



IP Wave

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Optical Transport, Microwave Transmission & Mobile Backhaul

Note Regarding Forward-Looking Statements

This presentation contains “forward-looking statements” within the meaning of the U.S. Private Securities Litigation Reform Act of 1995, which are subject to a number of risks and uncertainties. All statements other than statements of historical facts contained in this presentation, including without limitation statements regarding expected benefits from use of our products, customer engagement and momentum, and plans for future product development, are forward-looking statements. Without limiting the foregoing, the words “believes”, “estimates”, “expects”, “expectations”, “intends”, “may”, “plans”, “projects” and other similar language, are intended to identify forward-looking statements.

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Any forward-looking statements represent our views only as of the date on which such statement is made and should not be relied upon as representing our views as of any subsequent date. While we may elect to update forward-looking statements at some point, we specifically disclaim any obligation to do so, except as may be required by law.

Ribbon Spotlight

Agenda:

- Safe Harbor Statement: Tom Berry, Ribbon IR
- Introduction: Jimmy Yu, Dell'Oro Group
- Prepared Remarks: Sam Bucci, Ribbon
- Moderator-led Q & A: Jimmy Yu & Sam

IP WAVE

Date: November 18th

Time: 11 am EST

Creating better overall economics and services velocity
for IP Optical



[Sam Bucci](#), EVP & General Manager
IP Optical Networks Business Unit



Moderator:



[Jimmy Yu](#), VP Market Research
Optical Transport, Microwave
Transmission & Mobile Backhaul



Ribbon at a Glance



Global provider of software and network solutions to service providers, enterprises, and critical infrastructure sectors enabling communications and high-bandwidth networking and connectivity

Headquarters: **Plano, Texas** • NASDAQ: **RBBN**

1000+
Customers¹

\$844M
2020 Revenue

3,700
Employees¹
(global)

140
Countries¹

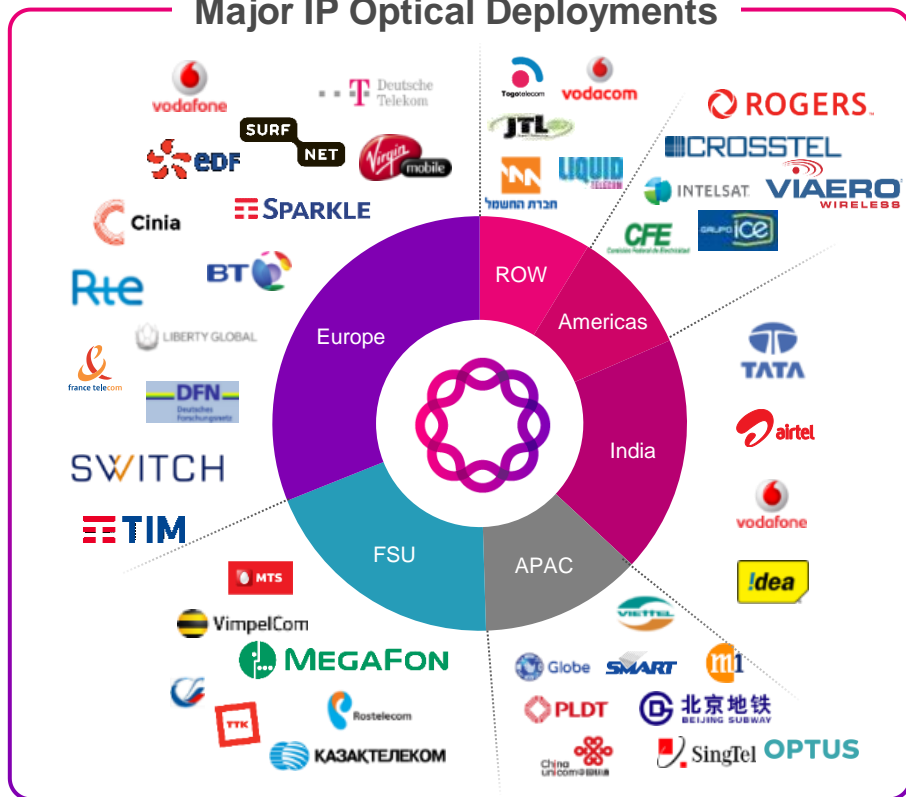
1000+
Patents¹

Note:

1. As of December 31, 2020.

Ribbon IP Optical Networks

Major IP Optical Deployments



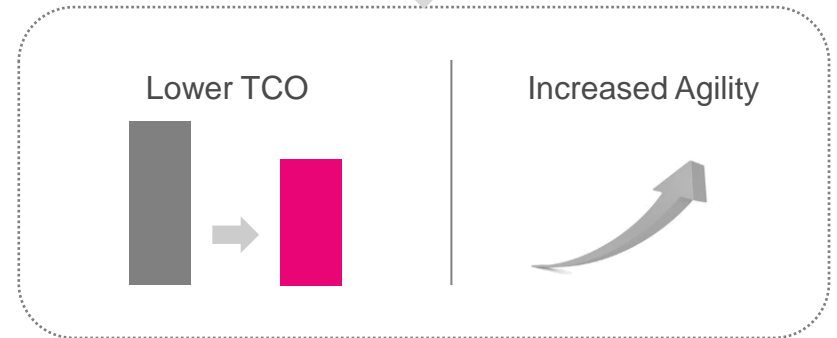
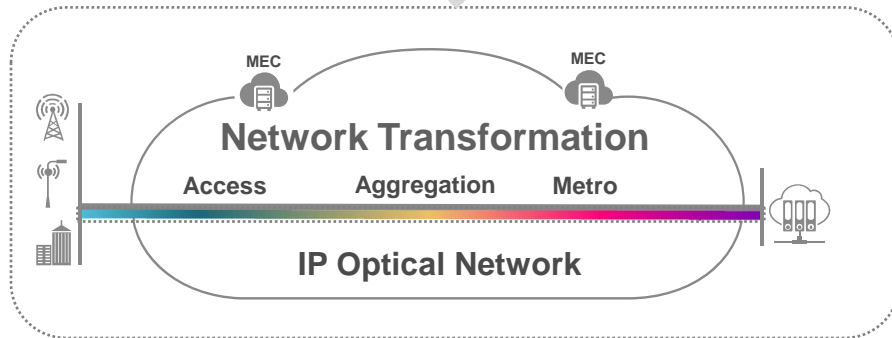
55+ years of experience delivering innovative telecommunications networking solutions

250+ global customers

100K+ IP Optical NEs deployed

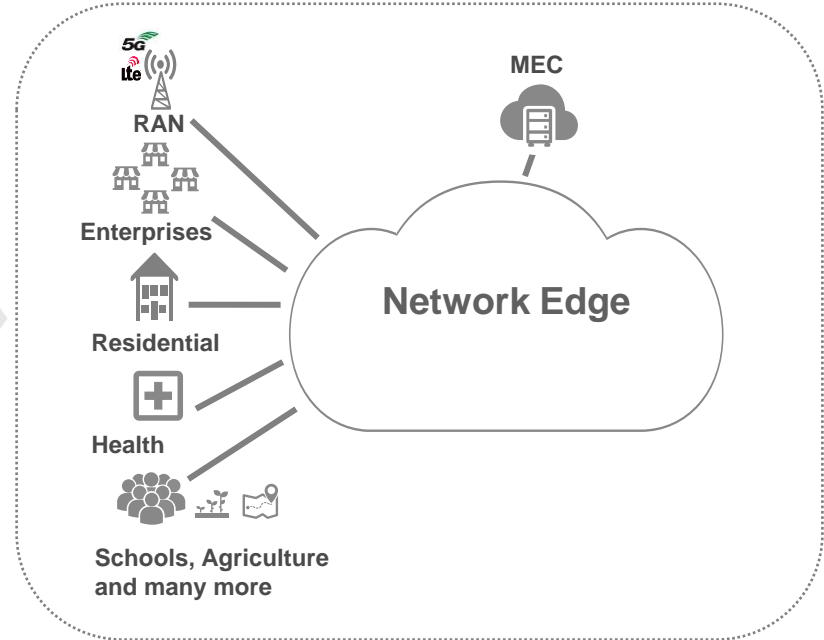
Customer Challenges

- 5G, fiber rollout, cloud networking disruptions
- Increasing demand, increasing cost, decreasing RPU
- Investment protection and migration to new technology
- Regulatory environments
- Competition
- Business digitization/new business models

