



Marketing & Sales Interest Groups

2021 Initiatives | Final Deliverable

CTAM 2021 Marketing & Sales Interest Groups

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Summaries by Interest Group

Convergence (Progression of Bundling)

Lead: Deepa Venkataraman, Mark Snow CTAM

2021 Objective

Evolution towards a seamless connectivity platform in the home for consumers that is powered by broadband.

Members

- Altice – Graziella Drahi, Pedro Pinheiro

- Armstrong – Peter Grewar
- Charter – David Gray
- Cox – Jason Axsom, Jodi Muller-Stotser, Betty Jo Roberts
- Comcast - Kelly Barlow, Morgan Daloisio, Mike Gatzke
- Mediacom – Dianne Schanne
- Rogers – Helene Bahsous, Mustafa Zileli
- Shaw – Alex Martin, Colin McWhinnie

Summary

The group met four times this year concentrating on the idea that price and value bundles can evolve to include functional value added and integrated UX experiences that make the whole stickier than the parts.

Key areas of discussion:

- Convergence defined as a semi-aspirational concept that has three discrete stages:
 - Financial – the price/value notion where traditional bundling started
 - Managerial – combining things like broadband, home automation, mobile, etc., can be made easier working with one provider
 - Experiential – the most powerful; a UX where the boundaries between traditional products blurs or vanishes in terms of features, common navigation/UX; done well and the notion of removing one part seems counterintuitive – it's a BRAND X experience, not a product A + product B experience.
- Convergence has connectivity at the center:
 - Connectivity includes broadband, in-home Wi-Fi, IoT control tools, out-of-home Wi-Fi hotspots, as well as Mobile (broadband and voice).
 - Things like TV and local phone and home security, etc., are all extensions and made possible/better by this core of connectivity.
 - From the customer perspective, the aspirational endgame creates a contiguous UX experience such that the lines between products blurs or even disappears
- To what extent can CTAM help with messaging to consumers but also internally to trade press and other influencers and the industry analysts? “Owning” the concept of convergence as a game changing pivot from price/value bundles is possible.

The group met in August in partnership with the Competition group discussing the following:

- How does the industry take the next step in positioning/messaging converged offerings?
- How do we highlight the benefit of Internet + Mobile w/5G together that not only yields a powerful savings message, but also serves a compelling message around the notion that the two are really one thoughtfully designed experience designed to work better together?

Competition (5G)

Lead: Mark Snow, CTAM

2021 Objective

How to leverage the power of 5G in the marketplace.

Members

- Altice – Andre Martineau, Helene Pandal
- Charter – David Gray
- Comcast – Eileen Diskin, John Hewson, Peter Intermaggio, Sarah New, Stephanie Pearlman, Jim Powell, Ginny Too
- Cox - Bruce Berkinshaw, Kristine Faulkner, Jennifer Rich, Wendy Rosen
- Mediacom – Dianne Schanne, Eric Schoenfeldt
- Rogers – Sameer Sheth
- Shaw - Lisa Cooke

Summary

Meeting monthly, the Competition Working Group began the year focused on the threat of fixed wireless Internet providers, specifically T-Mobile's Home Internet service.

- We reviewed the announced T-Mobile offering in detail and exchanged best practices on how MSOs will approach at-risk footprint.
- CTAM invited Jonathan Chaplain from New Street Research to share his thoughts on the fixed wireless threat and threats generally to MSO broadband
 - He stated that T-Mobile's offering will be a very small factor in upgraded MSO broadband footprints, but that telco fiber was a much greater threat, particularly AT&T and potentially Frontier.
 - He predicts a 20 point move from 45% to 65% in fiber overbuild to MSO footprints over the next several years. The group continues to meet with a full report ready for the October board meeting.

The group also met jointly with the Convergence Working Group to address the larger implication of a shift to converged offerings like Broadband + Mobile/5G.

- Competitive positioning opportunity to "inoculate" the MSOs with mobile service from the FOMO factor around 5G. "Of course, we have 5G; it's part of our best-in-the-business offering of home internet and mobile w/5G"
- See Convergence group above for more on this joint meeting

In October, the group met to share and discuss the best practices for detecting fixed wireless home internet competition in-market. Methodologies included:

- Public announcements by DMA mapped to footprint Zip Codes
- Direct mail insights to determine patterns, volumes, offer language
- Social listening
- Hiring patterns analysis
- Defector analysis and research

- Speed test insights – where, how many, how fast at what times of day
- Wireless spectrum detection and mapping
- Permit and pole attachment tracking

The group also weighed in on the Fiber and 5G research questions in the Q4 mover study along with the MSO Research Working Group, the Retention Working Group, and the Mover Marketers.

Retention

Lead: Cindy Mirabella, CTAM

2021 Objective

Focus on nurturing and the customer base across channel (phone, mail, digital, etc.) across lifecycle

Members

- Altice – Laura Goldring, Jen Murphy Packer
- Armstrong – Peter Grewar
- Cable One –Nanci Campbell
- Charter – Tamara Bowens, Joe Carillo, Jen Garrett, Kathleen Griffin, Dave Lampman, Roseanna Underwood
- Comcast - Ken Flynn, Pooja Kapadia, Dina Pappas
- Cox - Tony Maldonado
- Mediacom – Eric Schoenfeldt
- Rogers – Chris Smale
- Shaw - Karin Borgersen, Dan Sumner

Summary

The group commenced in February with discussions on:

- Approaches to retaining COVID-19 broadband connects.
- Trends in mover data indicating lower likelihood of household re-capture especially in urban areas.
- The elevation of internet to “mission critical to daily life” status and resulting changes in network performance monitoring.

A running list of subjects of interest included:

- Loyalty programs
- Competition (e.g., fixed 5G wireless)
- Retention of broadband-only subscribers
- Legacy platform migration
- Data mining to identify at-risk subs to create/execute proactive retention campaigns

Loyalty Programs:

- The group spent several calls reviewing what works/doesn't work and who is doing what with loyalty programs, including a presentation by Sky on their VIP loyalty program.
- A consistent finding is that loyalty programs tend to succeed or fail based on three factors:
 - Commitment of CEO and/or CFO
 - Perceived strong value of benefits to consumers
 - Reasonable actual cost of benefits to company
- The ability to convincingly demonstrate program impact on retention is essential to executive commitment.

Remaining topics for 2021:

- Known/suspected drivers of current lower customer connect/disconnect activity levels
- Sharing data mining and modeling approaches to identify at-risk subscribers

Note: CTAM continues to involve and update this team on the Competition team and Convergence team activities due to overlapping interests.

MDU

Lead: Cindy Mirabella, CTAM

2021 Objective

Provide a forum for members to discuss common issues relative to B2B and B2C marketing to MDUs.

Members

- Altice – Michael Ramos
- Charter – Jason Barone, Lisa Cortes, Jen Garrett, Cindy Heitsman, Allison Novasel
- Comcast – Morgan Daloisio, Cheri Davies, Stephanie Pearlman, Megan Wismer
- Cox – Jason Axsom, John Hays, Josh Lunsford, Vickie Rodgers, Suzanne Schlundt, Robert Seldon
- Mediacom – Eric Gill, Leann Treloar

Summary

This group covered topics of interest to B2B and B2C MDU marketers and attempted to balance the interests of both in discussing topical areas relevant to each team member to uncover new ideas and practices. The kick-off call in April focused on the structure of MDU resources at each MSO, to provide the group a reference for each participant's perspective and interests.

- Participants have discussed and/or shared best practices on:
 - Companies' approaches to segmentation
 - Availability of quick/hot connect type processes
 - Referral and rewards programs
 - Approaches to exclusive marketing programs
 - Shared best practices on client relationship development with various segments, including developers, property, and HOA managers,
 - Efforts to understand complexity of prospects within a single dwell type
 - The concept of value-based and size-based segmentation schemes

EBB

Lead: Mark Snow, CTAM

2021 Objective

To all members to engage in cooperative discussions regarding the implementation of the U.S. Government's new Emergency Broadband Plan.

Members

- Altice – Audrey Pinn
- Armstrong – Dave Wittmann
- Atlantic – Paul Sheridan, Andy Walton
- Charter – David Andreski, Sharon Peters
- Comcast – Jeff Burke, Ken Flynn, Stephanie Pearlman
- Cox – Bill Lynch
- GCI – Stephanie Lovett
- MCTV – Katherine Gessner
- Mediacom – David McNaughton, Tom Larsen
- Sparklight – Varn Chavez

Summary

The EBB Working Group was formed at the March 2021 Co-op Board Meeting when the group decided a cooperative discussion on best practices would be helpful given the fast pace and novelty of the program. The group met weekly from March through August with a few breaks due to holidays and is on pause until the infrastructure bill passed in the U.S. Senate becomes law, at which time the name, the level of subsidy, and other details are likely to change.

Key areas of discussion and best practice sharing included:

- How to guide consumers through the approval process
- Best practices for identifying and marketing to key demographic groups
- How to handle prorating of discounts at the start of service
- The mix of existing vs new subscribers
- Promoting EBB to schools and libraries
- Common denial reasons
- Common ways consumers are qualifying

CTAM also conducted a test paid search digital media campaign in May and June using \$10,000 of LeadShare funding approved by the LeadShare board. The test yielded 109K impressions and 8,900 clicks (8.1% CTR) and a cost/click of \$1.13. 29% of visitors converted to a lead for a total cost per lead of only \$3.78. Even this modest buy was able to attain an 18% share of impressions while active. CTAM suggests MSOs consider having an EBB digital media campaign or else have CTAM maintain one on everyone's collective behalf.

Direct Sales

Lead: Deepa Venkataraman, CTAM

2021 Objective

Provide a forum to discuss current challenges and opportunities specific to this sales channel.

Members

- Altice – Michael Kabel
- Armstrong – Peter Grewar
- Charter – Scott Niles
- Comcast – Adrian Adriano, Jen Hartey
- Cox – Ron Herring
- Rogers – Christopher Rowe
- Shaw – Pat Button, Alex Martin

Summary

The group has met quarterly this year to discuss updates in market conditions and their evolving approach to sales operations. Most MSOs sent reps back into the field in the first half of the year. Self-installs became a critical part of the mix for all. With a changing landscape, there are some challenges on how to reset performance benchmarks for the new conditions.

In recent months, MSOs have established (and adapted) mandates around vaccinations, masking, and other aspects of Covid-protocol. One of the dominant challenges of this year has been talent, specifically recruitment and retention. Some MSOs are outsourcing recruitment, and others are considering new incentives and tactics, but it is uniformly a key area of attention. CTAM is in the process of collecting response to a survey, collecting best practices in the area of recruitment and retention which will be distributed to all the Sales Channel groups.

