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SUCCESSFUL STRATEGIES FOR ACCELERATING THE DEPLOYMENT OF ONF REFERENCE DESIGNS

ONF Connect 2018

Robert Conger, CTO, Americas

December 2018

Key Trends Impacting Access Networks

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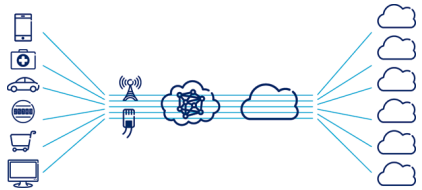
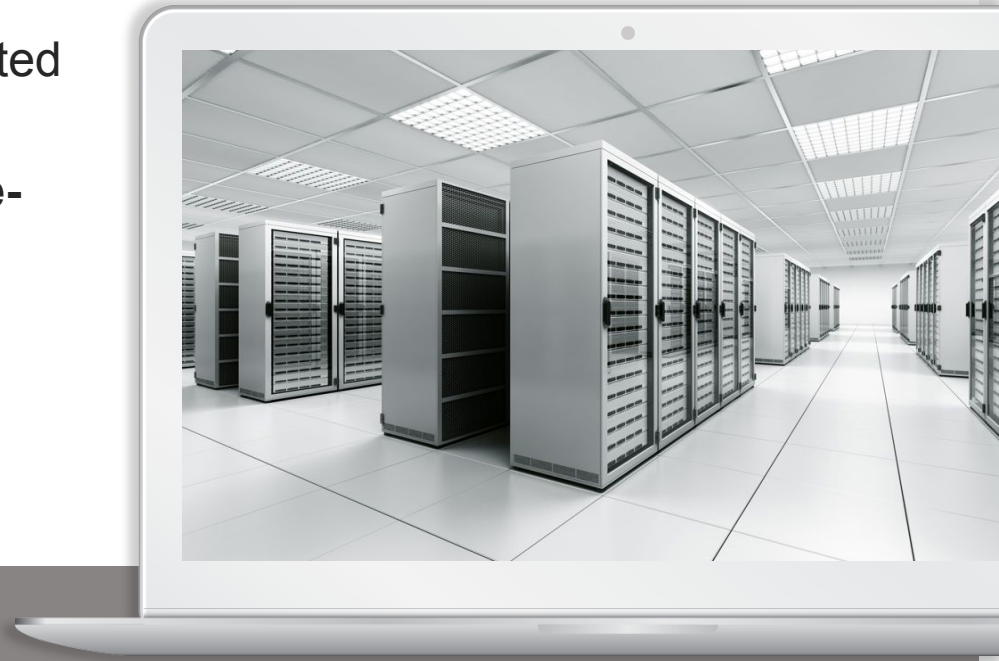
- **5G connectivity**
  - Fiber densification to support next-gen networks
  - Spectrum rules play a big role
- **IoT and edge cloud**
  - Long-term impact on edge architecture
- **Convergence of services**
  - Residential, enterprise and x-haul services on a common network
- **Open, multi-vendor reference designs emerging**
  - Common blueprints for next gen networks becoming clearer
  - Simplifies the design and deployment of complex technology



SD-Access Design Principles

- Utilize **SDN** to create highly automated and programmable networks
- Apply **NFV** to create agile, **software-centric** networks
- **Disaggregate** monolithic systems
- Implemement **open** networking architectures



