

Calix Investor Presentation

ACCESS INNOVATION

November 18, 2015

Forward-Looking Statements

This presentation includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements relate to future events and expectations and involve known and unknown risks and uncertainties. Examples of forward-looking statements include, but are not limited to, statements about our development of new products and product features; our anticipated growth and growth drivers; our future financial condition and results of operations; our future business, operational and financial performance; and the success and/or market adoption of our products and solutions. We have based these forward-looking statements on our current expectations, assumptions and projections. Our actual results or actions may differ materially from those projected in forward-looking statements. These forward-looking statements are subject to a number of risks, uncertainties and factors that could cause results to differ materially as described in our filings with the Securities and Exchange Commission, including our annual report on Form 10-K and quarterly reports on Form 10-Q. Except as may be required by law, Calix undertakes no obligation to, and expressly disclaims any obligation to, update or alter its forward-looking statements, whether as a result of new information, future events, changes in assumptions or otherwise.

Agenda

- ▶ History and Background
- ▶ Value Shift from Hardware to Software
- ▶ The Access Market Opportunity
- ▶ Calix Financials



History and Background

Company History

- 2015:** Introduced AXOS, G.fast and NG-PON2 products; Over 300 customers to-date have placed orders for GigaCenters
- 2014:** Launched Open Link Cable and GigaCenter solutions
- 2012:** Acquired Ericsson fiber access products and sales channel
- 2011:** Acquired Occam; expanded into EMEA and Australian markets
- 2010:** IPO on NYSE; Expansion into Latin American market
- 2008:** Expanded into MSO market
- 2007:** Introduced first E-Series products
- 2006:** Acquired OSI added subscriber edge capability
- 2005:** Expanded into Caribbean market
- 2002:** Carl Russo appointed CEO; Expansion into Tier 2 carriers
- 2001:** Shipped first product - C7
- 1999:** Calix founded

Over 1,200 Global Customers

Serving Customers in More than 70 Countries



Calix Solutions from Datacenter to Subscriber Edge

Data Center

Fiber Optimized

Outside Plant

**Pay-as-you-grow
architecture**

Premises

**Service
optimized**



E7-20



E5-48



E7-2



P870-F



E3-48



GigaFamily



716E

Value Shift from Hardware to Software

Software Defined Access

Introducing

AXOS

The World's Most Advanced Operating System for Access Networks

AXOS: The Most Advanced OS for Access Networks

FAST. Time to Revenue

- ✦ **Speed of New Features.** Individual software components are containerized which simplifies adds /deletes /changes and eliminates the need to constantly re-test the entire OS, thus maximizing reuse, while leveraging industry standards and open source software
- ✦ **Speed of New Products.** The unique hardware and software abstraction layers (HAL / SAL) preserve software independence from the underlying hardware and allow rapid development for any new access technology

ALWAYS ON. Resilient

- ✦ **Eliminates maintenance windows** through the live upgrade functionality
- ✦ **Minimizes downtime** using self-diagnosis, self-healing and process auto-restart
- ✦ **Provides unprecedented visibility** into application performance via monitoring and streaming data off the systems to feed third-party or open source monitoring tools

SIMPLE. Operational ease and flexibility

- ✦ **Plugs into any open standard orchestration and management solution** because it supports dynamic “state” manipulation through standard, open interfaces
- ✦ **Portable across the network** with common, stable field deployed components

Rapid delivery of new services, superior customer experience and unparalleled reliability

Data Center Network vs. Access Distribution Network



- ◀ Controlled environment
- ◀ Short lifecycle / Easy to replace

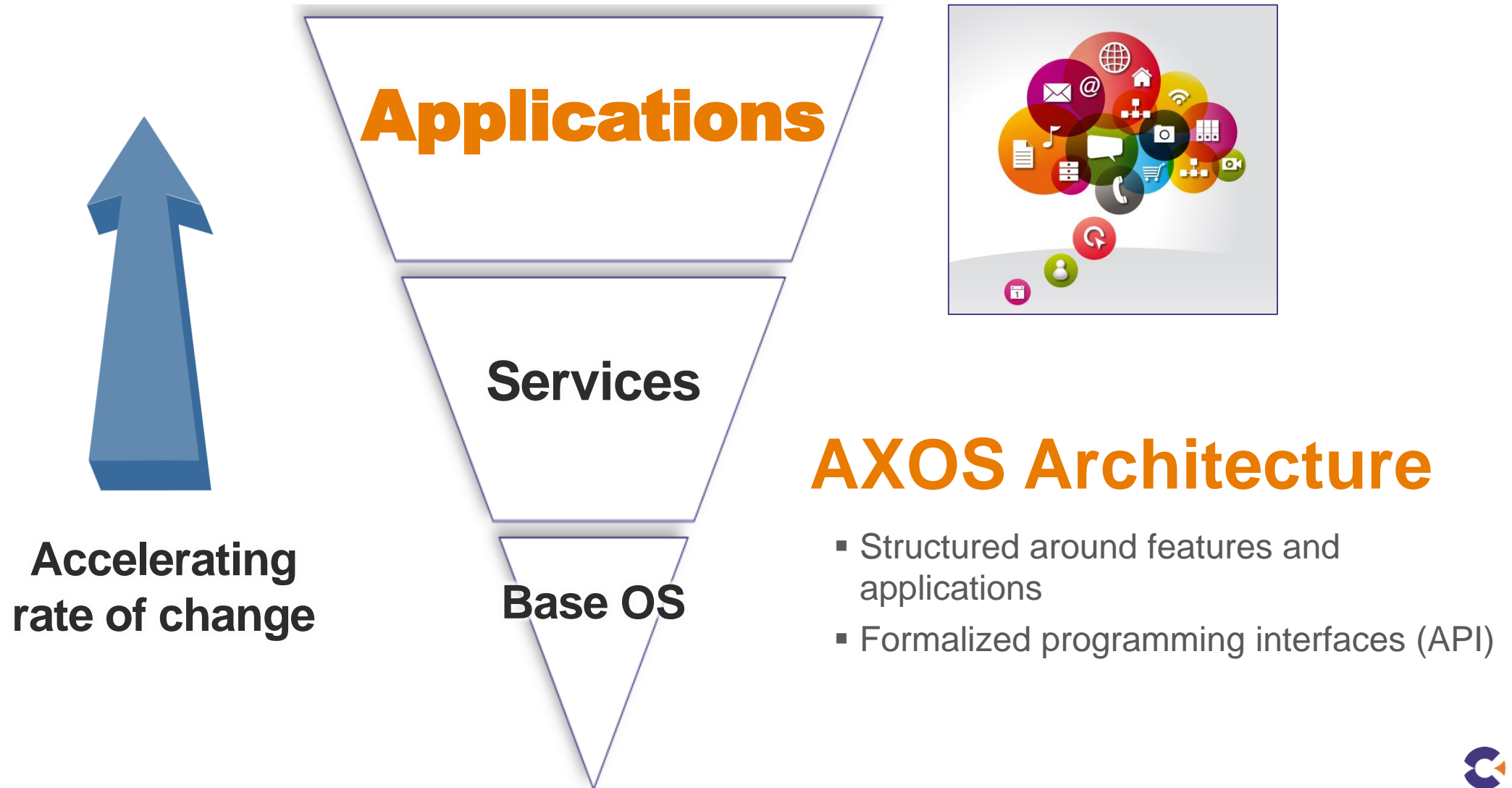
VS



- ◀ Partially to fully exposed environments
- ◀ Long lifecycle / Difficult to replace

Separation of Applications from Infrastructure

Changing the software development paradigm



Fast, Always On, Simple ... and so much more

High Availability

Process failover, Restartability,
Reliability, Robustness,
Resiliency, Recovery, Backup

Portability & Virtualization

Centralized or distributed functionality (off or on box) & virtualized, Hardware emulation,
Leverage for internal testing

Manageability

SDN support, Ease of
integration, Ease of use

Serviceability

Diagnostics, Application
monitoring, Health monitoring,
Resource monitoring,
Supportability, Debuggability



Security

Internal security, Reduce
vulnerabilities, Attack prevention, Self-
protection

Agility

Modularity, Component
management, Operational agility
and flexibility in build/packaging,
Faster deployment with DevOps

Programmability

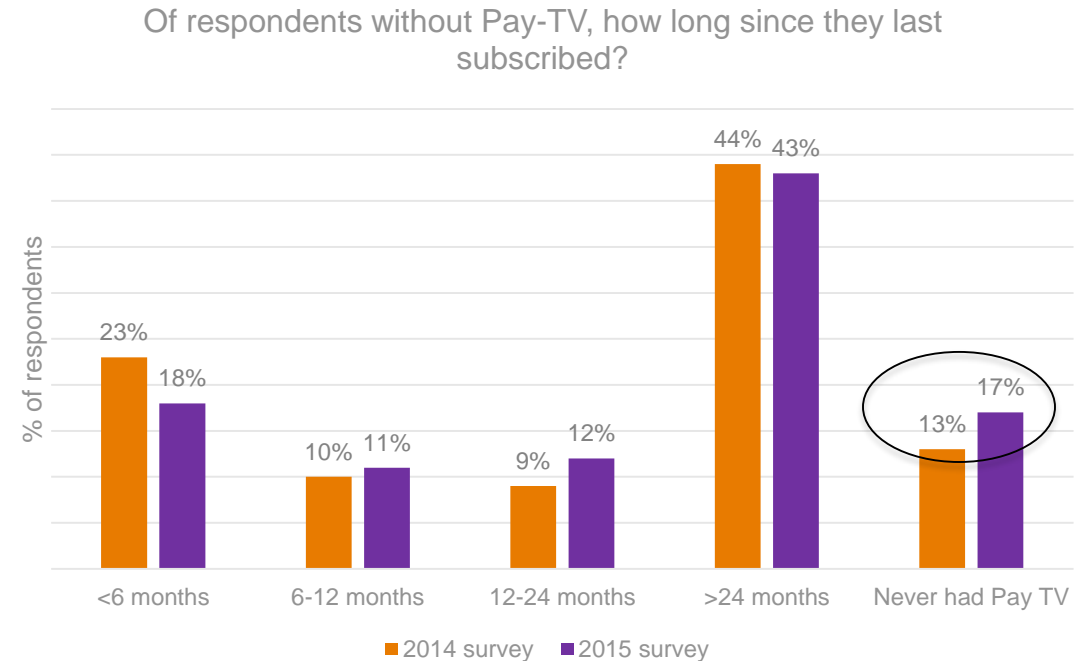
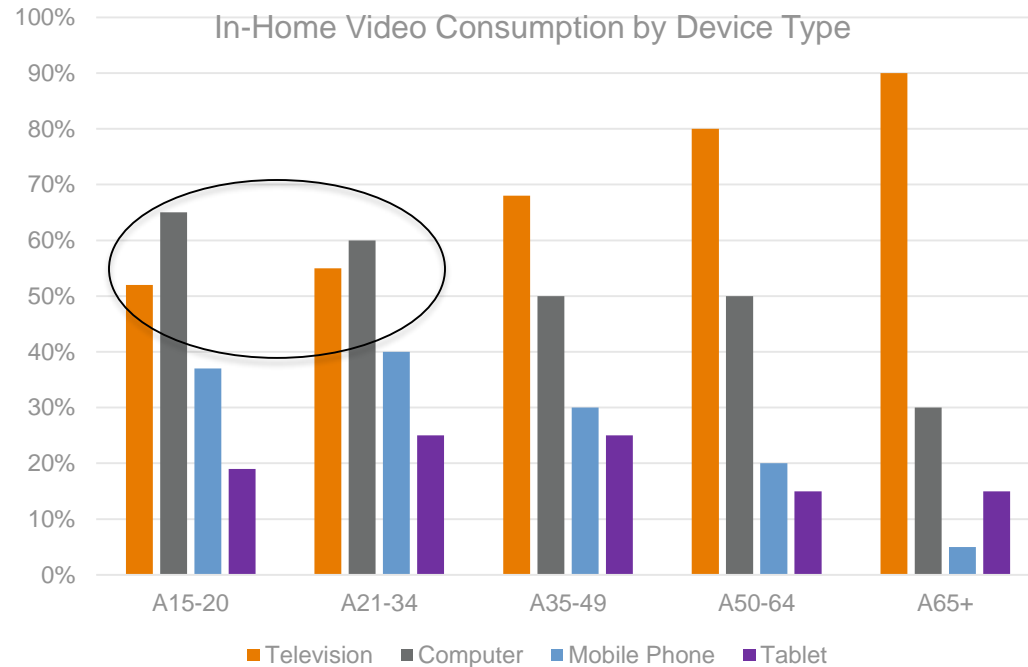
Automation, DevOps,
Customization, High level and
Low level APIs

