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Winning USF Reform, Broadband & Operational Strategies

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Winning USF Reform Strategies

Winning USF Reform Strategies

- What would you rather have?

Certainty or Uncertainty?

"*There is nothing more deceptive than an obvious fact*" – Sir Arthur Conan Doyle

Winning USF Reform Strategies

- But is there really any certainty in USF?
  - A-CAM provides you with the certainty of knowing how much support you will receive each year for the next 10 years
    - What happens when unexpected costs arise during the 10-year funding window?
  - Legacy Rate of Return provides you with the certainty of knowing that your cost recovery will align with the costs you incur over time
    - What happens when costs decline or are not as expected during the 5-year funding window?

"*The one unchangeable certainty is that nothing is certain or unchangeable*" – John F. Kennedy

Winning USF Reform Strategies

- What are the variables or rules?

Variable/Rule	Legacy RoR	A-CAM II
• Funding Calculation	• Company specific, actual costs	• Forward-looking economic costs
• Certainty of Support	• Varies based on costs & BCM	• Fixed for 10 years
• Deployment Obligations	• 25/3 to calculated # of locations based on current deployment	• 25/3 to all fully funded locations 4/1 or R/R to partially funded
• Deployment Milestones	• Completed by end of Year 5	• Interim starting in Year 4
• Reporting Requirements	• Annual HUBB reporting for all	• Annual HUBB reporting for all
• Speed & Latency Testing	• Required for all	• Required for all
• Ratemaking Flexibility	• None, beyond pool participation	• Price Caps for BDS
• Limitations on Costs/Support	• Budget Control Mechanism/OpEx Limitation/Ineligible Expenses/ $250-$200/line Support Limit	• None, model-based

Winning USF Reform Strategies

- Winning USF Reform Strategy #1

KNOW THE RULES OF THE GAME!

"It's not wise to violate rules until you know how to observe them." – T.S. Eliot

Winning USF Reform Strategies

- What would you rather have?

$6 Million or $1 Million

"*Well then, this would be more, wouldn't it?*" – Ernie Capadino, *A League of Their Own*

Winning USF Reform Strategies

- The True Picture for "Sample Telco"

	A-CAM	RoR
Prior Year	$ 6,000,000	$ 6,000,000
Year 1	5,500,000	5,100,000
Year 2	5,000,000	4,250,000
Year 3	4,500,000	3,650,000
Year 4	4,000,000	3,100,000
Year 5	3,500,000	2,650,000
Year 6	3,000,000	2,250,000
Year 7	2,500,000	2,500,000
Year 8	2,000,000	2,750,000
Year 9	1,500,000	3,000,000
Year 10	1,000,000	3,250,000
Total	32,500,000	32,500,000
NPV	$28,761,721	$28,143,478

*But this isn't necessarily the final answer…

"It is the mark of a truly intelligent person to be moved by statistics" –

George Bernard Shaw

Glide-Path Scenario 2 - Baseline

- The True Picture for “Sample Telco”

	A-CAM II	RoR	Difference
2018 Claims	$ -	$ 1,334,730	
Year 1	1,267,994	1,146,934	121,060
Year 2	1,201,257	989,554	211,703
Year 3	1,134,521	869,497	265,024
Year 4	1,067,784	840,848	226,936
Year 5	1,001,048	755,064	245,984
Year 6	934,311	734,887	199,424
Year 7	867,575	681,678	185,897
Year 8	800,838	651,170	149,668
Year 9	774,422	605,965	168,457
Year 10	774,422	503,112	271,310
Total	9,824,172	7,778,709	*2,045,463

*But this isn’t necessarily the final answer…

Glide-Path Scenario – Alternate Scenario

- The True Picture for "Sample Telco"

	A-CAM II	RoR – 10% BO Growth	Difference
2018 Claims	$ -	$ 1,334,730	
Year 1	1,267,994	1,246,439	21,554
Year 2	1,201,257	1,183,449	17,808
Year 3	1,134,521	1,094,167	40,354
Year 4	1,067,784	1,073,330	(5,546)
Year 5	1,001,048	985,762	15,285
Year 6	934,311	984,299	(49,988)
Year 7	867,575	937,788	(70,214)
Year 8	800,838	920,763	(119,925)
Year 9	774,422	870,902	(96,480)
Year 10	774,422	601,547	172,875
Total	9,824,172	9,898,446	*(74,275)