Retail Sales

Lead: Deepa Venkataraman, CTAM

2021 Objective

Provide a forum to discuss current challenges and opportunities specific to this sales channel.

Members

- Altice – Jonah Pollack
- Armstrong- Peter Grewar
- Comcast – Rich Bloom, Robert Wyllner
- Cox – John Hays, Ron Herring
- Mediacom – Jeri Williams
- Rogers – Vedran Petrusic
- Shaw – Paul Kippax
- Sparklight – Penny Malone

Summary

This group met quarterly to track collective progress and changes to the retail environment as the year unfolded, including the increased use of technology in-store. The retail channel saw traffic and revenue return in the earlier part of the year, with some changes seen in the type of transactions conducted in-store.

Wireless was a key factor in traffic activity in the retail channel. Most MSOs pivoted more activity to the digital space, but with continued eye on the importance of and full return to retail, including maintaining safety protocols and determining and focusing on optimal in-store activity. Covid protocols remain flexible, according to the changing health guidelines for different markets. This includes vaccination and mask mandates for employees.

Similar to other sales channels, staffing, compensation, and retention have posed challenges this year. Call centers/remote work are very attractive for potential candidates during this pandemic. CTAM is in the process of collecting response to a survey, collecting best practices in the area of recruitment and retention which will be distributed to all the Sales Channel groups

Balance of Trade (formerly e-Commerce)

Lead: CTAM Mover Marketing Team

Members

- Charter – Joe Carillo, Kathleen Griffin, Brandon Leyden, Sharon Peters, Roseanna Underwood
- Comcast – Amanda App, Kim Draves, Jinx Joglekar, Jason Wicht, Meghan Wismer, Josh Zuilkowski

Summary

Earlier in the year, CTAM repurposed the E-Commerce Working Group, which had been originally tasked with tackling yet-to-be-defined best practices and program improvements related to digital media, buy flow, and serviceability, and instead focused on the key areas defined by the Co-op Board during the March meeting: Balance of Trade, Serviceability, and Adobe Sales Reporting. And although not specifically a digital tactic, this group also oversaw progress on the Hotline Reinvigoration initiative.

Comcast and Charter requested they meet together since they had several reciprocal issues to iron out, and the other MSOs have been meeting with CTAM 1-1. Starting in October, the groups will combine and meet monthly as one working group with the senior leaders joining every other month starting in November. The goal is to complete the goal of improving the rate of leads shared between MSOs across the digital and call center domains. As we pivot into 2022, we will tackle the larger issues around serviceability, which will not only help inter MSO lead sharing, but also digital sales in general.

MSO Research Working Group

Lead: Mark Snow

Members

- Altice- Helene Pandal
- Charter – Meghan Dering, Darcy Foreman, Julya Fridman, Mary McKenna, Erin Morris, Zoe Santo, Charlotte Siegel, Mike Wurst
- Comcast – Reshma Bennur, Ed Gordan, Peter Manickas, Scarlet Wynns
- Cox – Louis Goldberg, Wendy Rosen, Brian Stifel, Catherine Willis
- Mediacom – Christine Bryant

Summary

The MSO Research Working Group began meeting again in Q2 of 2021 after a hiatus during COVID-19 beginning in Q2 of 2020. The group worked to refine the questionnaire for the CTAM Broadband Adoption Study and the Q2, Q3, and Q4 CTAM Mover studies. The group meets as needed to also discuss best practices share-and-learn topics. Teed up for Q4 is a broad discussing around Agile Research methodology.

Presentations & Call Notes by Interest Group

Convergence

Presentation: CTAM IEN 5G and Broadband Mobile Brief Update 10 28 MS

CTAM Industry Positioning 2021

“Value of Broadband” Brief

Background

Launched in 1999, CTAM continues to build on a foundation of informative, fact-based content to help consumers make smart Internet and entertainment technology choices.

At SmartMove.us/choice, we offer answers and online tools to guide consumer decision-making, whether they're cord cutting, adjusting to COVID-driven lifestyle changes, or managing the speed demands of streaming content.

To reinforce the value of broadband during and post-pandemic, we're creating five animated “explainer” videos, along with three online tools, and associated blogs and infographics. Topics are: managing in-home connectivity, working from home, streaming, gaming and 5G/broadband wireless.

5G/Broadband Insights

- Everyone is trying to outshout one another on 5G, but they all work the same. What matters is convergence – 5G + Wi-Fi.
- Most think they need to buy mobile service from separate company to get the best.
- This is a new concept for consumers. Right now, mobile from the cable provider is a savings option when bundled with other services.
- Others are hearing about a new 5G service from their cable Internet provider -- but confused. Why is this 5G service different?

Messaging Exploration

- Built together. Better together.
- New specially designed technology that combines the advantages of 5G and broadband WIFI
- 5G network specially designed to be part of your internet experience.
- Combined to give you best possible mobile experience.

- Wireless from the minds that brought you the best in broadband Internet
- Instantly gives you the best connection wherever you are – in and out of your home.
- Wherever you go, you're connected. Seamlessly.
- Fast. Secure. Dependable.
- Joined together to offer more advantages – and save you money.
- 1+1 = mobile bliss

Video Explainer Draft Script: "BETTER TOGETHER"

NARRATOR (OUTDOORS IN A PARK WITH OTHERS ON PHONES / TABLETS)

DO YOU KNOW THERE'S A NEW WAY TO "MOBILE?"

NARRATOR

(IMAGES)

THERE'S A SPECIALLY DESIGNED MOBILE SERVICE
THAT COMBINES TODAY'S MOST-ADVANCED COMMUNICATIONS NETWORKS:
5G AND CABLE BROADBAND.

TWO NETWORKS THAT WORK BETTER TOGETHER –
SO YOU GET THE FASTEST, MOST-SECURE MOBILE CONNECTIONS WHEREVER YOU
ARE.

NARRATOR

(AT BOARD)

LET ME EXPLAIN.

NARRATOR

(IMAGES)

THIS SERVICE IS LIKE HAVING A BLANKET OF CONNECTIONS WITH YOU EVERY
WHERE YOU GO.

WHETHER YOU'RE STREAMING A MOVIE TO A TABLET IN YOUR DEN
OR YOU'RE ON A ZOOM MEETING IN A PARKED CAR –
YOU'LL GET THE BEST AVAILABLE CONNECTION
FOR THE BEST POSSIBLE EXPERIENCE...

INSTANTLY. SEAMLESSLY.

NARRATOR

(DIGITAL WHITE BOARD)

AND EVERYTHING YOU EXPECT FROM YOUR CABLE BROADBAND IS PART OF THIS MOBILE SERVICE TOO:

SPEED. DEPENDABILITY. SECURITY. VALUE.

YES -- I SAID VALUE.

YOU GET ALL THE BENEFITS OF TWO NETWORKS FROM ONE PROVIDER AT A GREAT PRICE COMPARED TO BUYING TWO FULL PRICED SERVICES SEPARATELY.

MOBILE BLISS!

NARRATOR **(DIGITAL BOARD)**

IN SUMMARY...

THE CONVERGING OF 5G MOBILE AND CABLE BROADBAND TECHNOLOGIES MEANS YOU HAVE THE BEST OF BOTH. AND BOTH ARE...BETTER TOGETHER.

LEARN MORE HERE. AN INFORMED CHOICE IS A SMART MOVE.

Call Notes: March 4, 2021

Welcome/Roll Call

Mark Snow welcomed the group and gave an overview of the call agenda.

Call Attendees:

Altice – Pedro Pinheiro, *VP, Offer Strategy*
Armstrong – Peter Grewar, *Director, Sales*
Charter – David Gray, *GVP, Offer Management and Market*
Cox – Jodi Muller-Stotser, *Executive Director, Retention*
Comcast – Mike Gatzke, *SVP, Video Subscription Services*
Comcast – Jason Wicht, *SVP & Chief Commercial Officer*
Mediacom – Dianne Schanne, *VP, Acquisition Marketing*
Shaw – Alex Martin, *VP, Growth*
Shaw – Colin McWhinnie, *Manager, Consumer Product Value*
CTAM – Mark Snow, Deepa Venkataraman and Renee Harris

What is Convergence: The Evolution of the Bundle and the User Experience – Jason Wicht, Comcast

Jason Wicht, SVP & Chief Commercial Officer, Comcast provided the group an overview of the topic of Convergence.

Wicht noted there are three key areas of focus for Convergence from Comcast's perspective:

1. Pricing Convergence – buy two get a discount.
2. True Product Convergence – do we as an industry live up to the notion “better together”. Product value is enhanced by integration with another product.
3. Experience Convergence – the way the customer interacts and engages with a product. UX value is enhanced when integrated at the UX level.

Group Discussion

Altice asked the group if on the packaging proposition side there is still value in the bundle? Or are the products seen by the customers as add-ons to the core broadband product?

Comcast

Broadband is indeed the heart but there is value in packaging, in that the broadband value proposition also gets better with integration with other services. So, broadband becomes the connective tissue, with the other components supporting the value proposition. All the components get better when put together.

Shaw

Much of Shaw's perspective is similar to Comcast's as they are syndicated on the Comcast platform. Shaw mobile was launched in August 2020 with a “by the gig” plan and an “Unlimited” plan. They agree that broadband is the core product and have structured the value proposition for customers in this space in that as they move up the broadband chain and subscribe to higher level services, they get a better experience and the latest gateway modem – it also unlocks more savings with Shaw Mobile. In October they introduced a plan that unlocks more savings – once a customer upgrades to gigabit internet with Shaw the \$45 unlimited mobile plan decreases to \$25.

Charter

Charter also agrees with Comcast and Shaw. Charter notes that beyond billing platforms, what is core versus what is separate? Charter tends to emphasize the simplicity in things – Charter wonders how convergence could help simplify things for customers.

2021 Topic Areas

- Billing convergence

Defining Success for 2021

The group will define deliverables once the analysis of the topics are underway.

Next Steps/Call Cadence

The group decided on one-hour calls should held monthly. CTAM will poll the group to find the best day/time.

The group is also open to email discussions between scheduled calls as needed.

Call Notes: May 7, 2021

Welcome/Roll Call

Deepa Venkataraman welcomed the group and gave an overview of the call agenda.

Call Attendees:

- Altice – Pedro Pinheiro
- Charter – David Gray
- Cox – Jason Axsom
- Mediacom – Dianne Schanne,
- CTAM –Deepa Venkataraman, Ariane Guardarramas and Renee Harris

Group Discussion

Which of these areas are most important currently in your company/where do you see the biggest opportunity?

Altice

Altice is focused on the product and the experience, and on cross-promoting products.

For pricing, Altice broadband is not required in order for a customer to add mobile, however, if the customer is already an Altice customer, then they get a \$10 discount. They are looking into options to add for customers who, for example, buy more speed may get a higher benefit tier.