Telemetry & Analytics

Reporting, Statistics, Accounting, Logging,
Tracing, Instrumentation, Analytical capability,
Bi-directional information exchange

The Access Market Opportunity

Consumers Driving Broadband Investment

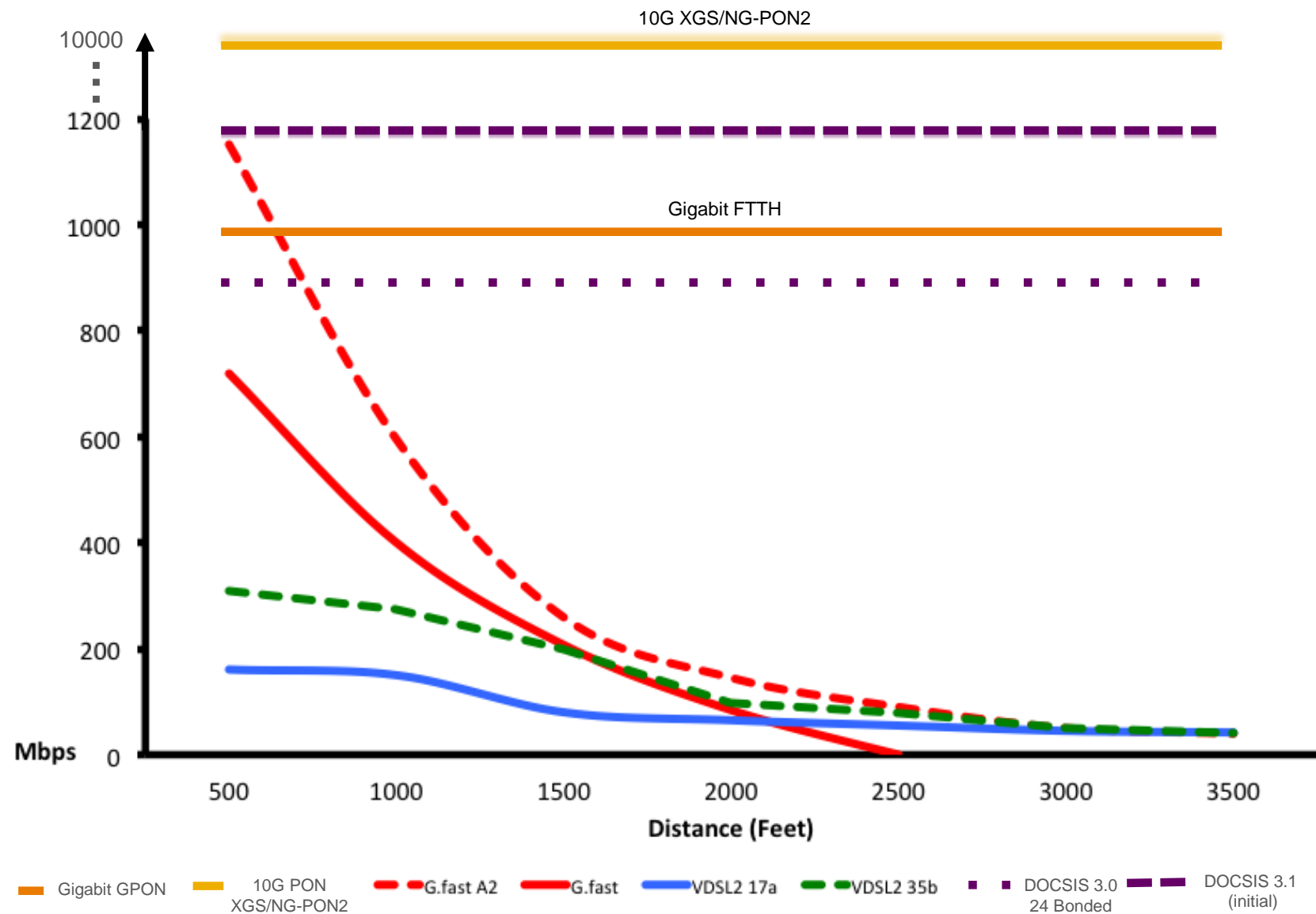


- ✦ Less TV-based consumption among viewers under age 35
- ✦ More non-TV based consumption dependent on broadband access

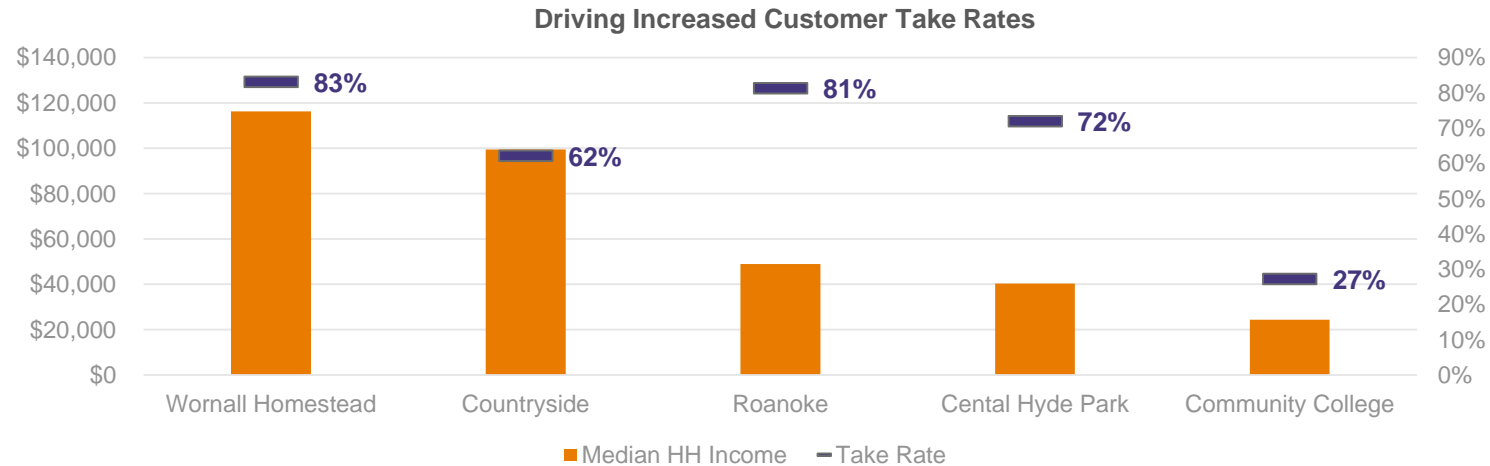
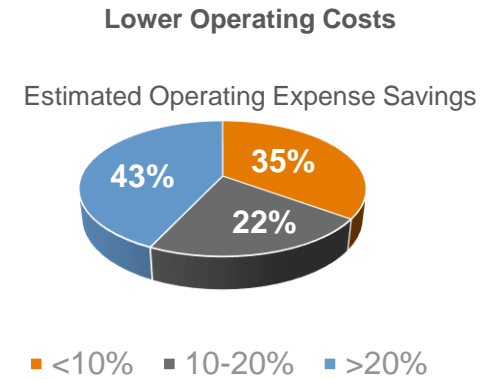
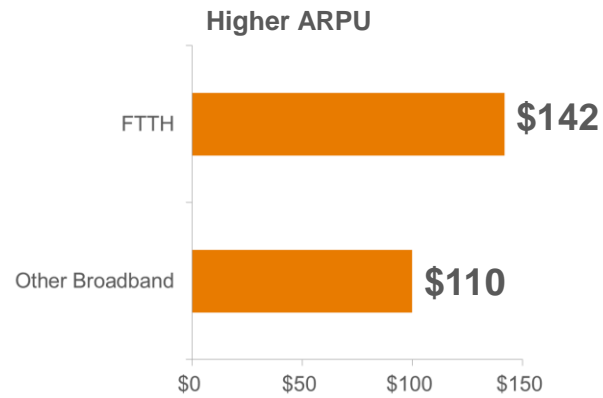
- ✦ Cord cutting shows “no major change”
- ✦ Increase in ‘Cord-Nevers’ consumer segment increases broadband-only household count

Source: Morgan Stanley Research, Barclays Research, Nielsen Global Digital Landscape Report March 2015, Nielsen Total Audience 4Q14 Report, Comscore

Driving toward gigabit speeds...