*But this isn't necessarily the final answer…

Things to Consider when making this decision

- What do you need to know before answering?
  - Network Design
    - What will it take to meet the deployment obligations under each option?
    - Think about future obligations, competition and customer demand
  - Estimate Costs
    - What is the annual and overall cost to build the network design?
  - Where is the money coming from?
    - Do I have access to the capital resources to build the network design?
  - Forecast Financials
    - 10-year financial forecast (total funding period) w/ focus on cash flow

"He who asks a question is a fool for a minute; he who does not remains a fool forever" – Ancient Proverb

Things to Consider when making this decision

- What do you need to know before answering?
  - Focus on Customer & Competition
    - What does the customer want and will pay for?
    - What is your competition doing?
  - Regulatory Considerations
    - Will there be enough funds to go around (BCM)?
      - We estimate the max reduction of funding is 10% for sample phone company

Winning USF Reform Strategies

- Winning USF Reform Strategy #2

KNOW YOUR NUMBERS!

"Numbers are the highest degree of knowledge. It is knowledge itself" – Plato

A-CAM II vs. Legacy RoR

A-CAM II vs. Legacy RoR: Projected Results

- How did we estimate who will do what?
  - Analysis of 150+ Companies
    - Projection of A-CAM II results based on 12/31/17 FCC Form 477 Data
      - 2018 USF vs Estimated A-CAM II (absolute variance & glide path)
      - Current 25/3 Mbps Deployment (amount of fiber deployed)
        - High = peak Legacy RoR/potential glide path appeal
        - Low = low Legacy RoR/potential need to invest heavily
      - Level of Competition (risk of future competitive auction)
      - Fully Funded Locations (deployment obligations)
        - High = potentially significant additional fiber deployment
        - Low = potentially minor additional fiber deployment
    - Knowledge of individual company
    - Estimate of likely results (A-CAM II, Borderline, or RoR)
    - Extrapolated results to remaining 817 Legacy RoR study areas

A-CAM II vs. Legacy RoR: Projected Results

- Results of Analysis
  - A-CAM II = 40 Study Areas (Extrapolated = 209)
    - $149M in A-CAM II Support
    - $38M net increase from 2018 Legacy RoR
      - $39M in increased Support
      - $1.1M (0.23% of total) in Glide Path Support
  - Borderline = 51 Study Areas (Extrapolated = 267)
    - $156M in Legacy RoR Support
    - $92M in A-CAM II Support
    - $69M (14.43 % of total) in Glide Path Support
  - Legacy RoR = 65 Study Areas (Extrapolated = 340)
    - $209M in Legacy RoR Support

A-CAM II vs. Legacy RoR: Projected Results

- Here's what we estimate will happen…
  - ≈ 300 Study Areas will elect A-CAM II
    - 209 "A-CAM II" + 89 "Borderline"
      - Estimated 1/3 of "Borderline" will elect A-CAM II
    - Total of ≈ 575 on model-based support (≈ 52% of total RoR)
      - 262 A-CAM I
      - 13 AK Plan
      - 300 A-CAM II
  - ≈ 520 Study Areas will remain on Legacy RoR (≈ 48% of total RoR)
  - Glide Path Carriers < 7% of Legacy RoR
    - "A-CAM II" ≈ 0.23%
    - "Borderline" ≈ 14.43% / 3 ≈ 4.81%
    - Total ≈ 5.04%

A-CAM II vs. Legacy RoR: Illinois

- 22 ACAM II offers in Illinois
  - 14 Companies with increases over 2018 Claims
    - Increases range from $11k – $693k
    - Increase of 3%-447%
  - 8 Glide Path Carriers
    - Reductions range from ($80k) – ($2.3M)
    - Decrease of 4% to 37%

What does your 10 year forecast look like?

- CBOL Strategy
- Cashflow Impacts

Winning Broadband & Operational Strategies

Offer “Premium” Broadband Services

- Broadband-Only
  - High end users require more bandwidth
    - Don’t offer low-speed broadband-only options
- Voice Over IP
  - High end customers will subscribe to low cost VoIP where available
    - Offer voice as many customers see it, an add-on to broadband
- Over the Top Video
  - Customers are rapidly cutting the video cord & going OTT
    - Use this as an opportunity to upsell bandwidth
- Managed Services
  - Premium services require an exceptional experience
    - Force customers to have a positive experience, sell/lease and manage the CPE

Broadband Only Industry Penetration

- Total Broadband Only Lines Reported as of 12/31/2017 = 251,025
  - Total Access Lines = 3,428,732 (5.2 million reported in 2002
  - Penetration Rate of BO = 6.82%