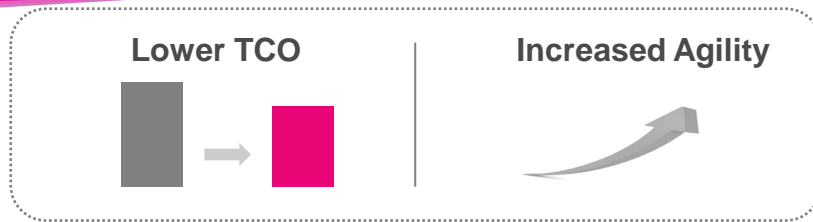


Challenges Force a Rethink of the Edge

- 5G
 - Disaggregated, dynamic, radio and mobile core resources
 - Diverse services diverse performance needs
- Fiber rollout
 - Diverse services diverse performance needs
- Cloud networking
 - Disaggregated, distributed, dynamic compute resources and applications
- Competition
 - Need rapid service delivery velocity to compete
- Economics
 - Need cost efficient solutions



IP Wave Value Proposition



Automated

- **Reduce OPEX**, Agile and Streamlined operations
- Open Multi layer, Multi vendor
- Service driven, fast time to revenues
- Economical custom applications (open CI/CD)

OSS/BSS

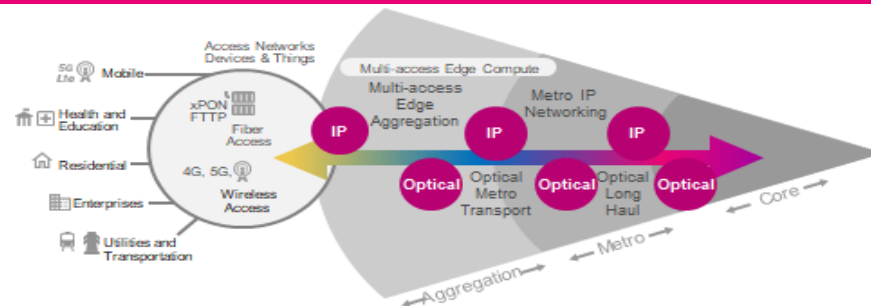


Automated operations lifecycle

Network

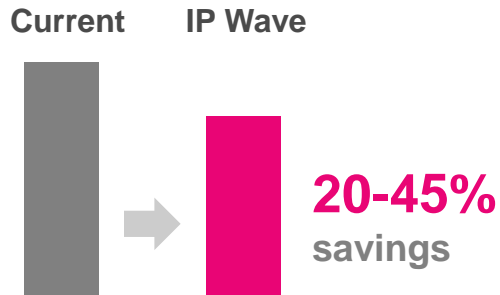
Optimized

- **Best use of CAPEX**
- Converged multiservice edge
- Investment efficiency with optimized IP Optical from access through metro
- Open and disaggregated, no vendor lock-in

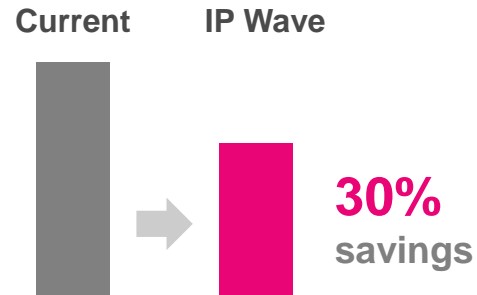


IP Wave Economics

Better Use of CapEX



Better Use of OpEx



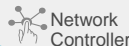
IP Wave Portfolio

Cognitive Software – Muse



- Cloud Native platform, rapid app development
- Continuous optimization and control
- Multi-layer, multi-vendor
- Customized integrated applications