Charter

Charter is also focused on product and experience. Charter launched using the Comcast platform and are in the midst of a billing migration on their mobile. They have been treating the core and mobile product separately. They don't see selling a big bundle, but rather how to leverage the products together, e.g., buy a higher broadband speed and get a better price on mobile.

Cox

Cox is focusing on experience convergence – but notes that product and experience convergence go hand and hand. For billing, their core products will bundle. but mobile will remain separate.

Mediacom

Mediacom is looking at product convergence from an internet perspective. They are looking to add more products to their Internet product – such as home automation, smart home, and home security. They are pricing it in a way to make it easy to add-on to existing packages – for example, an additional \$5 or \$10 a month per product – easy round numbers.

Is Billing convergence off the table or are there other ways to think about the idea of convergence in this space?

- Altice and Charter noted billing convergence is not a priority at this time.
- Cox will have convergence on all other 4 products but mobile will remain separate.

How are segmentation approaches play in how Convergence strategy is shaped?

- Charter feels they are not quite ready to address this question yet. They are working on placing the Spectrum TV app on additional platforms and are testing and learning when to present offers to customers.

How has the pandemic's impact on consumer mindsets affected your approach to convergence, if at all?

Altice

Altice noted the approach to convergence was not impacted by the pandemic but there were impacts to need for higher speeds – customers have become more demanding for customer support and quality of service since the pandemic. In addition, they are considering how to expand the entertainment offerings for “value” customers.

Mediacom

Mediacom is seeing a lot of initiatives to extend broadband to areas that have no broadband or limited options since the pandemic. Federal, state, and municipal initiatives are helping retain customers.

Cox

Cox noted the pandemic accelerated the speed of convergence, as well as noting the benefits of convergence stood out after the pandemic.

Charter

Charter noted there were many programs to assist consumers during the pandemic which has led to a larger base of eligible households for Internet products.

Next Steps/Call Cadence

- CTAM asked the group if monthly calls are useful or if a cadence of perhaps 8 weeks would work. The group agreed on an ~ 8-week cadence. CTAM will cancel the June 4 call currently on schedule and the next call will be held after the July 4 Holiday.

- CTAM also asked if there were specific convergence areas of focus the group is interested in:
 - Charter noted they would be interested in exploring competitive efforts in integration.

Call Notes: August 27, 2021

Welcome/Roll Call

Mark Snow welcomed the group and gave an overview of the call agenda.

Call Attendees:

- Altice – Lorene DePasquale, Helene Pandal
- Armstrong – Peter Grewar
- Charter – Claire Avery, Morgan Daloisio, Peter Intermaggio, Jacob Thorwart
- Cox – Jason Axsom, Catherine Borda de Castro, Sarah Goldwasser, Jennifer Rich, Wendy Rosen
- Mediacom – Dianne Schanne
- Rogers – Christine Gullage
- Shaw – Lisa Cooke, Alex Martin
- IEN – Anne Cowan
- CTAM – Mark, Snow, Deepa Venkataraman, Ariane Guardarramas, Cindy Mirabella and Renee Harris

Overview of the concept: Cable Broadband + Mobile w/5G

Comcast

The question is how does the industry take the next step in the positioning and messaging products such that they take advantage of the convergence of offerings? How do we highlight the benefit of Internet + Mobile w/5G together that not only yields a powerful savings message, but also serves a compelling message of the products being thoughtfully designed to work better together? The real opportunity is in understanding the unified customer experience and the true product experience. Comcast is intensely focused on convergence as a message but notes they are still in the process of figuring out the right messaging.

The number one strategic objective is maintaining broadband momentum. Wireless is seen as a critical and essential offering that helps maintain the broadband momentum. Comcast feels it is more than a transactional benefit between wireless and Internet and getting beyond this transactional phase is critical.

Transitioning from just product level (broadband) relationship to owning a connectivity relationship with the customer is how Comcast is looking at convergence. Comcast believes they have a differentiable offering to put together and build on – being the best connection at home and the best connection away from home, built to work together. They also want to ensure the messaging they use will speak to all consumers.

Comcast notes that consumers do not see having broadband and wireless separately as a pain point today. However, they note that when it is *explained* to consumers during qualitative/quantitative research they do see why having Internet + Wireless together would be better together. This is where it is up to the MSO marketers to accelerate this need with consumers.

Comcast states it is imperative to not let wireless carriers define 5G Home Internet as a Fixed Home Connection – which would define it as something more than it is. T-Mobile is particularly adept at this.

Charter

Charter agrees with Comcast's thoughts, and they believe it is a *network* story – it's everywhere the consumer is and is a seamless experience. Broadband and Mobile are designed to work together, and MSOs must be aligned to state a claim as to why their offering is a better choice.

Cox

Cox echoes what Comcast + Charter suggested. Cox feels the MSOs working together to figure out the message provides more of a fighting chance against the competition. Cox noted they will need to enter the wireless market (and build awareness) before getting into the nuance, of this so as to not cause consumer confusion. Consumers need to understand there are two components and how they work together.

On designing converged experiences, Cox is trying to ensure their present day/ near future matches up with their distant future; as network teams are looking at architecture, they want to avoid a situation where they want to talk about the network in a particular way, only to find out it isn't feasible because of the way network was built out.

Question from the group

Altice would like to know if there will be CTAM-sponsored research on the support points for the overall umbrella positioning of Convergence? This includes support points such as the benefits in and out the home and seamless connectivity in and outside the home - things above and beyond the discount. Altice feels these things need to be thought of on three levels: What are they? How important are they to the consumer? Is it differentiating from a competitor standpoint?

- Cox is interested in this information as well.
- Comcast notes they have quite a bit of empirical, qual/quant analyses from customers about the exact things Altice notes. They have customer perceptions and performance observations they can share.
- CTAM notes that there is some funding left overall for primary research so if there is an incremental research need, a cooperative piece of research could be done in 2021.

5G Fixed Wireless competition: detecting where service is being offered

CTAM noted that Altice requested exploring how MSOs are detecting when service will become available for 5G Fixed Wireless as well as fiber competitors.

Altice

Altice notes the challenge is with smaller companies and local markets. ATT and Frontier have press releases so MSOs can narrow in on larger markets that are identified and do address checks. However, when looking at local markets there are small providers; they do not come to light that quickly and usually only when they are signing up subscribers. Altice wants to find that information out before consumers become subscribers. There are services that track subs like S&P, DPI, etc. out there, but getting at detecting the passings for these smaller providers is key.

Comcast

Comcast notes they have spent a lot of energy over the last several years in building capability to stay ahead of where T-Mobile, Verizon, etc. are building out. They are working with Sciera on zip code tracking, and Com Link is building a product that will give 5G Fixed wireless zip code data. They also use vendors for direct mail tracking and any advertising tracking, as well as T-Mobile's job postings where they are looking to hire local hometown experts. In addition, they have their own customer disconnect surveys and have added into that survey an option for customers who are leaving for T-Mobile 5G Home Internet. Comcast then uses all the data gathered from the above items to assist in predicting where T-Mobile or other competitors are now and where they may go next.

Comcast also has tools for all their employees that tells them what equipment to look for on telephone lines, etc. and take pictures of the items to assist in identifying new services.

Comcast offered to have their expert(s) in this field hold a call to provide more specifics on vendors, best in class approaches, etc.

Comcast noted they would like to participate in any 5G research done by CTAM or shared by other MSOs.

Cox

Cox noted they use some of the same vendors as Comcast – such as Sciera for fiber tracking. Cox struggles with tracking T-Mobile c-band fixed wireless coverage – it can be available for one day for one HH; then not available the next day and not for the same HH due to local area capacity constraints - so they would be interested in learning if Com Link offers any sources to help with this issue.

Cox is not seeing much impact from T-Mobile Fixed wireless yet – Verizon is a bigger worry for Cox.

CTAM

Mark noted he will ask the CTAM MSO Research Working Group if they have any 5G research to share.

Questions from the group

Comcast asked if any MSOs are capturing disposition on customer disconnect surveys?

- Cox has a disconnect code that they use but they do not have enough to create a profile yet. They will be happy to update the group once they have more information.
- Comcast notes a lot of their internet customers have T-Mobile for wireless service, and they are working to understand this overlap and determine what messages they can get out to convert T-Mobile wireless customers.

FYIs/Actions

- CTAM reminded the group that Playbooks from current and past CTAM working groups can be found on **CTAM Knowledge Portal** located [here](#). Please contact Renee Harris if you have any trouble accessing the content – renee@ctam.com.
- CTAM will work to schedule a separate call to address the question of detecting where 5G Fixed Wireless service is being built out.
- CTAM will reach out to the CTAM MSO Research Working Group for any 5G research to share.
- Comcast to share data/research regarding convergence support points.

Call Notes: September 24, 2021

Welcome/Roll Call

Mark Snow welcomed the group and provided an overview of the call agenda.

Call Attendees:

- Charter – David Gray
- Comcast – Morgan Daloisio
- Cox – Jason Axsom
- Mediacom – Dianne Schanne
- CTAM – Mark Snow, Deepa Venkataraman, Ariane Guardarramas and Renee Harris

Group Discussion: Connectivity at the Center of Convergence

CTAM provided the group the following link to view European research on FMC Bundles:
<https://www.analysysmason.com/research/content/articles/fmc-bundling-innovation-rdcs0/>

CTAM asked the group what are the defining characteristics of convergence that make it different from Bundle?

Comcast

Comcast notes they started with offering savings + value at the core and that is the heart of the Bundle proposition. Their research has shown that consumers are not against combining their mobile and internet bill but it's not a major concern.

Comcast further notes that there are three components of Convergence:

- Financial – saving money
- Managerial – making it easier to manage services

- Experiential – the experience is better when products are combined

Comcast feels Convergence is getting to a proposition that says having the products together is indeed better.

Comcast debated whether there is another avenue of Convergence, absent mobile phone service; but they have chosen to state that Convergence is about connectivity at the core and to build on that fact rather than conflate convergence and bundling. They want Convergence to mean more than just having two or more products.

CTAM offered ask the financial analyst community what their take is on the ROI of other providers offering content promotions; AppleTV+ or Netflix free for a year when you sign up for a new mobile subscription or broadband product.

Charter

Charter notes that in order to carry Apple iPhone products they must sell Apple TV. Charter does not think offering content promotions will move the needle with connects.

Mediacom

Mediacom feels entertainment interoperability will happen when the content providers realize it works best working through aggregators.

Mediacom notes as they move into more rural areas (all incomes), they are not seeing penetration but inertia. They are using fixed wireless to reach them.

CTAM

CTAM noted there could be a role for Business Services and residential Convergence at some point down the road due to more customers working remotely.