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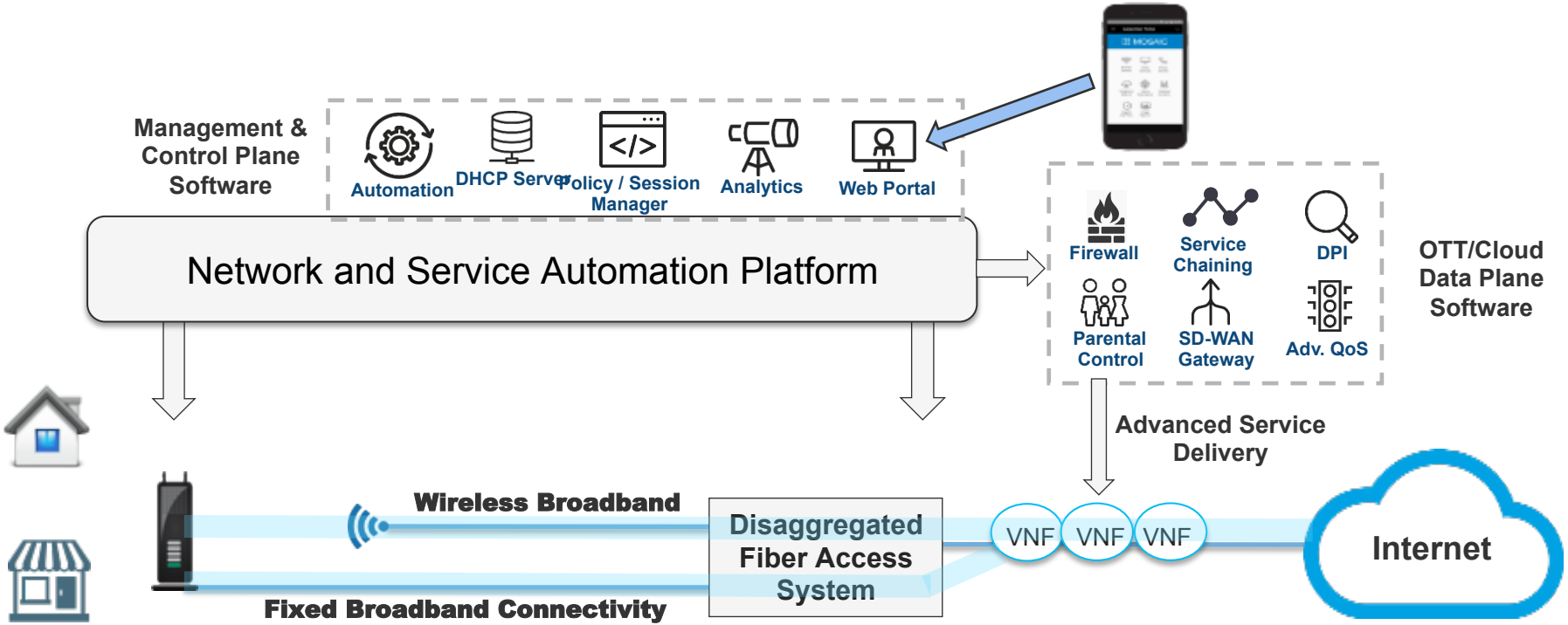
Target Self-Service Model



SD-Access Timeline

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2012

- Early definition of SD-Access networks
- Leading operators formulate next-gen network strategy
- ADTRAN begins early SD-Access development focus

2018

- Focus on moving out of the lab and into the field
- Tier 1 field deployments begin
- Leading global operators align on reference designs for SD-Access architectures

2019 and Beyond

- Widespread Tier 1 Deployment
- Broadening of use cases (e.g., 5G, Edge Cloud, etc.)

SD-Access: 2018 Update

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- ONF launches new strategic plan to accelerate the field deployment of CORD-based architectures
- ADTRAN joins ONF as a partner after invitation from leading global operators
- First Tier 1 field deployments of ONF-based solutions with more planned for 2019

ONF Hits The Ground Running with Execution of New Strategic Plan

- *Adds key new partners, ADTRAN, Dell EMC, Edgecore and Juniper*
- *New operator Technic*
- *Access and Edge Clou*

MENLO PARK, Calif., June 19
plan aimed at creating a robust

ADTRAN PARTNERS WITH OPEN NETWORKING FOUNDATION (ONF) IN REIMAGINED STRATEGIC PLAN

Operators recognize ADTRAN expertise, leadership and commitment in developing deployable, open-source broadband access solutions

HUNTSVILLE, Ala.--(June 19, 2018)—ADTRAN®, Inc., (NASDAQ:ADTN), the leading provider of