Multi Domain Control & Orchestration



Network
Controller



Network
Planner



Network
Analytics

Open IP – Neptune

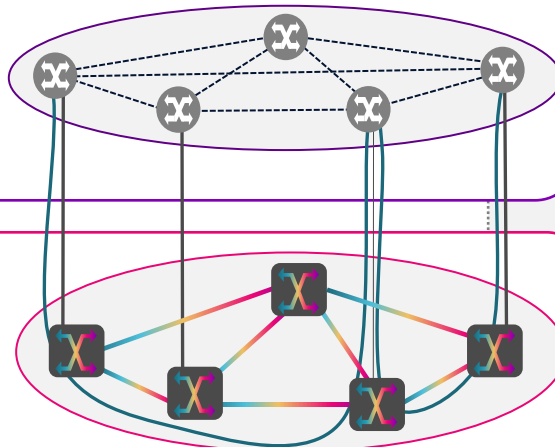


- Converged multi-access edge
- Complete IP/MPLS stack
- Multi layer with IPoDWDM
- Telco-grade NOS
- Open architecture and interfaces

Programmable Optical – Apollo



- Programmable to 1.2T, 400G everywhere
- Metro ZR+ optimized solutions
- FlexGrid ROADM with spectrum slicing
- Optimized small form factor options
- Open line system with assured performance



Professional Services

Product attached services

- Anytime, anywhere training
- Customized integration
- DIY to Turn-Key deployment and maintenance support

Software defined services

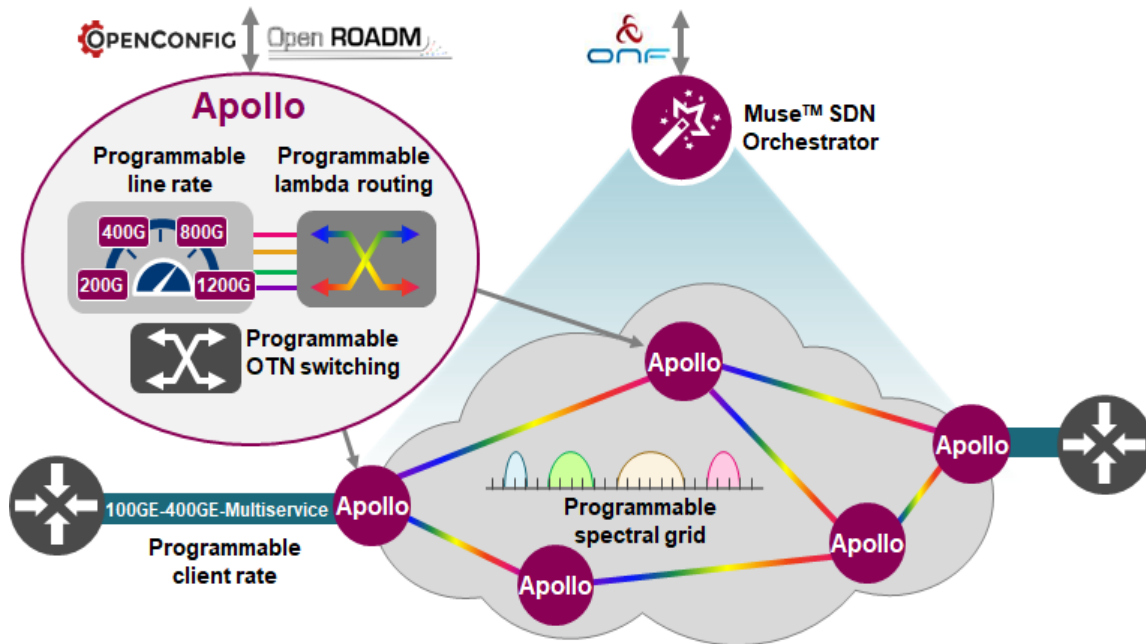
- Analytics and automation
- Dev Ops and Customization