- 284 Study Areas reported at least 1 Broadband Only Connection in 2017 out of 1,022 Study Areas
  - 148 Reported at least 10% of Total Connections have BO
    - 18 reported greater than 40%
    - Mean those that reported BO = 12%
  - Highest Penetration = 89%
  - Most BO Customers = 16,189
  - 197 RoR Study Areas out of 682 reported at least 1 BO Connection
- **Broadband Only customers forecasted to double by 2021**

Offer “Premium” Broadband Services

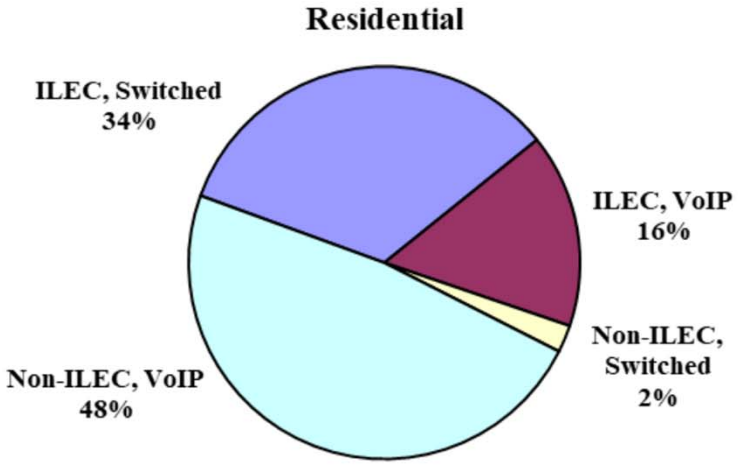
- High End Users Require More Bandwidth & A Better Experience

  * As recommended by BROADBANDNOW® Speed Calculator

Low End User Example*	Moderate User Example*	High End User Example*
• 1 User • 1 Smart TV • 1 Smart Phone • 1 Computer • Daily Use of Devices • No Streaming	• 3 Users (2 Adults/1 Child) • 1 Smart TV • 2 Smart Phones • 2 Computers • 1 Gaming Console • 1 Tablet • Daily Use of Devices • Infrequent Streaming	• 5 Users (2 Adults/3 Children) • 2 Smart TVs • 4 Smart Phones • 3 Computers • 2 Gaming Consoles • 1 Tablet • Daily Use of Devices • Regular Streaming
19 Mbps	47 Mbps	147 Mbps

Offer “Premium” Broadband Services

- High end customers will subscribe to low cost VoIP
  - FCC data shows that customers prefer VoIP to Switched Access Lines



Voice Telephone Services: Status as of June 30, 2017, Industry Analysis and Technology Division, Wireline Competition Bureau, FCC, November 2018

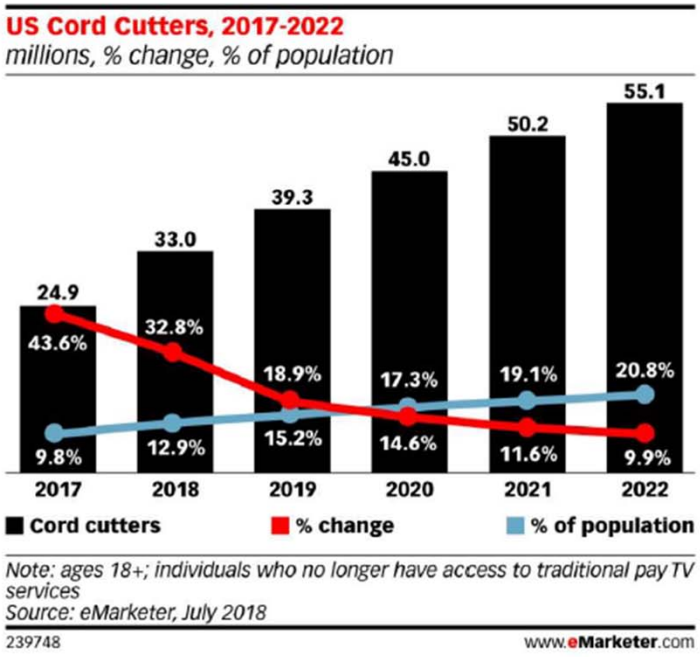
- Low Cost VoIP Providers
  - VoIPo - $6.21/mo.
  - AXVOICE internet phone service - $8.25/mo.
  - phone power - $8.33/mo.
  - 1-VoIP - $8.97/mo.
  - Vonage - $9.99/mo.