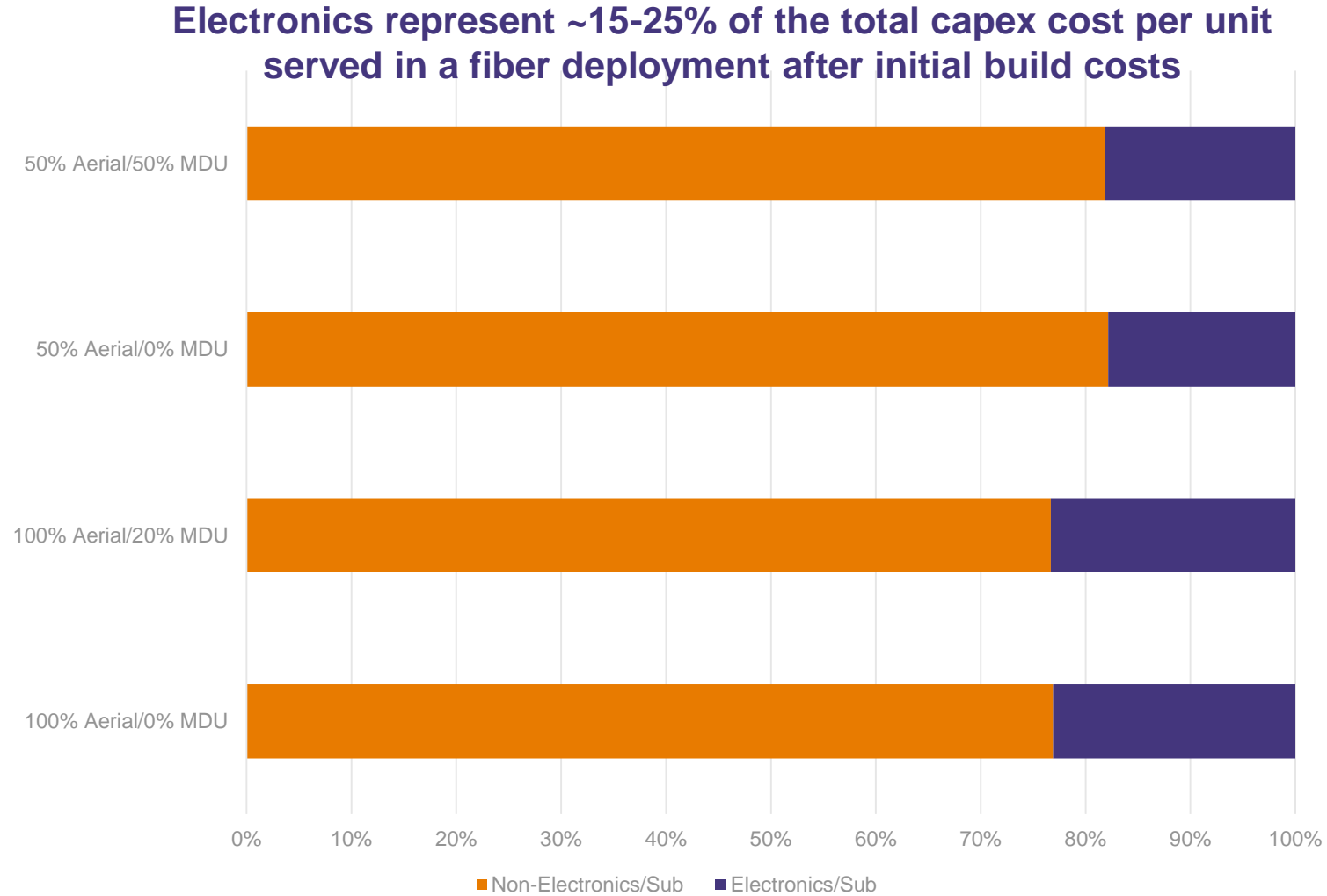


...And Compelling Benefits From Fiber Networks...



Source: RVA LLC: North American FTTH Accelerates, (Q4 2014), Google Fiber Kansas City, Bernstein Proprietary Census. Survey conducted by Haynes and Company (May 2014)

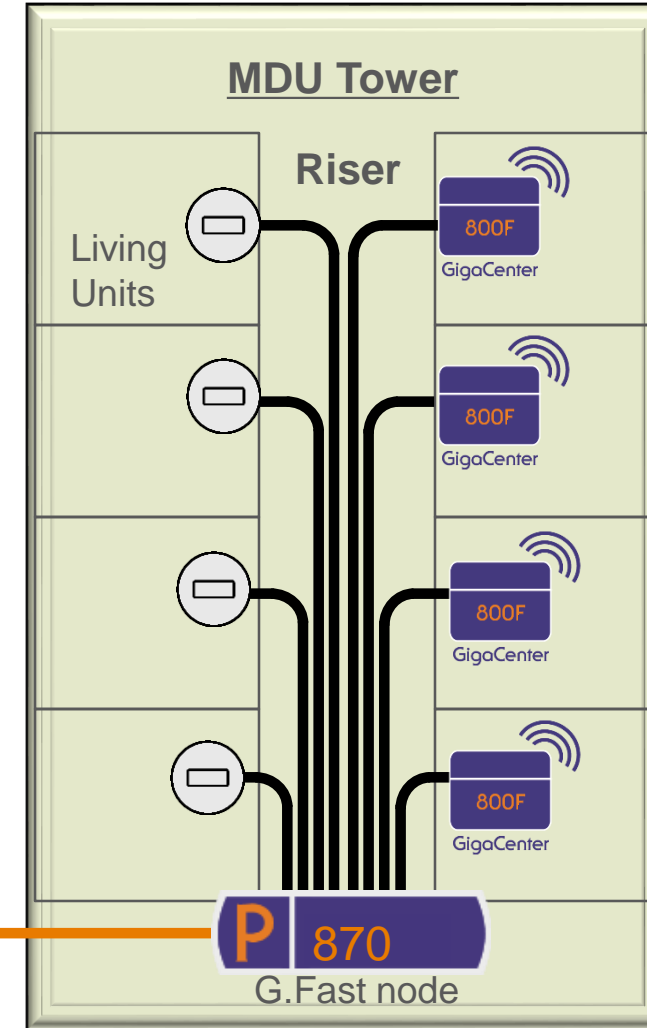
...In Broadband Deployments Infrastructure Leads Electronics...



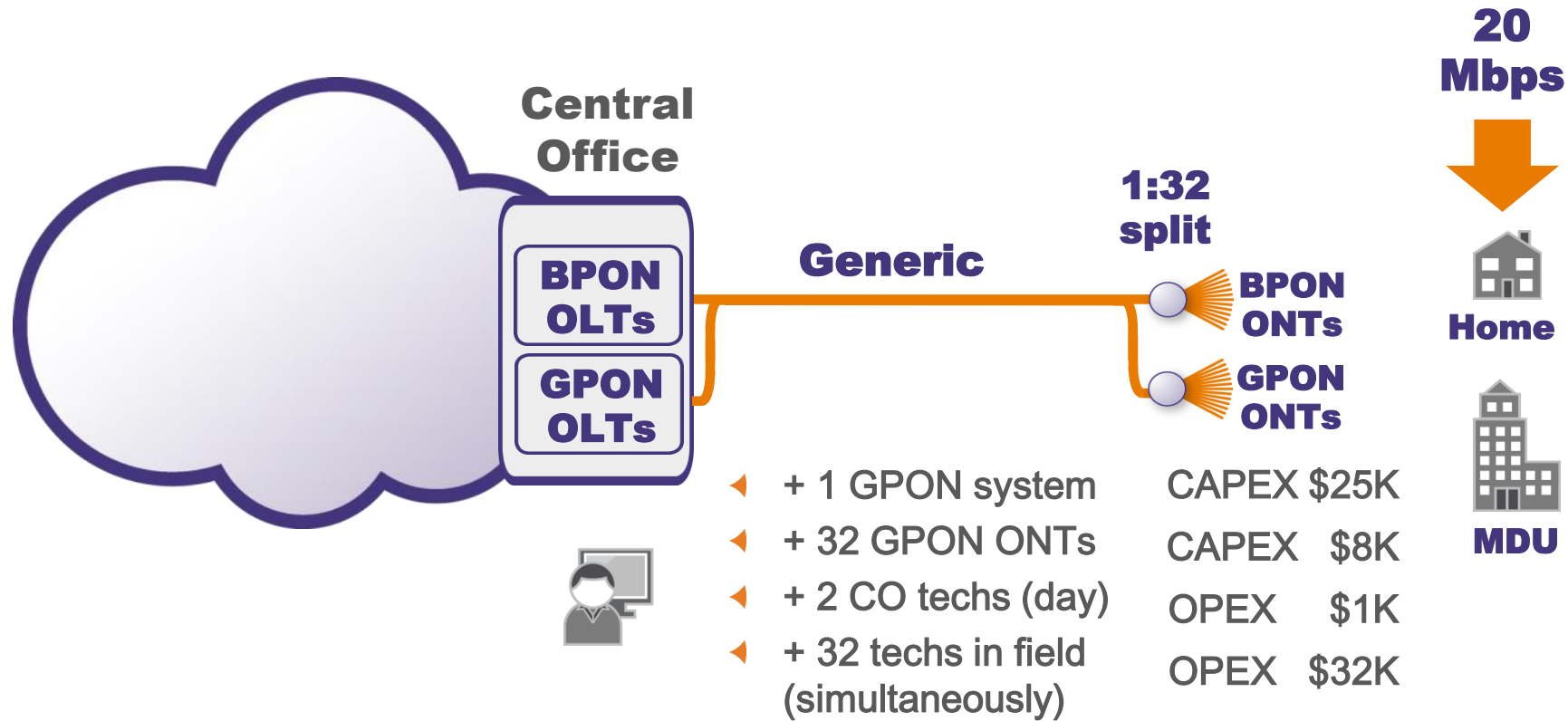
Source: Suburban FTTP Network Scenarios, *Telecom & Networking Equipment, The FTTP Renaissance, Implications for Vendors* – Jefferies Group LLC May 6, 2015

...With Next Generation Copper Technology Leveraging Installed Infrastructure

- ▶ G.fast solutions are ideally suited for short loops < 500 m and speeds from 150Mb/s to 1 Gb/s
- ▶ Per U.S. Census data there are over 34 million multi-tenant housing units in the U.S. (per 2013 ACS) with an estimated more than 50% of these units built before 1980
- ▶ Aged residential and commercial units are characterized by difficulties in riser access and restricted building access
- ▶ G.fast provides high speed when fiber is not available
- ▶ On June 2, 2015 Calix announced a trio of new products which will leverage standards-based G.fast technology to bring a gigabit experience to subscribers located in multi-dwelling unit (MDU), multi-tenant unit (MTU), and high-density single family unit (SFU) dwellings