Broadband + 5G Next Steps

After working with Comcast, Charter and Cox, CTAM is working on script for a video for the SmartMove site that explains the value of broadband and mobile/5G together and will present to MSOs for approval to move forward.

Next Steps/Actions

- CTAM to contact industry analysts re: content promotions
- For the CTAM EBB group that is currently on hiatus, once meetings resume, CTAM will address how to message the virtues of fixed wired broadband versus a wireless solution in a low-income context.

Welcome/Roll Call

Mark Snow welcomed the group and provided an overview of the call agenda.

Call Attendees:

Altice – Graziella Drahi

Mediacom – Dianne Schanne

CTAM – Mark Snow, Deepa Venkataraman, Ariane Guardarramas and Renee Harris

CTAM Follow-up on Content Offers ROI for wireless providers - what the analysts think

Mark Snow provided the following update from Jonathan Chaplin regarding content offers ROI for wireless providers.

- The content bundles have been done well and poorly. Verizon uses it as a way to push people to a higher priced video package. They struck deals with content providers that allow them to make money. They have had a big impact on content launches and so they have good leverage. The terms are unknown, so we can't calculate an IRR, but this is likely a sensible set of deals.
- AT&T used it to boost subscribers at HBO at a time when they thought they might get a Disney multiple for HBO if they did. Now that AT&T is selling Warner, it will be a different kind of deal. Chaplin doubts it will be a value driver for AT&T.
- T-Mobile actually went first with Netflix. It was very much in keeping with a seven-year strategy of picking an ARPU level they can hold and adding more value constantly.
- Chaplin does not think it is a major driver of subs for any of them now. Everyone has a content deal. He thinks customers make a choice on network first and handset promotions come second. Service pricing probably third and everything else is materially less important.

Broadband + Mobile/5G Messaging for Q12021 and into 2022 - script and video concept

CTAM notes that a script for a "How to" introductory video for consumers that talks about the virtues of "better together" and why consumers should take wireless from an MSO has been developed. CTAM had the heads of brands and product leaders from MSOs review the script beforehand.

CTAM shared an example "Work from Home" video which can be seen [here](#). This video gives the group an idea of the "How to" videos look. Please note, animation was used for the video because the timing of the developments of the video started at the beginning of the pandemic. In addition, using animation is a popular aesthetic on social media right now. Animation is also the quickest way to complete a video product.

Please visit www.smartmove.us/choice for more clips of "How To" videos developed by CTAM.

CTAM also reviewed the attached working "Video Explainer Script" with the group. Charter, Comcast and Cox Product and Brand execs have provided input and edits for the script. CTAM welcomes all MSOs who would like to provide input on the script. As of right now, this script

would be produced using animation versus live action. CTAM notes that future Broadband + Mobile 5 Messaging does not have to stay animated. In the future, influencers could be used for live action videos.

Comments from the Group

Altice noted that they have noticed they see less and less of consumers speaking of Hot Spots. Altice also notes that consumers look for additional benefits in the offers – more usage on mobile or upgrades on the fixed size.

Housekeeping/Next Steps

Attached please find a copy of CTAM Interest Groups report which includes the Convergence Group's write-up that were shared during the October 19 CTAM Co-op Board meeting. This write-up was given to the board to provide a YTD update on the group's work.

The last call of the year for the group will be Fri, November 19. During that call we will discuss 2022 plans for Convergence.

Competition

T-Mo Home Internet Fast Take – April 2021



Initial Competitive Assessment



Initial Market Size and Forecasted Growth

- 30 Million "homes passed" at launch
 - 10 million are rural
 - 20 million suburban/urban
- 100,000 existing 4G LTE Fixed Wireless subs
- Forecasting 500,000 combined with 5G by YE 2021
- 7-8 Million within 5 years per T-Mobile guidance

Signing Up on Online...Serviceability Check

Check availability | Contact information | Call or chat to sign up

Let's make sure T-Mobile Home Internet is available at your address.

Enter your phone number and address. If you received an invitation, use the number shown there.

Mobile phone number

Address

122 BALCH SPRINGS CIR SE, LEESBURG, VA 20175

Check availability

Mobile # Capture

Opt-in for using Mobile to contact prospects

Check availability | Contact information | Call or chat to sign up

Be the first to know when service is available where you live.

We're not available yet at your address but we're expanding our network all the time. Sign up to be the first to know when T-Mobile Home Internet is available where you live and we'll be in touch as soon as we have more!

I understand an invitation, why am I seeing this message?

First name

Last name

Home phone number (703) 432-8875

Email address

☐ For new customers only I'm not a current T-Mobile customer but it's still okay for a T-Mobile representative to contact me about purchasing T-Mobile Home Internet. Special: we'll deliver our call or text to this number. I understand my agreement to this a condition of purchase and that I can also call T-Mobile at 1-844-858-0887 to purchase.

Join waiting list | Try a different location

Connect with T-Mobile Home Internet



Product & Pricing Details

- \$60/Mo with Autopay
- 50-100 MB Downstream depending on network and traffic
- 10-25 MB Upstream depending on network and traffic
- Real world avg: mid-30s MB Down / 8-10 MB Up
- No Data caps (restrictions on permissible use in Ts&Cs)
- No apparent limit of streaming video resolution
- No annual contract
- Don't have to be a T-Mobile wireless subscriber
- Self-install
- Not a hot spot – can't move it to another location

With us, everything is included. Period.

Our fixed price includes everything—no surprises. Compare that to the other guys.

| | T-Mobile Home Internet | Comcast | Charter | AT&T | Verizon |
|-----------------------------|------------------------|-----------|---------------|-----------|---------|
| | Starry | Spectrum | Home Internet | Fios | |
| Fixed price | ✓ | — | — | — | ✗ |
| Wi-Fi equipment included | ✓ | — | — | — | ✗ |
| No annual service contracts | ✓ | Sometimes | ✗ | ✗ | ✗ |
| No data caps | ✓ | Sometimes | ✗ | Sometimes | ✗ |

Based on advertised pricing as of 1/15/21.

Get started in three easy steps:

- 1**

Confirm coverage at your address.

[Check availability >](#)
- 2**

Receive our WiFi Gateway device.

[Device details >](#)
- 3**

Download our mobile app to set up the service.

[App details >](#)





Competitive Assessment and Analyst Reaction

- Seems principally a near-term threat to DSL and Satellite Internet providers
- Potentially a threat to lower tier and price conscious Cable broadband subscribers
- New Street Analyst: "There won't be demand for the service in fiber and upgraded cable markets where the service is no better and the price is not meaningfully lower..."
- T-Mobile's Dow Draper says the global chipset shortage could limit gateway supply
- Analysts note the revenue per GB of usage is magnitudes better for wireless use
- Potential weakness: the downstream/upstream ratio of 10:1 is shrinking toward 5:1 due to changes in at-home behavior since COVID-19



Competitive Messaging: Conversation Starters

- Continue telling our best story – reliability, capacity, simplicity, security, safe/trusted
- We were/are here when it mattered most – working, playing, schooling
- No direct mention by name?
- What does de-positioning look like?
- Targeted treatment to at-risk subscribers?
- MSO research on highest propensity to switch by segment?

Press Coverage

- <https://arstechnica.com/information-technology/2021/04/t-mobile-5g-home-internet-60-a-month-100mbps-speeds-and-no-data-cap/>
- <https://www.lightreading.com/opticalip/four-questions-dogging-t-mobiles-5g-fixed-wireless-ambitions/a/d-id/768606?>
- <https://www.msn.com/en-us/news/technology/i-signed-up-for-t-mobiles-2450-unlimited-home-internet-service-heres-what-happened/ar-BB1dYo4I>
- <https://www.lightreading.com/5g/a-closer-look-at-cable-vs-5g-fixed-wireless/a/d-id/768112>
- <https://www.t-mobile.com/news/un-carrier/t-mobiles-next-un-carrier-move-5gforall>

Biden's Choice: Infrastructure Investment or Lower Prices; Pick One – 19 May 2021
(New Street Research Report)

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Biden's Choice: Infrastructure Investment Or Lower Prices; Pick One

19 May 2021

What's new: With the administration earmarking \$100BN for broadband infrastructure and calling for lower prices, we set out to answer four questions: 1) what would it cost to close the broadband gap; 2) what would it cost to fund a "future-proof" competitor to Cable in 90% of the country; 3) what would it cost to achieve either of these objectives by funding new entrants rather than upgrading existing infrastructure, and; 4) what would it cost to achieve any of the above while at the same time mandating lower broadband prices.

Analysis: We assume the \$100BN will be made available through a reverse auction, similar to RDOF. We assume market participants will fund a portion of the investment; the cost over and above what private capital will fund will need to be subsidized. We arrive at estimates for the total cost and the subsidy in each of the four scenarios listed above. We relied on data filed with the FCC in June 2020 to get to quick answers. We need to conduct a new study to solve the problem with greater confidence. The framework is sound; we may not have a complete answer; but the answer is objectively determinable.

Conclusions: 1) we can close the broadband gap with a subsidy of \$35-75BN; 2) we can close the gap and have two future-proof providers in 90% of the country with a subsidy of \$99-227BN; 3) those costs would increase to \$53-90BN and \$158-298BN if subsidies go to new entrants (municipalities; co-ops); 4) the cost goes up considerably from there if the administration also mandates lower prices. Based on the above, the administration should absolutely fund closing the gap; it is far better to fund existing carriers than new entrants. Funding competition would be economically, politically and legally challenging. All objectives are less achievable if coupled with price regulation.

Our Framework

We worked quickly with two imperfect data sets to estimate the cost of deploying fiber to homes not served by fiber today. Please see slides 19-21 for caveats and disclaimers.

- 1 Cost To Pass**

We arrived at estimates using FCC data for homes covered by different kinds of infrastructure by county, and a Cartesian analysis to estimate the cost to pass, based on home density by county. Our estimates range from \$650 - 12,050 per home passed.
- 2 Subsidy Required**

We assume subsidies will be auctioned, with bidders committing their own capital alongside the subsidy. The subsidy would cover the difference between the total cost and what bidders would be willing to invest themselves.
- 3 Complimentary Investment**

To determine the subsidy, we assumed bidders would require a 9% IRR on their own capital. This would justify an investment of \$1,700 per home in duopoly markets and \$2,870 in monopoly markets. The subsidy required would range from \$0 in markets with a cost to pass below these amounts, to \$10,720 in the costlier markets.
- 4 Total Costs vs Minimum Subsidy**

We would expect the FCC to set a reserve price at or close to the total cost per home. The auction process will determine where subsidies ultimately land. In contested markets, the subsidy may be competed down to the minimum suggested above, while in uncontested markets it may remain at total cost.