* Cheapest residential service offerings per:

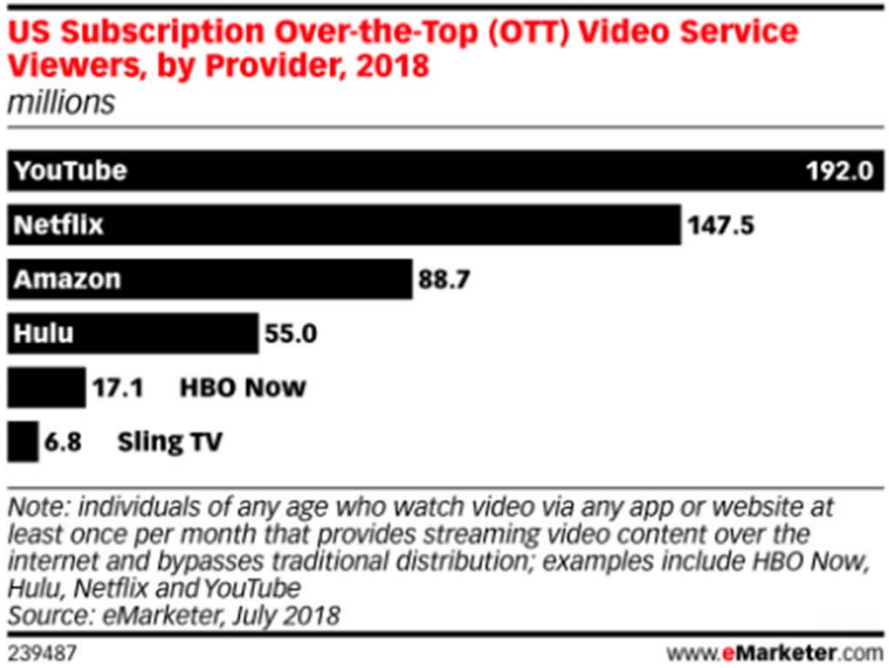
GETVOIP.com

Offer “Premium” Broadband Services

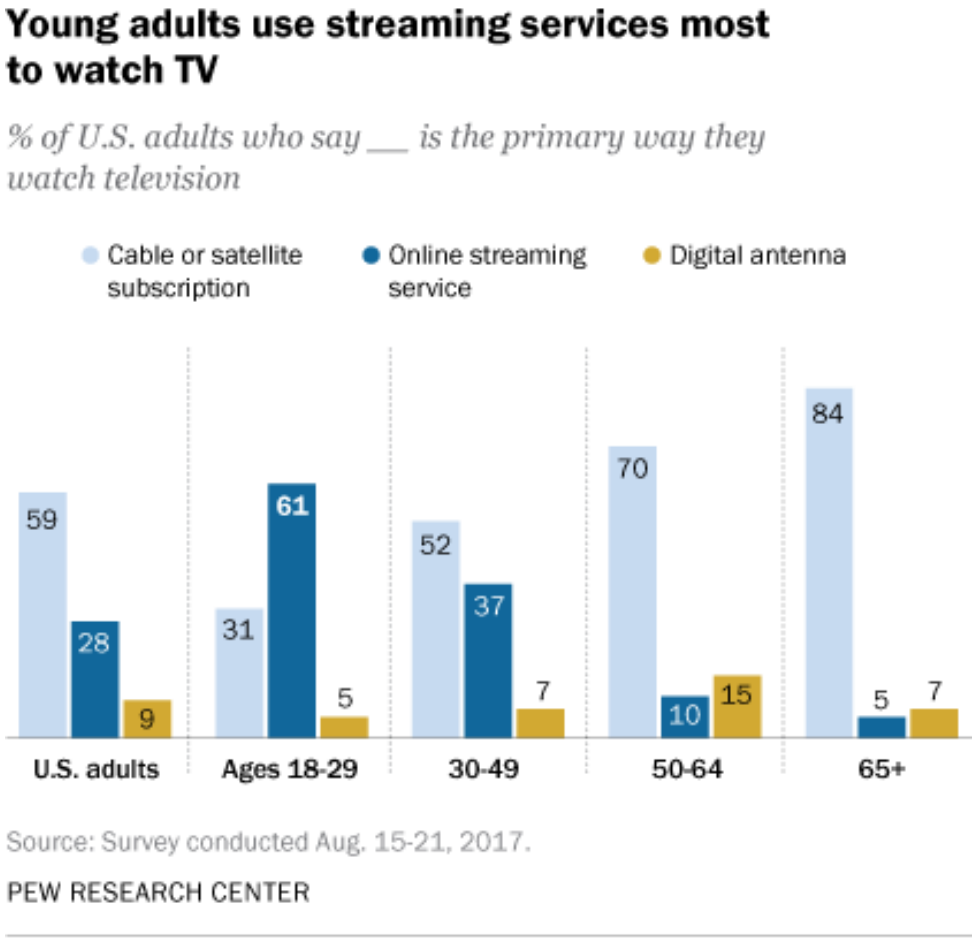
- Customers are Rapidly Cutting the Video Cord