Managed services

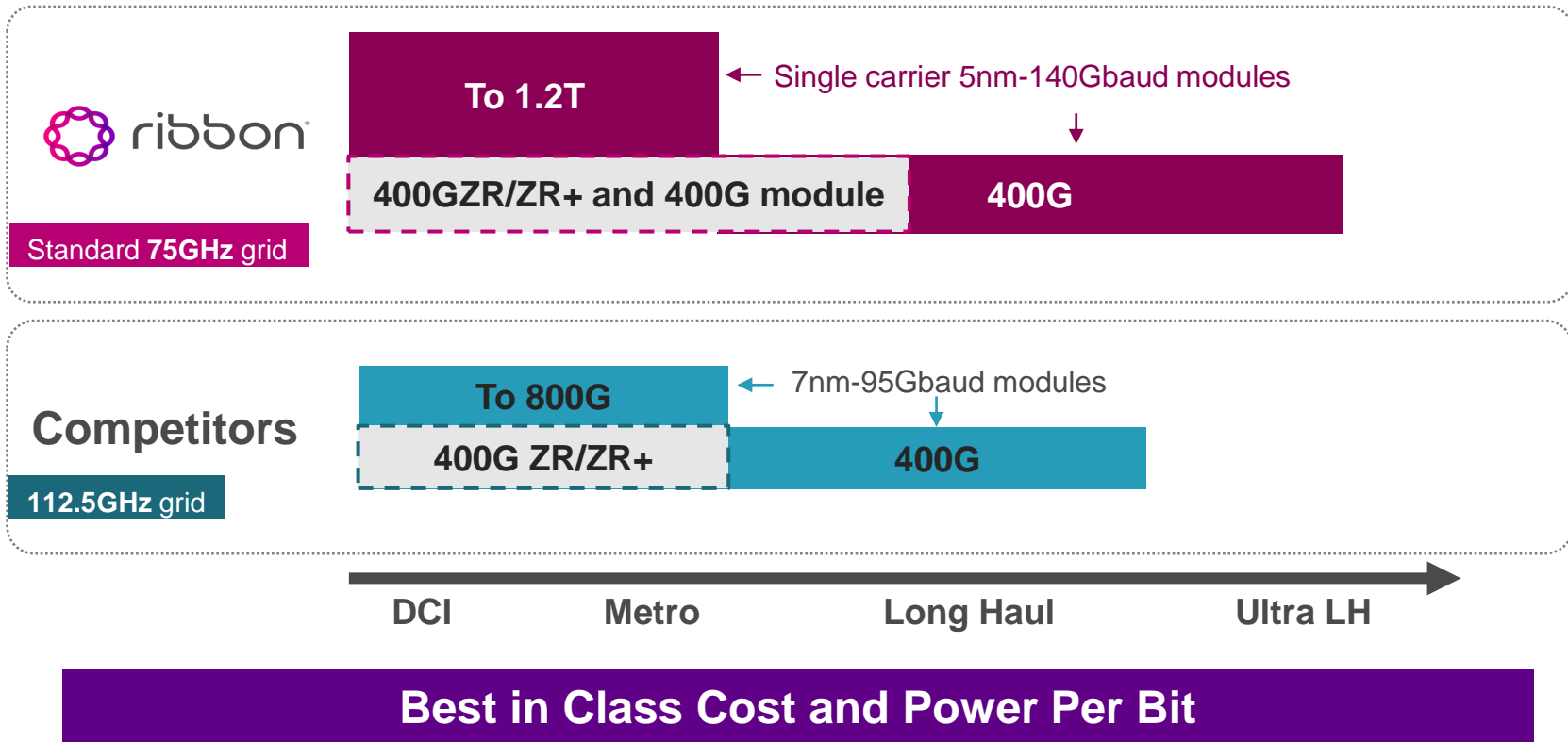
- NOCs, Managed networks

Programmable Open Optical Networking With Apollo

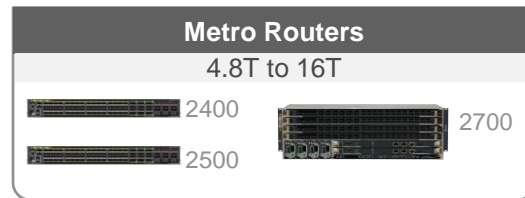
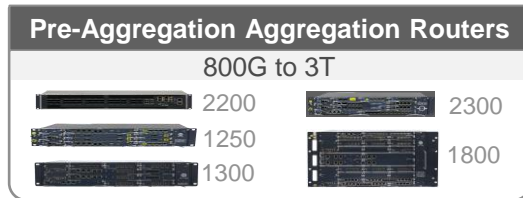
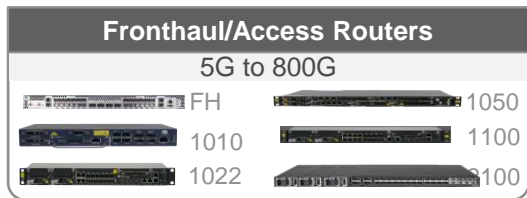
- Programmable
- Performance or power-cost optimized transport, for “best fit to application”