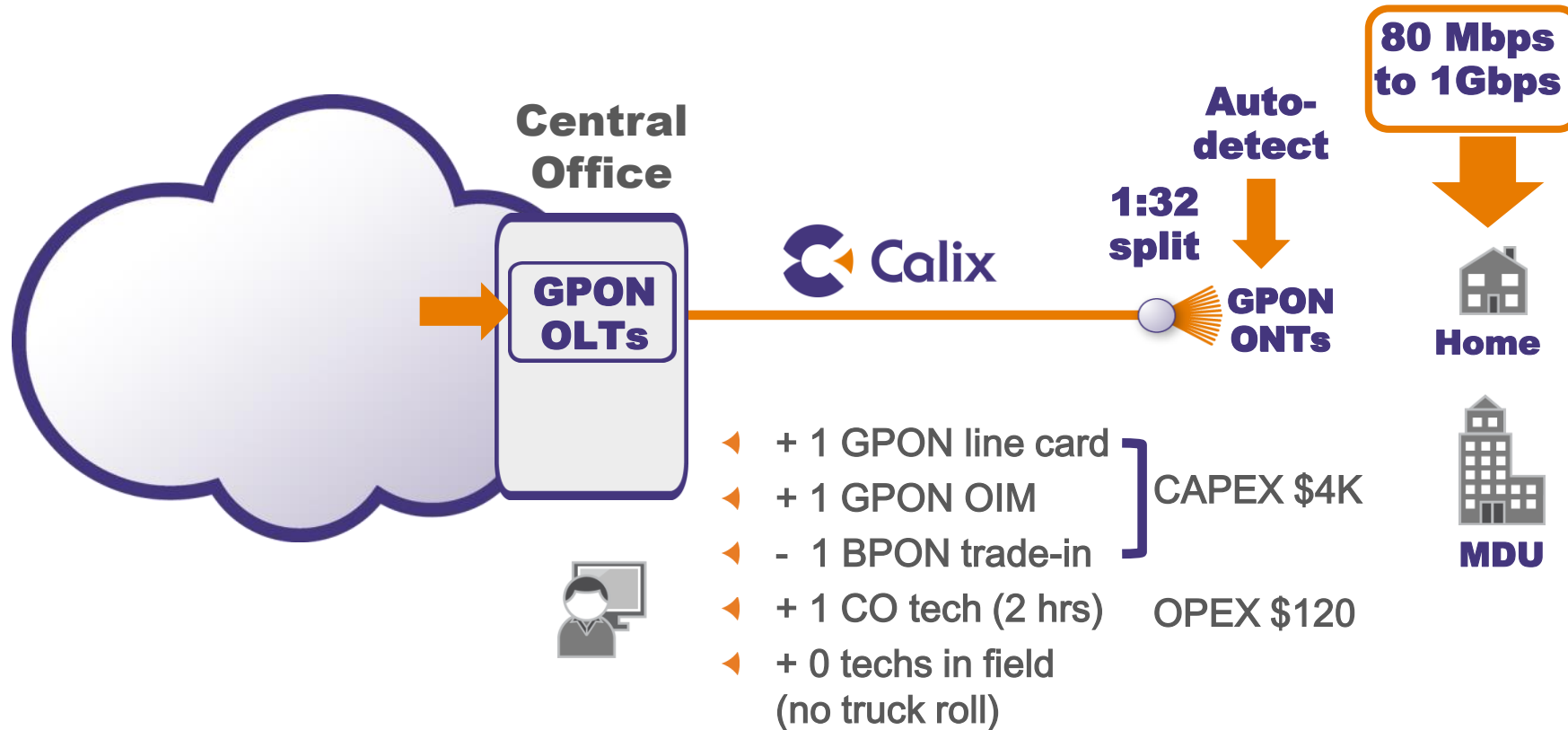


BPON to GPON upgrade: The Conventional Way



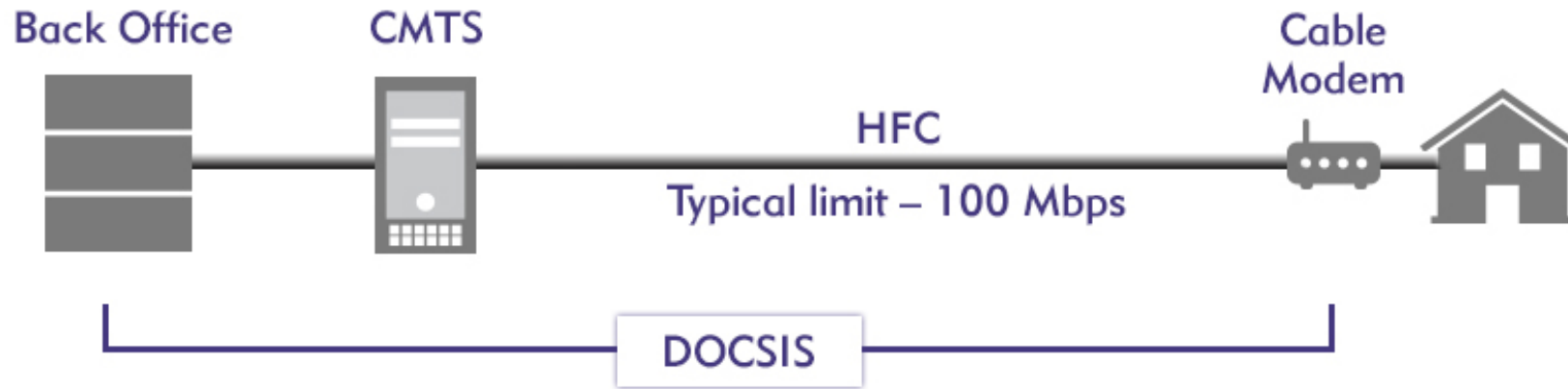
▶ **Total cash spend = \$66K -- or \$2,063 per home**

BPON to GPON upgrade: The Calix Way



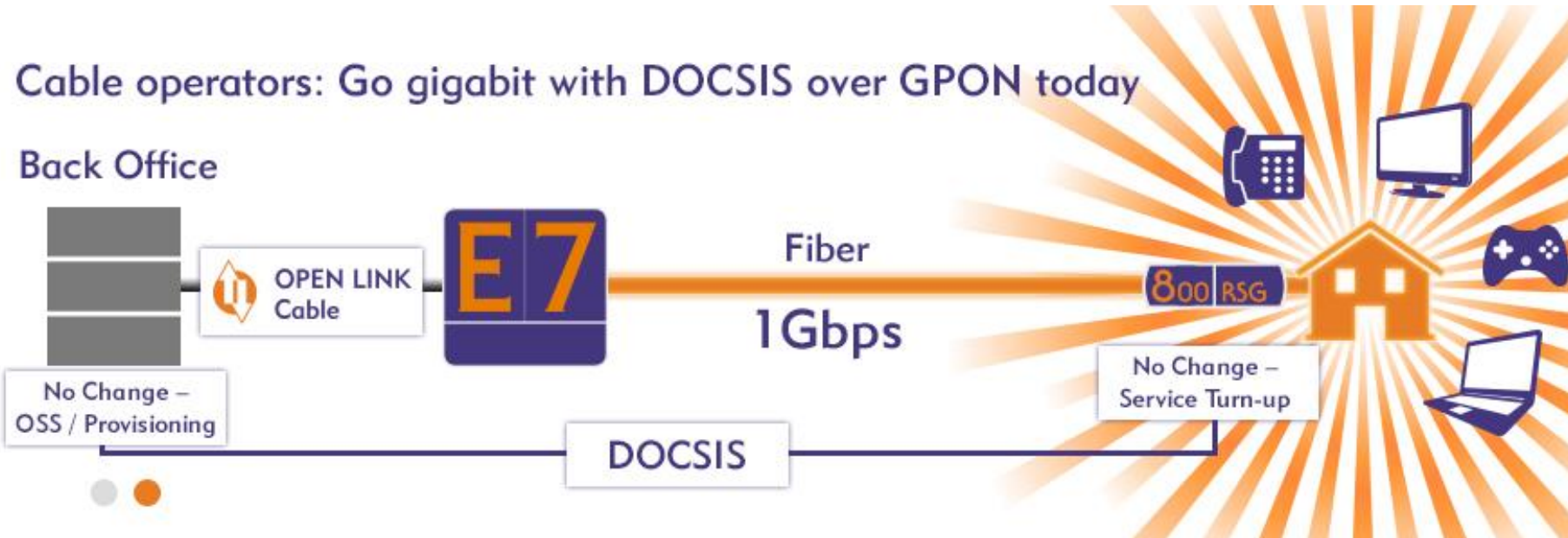
▶ **Total cash spend = \$4.12K -- or \$128 per home**

Cable Networks: The Conventional Way



- ▶ Cable operators challenged to offer gigabit speeds over existing HFC plant
- ▶ Next gen DOCSIS 3.1 scheduled for initial deployments late 2015
- ▶ Largest unanswered question is the cost per household threshold that forces the switch to fiber-based systems

Calix Networks: Calix GPON over DOCSIS Today



Calix Open Link Cable software translates GPON into DOCSIS for a seamless transition

- ▶ No change to back office OSS or DOCSIS provisioning
- ▶ No change to service turn-up procedures

Calix Financials

Q3 2015: Key Developments

- ◀ Revenues of \$112.3M, +6.2% y/y
 - Slightly above the high-end of \$107-\$111M guidance led by strength across multiple customer sets
 - Seventh consecutive quarter at or above revenue guidance range
 - Nine-month 2015 revenues +4.4% y/y
- ◀ Non-GAAP Gross margins increase to 49.3%, +451bps y/y
 - Second highest reported non-GAAP gross margins as a public company
 - Nine-month gross margins up 372bps y/y
 - Favorable product and geographic mix compared to the year ago period as well as benefits from the long-term shift to software-centric platform offerings
- ◀ Increased operating profits on the back of strong revenue growth and expansion of gross margins
 - Gross profit dollars +17% y/y with improved mix

Q3 2015 Financial Results vs. Guidance

(\$ in millions, except per share amounts)

