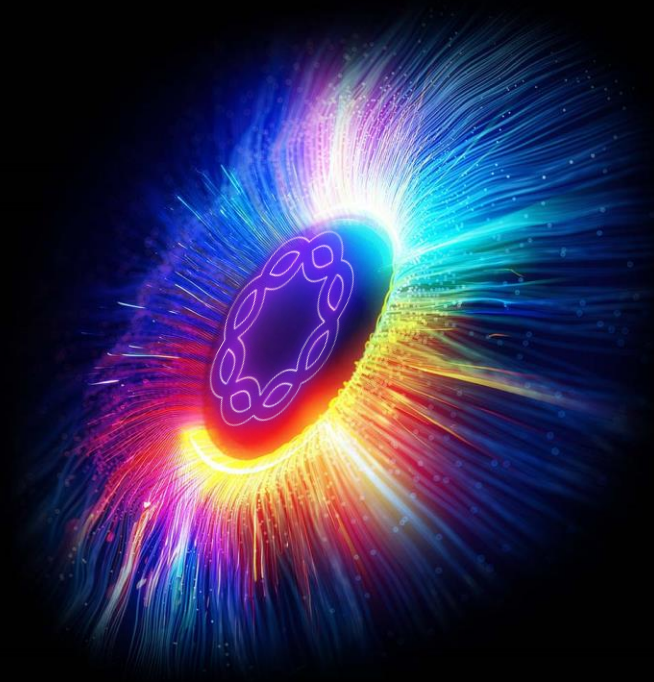


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**INSIGHTS**



# NPT Access & Aggregation Portfolio

**Ezra Yehezkel**

VP, IP Product Management



# Drive Towards An Intelligent IP Optical Middle Mile

📈 Access Networks Investment has Peaked (5G, FTTH, FANs)