- OTT Video Subscriptions



Offer “Premium” Broadband Services



TV/Video is moving online

Offer “Premium” Broadband Services

- Premium services require an exceptional experience

“If operators want to compete effectively in the connected home, they will need to add value through premium CPE and a quality consumer experience. They already shoulder the blame when things go wrong with Wi-Fi and the network, so they cannot continue to cede ground to new devices while their own services become commoditized.” Brad Russell, Research Director, Connected Home, Parks Associates

At least 70% of rural customers do not subscribe to a Managed Wi-Fi service, Cronin Communications/ Innovative Systems, *2019 Video and Internet Study*

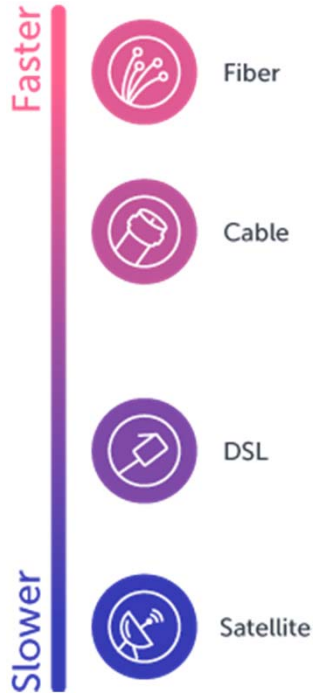
- Sample Pricing for Managed Wi-Fi

	Basic Installation	Managed Plan	Worry Free Plan
Term of obligation	none	month to month	1-year
Installation Fee[1] (preregistration, limited time)	$100	$100	$100
Monthly Fee	Free	$4.95/month	$9.95/month
Initial Hardwire Device Connect	1	1	2
Initial WiFi Device Connect	1	10	10
24/7 Tech Support Line	✓	✓	✓
SSID (WiFi user access) Setup (1)	1	3	3
WiFi Optimization	✓	✓	✓
NetValet Mobile App[2]	✓	✓	✓
Technical Support, Onsite Visits (normal business hours)	Hourly service fee	✓	✓
Initial Phone Cabeling[3]	0 hardwired connects	1 hardwired connect or repair of 1 existing jack	2 hardwired connects or repair of 2 existing jacks
Advanced Network Support[4]		✓	✓
Hands-Free Parental Controls and Time Use Management		✓	✓
Technical Support, Onsite Visits (after business hours)			✓
Existing In-home Wiring Support[5]			✓

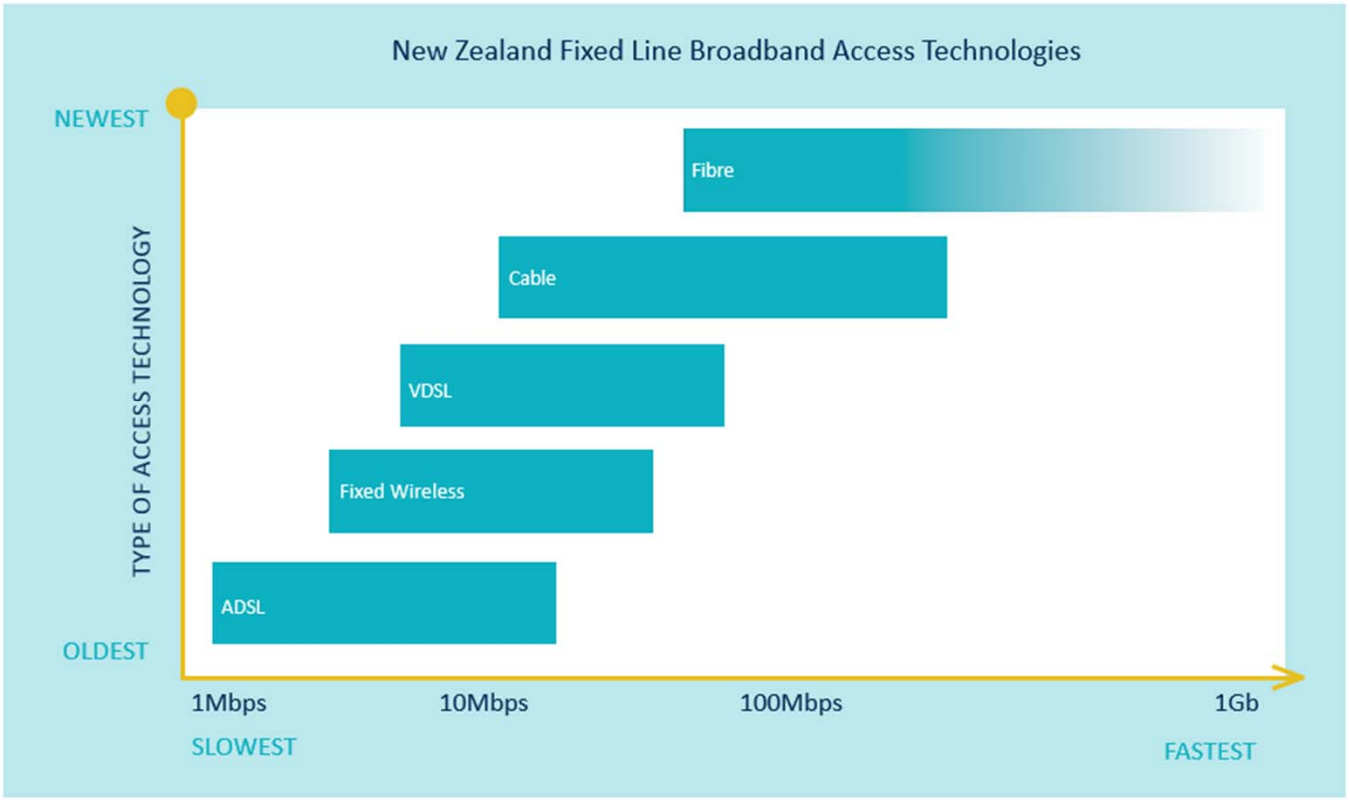
Delta-Montrose Electric Association (CO)