Actual

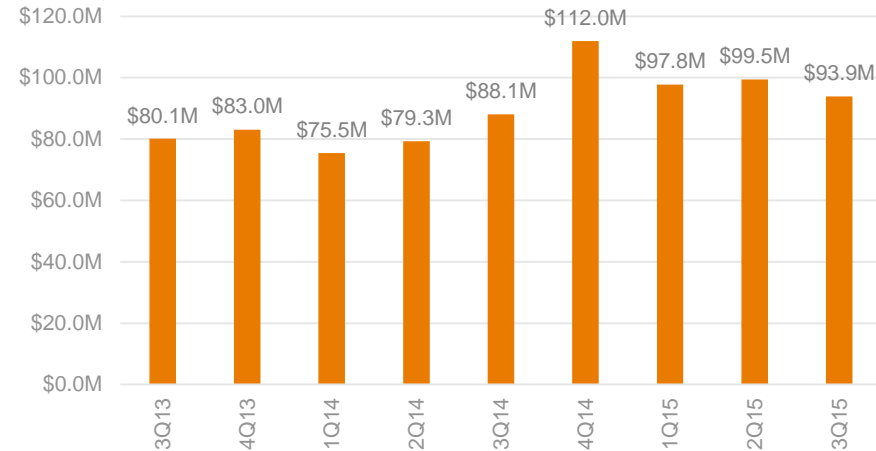
Guidance

Revenues	\$112.3	\$107.0-\$111.0
Non-GAAP gross margin	49.3%	49%-50%
Non-GAAP operating expenses	\$47.2	\$50.0-\$51.0
Non-GAAP EPS	\$0.16	\$0.05 – \$0.09
Cash flow from operations	\$5.5	Positive

Balance Sheet & Cash Flow Highlights

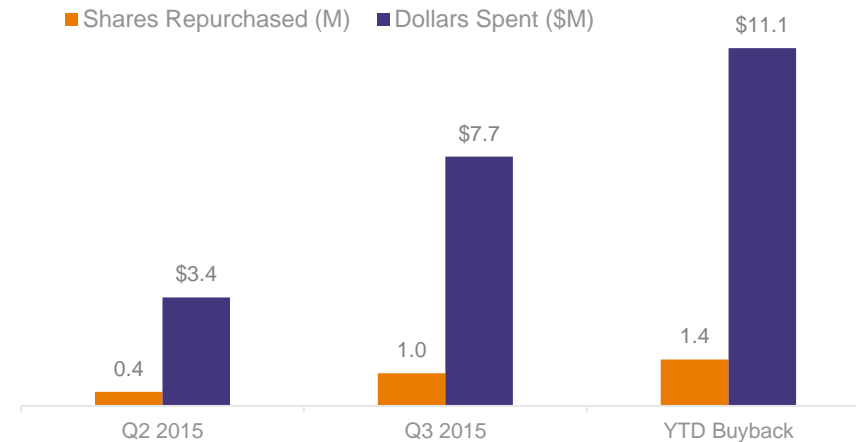
◀ Cash and equivalents of \$93.9M

- Operating cash flow of \$5.5M
- \$2.3M spent on capital expenditures
- \$7.7M used to buyback 1.0M shares of CALX common



◀ Buyback activity increased

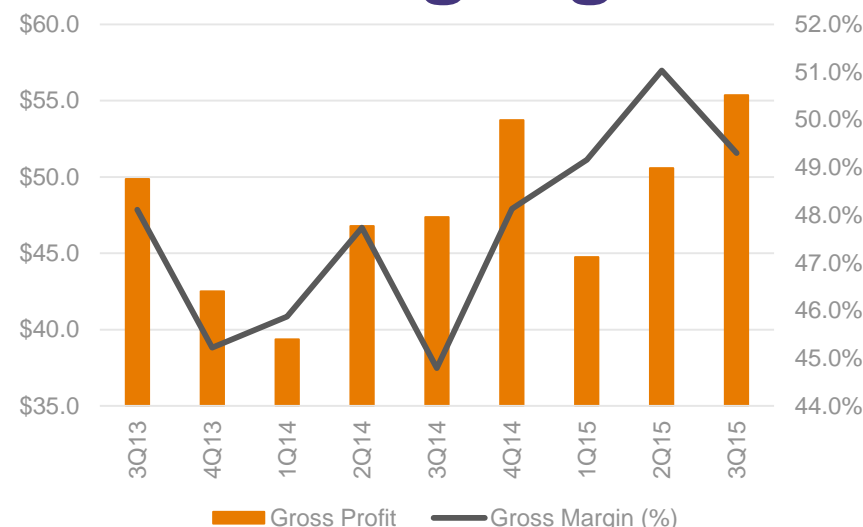
- Stock repurchase activity level more than doubled q/q
- \$28.9M remaining on original \$40M buyback authorization
- YTD 1.45M shares repurchased at an average cost of \$7.69



Q3 2015 Income Statement Highlights

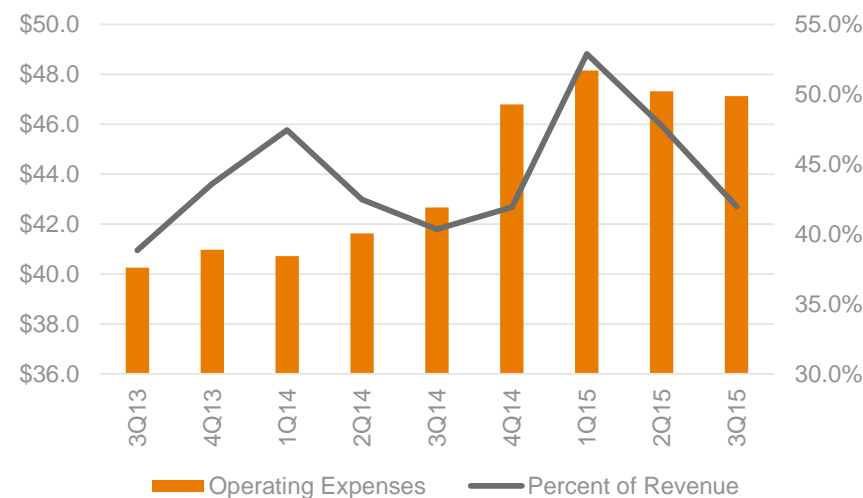
▶ Gross margins of 49.3%

- Inline with 49-50% guidance due to favorable product and regional mix
- Gross profit dollars +17% y/y
- Second highest level of non-GAAP gross margins as a public company
- Long-term non-GAAP gross margin target remains >50%



▶ Non-GAAP operating expenses increase to support future growth opportunities

- R&D investment up 13% y/y to support next generation products in order to expand opportunities with new as well as existing customers
- Due to higher revenues, quarterly Non-GAAP operating expenses as a percentage of revenue were 160bps below trailing 3-year quarterly average levels



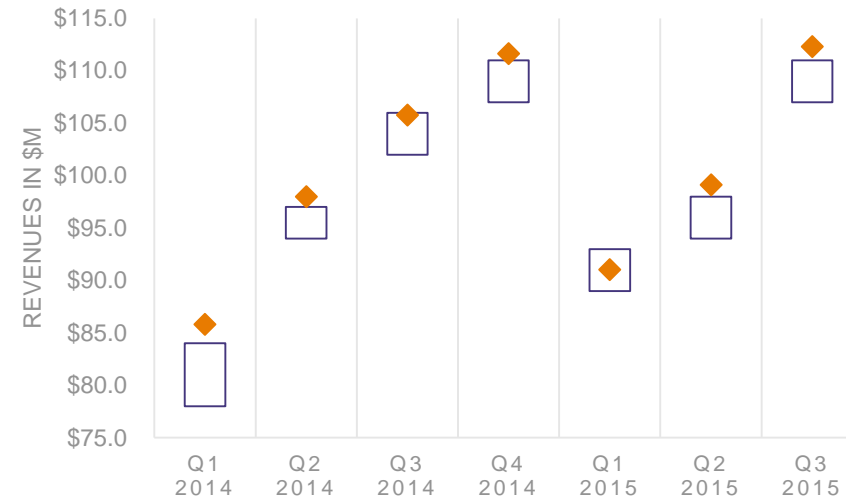
Q4 2015 Operating Performance Guidance

Revenues	\$102-\$106M
Gross margin	47-48%
Operating expenses	\$51.5-\$52.5M
Non-GAAP EPS	(\$0.07) – (\$0.03)
Cash flow from operations	Neutral

Consistency Relative to Guidance Continues

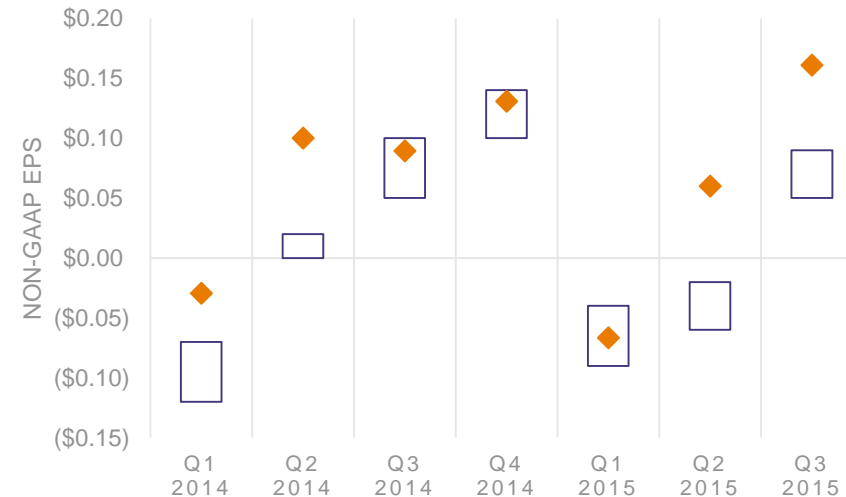
Seventh consecutive quarter of reported revenues in-line or better than guidance

- Visibility remains challenged amid uneven customer spending environment
- New product offerings as well as improved customer value proposition driving revenues