Source: NSR Analysis

Biden's Choice: Future-Proof Infrastructure For All *Or* Lower Prices; Pick One

- | | | |
|----------|-----------------------------|---|
| 1 | Closing The Gap | Deploying fiber to 14MM unserved homes would cost \$75BN. We estimate bidders may be willing to commit up to \$40BN, requiring a subsidy of at least \$35BN. This is an achievable objective regardless of how much of the total cost needs to be subsidized. Cable and ILECs ought to secure much of the available subsidy. |
| <hr/> | | |
| 2 | Funding Competition | Deploying fiber to 75MM homes that are unserved or served by cable but not fiber would cost \$227BN. Bidders may be willing to commit up to \$128BN, requiring a subsidy of at least \$99BN. This would be economically, politically, and legally challenging. If it happened, ILECs may benefit while Cable MSOs would face new competition. |
| <hr/> | | |
| 3 | Funding New Entrants | If the administration favors municipalities, co-ops, and other non-profits over incumbents, the total cost and minimum subsidy required to close the gap would rise to \$90BN and \$53BN, while also funding a competitor to Cable would rise to \$298BN and \$158BN. This strikes us as a poor use of resources, assuming it is even feasible. |
| <hr/> | | |
| 4 | Price Regulation | The subsidy required in all scenarios would increase if regulation drove ARPU lower. The minimum subsidy to close the gap could increase to \$59BN (\$77BN with a new entrant). The minimum subsidy to close the gap and fund competition could increase to \$197BN (\$286BN with new entrant). We don't think this is economically feasible. |
-

Source: NSR Analysis

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3

Setting The Stage

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The administration has stated its goal is “to reduce internet prices for all Americans, increase adoption in both rural and urban areas, hold providers accountable, and save taxpayer money.”

They have stated a goal to have all homes in the country served by “future-proof” infrastructure, without defining what future proof infrastructure is.

For the purposes of this report, we define “future-proof” as fixed infrastructure that can deliver 1Gbps symmetrically today or can be upgraded to deliver 1Gbps symmetrically at a cost that is less than 15% of the value of their existing infrastructure.

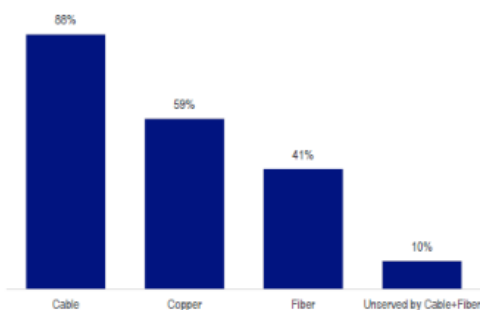
Put more simply, we consider fiber and HFC to be future-proof.

Setting The Stage: What Do We Have Today

The vast majority of markets are served by two kinds of infrastructure: legacy ILEC infrastructure and legacy Cable Company infrastructure. ILEC infrastructure covers close to 100% of homes, with 41% served by fiber and 59% served by Copper¹. Cable infrastructure covers 88% of those homes. The copper infrastructure falls below our definition for future proof broadband. As such, 10% of homes are deemed unserved, with neither Cable nor fiber service available.

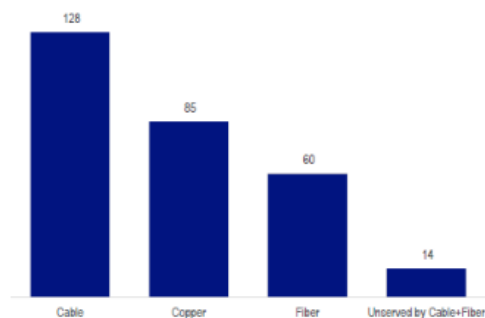
Households With Access To Different Technologies - Today

% of Households



Households With Access To Different Technologies - Today

No. of Households (MMs)



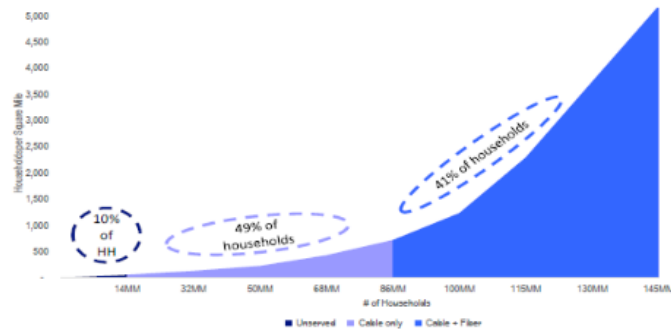
1. See Slides 42-44 in the Appendix for our methodology of counting homes and penetration

Source: NSR Analysis; FCC Broadband Map

Fiber Mostly Overlaps With Cable

Fiber has mostly been deployed in the densest markets where the returns on fiber deployment are the highest (returns are distance sensitive). These markets are mostly served by Cable; only about ~3% of homes are served by fiber but no Cable. These may be new developments or MDUs where a fiber provider has won a mandate to be the sole provider, or rural markets where either subsidies or proximity to existing fiber have allowed for upgrades¹.

Split Of Households By Type Of Market - Today
% of Households



1. Most new deployments will be fiber, regardless of whether they are being done by the Cable company, the ILEC, or a new entrant.

Source: NSR Analysis; FCC Broadband Map

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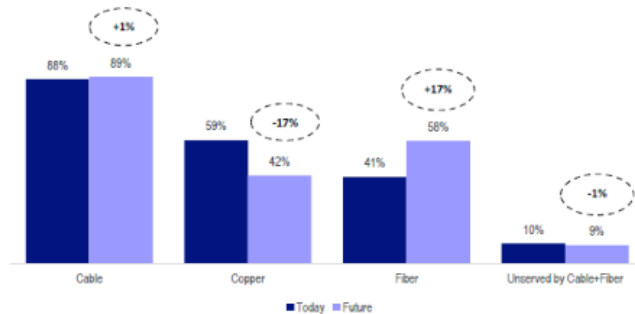
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Fiber Deployment Is Expanding Without Intervention...

We estimate that fiber will expand from covering 60MM homes to 92MM homes, with much of the expansion happening in the next five to seven years. This will reduce the homes served by copper by a roughly equivalent amount. Cable companies are edging out their footprint at a slow but steady pace also. Together, these deployments will reduce homes served by neither Cable nor Fiber from 10% to 9%.

Households With Access To Different Technologies – Today vs Future
% of Households



Source: NSR Analysis; FCC Broadband Map

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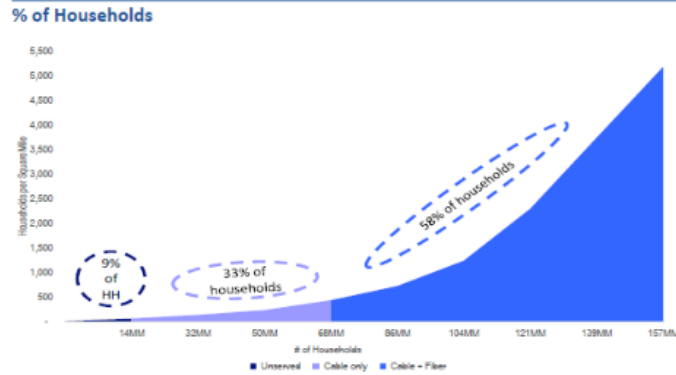
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...With Most Deployment Happening In Dense Markets

Most of the new fiber deployment is happening in dense markets where returns are most compelling (again, returns are sensitive to density). As such the area covered by both cable and fiber will increase from 41% to 58% of homes. Unserved homes will only fall from 10% to 9%.

Split Of Households By Type Of Market - Future



Source: NSR Analysis; FCC Broadband Map

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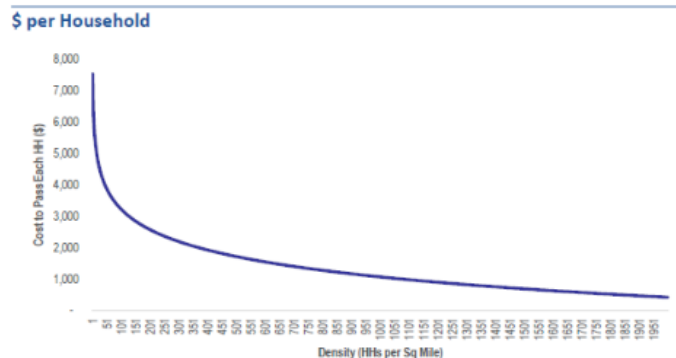
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Cost To Pass Fiber Varies By Household Density

In 2019, the Fiber Broadband Association (FBA) filed a study with the FCC detailing its findings on the cost of deploying fiber to 90% of the households in the country. The study revealed that the cost to deploy fiber varies inversely to HH density in the region with the cost per HH increasing exponentially as density decreases. We have used the equation laid out in the study to estimate the cost of deploying fiber by region in this report.

Cost To Pass Fiber Per Household Curve



1. FBA hired Cartesian, an engineering and consulting firm, to conduct the study

Source: NSR Analysis; FBA

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The Objective(s)

What Does The Administration Want?

The objective hasn't been clearly defined. We believe it is one of the following:

1

Closing The Gap

The administration wants future proof infrastructure deployed to areas not covered by cable or fiber today. We estimate that this is 14MM or 10% of homes. This objective is clear.

2

Closing The Gap + Competition

The administration may also want at least one future proof provider everywhere and competition in as much of the country as possible. We interpret this as funding one provider to 14MM homes (currently unserved) and funding a new competitor in the 61MM¹ homes where cable is the only future-proof provider. The administration hasn't stated this as its objective (so far); some fear this is what they want.

3

Closing The Gap + Competition With New Entrant

The administration has expressed a preference for funding municipalities, co-ops, and other companies that are not driven by a profit motive. This would have different costs and consequences from funding an existing provider in unserved markets and markets with only one provider.

4

Price Regulation

Any of the above plus the government setting or influencing prices.