🔗 Increasing Capacity and Service Demands in the Middle Mile

💰 Lower TCO for Middle Mile Network

🧠 Automation and Multilayer Integration



# NPT Product Strategy to Lead in the Middle Mile With Lowest TCO



## Switching Capacity

Industry leading merchant silicon NPUs



## IP Routing Software

Multiservice supporting all operator service needs



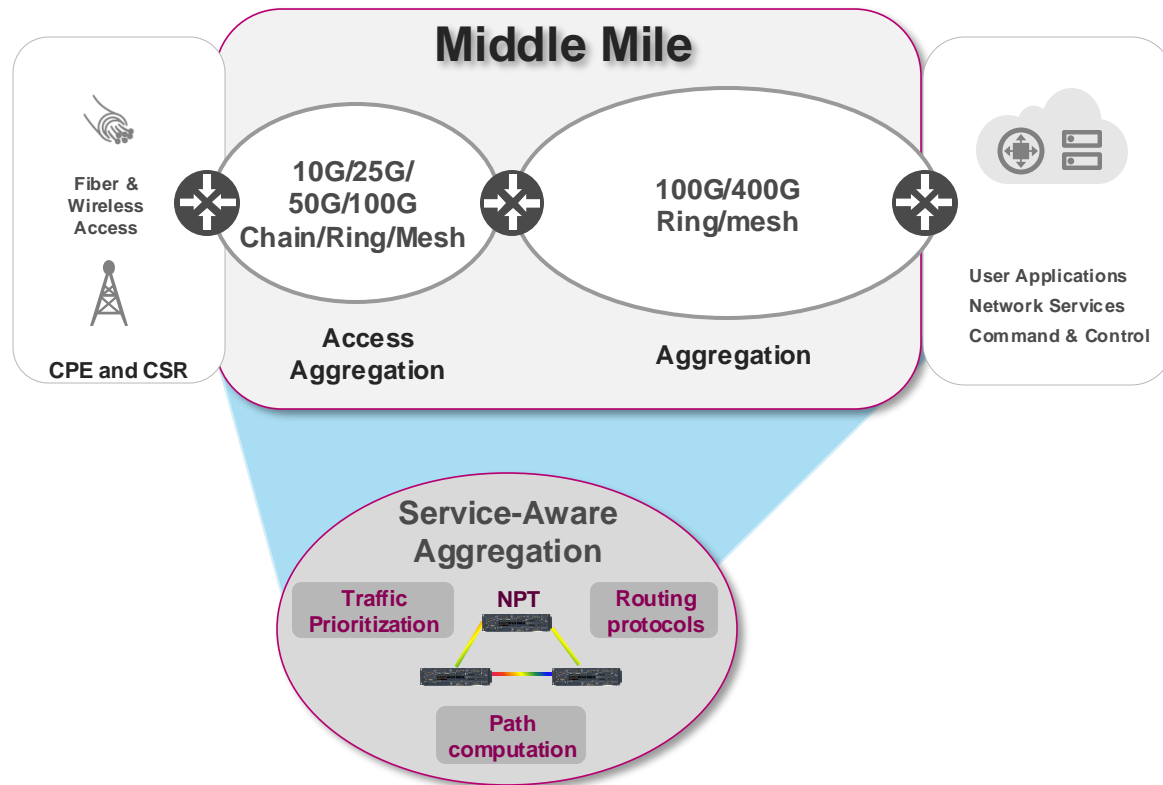
## Open Architectures

Open hardware and software architectures

**Focus on Aggregation challenges: Openness, Tough Environment, Automation**

# IP Aggregation In The Intelligent Middle Mile

- Right-fit form factors; capacity, redundancy
- Many interface rates
- Many service types
- Multiple access networks
- Multiple network topologies