Create a Bandwidth Centric Network

- Fiber to the Home
  - There is nothing that can compete with FTTH
    - Win the customer today and never lose them again
- Supplement FTTH w/ copper & wireless last mile where necessary
  - Be creative with cost effective local loop solutions
    - Beat the competition with the best service possible
- Build/lease fiber transport networks to connect to the world
  - Premium services require an exceptional experience from end to end
    - Do not connect your fire hose to a garden hose
    - Get creative in finding/building cost effective transport



Create a Bandwidth Centric Network



Source: New Zealand Telecommunications Forum, Inc.

Create a Bandwidth Centric Network

- U.S. Connections by Fixed Broadband Technology[1]
  - Cable Modem – 60.29%[2]
  - Digital Subscriber Line (Copper) – 24.4%
  - Fiber – 12.15%
  - Satellite – 1.72%[2]
  - Broadband over Powerline (BPL) – 0.63%[2]
  - Fixed Wireless – 1.17%[2]
  - Mobile Wireless – 74.01% of Total Broadband Connections[2]

[1] *Internet Access Services: Status as of June 30, 2017* – FCC, December 2018

[2] This is who you are competing with

Create a Bandwidth Centric Network

- Be Creative With Cost Effective Local Loop Solutions
  - *Cost Comparison to Connect 23.4 Million People in Rural America*[1]
    - FTTH: $45B - $65B
    - Satellite: $30B - $45B
    - 4G (Higher Frequency): $25B - $40B
    - 4G Fixed Wireless (700 MHz): $15B - $25B
    - TV White Spaces: $10B - $15B
    - Technology Mix: $8B - $12B

[1] *A Rural Broadband Strategy: Connecting Rural America to New Opportunities* – Microsoft, July 2017 (Data Sources: The Boston Consulting Group, 2017, FCC 2016 Broadband Progress Report)

Marketing & Pricing Savvy

- Regardless of competition, we have to get better at marketing our services
  - Customer education on available services is critical
    - How these services make life better – benefits vs.
    - How to properly use the services - features
    - How your services are better than the competition
    - How much bandwidth is really needed
  - Competition is coming in one form or another, so be prepared
    - Customer must know the benefits of your service before your competition arrives
    - It is better to be proactive than reactive