- Smooth pay-as-you-grow capacity growth
- Open for easy deployment multivendor environments



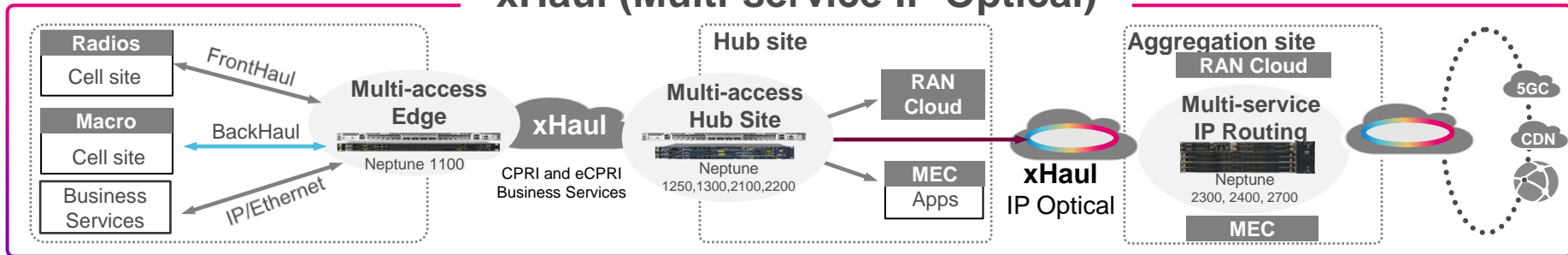
Programmable Open Optical Networking – Apollo Capacity Evolution



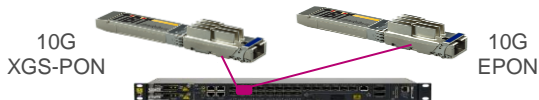
Converged Multi-access Edge with Neptune Open IP/MPLS Routing



xHaul (Multi-service IP Optical)



