



Emerging architectures to drive network simplicity in service providers' points-of-interconnects with NBN

Paul Indoo, Director Systems Engineering

6th April 2022

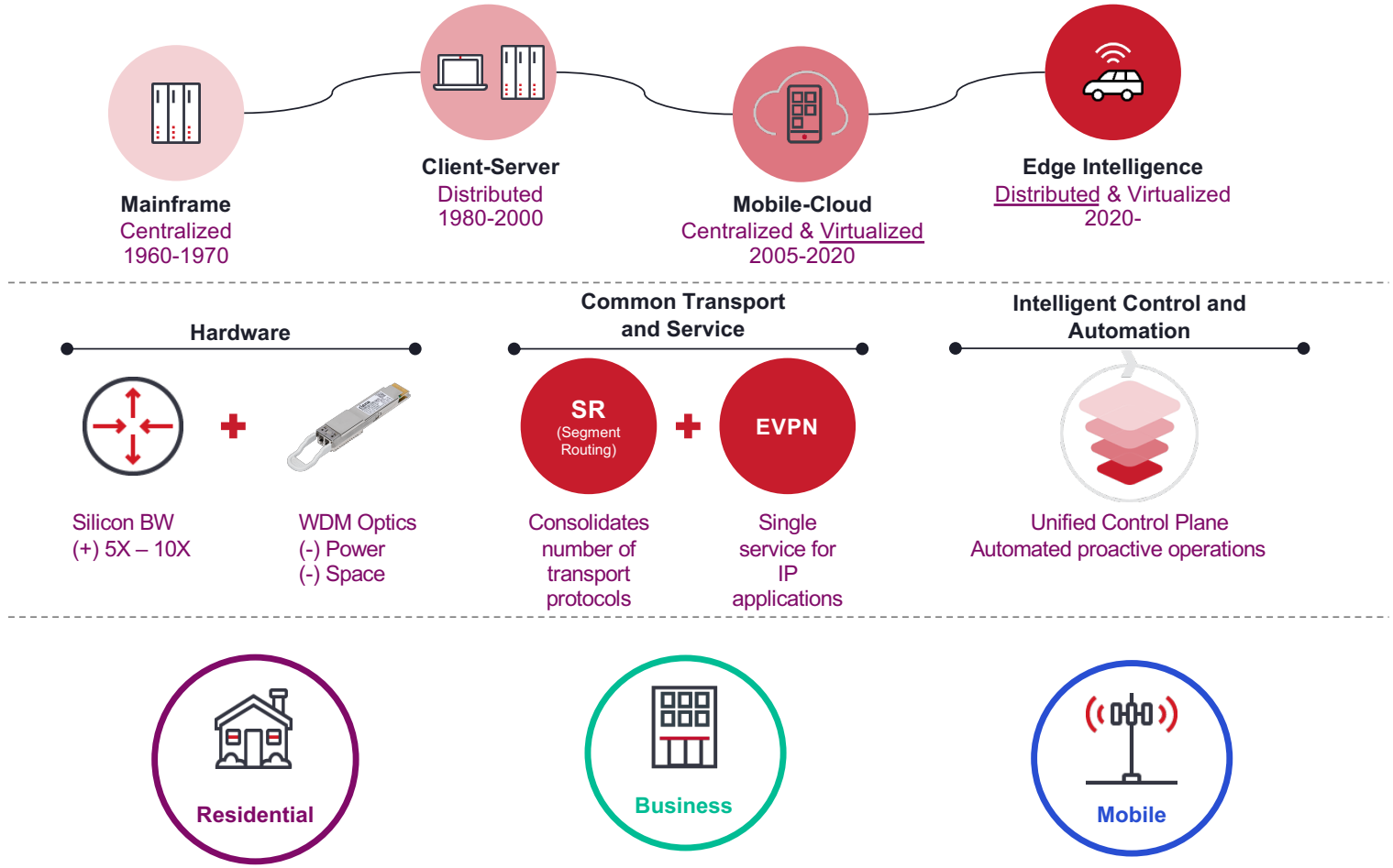
What's happening in the Market?