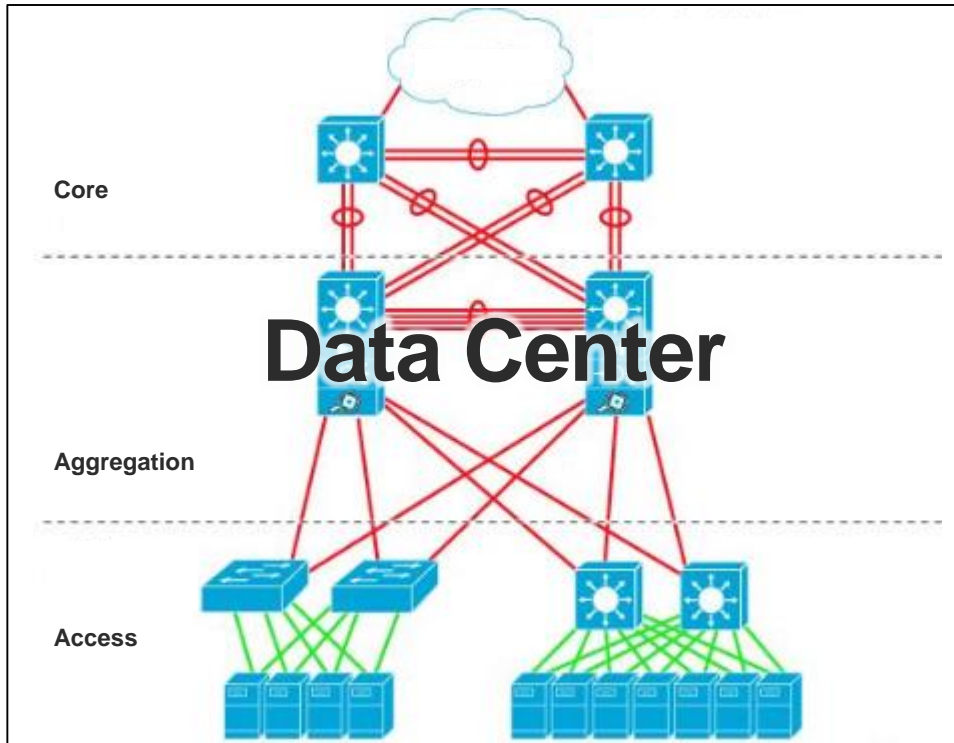
Non-GAAP EPS at or above guidance for seventh consecutive quarter

- Common operating system and product specific momentum drive improvement in gross profits
- Lower than expected hiring expenses led to improved near-term earnings

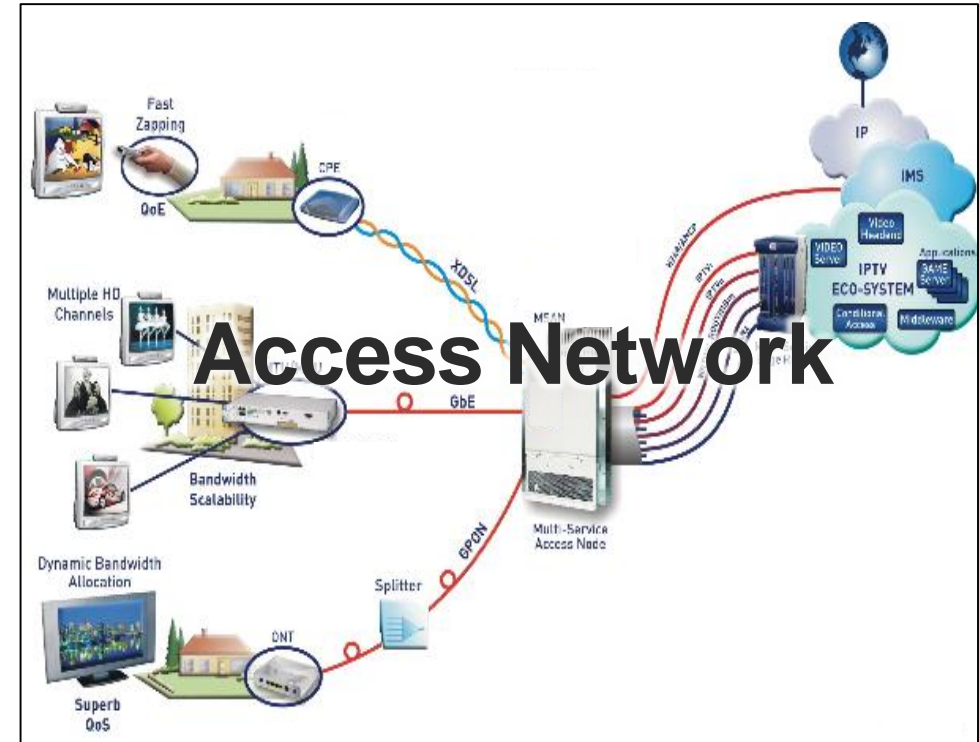


Appendix

From the Data Center: What Works in Access Network



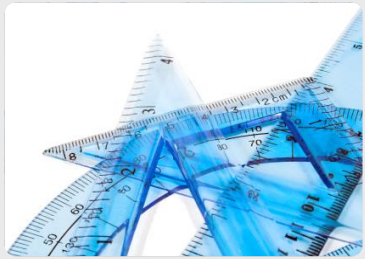
- ▶ Mesh or redundant high speed topologies
- ▶ VM (Virtual Machine) Automation
- ▶ Virtualization of Resources (Pooled Resources)



- ▶ Active / passive splitter distribution architecture
- ▶ Method of Procedure (MOPS) Workflow Automation
- ▶ Virtualization of the Network (Flattened Network)

Why A Unified Access OS Matters?

ENGINEERING



LEVERAGE

- Solve a hard problem once
- Reuse successful components
- Leverage silicon innovation
- Can integrate Open Source value

CUSTOMERS



VALUE

- Consistent Behavior
- Service Resiliency
- Workflow Simplicity
- Upgradability (features + fixes)
- Reduce OPEX

SALES



PORTFOLIO EFFECT

- Cross-selling and pull-through sales
- Sell once, train once
- Solution Delivery End to End
- Reduce Cost of Sales

PARTNERS

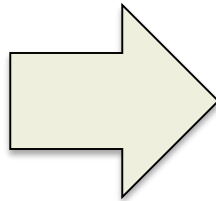


INTEGRATION

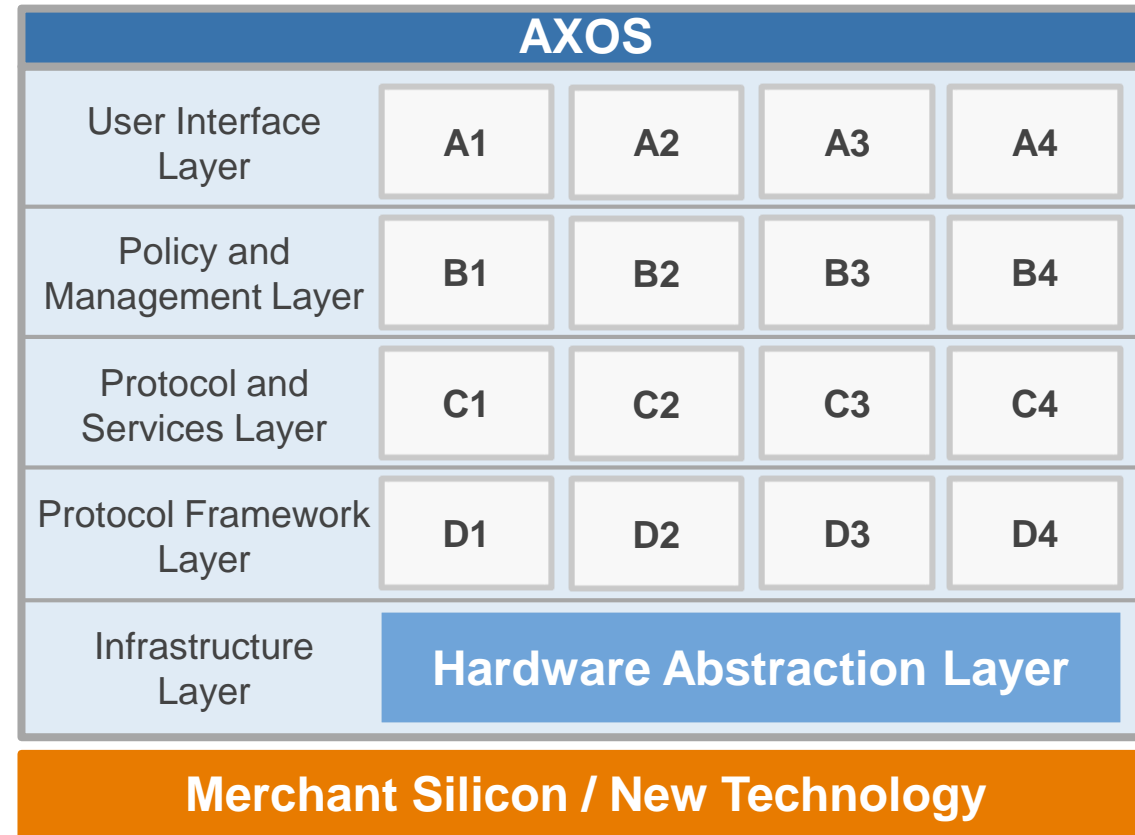
- Tighter integration
- Broader opportunities
- Round out the portfolio
- Solution Ecosystem versus larger vendors

AXOS Platform Architecture

Decoupled hardware and software, loosely coupled components



- ◀ Simplistic 3-layer model transformed to fine-grained independent software components abstracted from the physical layer
- ◀ Support for 3rd party components with internal and external APIs