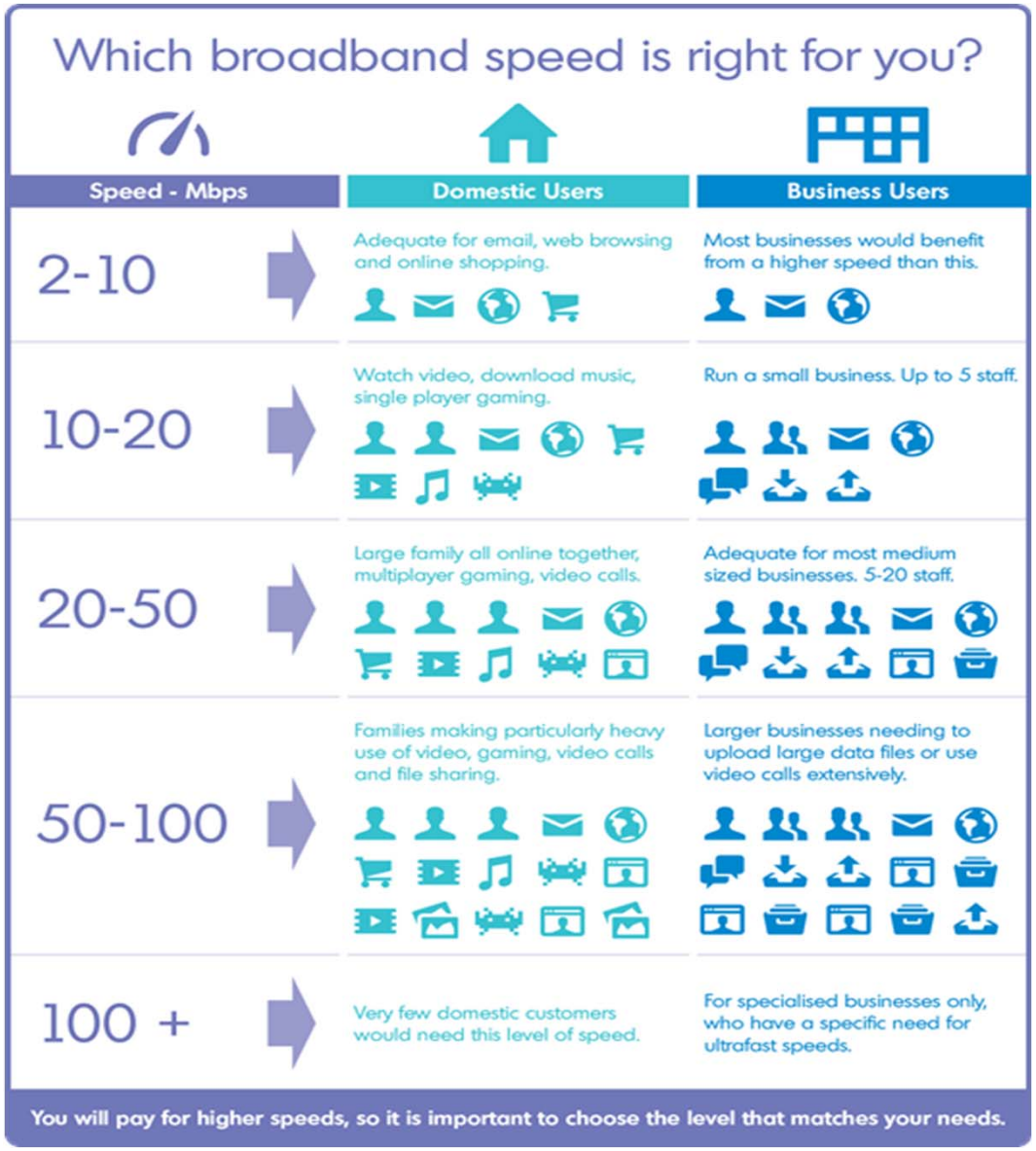
"A merchant who approaches business with the idea of serving the public well has nothing to fear from the competition." – James Cash Penney

Marketing & Pricing Savvy

- In spite of marketing, we have to get better at pricing our services
  - As an industry we fear raising prices
    - Prior to 2012, when was the last time you raised your local rates?
      - Asses local rate strategies related to Access Recovery Charges and Subscriber Line Charges
    - Absent USF support, how would you price your services?
      - Gradual migration to greater dependence on end user rates…start preparing
    - Do you raise rates for broadband when DSL or backhaul costs increase?
      - Name another industry that doesn't raise prices when their costs increase…
    - When costs increase there are 3 primary ways to maintain/increase margins
      - Rates/efficiencies/scale
    - We have to change customer expectations on the value of our services
      - Name a service more valued than broadband in today's culture…

Marketing & Pricing Savvy

- How much bandwidth do customers really need today?
  - Very few currently need 1 Gbps+
  - Educate the customer on what they need
  - Services should be value priced
  - Pricing must recover costs and provide a reasonable margin
  - Difficult to raise prices significantly if you start too low
  - Maintain the ability to upsell bandwidth



Source: https://www.scotlandsuperfast.com/latest-stories-and-events/stories/what-broadband-speeds-do-you-need/