# NPT Product Portfolio

## NPT XDR Family

### High Performance Routers

- NPT 2100
- NPT 2300
- NPT 2400
- NPT 2714

## NPT AR Family

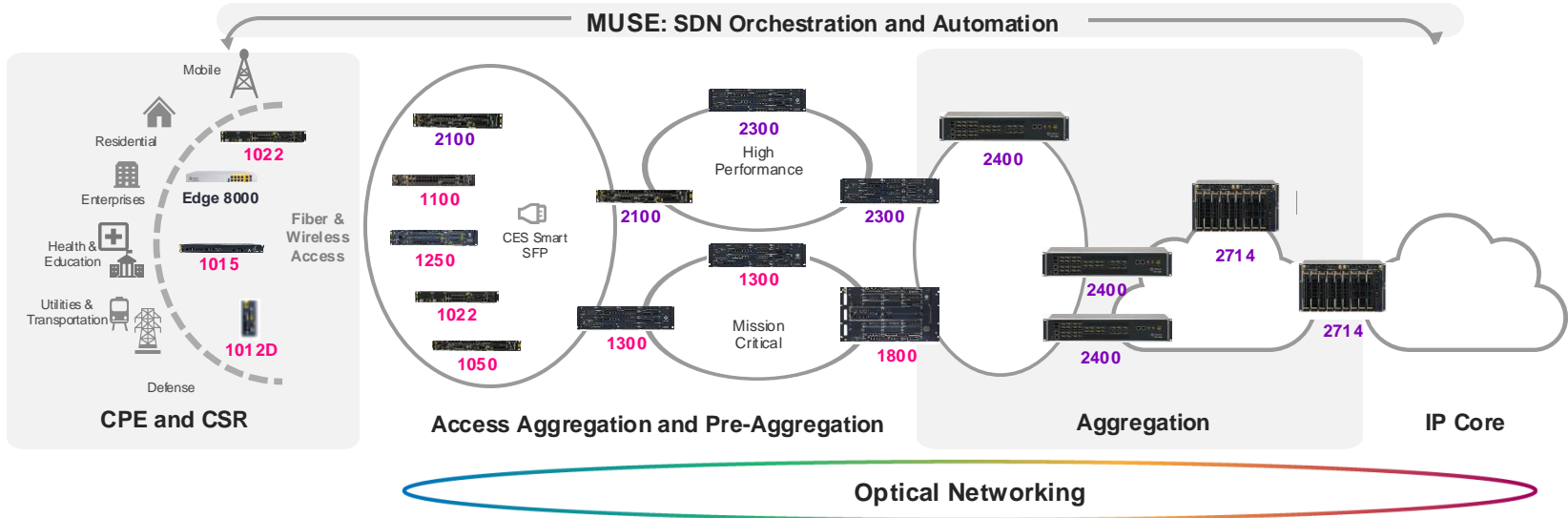
### High Availability Routers

- NPT 1012D
- NPT 1015B
- NPT 1022
- NPT 1050
- NPT 1100
- NPT 1250
- NPT 1300
- NPT 1800

## Associated Products (not IP Optical)

### CPE devices

- Edge 8100
- Edge 8300



# NPT 2714: Fully Redundant Aggregation Router

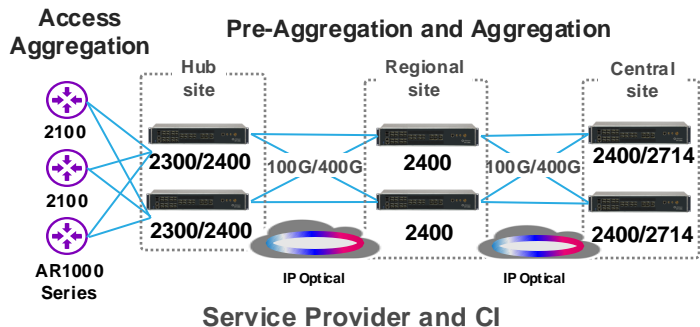
- Pay as You Grow: 7.2T in-service upgradable to 14.4T centralized switching processing
- High Reliability: Full redundancy for high resiliency (switch/control/power/fan)
- Compact platform (only 6U, 600mm depth) with modular architecture (9 x I/O cards)
  - 800G/1.6T packet switching capacity per card
    - Only Two IO cards:
      - 100G/200G/400G cards with 1,6T packet switching
      - 10G/25G card with 800G packet switching
    - Fan-out per card: 32x10G/25G, 16x100G, 4x400G
  - MACsec option in all traffic ports
  - 800G interface evolution



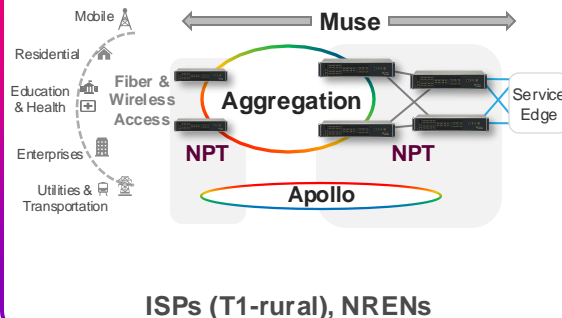
First release of the NPT 2714  
based on V9.3 software