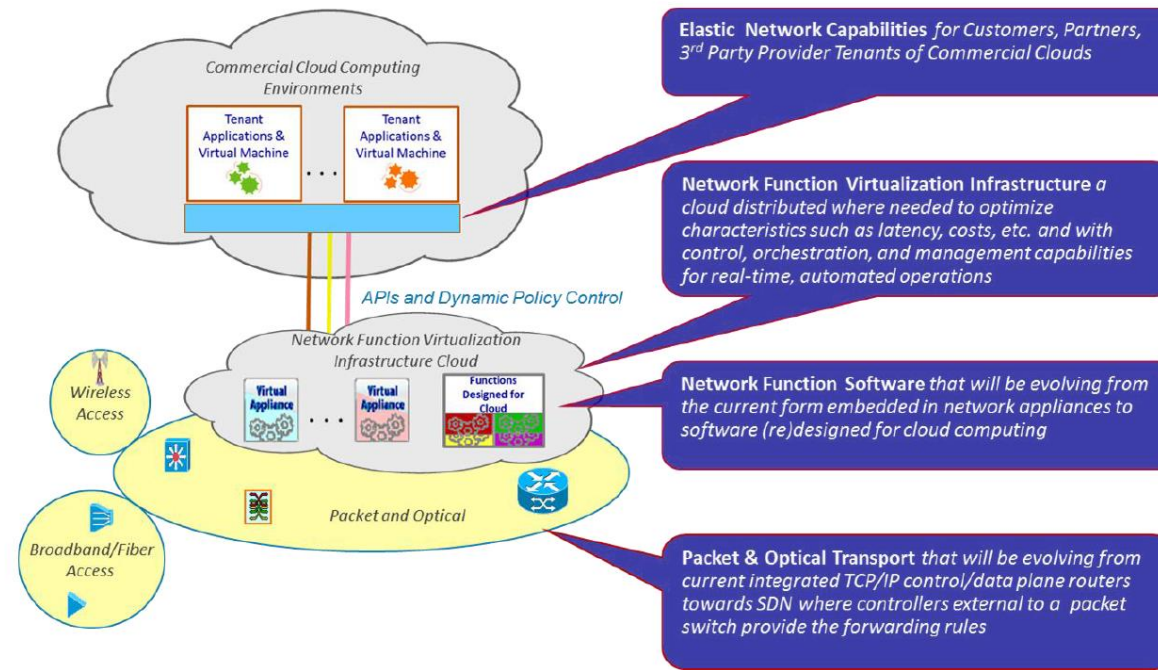


From OS to Service Provider Agent of Success

Success is the sum of three powerful forces

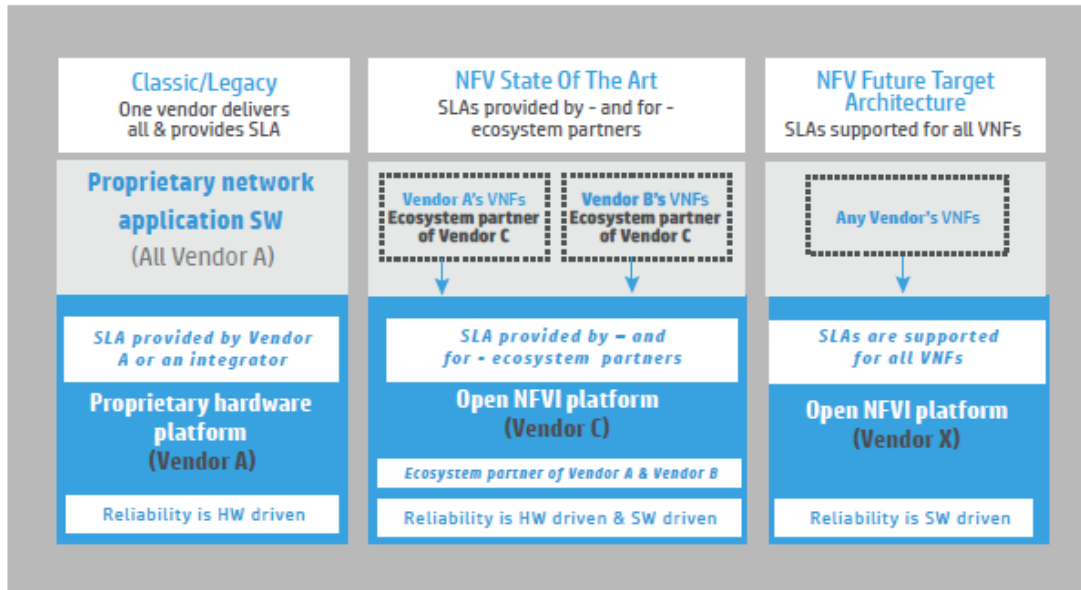


SDN/NFV Accelerate Access Innovation



- ▶ SDN and NFV started in the datacenter with the shift away from proprietary integrated hardware solutions dominated by a few major suppliers towards standard hardware and network functions shifted to software applications
- ▶ The underlying software applications are written with standard APIs and allow for more rapid implementation within the network
- ▶ Each node of the network will shift, but the implementation within each node will be different

SDN/NFV Accelerated by Calix



- ▶ NFV requires faster broadband connections, driven by shared functionality between the data center and the subscriber edge
- ▶ SDN demands flexible, rapidly deployable software applications in order to provide customer friendly solutions on demand
- ▶ The key differentiator for a systems vendor is to have an operating system that facilitates network operators' flexible deployment of software applications across their networks as well as in customer specific situations

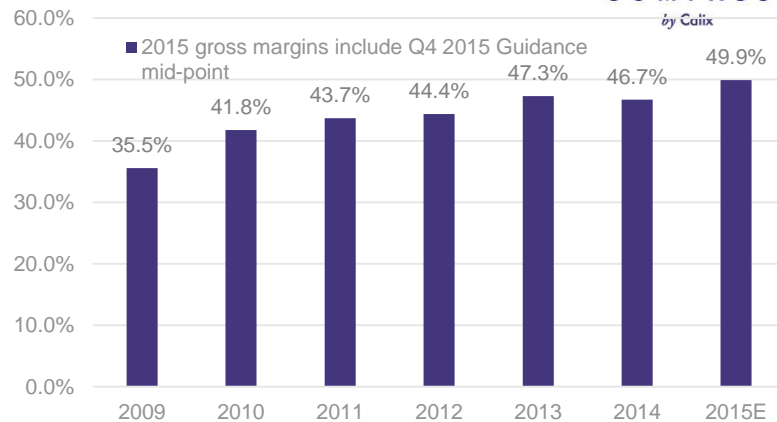
What does SDN/NFV require?

“...to capture the cost saving and revenue generating potential of SDN and NFV, communications service providers (CSPs) have to embrace new ways of achieving traditional objectives...What that requires of vendors is to design network platforms and applications that evolve so that they no longer rely on the hardware providing the reliability but instead are designed to assume the probability of hardware failures and perform failover in software instead”

“A significant part of the value proposition of a more software-centric network is that it enables CSPs to respond much more rapidly to both network conditions and customer demands.”

Source: Evaluating “The State of the State” of Virtualization, Hewlett-Packard, Light Reading, Heavy Reading (July 2015)

Calix Platform Captures the Value Shift



Expanded Revenues

- New Products & Markets
- Focus on NFV & SDN Opportunity



Increased Gross Profit

- Consistent Gross Margin Expansion
- Funds R&D



Long-Term Operating Profit Growth



R&D Investment

- Operating System
- Access Solutions

Economics Favor Broadband Solutions



"The Fioptics suite of products continues to resonate with customers, even as our cable competition aggressively focuses on increasing market share. Fioptics revenue increased 34% compared to a year ago..."

November 4, 2015



"Our Wireline quarterly results were highlighted by FiOS revenue and customer growth with sequential increases in both Internet and video subscribers. We are investing over \$4 billion into the Wireline company a year,... We have already passed 20 million homes when we committed to originally 18 million, so we are very committed to the fios product."

October 20, 2015



"We made key broadband investments to improve speed and reliability which will increase customer retention, improve ARPU and expand our market share... These network upgrades provide a great customer experience, drive higher ARPU and allow us to increase market share."

November 5, 2015



"As we continue to deploy GPON and Prism TV to more locations throughout our footprint, we're attracting more high-value customers and we have increased our ARPU through the continued launch of GPON, higher-value bundled sales and select pricing increases."

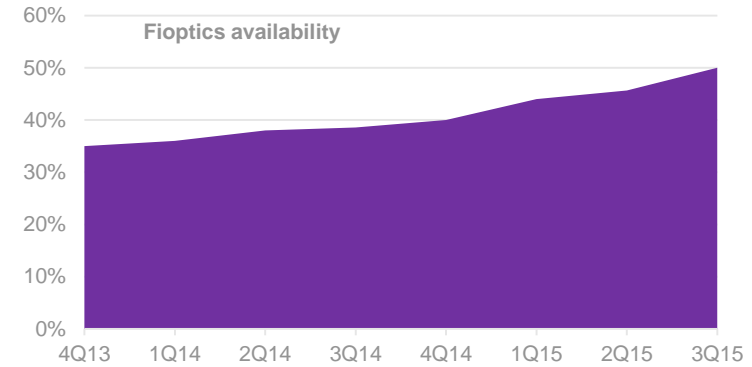
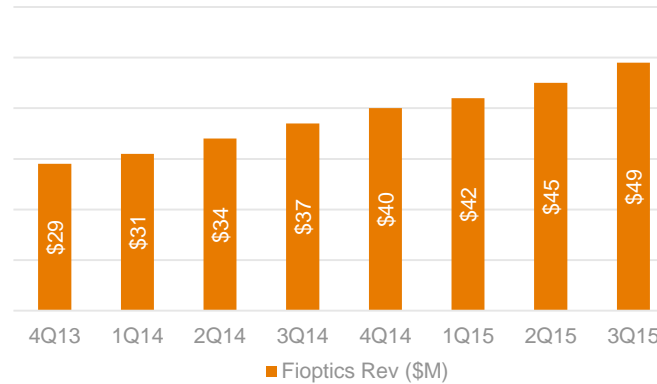
November 4, 2015

Broadband is a Bright Spot for Carriers



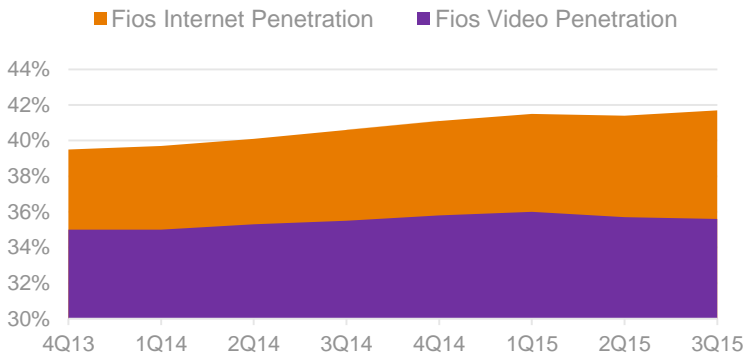
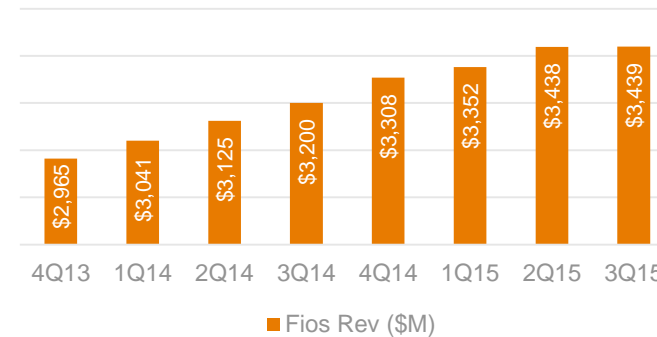
Latest Quarter