Key Application, Networking and Consumer Trends Happening at the "Same Time"

Application ::
Distributed Computing & Virtualized Apps

Networking ::
Hardware, Transport and Service simplification, & Software Control and Automation

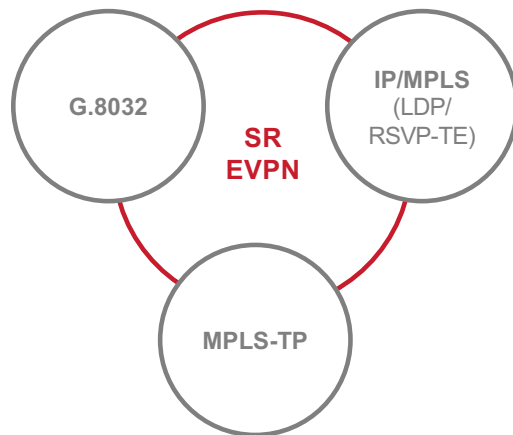
End User Dynamics bring new Opportunities



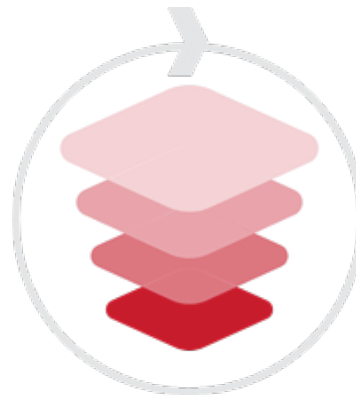
Network Reality

Challenges that need to be overcome

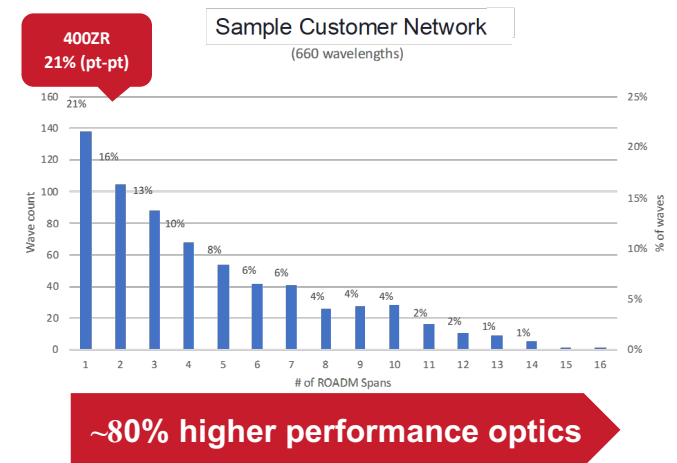
Common Transport & Service



Intelligent Control and Automation



Hardware



No "One Size Fits All"

Layer 2 Transport



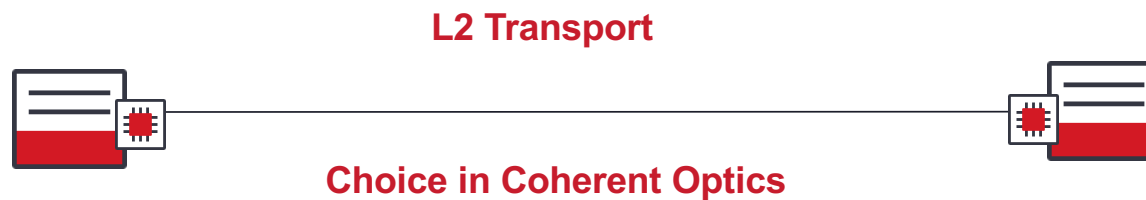
- **Requirements for NBN interconnect**
 - Rich OAM
 - Granular QoS
- **Historically modular chassis platform**

Fixed Chassis Switches with Merchant Silicon



- Merchant silicon allows this to be realised in fixed chassis platforms
- More cost effective
- Lower footprint
- Lower power consumption

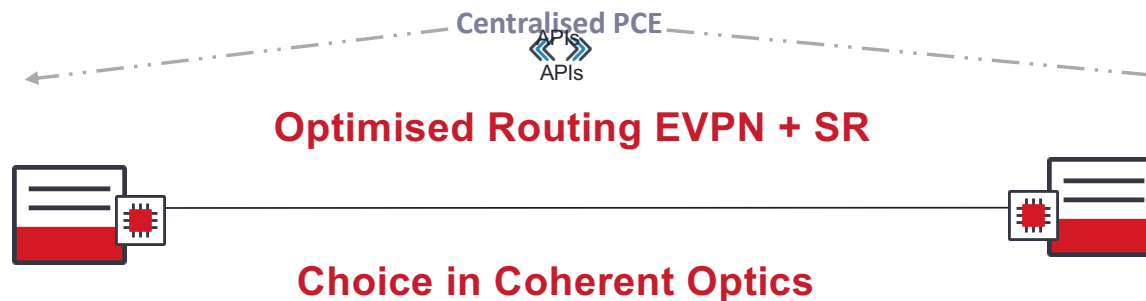
Coherent Optics to Deliver 100G and Beyond