1. This is an estimate of how many homes in future will be served only by cable. See Slides 42-44 in the Appendix for our methodology of counting homes.
Source: NSR Analysis; FBA

What Does It Mean For The Industry?

| | | |
|---|--|--|
| 1 | Closing The Gap | Cable and ILECs could benefit if they receive subsidies to expand their footprint (as Charter did in the RDOF process). Returns in these new markets may not be spectacular, but they will be adequate, and they will preserve the runway of broadband subscriber growth. This would be positive for companies that receive funding and neutral for those that don't. |
| 2 | Closing The Gap + Competition | ILECs could benefit from subsidized upgrades; Cable could face new competition in the ~40MM homes that are not slated for fiber upgrades over the next decade. We assumed fiber competition would increase from 41% of cable homes to 58% over the next decade without intervention. We would see penetration increasing from 24% to 45% for ILECs and penetration falling from 57% to 45% for Cable. |
| 3 | Closing The Gap + Competition With New Entrant | ILECs and Cable would both face new competition in markets where municipalities and other new entrants receive funding to deploy fiber. In markets where the ILEC also upgrades to fiber, we estimate terminal penetration for all three providers of 30%. In markets where the ILEC maintain a copper network, we assume terminal penetration of 40% for each of cable and the new entrant, and 10% for the ILEC. |
| 4 | Price Regulation | This needs no explanation; it is bad for all market participants regardless which of the scenarios it is coupled with. |

Source: NSR Analysis

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What Can The Administration Get?

| | | |
|---|--|--|
| 1 | Closing The Gap | \$75BN total cost; minimum subsidy of \$35BN required. Eminently achievable, economically and politically. |
| 2 | Closing The Gap + Competition | \$227BN total cost; minimum subsidy of \$99BN required. Economically difficult; politically and legally difficult. |
| 3 | Closing The Gap + Competition With New Entrant | \$298BN total cost; minimum \$158BN subsidy required. Economically unlikely; politically and legally difficult. |
| 4 | Price Regulation | Drives up the cost of all three scenarios above. Magnitude depends on where prices are set. Economically difficult; likely impossible politically. |

Source: NSR Analysis

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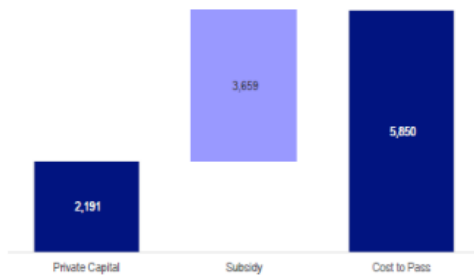
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Auction Will Engage Private Capital

We assume that the administration would run a reverse auction for subsidies by market, similar to what they did with RDOF. Bidders would compete until the subsidy fell to a point where one bidder was left. We assume the FCC requires FTTH (no fixed wireless; no satellite). We assume bidders adopt an IRR threshold of 9%. The amount of subsidy required per market will depend on the cost to deploy and the market structure. The charts below shows examples of the split between private capital and subsidy required for a one-player and a two-player market.

Economics Of A Sample Unserved Market
\$ per Household



Economics Of A Sample Cable-only Market
\$ per Household



Source: NSR Analysis

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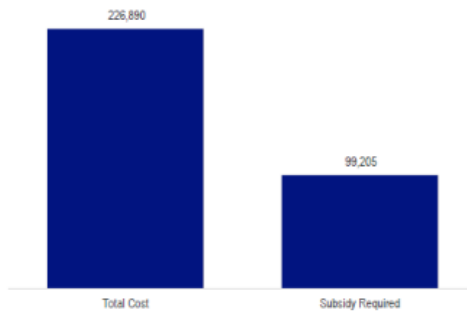
The Cost Of The First Two Scenarios – Most Capital Efficient Path

If established market participants are funded to upgrade existing infrastructure to fiber, it would cost \$75BN to get broadband to close to 100% of homes with a minimum subsidy of \$35BN. It would cost \$227BN to also fund a competitor to Cable in the 31% of homes that aren't slated for upgrades under current plans with a minimum subsidy of \$99BN. Closing the gap is certainly achievable. Funding a competitor to cable may be difficult.

Closing The Gap
\$ in MMs



Closing The Gap + Competition
\$ in MMs



Source: NSR Analysis

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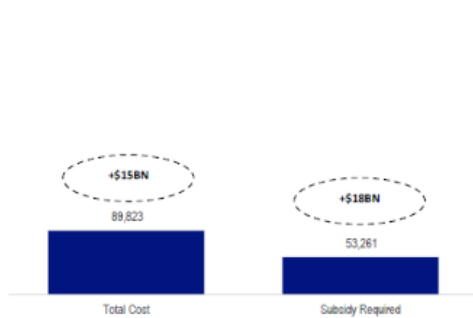
16

The Cost Of The First Two Scenarios – Funding New Entrant

The cost of each scenario would be higher if a new entrant were funded to build infrastructure. It would cost an additional \$15-18BN to close the gap and an additional \$59-72BN to fund a competitor to cable in all but the currently unserved areas¹. If the goal is closing the gap, \$53BN in subsidy may be manageable. \$159BN to fund a competitor is probably not. If the goal is competition, the administration should abandon funding new entrants.

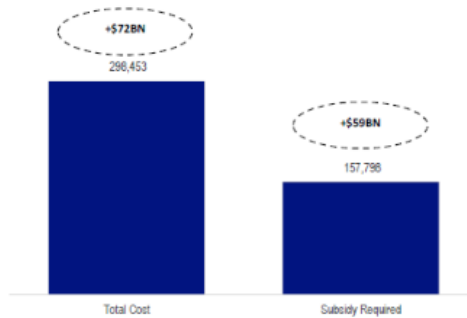
Closing The Gap

\$ in MM\$



Closing The Gap + Competition

\$ in MM\$



1. We are highly skeptical that municipalities or co-ops would be able to raise \$37BN to close the gap much less the \$141BN to overbuild Cable. Govt. would cover more of the cost.
Source: NSR Analysis

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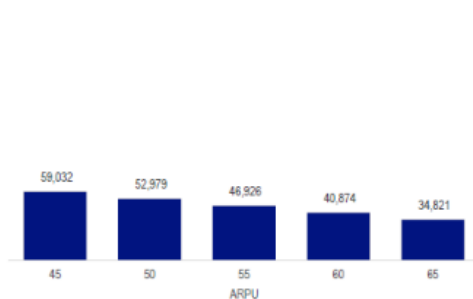
17

Price Regulation Would Drive Up Cost

The return on private investment falls as ARPU falls, requiring larger subsidies. At \$45 ARPU's (closer to Europe), the minimum subsidy to close the gap would rise to \$59BN, while the cost to also fund competition to cable would rise to \$197BN¹. This assumes funding of the incumbent; for a new entrant, the costs would rise to \$77BN and \$209BN. Price regulating 10% of the country achieves nothing; price regulating while funding competition doesn't work.

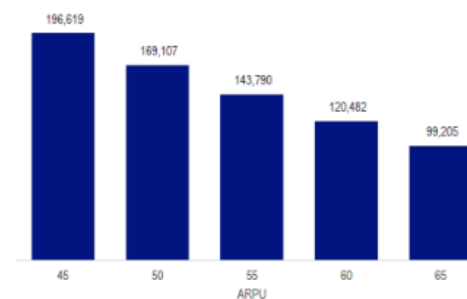
Closing The Gap – Subsidy Required

\$ in MM\$



Closing The Gap + Competition – Subsidy Required

\$ in MM\$



1. We seriously doubt companies would commit much private capital to fund investment in a price regulated market. The govt. would likely need to foot the entire bill.
Source: NSR Analysis

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Caveats and Disclaimers

| | | |
|---|-----------------------------|--|
| 1 | Homes & Businesses | Our cost to pass is based on total residential housing units, by county. We have ignored business units from the cost analysis and from the revenue opportunity. We may be slightly underestimating the total cost in each scenario; however, by ignoring the incremental revenue opportunity we hope we land in the right zone on the minimum subsidy required. |
| 2 | Subsidies & Private Capital | We have assumed that companies receiving subsidies will commit their own capital up to a 9% return threshold. This would require them to raise between \$40BN and \$128BN. It is unclear that this magnitude of funding will be available. Some market participants have said they would need a higher return than 9% on capital they deploy. As such, we would regard the subsidy we have listed as the minimum possible subsidy; subsidies could fall anywhere between the total cost and the subsidy we show. |
| 3 | Deployment Costs | Market participants have said that our cost-to-pass estimates may be too low, particularly for rural markets where real world costs are often driven up by pole replacement costs. The requirement to replace poles can drive the cost-to-pass up by as much as 33% in some cases. |
| 4 | Regulation | Some commentators asked whether the FCC would mandate wholesale access and perhaps regulate the wholesale price, rather than attempt to regulate retail rates. This strategy has been effective at managing prices in Europe. Whether lower prices are achieved through retail or wholesale rate regulation, it wouldn't matter much to our analysis. Anything that reduces the revenue that goes to the company deploying infrastructure would drive up the subsidy required. |

Caveats and Disclaimers (Contd.)

| | | |
|---|--------------------------|--|
| 5 | Infrastructure | We have assumed that all cable plant can be upgraded to provide adequate speeds with minimal time and capital. Similarly, we have assumed that no copper plant is adequate and would need to be upgraded to FTTH. In reality, some cable plant at smaller MSOs may need considerable investment and some copper plant may be able to deliver adequate speeds, depending on where the FCC sets the threshold (copper might be able to do 100/10Mbps; it will never do 1/1Gbps). Fixed wireless on millimeter wave may also be adequate in some circumstances, though based on our view of distance limits, we viewed this as small enough to exclude. |
| 6 | Data Sets | We are working off FCC data that we know is imperfect. For example, it understates unserved homes by counting all homes in a census block as served if a single home is served. This could push up the unserved homes by a material number (Cost Quest has estimated that the shortfall could be as much as 0.6MM homes). |
| 7 | Greenfield vs Brownfield | Several commentators pointed out that the cost differential between greenfield and brownfield seemed too low. Conversely, it was pointed out that municipalities and utility co-ops would have a lot of existing infrastructure in place, including field technicians, conduits, poles, and rights of way. The difference for these companies specifically may not be as high. |
| 8 | Fiber Only Homes | We have assumed all fiber homes are in most dense markets, overlapping with Cable. In reality, there are ~3MM fiber homes in markets not served by cable. We didn't have good data on the location of these homes and so grouped them with Cable for simplicity. |

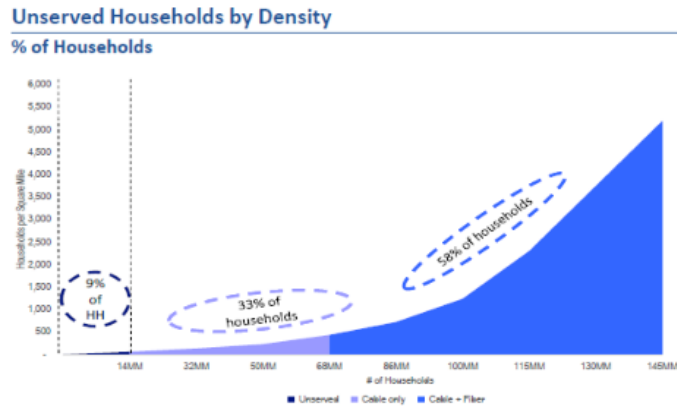
Caveats and Disclaimers (Contd.)

| | | |
|----|--------------------|--|
| 9 | ARPU | We assumed a constant ARPU of \$65 in all markets. Some pointed out that prices are higher in rural markets. Given that costs may be higher, and prices may be higher than we have assumed, we chose to stick with the data set we had on costs and a simple assumption of constant national pricing to avoid complexity. |
| 10 | Australia | Some pointed out the hazards of government bodies attempting to get into the fiber business based on the poor track record of the National Broadband network in Australia. This is an entirely valid issue, which we haven't explored in detail in this report. Municipalities and co-ops may have infrastructure that would facilitate deployment, but building the capabilities to compete in a dynamic, technology-driven market on an ongoing basis would be a material challenge. |
| 11 | USF | Related to the point above, and also neglected in this report, is the fact that the US has a way out of the broken USF program with this program. If providers are subsidized to deploy fiber, and they can cover ongoing costs from revenues, the need for ongoing support ought to be eliminated once and for all. Funding municipalities and co-ops could create the risk that assets are managed inefficiently, and support would be required again in future. This is also true of ILECs, by the way. |
| 12 | Very Rural Markets | We used Cartesian data to estimate the cost per home based on density. The Cartesian equation assumes a logarithmic relationship between density and cost. In very rural markets, we believe the relationship breaks down. While our model tops out at \$12,050 in the most expensive county, we have heard cases with costs as high as \$20,000 - \$30,000. Instead of going with higher costs on an arbitrary basis, we have used numbers suggested by our model. |

Option 1: Closing The Gap

Closing the Gap: 14MM Households Have No Broadband

Based on the FCC's imperfect Form 477 data set, we estimate 9% or 14MM households won't have a fixed broadband service of greater than 100/10Mbps over our forecast period. The unserved homes are largely in the least dense markets where the cost to deploy is highest.



