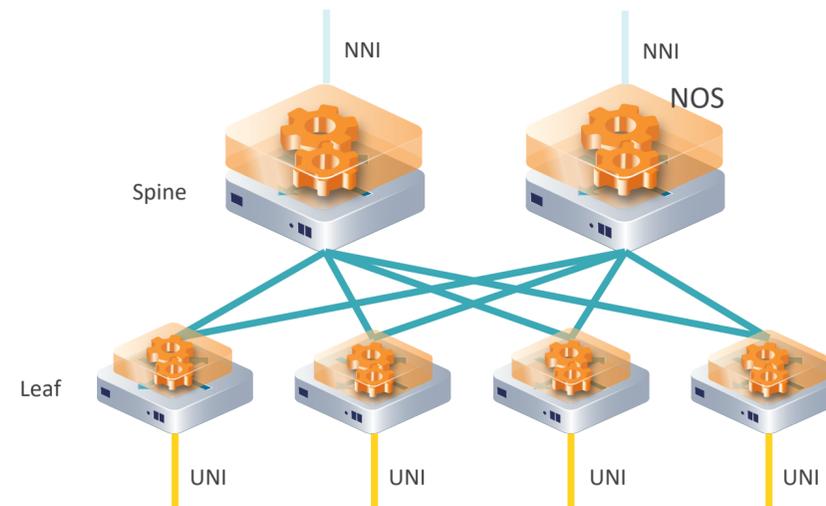
The Solution

The Different Scale-out options



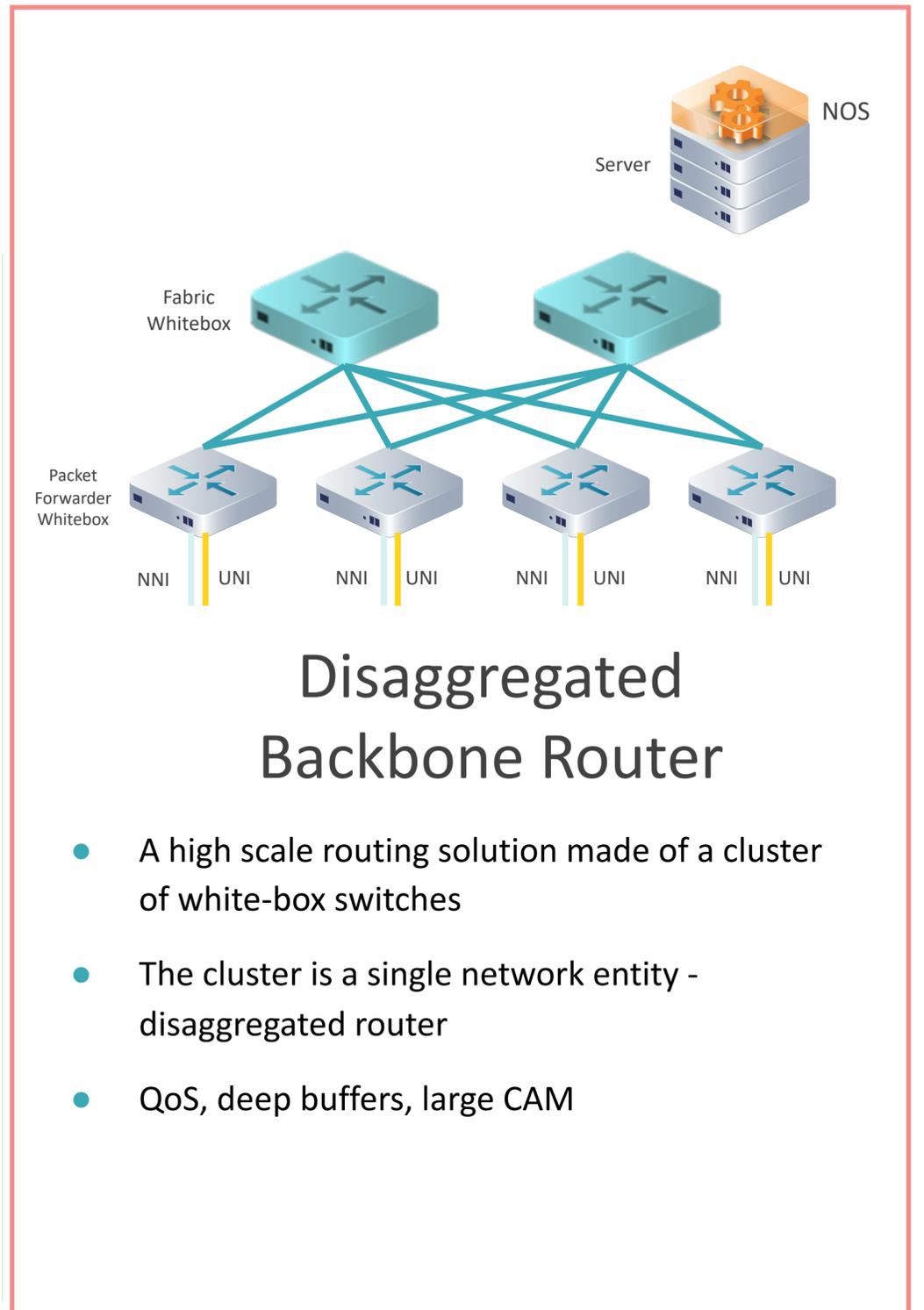
Chassis based

- Monolithic router solution
- Single vendor solution: proprietary HW, proprietary SW
- Scale is limited by chassis size
- A Single network entity
- QoS, deep buffers, large CAM



CLOS based

- A high-scale solution - multiple small boxes in CLOS architecture
- Small boxes can be vendor-branded routers or white-boxes
- Each small box is managed separately



Disaggregated Backbone Router

- A high scale routing solution made of a cluster of white-box switches
- The cluster is a single network entity - disaggregated router
- QoS, deep buffers, large CAM

Collaborate With Us

Thank You

Learn more at telecominfraproject.com/oopt



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