- Merchant silicon allows this to be realised in fixed chassis platforms
- More cost effective
- Lower footprint
- Lower power consumption

- Increasing capacity sees the NNI link increase from 10G to 100G and beyond
- Coherent optics can deliver increased capacities
- Feature/cost optimised per use case

Centralised PCE with APIs

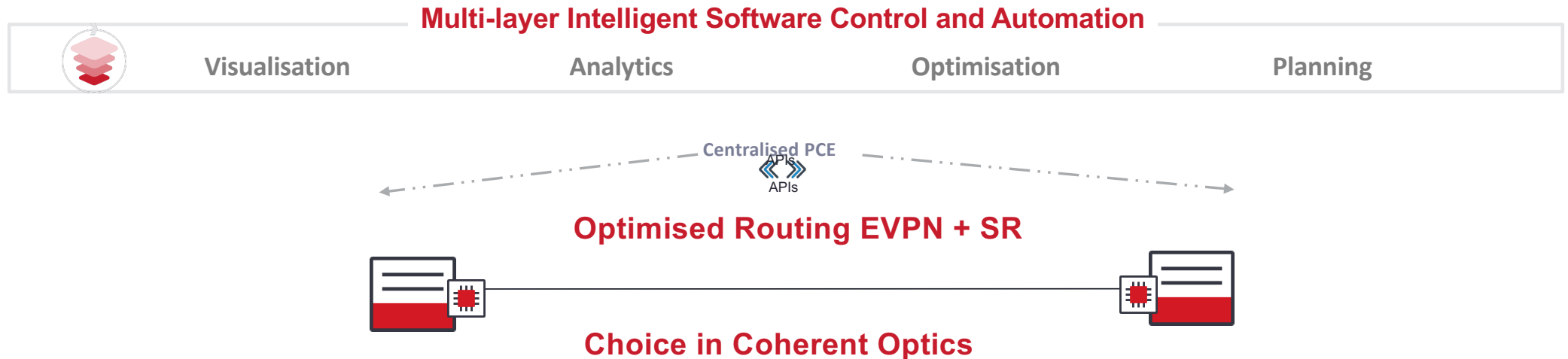


- Merchant silicon allows this to be realised in fixed chassis platforms
- More cost effective
- Lower footprint
- Lower power consumption

- Increasing capacity sees the NNI link increase from 10G to 100G and beyond
- Coherent optics can deliver increased capacities
- Feature/cost optimised per use case

- Intelligent automation and control replaces manual configuration
- Service visualisation and analytics tools improve troubleshooting
- PCE allows the network to be optimised

Multi-Layer Software Control and Automation



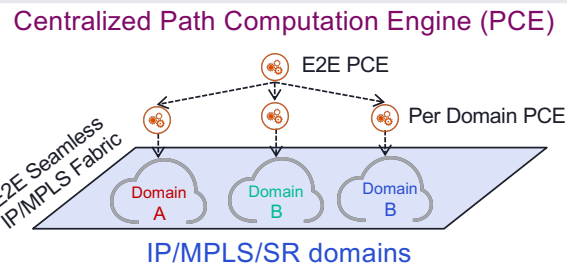
- Merchant silicon allows this to be realised in fixed chassis platforms
- More cost effective
- Lower footprint
- Lower power consumption

- Increasing capacity sees the NNI link increase from 10G to 100G and beyond
- Coherent optics can deliver increased capacities
- Feature/cost optimised per use case

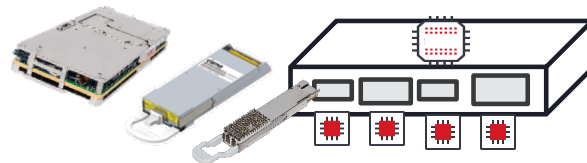
- Intelligent automation and control replaces manual configuration
- Service visualisation and analytics tools improve troubleshooting
- PCE allows the network to be optimised

Elements required to achieve the full promise of IP/Optical convergence

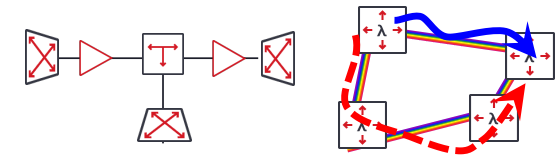
Optimised routing through centralised control



IP/Optical Integration – optics optimised for use case



Intelligent, Automated Photonics, flexibility as per application need



Seamless Multi-layer Automation, Correlation, Optimisation



Common data models for ease of multi-vendor networking

End-to-End Service Lifecycle Automation



Open APIs



ciena[®]

Thank You