Source: NSR Analysis; FCC Broadband Map

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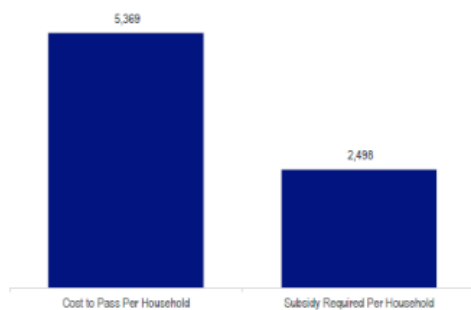
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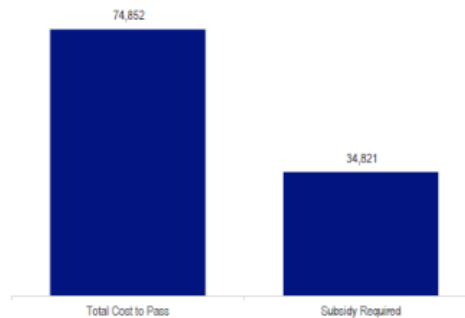
Closing The Gap: \$75BN Total Cost; \$35BN Subsidy Required

We estimate that the total cost to pass these 14MM households with fiber will be \$75BN or \$5,370 per HH. If incumbents will commit their own capital for a 9% return, a subsidy of \$35BN or \$2,500 per HH would be required. We assume the incumbent would maintain a monopoly in these markets given the high cost to build. As such, we assume penetration of 64% vs 41%¹. We assume the same ARPU of \$65 in all markets.

Total Cost / Subsidy Per Household
\$



Total Cost / Subsidy
\$ in MM\$



¹ We assume overall penetration of 64%, below the national average of 83%. In these markets

Source: NSR Analysis

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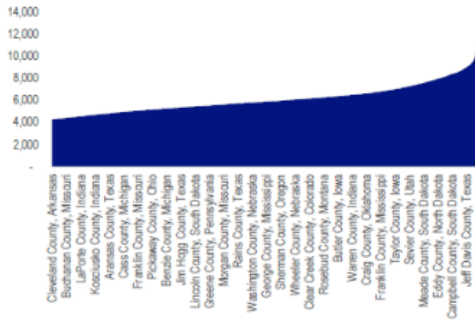
24

Closing The Gap: Cost Per Home Rises As Density Falls

The cost to pass is driven by market density, ranging from \$4,280 to \$12,050 (avg. \$5,370). Fiber cost and labor cost are driven by the distance between the closest fiber and the node in the neighborhood. We used the equation from the study that the FBA filed with the FCC to determine cost based on density¹. This is a “quick-and-dirty” framework to be sure; we need to commission a more thorough study in due course.

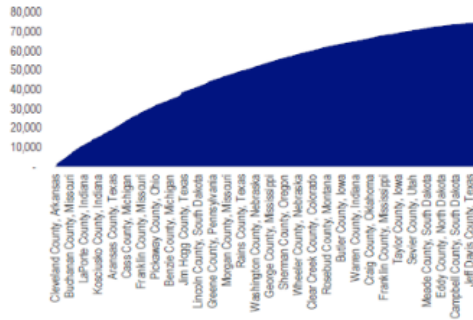
Cost To Pass Per Household By Market

\$



Cumulative Cost To Pass Households By Market

\$ in MMs



1. The study was conducted by Cartesian

Source: NSR Analysis; FCC Broadband Map

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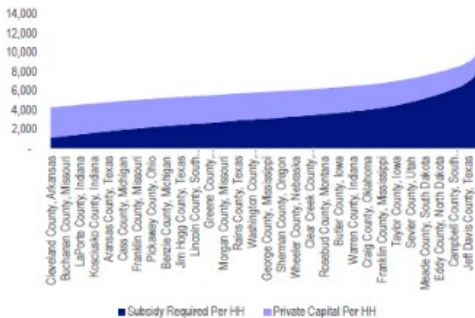
25

Closing The Gap: Subsidy Rises As Density Falls Also

Assuming the incumbent ILEC is willing to commit its own capital with an IRR threshold of 9%, we estimate they would require subsidies ranging from \$1,160 to \$10,720 (avg. \$2,500). We assume identical ARPU, penetration, and return thresholds across all markets; however, ongoing maintenance capex rises with deployment cost, requiring higher subsidies as a percentage of total costs as density falls.

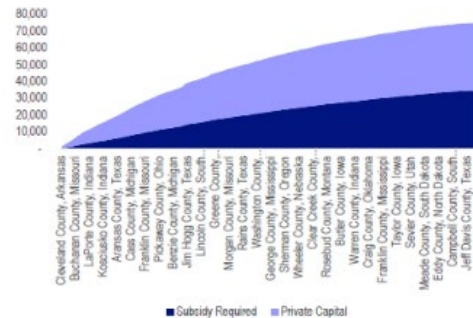
Cost To Pass Per household By Market

\$



Cumulative Cost To Pass Households By Market

\$ in MMs



Source: NSR Analysis; FCC Broadband Map

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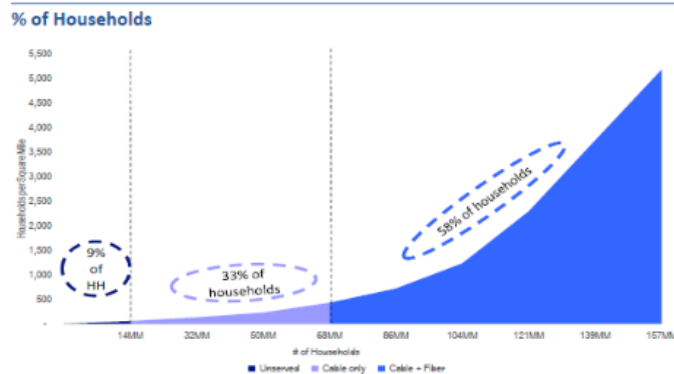
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Option 2: Closing The Gap + Competition

Competition: 52MM Households Only Have One Provider

Based on the Form 477 data, 33% or 52MM homes are served by Cable but not fiber. The administration's goal may be to create competition in these markets on the view that competition is always good, but it may also drive down prices (it won't drive down prices based on both precedent and economic logic). We assume the administration wouldn't try to fund two new fiber deployments in the unserved areas as the cost would be too high.

Markets With only One Provider by Household Density

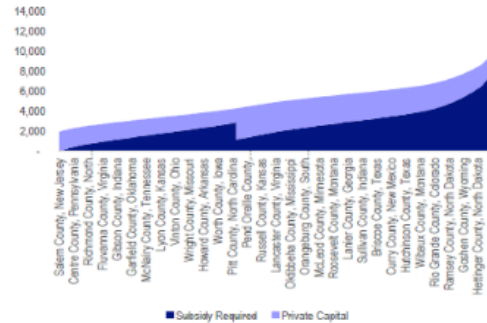


Competition: Subsidy Also Rises As Density Falls (As Before)

Based on our framework, we would expect the subsidies in the densest markets to be bid down to \$0. ILECs may not have plans to deploy in these markets today; however, they would likely develop plans smartly to avert the threat of an overbuilder. We have assumed almost double the penetration for fiber deployments in unserved markets than in competitive markets, so the required subsidy falls sharply. This is an unrealistic product of a simple framework.

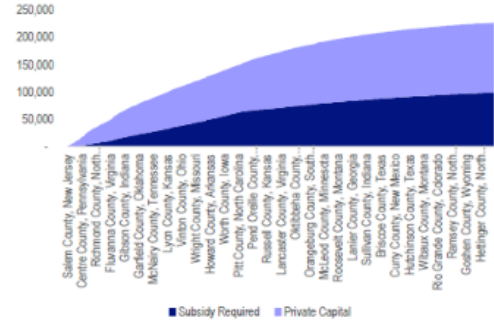
Cost To Pass Per Household By Market

\$



Cumulative Cost To Pass Households By Market

\$ in MM



Source: NSR Analysis; FCC Broadband Map

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Option 3: Funding a New Entrant

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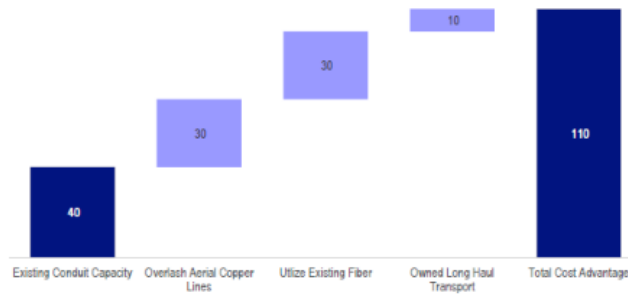
32

Greenfield Deployment Costs At Least 20% More than Brownfield

Frontier claims that deploying fiber is ~20% cheaper or roughly \$110 per home on average when upgrading existing copper infrastructure than building from scratch (brownfield vs greenfield). This difference in deployment cost strikes us as low, but we have used it for now for want of an alternative. If the subsidy rules strongly favor municipalities and other new entrants, and if new entrants bid and win, we assume a 20% higher deployment cost.