# Middle Mile Solutions Deployed with NPT

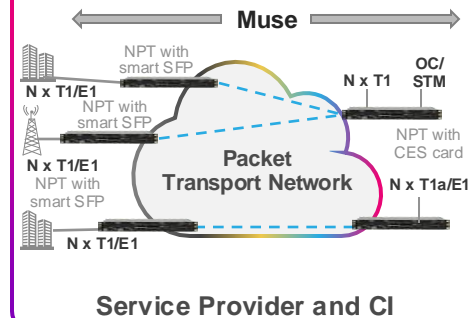
## Middle Mile Aggregation



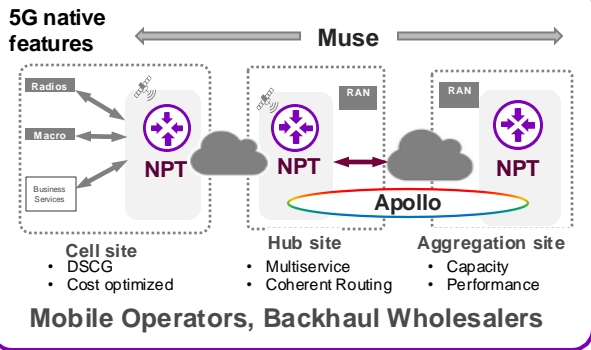
## Broadband Backhaul & Networking



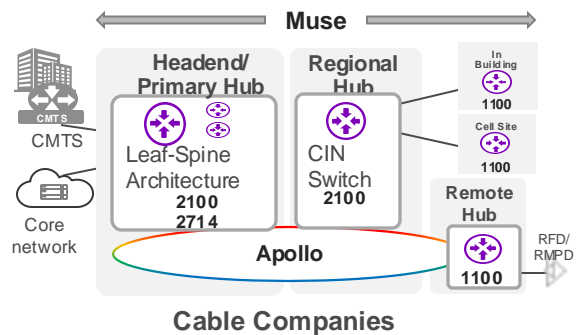
## TDM to IP Migration



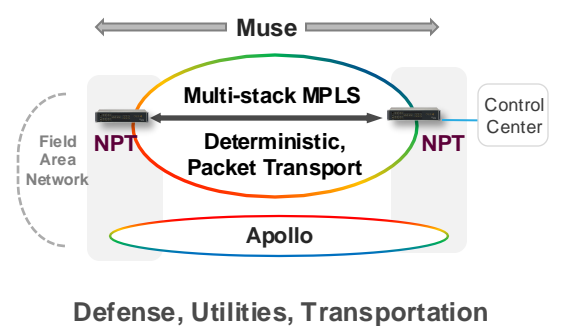
## 5G/Multiservice xHaul



## Converged Interconnect Network



## Critical Infrastructure





# Critical Infrastructure: New NPT Capabilities



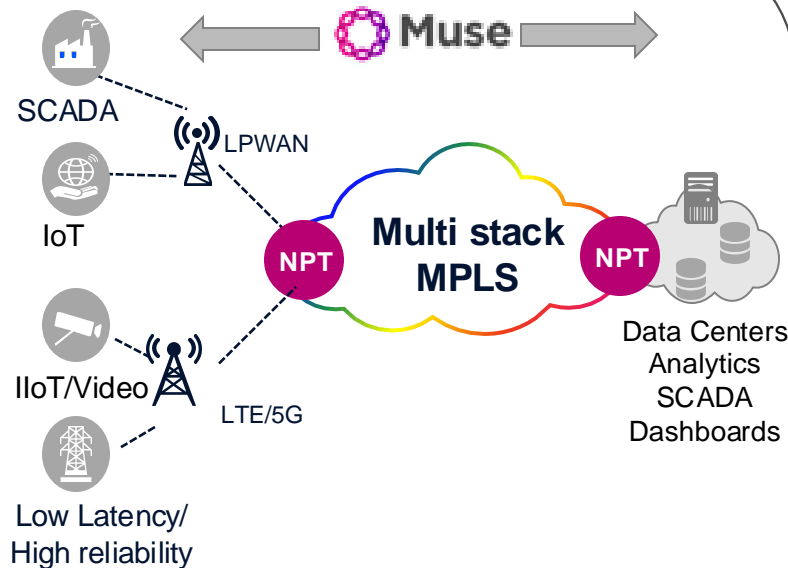
1012D



eEXT-2UH

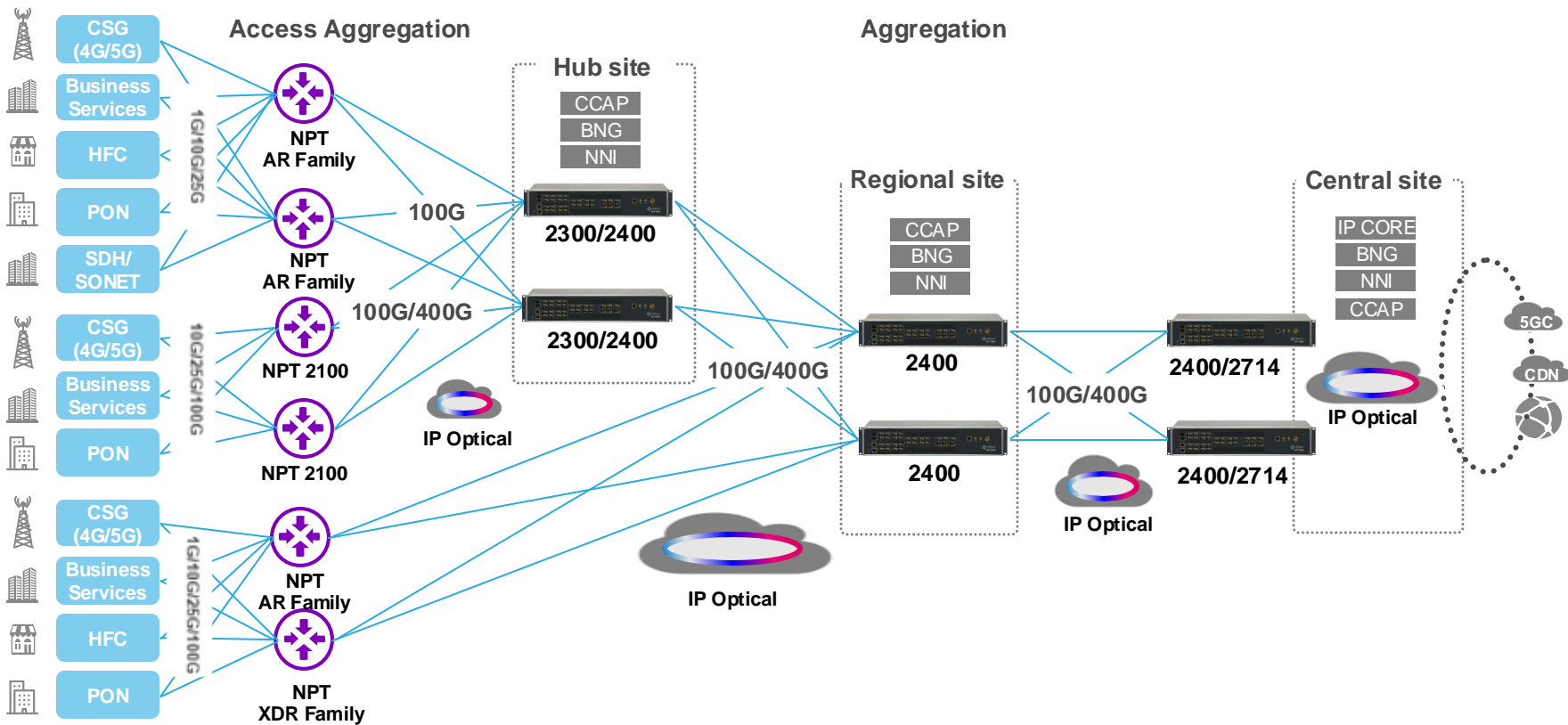
- **1012D – DIN Rail Mountable**
  - Temperature Hardened -20c to +65C
- **Extension shelf allows PCM services**
  - (FXS, FXO, etc)
- **MACsec cards**
- **Protection switch by service degradation**

**New AR 1000 Series Routers**



**Software Defined MPLS**

# NPT Portfolio in Dual Homed Middle Mile



# How NPT Helps You Succeed



AR Routers



XDR Routers



## Proven Automated IP

Industry leading practical automation orchestration of proven IP portfolio and routing stack



## Coherent Routing

Full support of coherent pluggables seamlessly supporting IPoDWDM, IPoOLS, IPoOLS



## Optimized for the Middle Mile

Service-aware aggregation providing multiservice access, and performance guaranteed transport



## Open Architecture

Ribbon's carrier-grade IP Wave rNOS spans across the whole portfolio and open, standards compliant, interfaces



## Engineered for need

Right-fit, multilayer integration with IPoDWDM, IPoOLS, Colored/coherent interfaces



## Better Economics

Right-fit form factors; modular, scalable, cost optimized supported by consulting and design tools

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