XGS-PON / EPON



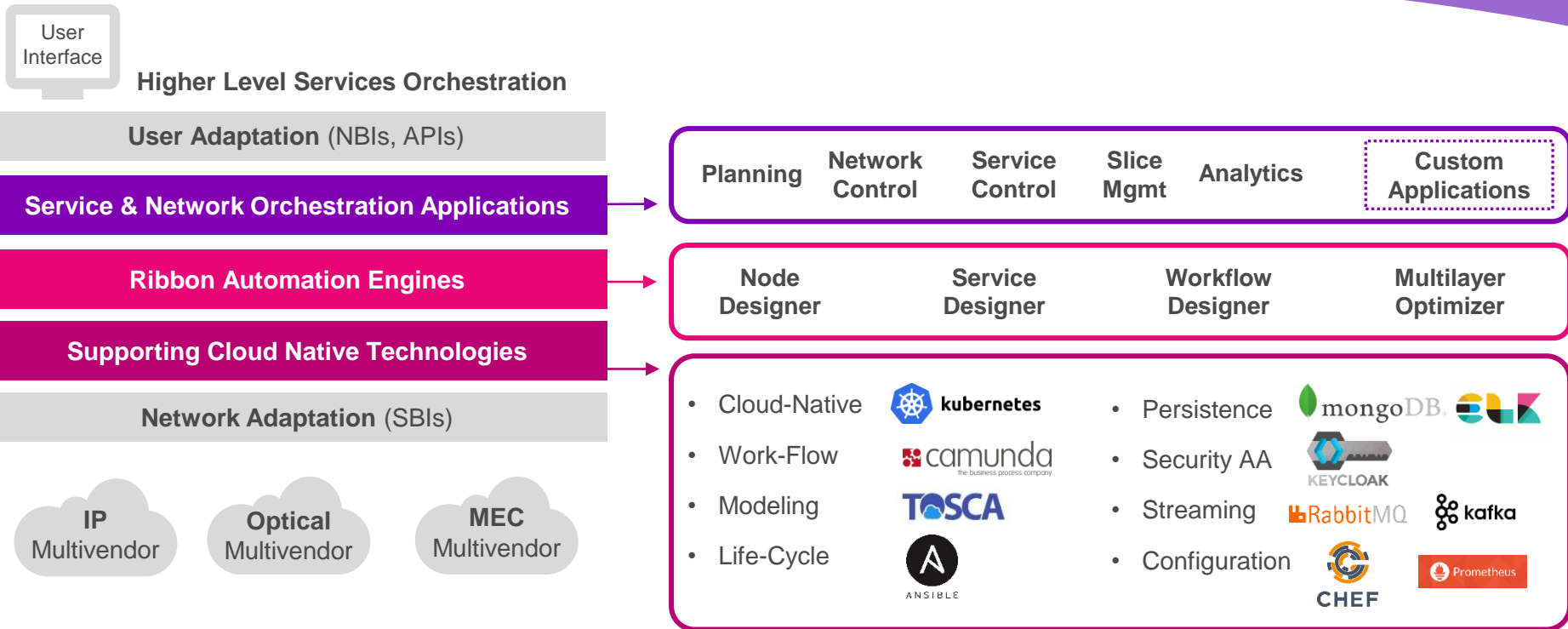
TDM to IP Migration



400G ZR+ Pluggable

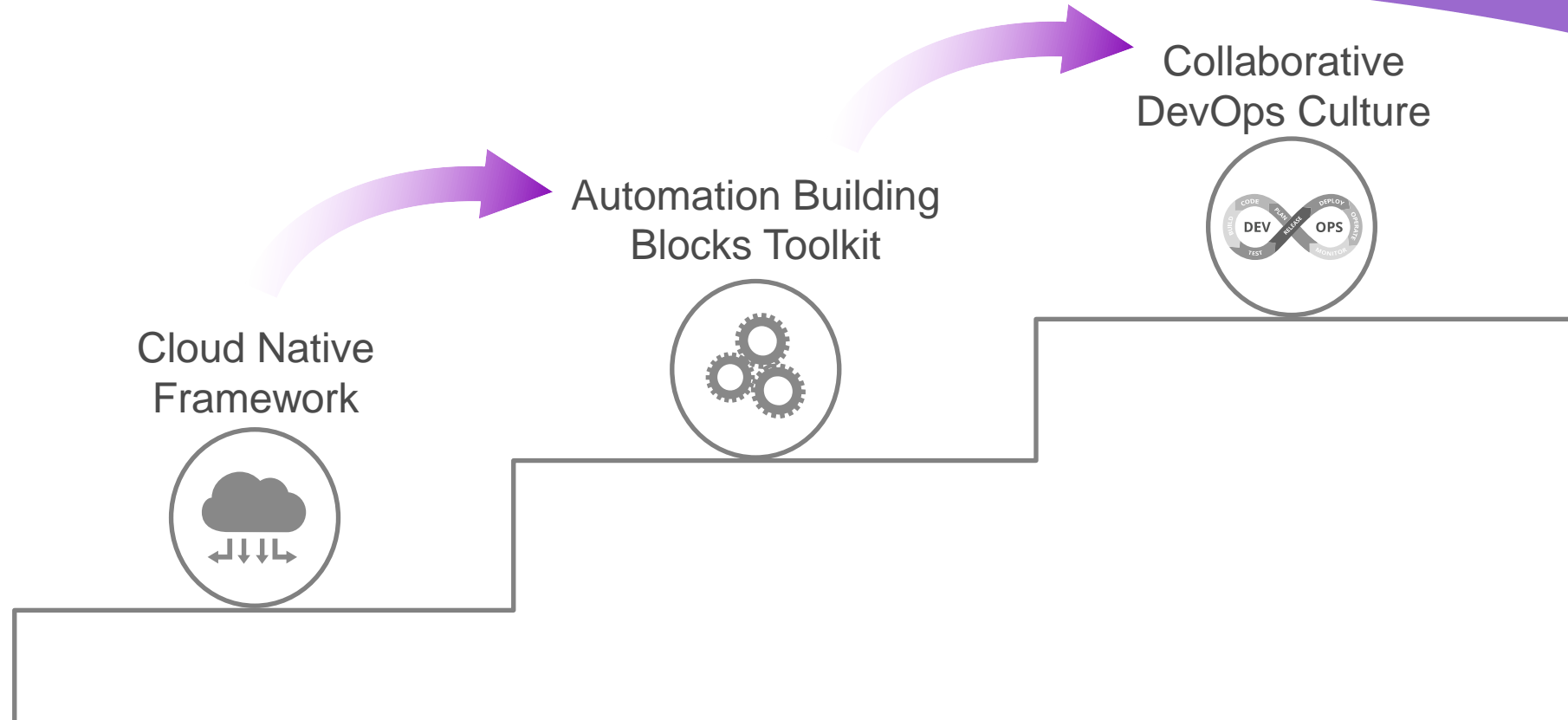


Multi Domain Control and Automation with MUSE Cognitive Software

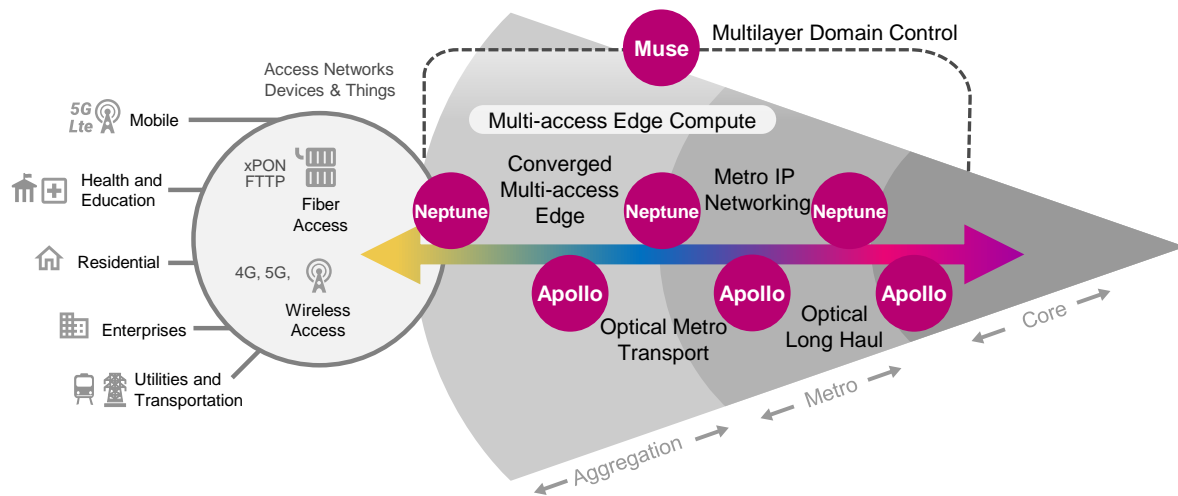


Leveraging Ribbon's Field Proven Software Platform

MUSE Automation Framework



Summary



IP WAVE

BETTER

Economics | Technology | Partner

Better Economics

- Lowering cost and increasing agility in the Access to Edge, increasing profitability for our customers

Better Technology

- Advanced IP Optical and automation technology

Partner You Can Trust

- Dependable, consistently delivering value everywhere, every time

Thank You