Wireline revenues +1% y/y
Fioptics revenues +34% y/y



Latest Quarter

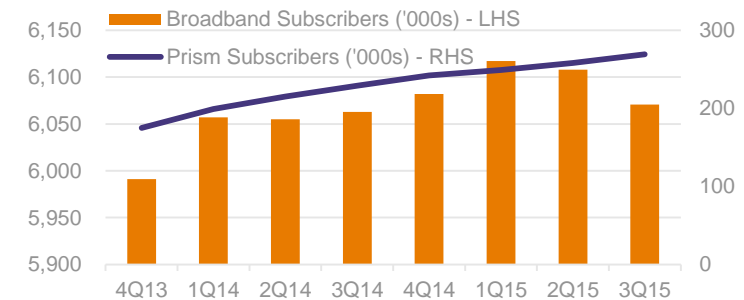
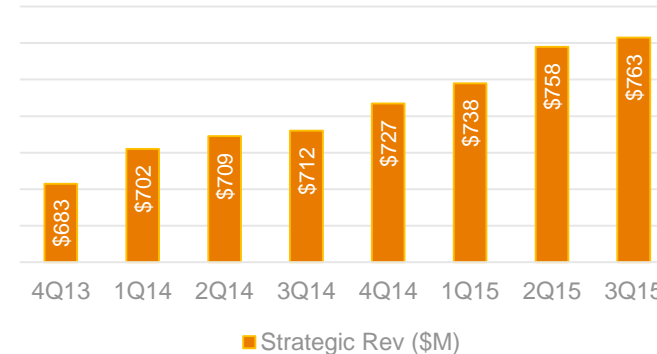
Wireline revenues -2% y/y
Fios revenues +8% y/y



CenturyLink™

Latest Quarter

Wireline revenues +1% y/y
Strategic revenues +7% y/y
Prism subscribers +17% y/y



Source: Company reports

Broadband Access is a “Necessity”

“Broadband access has become a necessity in our everyday lives. In the past few years, broadband has brought sweeping changes in the ways Americans communicate, gather information, conduct commerce, and entertain themselves.”

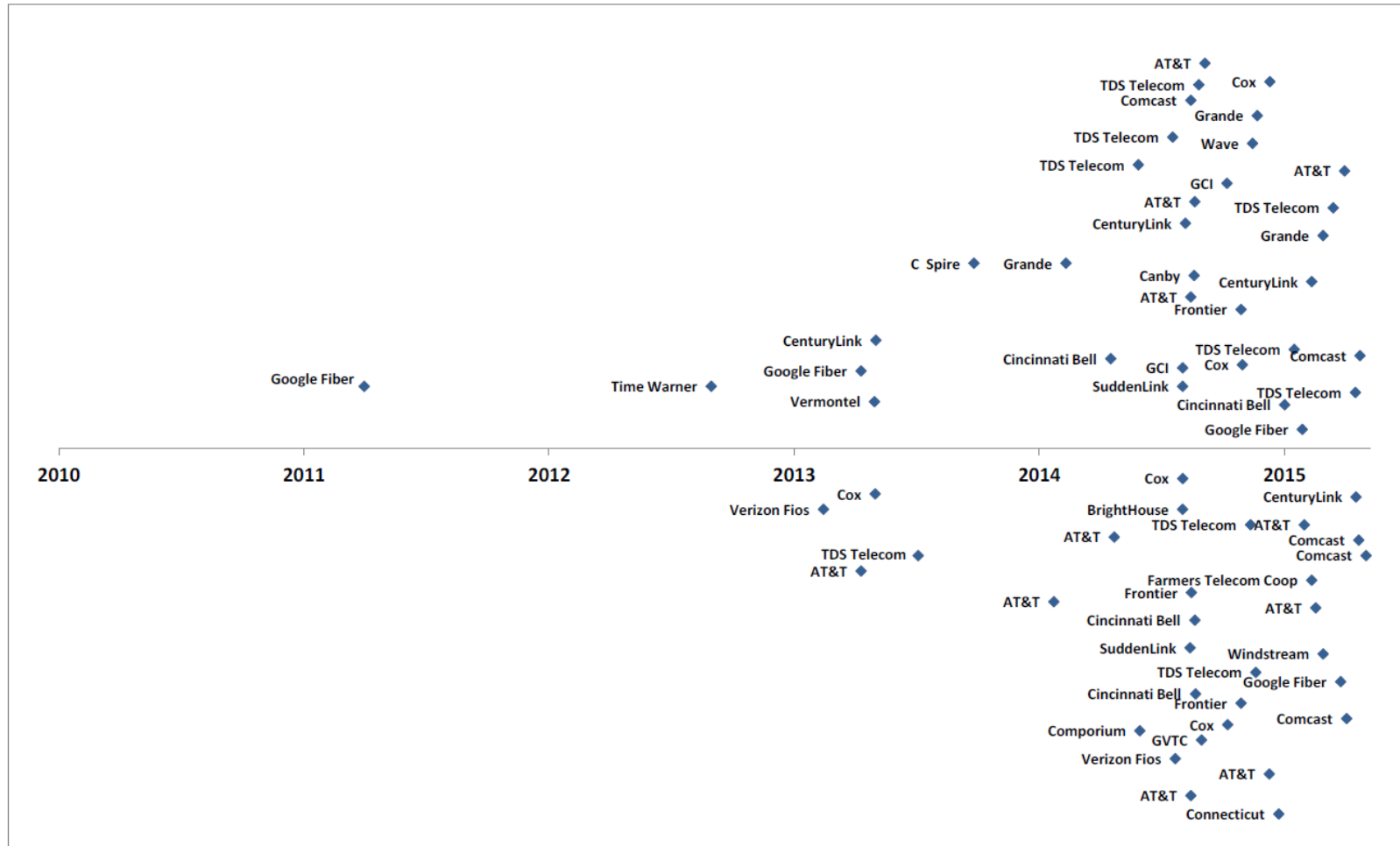
STATEMENT OF FCC CHAIRMAN TOM WHEELER

“Broadband is not just a technology, it’s a platform for opportunity.”

STATEMENT OF COMMISSIONER JESSICA ROSEWORCEL

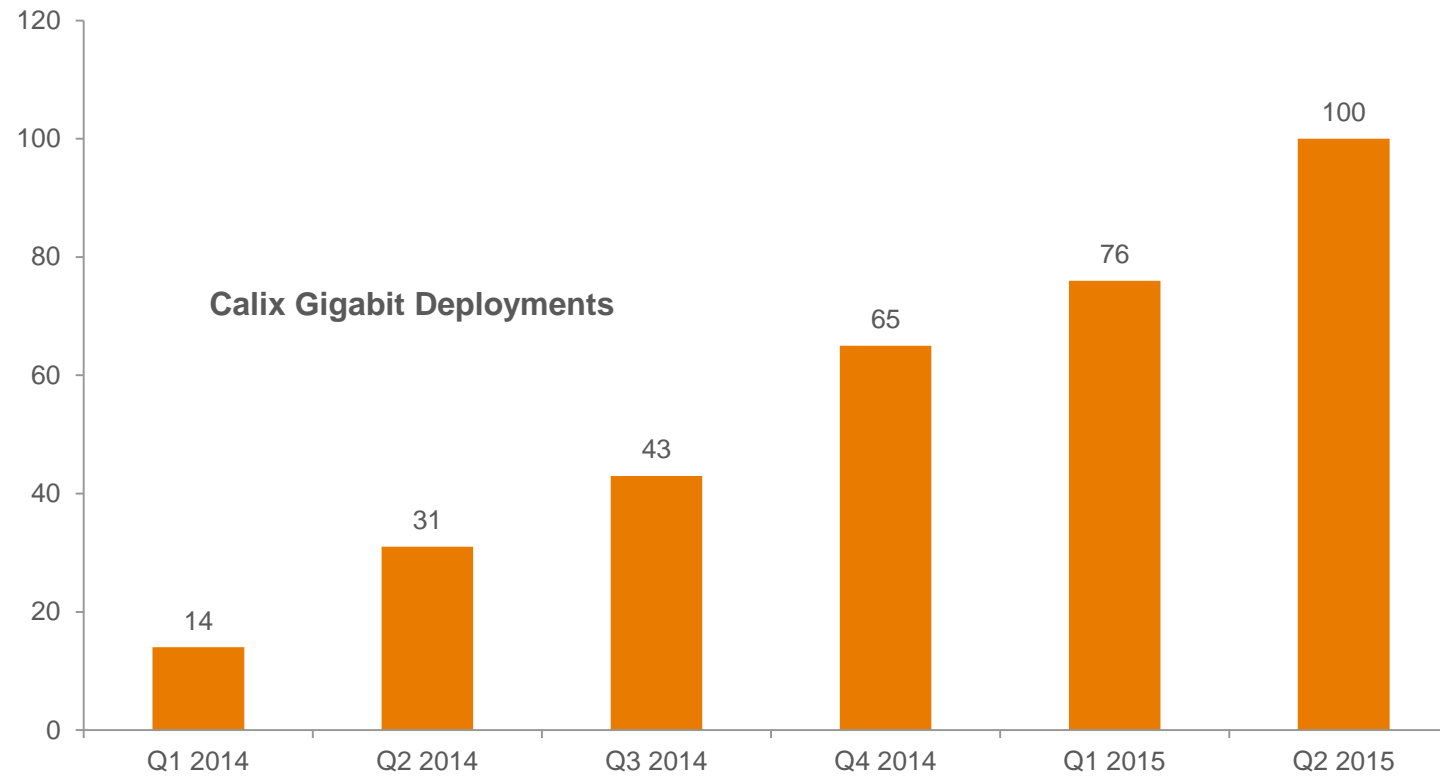
Source: 2015 BROADBAND PROGRESS REPORT AND NOTICE OF INQUIRY ON IMMEDIATE ACTION TO ACCELERATE DEPLOYMENT, FCC, January 9 2015

Deployments Accelerating



Source: *Telecom & Networking Equipment, The FTTP Renaissance, Implications for Vendors* – Jefferies Group LLC May 6, 2015

Calix Customer Deployments Rising



*Additional customer deployments from Calix customers have been secured but not yet announced.

Tier 3 Carrier Deployments Rising

- ▶ 45% of survey respondents currently deploying fiber cover at least 50% of customers with FTTH solutions
 - Up from 41% in 2013
 - 67% of survey respondents plan to offer FTTH to at least 50% of customers by 2017
- ▶ 85% of survey respondents have a long-term fiber deployment strategy
 - 74% of survey respondents plan to offer FTTN to more than 75% of customers by 2017
 - 25% of survey respondents have already completed fiber deployments to 100% of customers

Source: NTCA 2014 Broadband/Internet Availability Survey Report, June 2015.

Additional Information

- ▶ Additional information available at <http://investor-relations.calix.com/>
 - Stock Information
 - Financial Information
 - Corporate Governance
 - Investor Resources



Calix

ACCESS INNOVATION