ONF Deployment Model

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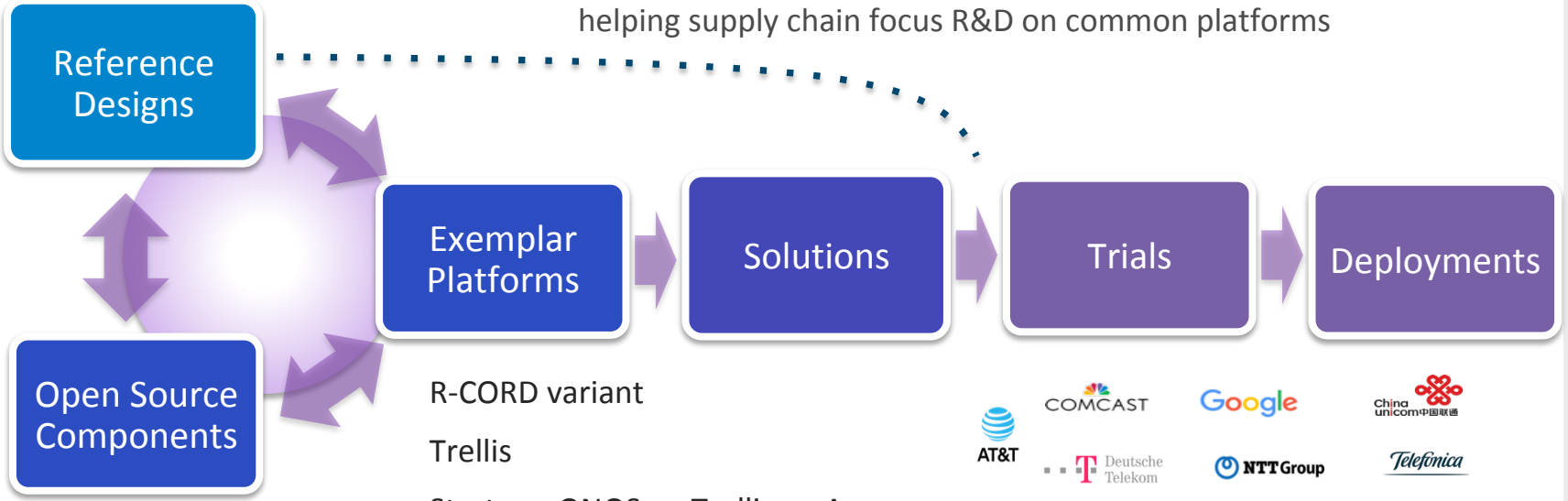
- **SEBA**
- **UPAN**
- **NFV Fabric**
- **ODTN**

Reference Designs become “gold standards” for procurement process to optimize communication and minimize variants, thus helping supply chain focus R&D on common platforms



- **ONOS**
- **VOLTHA**
- **Stratum**
- **XOS**

R-CORD variant

Trellis

Stratum, ONOS++, Trellis++, Apps

ODTN

AT&T, COMCAST, Google, China unicom中国联通, Deutsche Telekom, NTT Group, Telefónica, Türk Telekom

Plus additional operators (RDs are open)