Closing Thoughts

- Winning USF Reform Strategies
  - Know the rules of the game so that you can forecast the impacts
  - Know your numbers so that you can make an educated election
- A-CAM II vs. Legacy Rate of Return
  - A-CAM II, even on a glide path, may be a viable option for many
  - When the dust settles, we expect ≈ 50% of RoR ILECs to be on Model Based support
- Winning Broadband & Operational Strategies
  - Meet customer demand and beat the competition
    - Offer premium broadband services
    - Create a bandwidth centric network

Pricing Options

- Key Takeaway: Need to price to maintain End User revenue, do not give back incremental support revenue
  - See example of fixed rate pricing exercise -
  - Measured of Metered Internet Pricing –
    - Pros – Customer gets top of the line service and the best you have to offer, treat as a Utility, pay for what you use, reduce trouble tickets and expenses, ease of revenue and rate adjustments
    - Cons – perception of customer satisfaction, varying revenue, susceptible to changes in demand
    - Case Study -

Pricing – Do Not Do

Voice/Data Customer Bill

Local Service = $18
Local Taxes =$2
ARC = $3
SLC = $6.50
FUSC = $1.50
Internet (10/1 MBPS)= $50
Total Monthly Bill = $82
+ HCLS = $34
+CAF BLS = $34

Total Revenue/mnth = $146

Pricing – Do Not Do

Voice/Data Customer Bill

Local Service = $18
Local Taxes =$2
ARC = $3
SLC = $6.50
FUSC = $1.50
Internet (10/1 MBPS)= $50
Total Monthly Bill = $82
+ HCLS = $24
+CAF BLS = $30

Total Revenue/mnth = $136

Broadband Only Bill

Local Service = $0
Local Taxes =$1
ARC = $0
SLC = $0
FUSC = $0
Internet (10/1 MBPS)= $50
Total Monthly Bill = $51
+ HCLS =
+CAF BLS = $80

Total Revenue/mnth = $131

Pricing – Recommended

Voice/Data Customer Bill

Local Service = $18
Local Taxes =$2
ARC = $3
SLC = $6.50
FUSC = $1.50
Internet (10/1 MBPS)= $50
Total Monthly Bill = $82
+ HCLS = $24
+CAF BLS = $30

Total Revenue/mnth = $136

Broadband Only Bill

Local Service = $0
Local Taxes =$1
ARC = $0
SLC = $0
FUSC = $0
Internet (100/10 MBPS)= $80
Total Monthly Bill = $81
+ HCLS =
+CAF BLS = $80

Total Revenue/mnth = $161

Broadband Only Pricing:

Assumptions | Fixed Pricing | Metered

1,200 Internet Customers

Fixed Price:

25/3 Mbps – 960 - $50/month

50/5 Mbps – 150 - $75/month

100/100 – 60 - $100/month

1 gig – 30 - $150/month

Metered Price:

$20/month

$.25/gig

Average Usage = 154 gig/month

Broadband Only Pricing:

Assumptions | Fixed Pricing | Metered

1,200 Internet Customers

Fixed Price:

25/3 Mbps – 960 - $50/month

50/5 Mbps – 150 - $75/month

100/100 – 60 - $100/month

1 gig – 30 - $150/month

Metered Price:

$20/month

$.25/gig

Average Usage = 154 gig/month

Total Revenue -

Per Month = $69,750

Per Year = $837,000

Broadband Only Pricing:

Assumptions	Fixed Pricing	Metered
1,200 Internet Customers Fixed Price: 25/3 Mbps – 960 - $50/month 50/5 Mbps – 150 - $75/month 100/100 – 60 - $100/month 1 gig – 30 - $150/month Metered Price: $20/month $.25/gig Average Usage = 154 gig/month	Total Revenue - **Per Month = $69,750** **Per Year = $837,000**	Fixed Fee Revenue - per Month = $24K per Year = $288K Usage Fee Revenue - per Month = $46K per Year = $554K **Total Revenue –** **per Month = $70,000** **per Year = $842,000**

Broadband Only Pricing:

Assumptions

1,200 Internet Customers

Fixed Price:

25/3 Mbps – 960 - $50/month

50/5 Mbps – 150 - $75/month

100/100 – 60 - $100/month

1 gig – 30 - $150/month

Metered Price:

$20/month

$.30/gig

Average Usage = 154 gig/month

Fixed Pricing

Total Revenue -

Per Month = $69,750

Per Year = $837,000

Metered

Fixed Fee Revenue -

per Month = $24K

per Year = $288K

Usage Fee Revenue -

per Month = $55K

per Year = $665K

Total Revenue –

per Month = $79,000

per Year = $953,000

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Questions?

Thank you!

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