ONF Reference Design Examples

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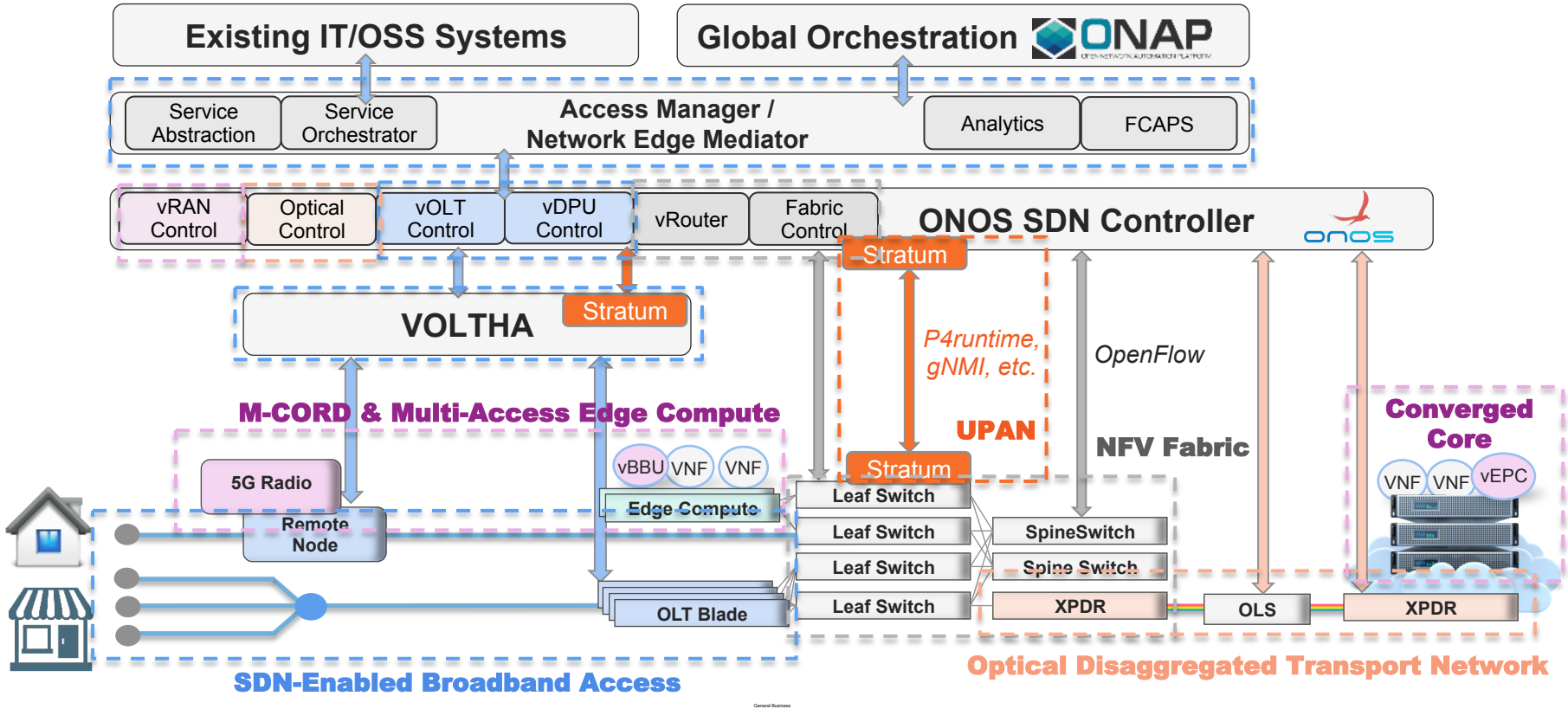
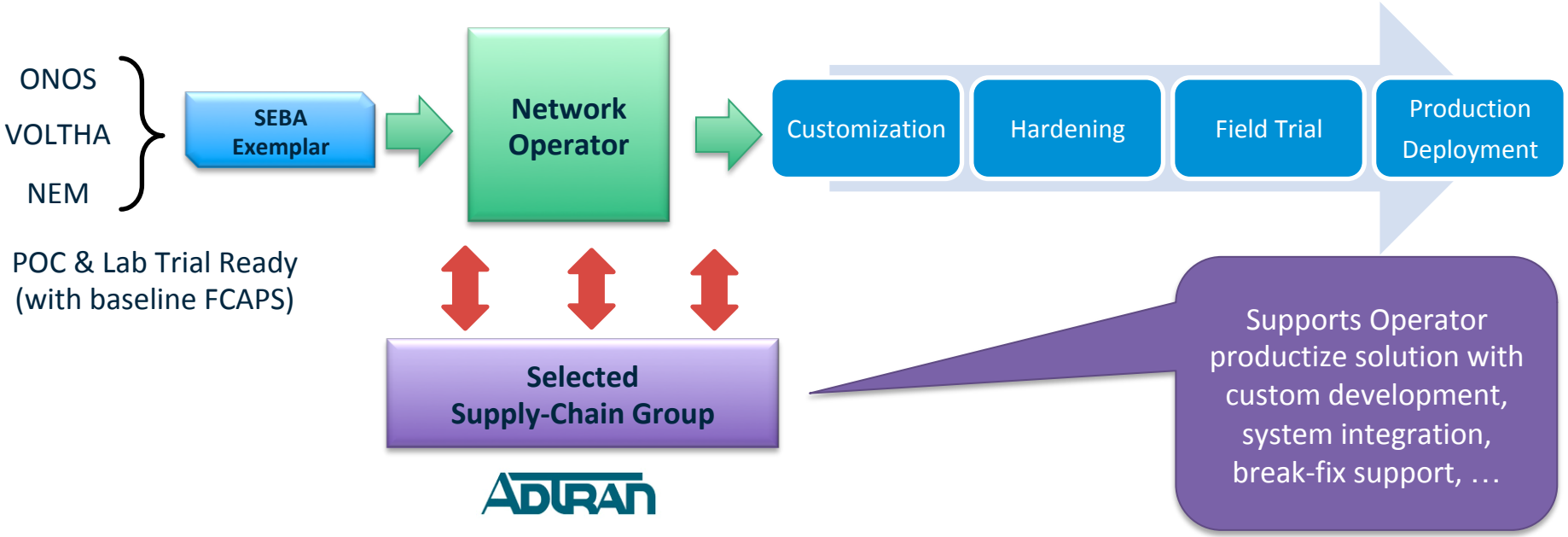


Role of Integration Partners



Benefits of Aligning with Industry Reference Designs

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- Much lower opex and capex than closed, vendor-specific solutions due to automation, network modularity and reuse of open source software
- Benefits of crowd sourcing and continual development (e.g., Google data center team making contributions on next-gen SDN programmability)
- Easy to adapt to new solutions as intelligence centralized in open source SDN controller and not distributed into each hardware device
- Improved time-to-market for new services through modularity and programmability
- Facilitates network convergence by providing a common blueprint for fixed access, mobile access, edge compute and edge transport

Thank you =)

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