Brownfield Cost Advantage vs. Greenfield

\$ per HH



Source: NSR Analysis

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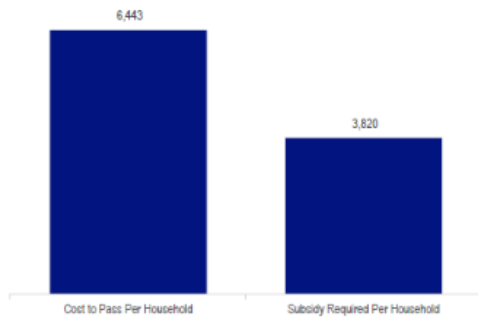
33

New Entrant + Closing the Gap: \$90BN Total Cost; \$53BN Subsidy

At a 20% higher deployment cost, the total cost to cover unserved areas would increase from \$75BN to \$90BN and the minimum subsidy required would increase from \$35BN to \$53BN. This assumes that the new entrant can deploy, run, and penetrate a network as efficiently as ILECs. It also assumes that the new entrant can raise \$37BN in private capital to cover part of the build. Finally, this doesn't cover operating losses in the early years of the deployment. Funding a new entrant makes sense in markets where an ILEC doesn't bid, but it won't make sense generally.

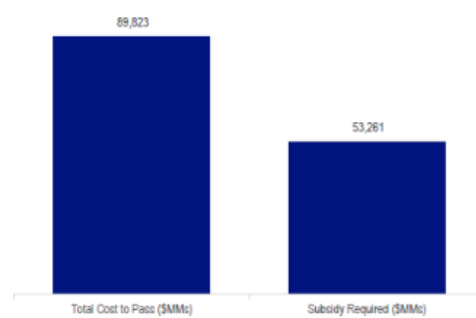
Total Cost / Subsidy Per Household

\$s



Total Cost / Subsidy

\$ in MMcs



Source: NSR Analysis

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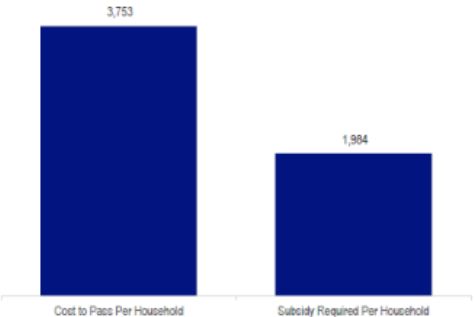
34

New Entrant + Competition: \$298BN Total Cost; \$158BN Subsidy

Funding a new entrant makes even less sense when competitive markets are added to the objective. Municipalities, co-ops and other non-profits would have to find \$141BN to fund the economic portion of the build, otherwise the subsidy required would balloon to \$298BN. If they are funding \$141BN on their own, they will need to generate profits to cover the financing costs just as an ILEC would. This doesn't seem remotely feasible.

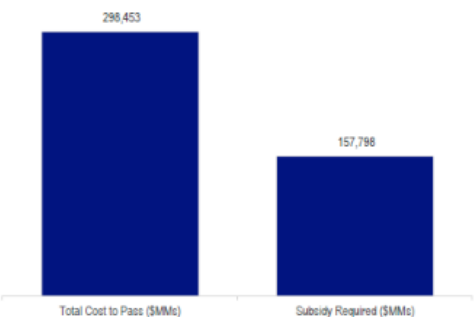
Total Cost / Subsidy Per Household

\$s



Total Cost / Subsidy

\$ in MM



Source: NSR Analysis

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Option 4: Price Regulation

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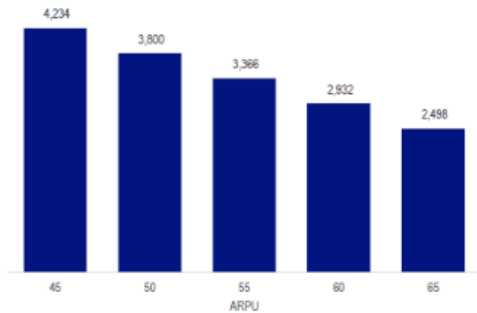
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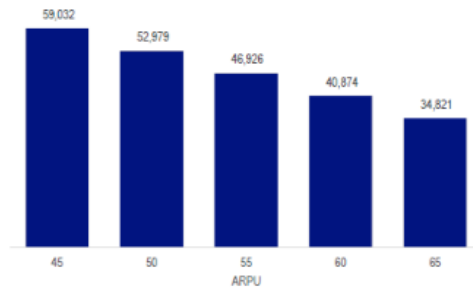
Price Regulation + Closing The Gap

If the administration mandates a broadband price of \$45 to match prices in Europe, the total cost will remain at \$75BN but the subsidy required would jump from \$35BN to \$59BN. This may be feasible economically, but there would be no point in regulating prices in just 10% of the country. We suspect such a policy would be politically unpalatable, and it may face a tough legal challenge.

Subsidy Required Per Household At Different ARPU Levels
\$s



Total Subsidy Required At Different ARPU Levels
\$ in MMs



Source: NSR Analysis

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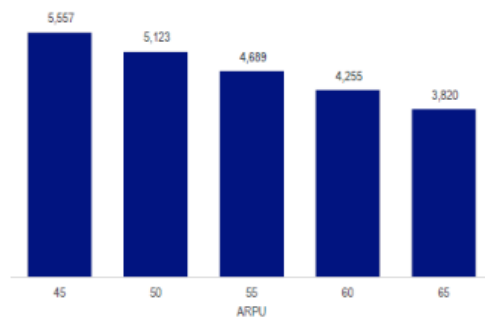
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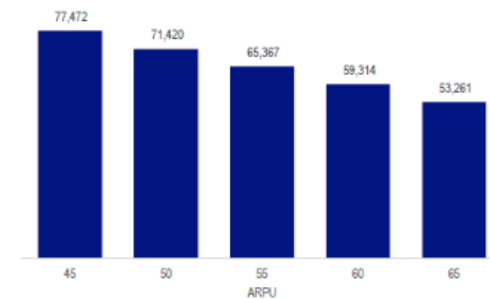
Price Regulation + Closing the Gap + New Entrant

If the administration mandates lower prices and favors new entrants, the cost to close the gap would rise further. At ARPU of \$45, the total cost would rise to \$90BN and the subsidy required would rise to \$77BN. Funding new entrants in markets where ILECs will deploy doesn't make sense generally; it makes less sense with lower prices.

Subsidy Required Per Household At Different ARPU Levels
\$s



Total Subsidy Required At Different ARPU Levels
\$ in MMs



Source: NSR Analysis

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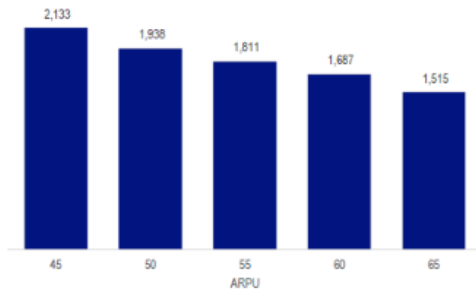
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Price Regulation + Closing The Gap + Competition

Funding competition to cable as well as closing the broadband gap may be economically feasible at market prices with a subsidy of \$99BN; it is not feasible with price regulation. At \$45 of ARPU the total cost would be \$267BN and the subsidy required would almost double to \$197BN. We are skeptical that ILECs would even want to put their own capital alongside subsidies in a price regulated market (assuming they could raise the capital).

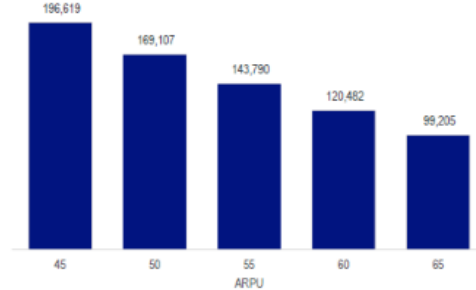
Subsidy Required Per Household At Different ARPU Levels

\$s



Total Subsidy Required At Different ARPU Levels

\$ in MM\$



Source: NSR Analysis

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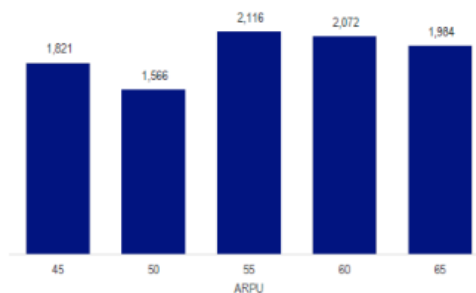
39

Price Regulation + Closing the Gap + Competition + New Entrant

The objective becomes laughable if the administration was intent on funding a new entrant and they mandated lower prices. The total cost at \$45 ARPU would be \$375BN and the subsidy required would balloon to \$286BN.

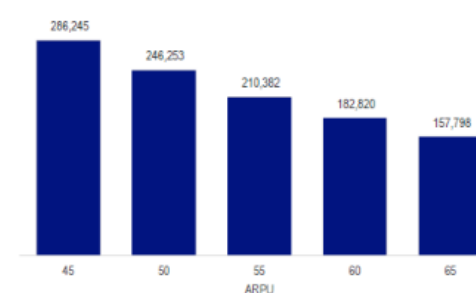
Subsidy Required Per Household At Different ARPU Levels

\$s



Total Subsidy Required At Different ARPU Levels

\$ in MM\$



1. At \$55 ARPU, very few Cable + Fiber HHs (~12MM) are NPV negative. At \$50 ARPU, all the Cable + Fiber HHs become NPV negative (~65MM HHs), increasing the total HHs substantially. The subsidy required for these additional HHs is quite low (\$180 per HH) as these are in very high-density markets. As such, the average subsidy per HH declines.

Source: NSR Analysis

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Methodology & Appendix

A Note On Methodology

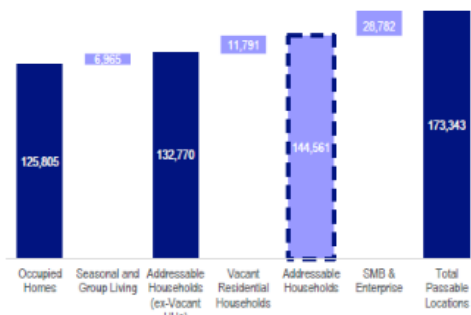
| | | |
|---|-----------------------|---|
| 1 | Household Data | We took the Census data for households and calculated the household density (HHs per sq mile) for each county. Each county is divided into two regions - less dense and more dense. |
| 2 | Cost To Pass | We used the equation laid out by Cartesian in the FBA study and estimated the cost to deploy fiber for each market, based on the HH density. |
| 3 | Market Categories | We used the 'FCC Broadband Map' to ascertain the % of households that are unserved by cable/fiber, served only by cable, and served by both, cable and fiber. |
| 4 | Cash Flow Projections | We made assumptions for each market category, ranging from penetration to ARPU and estimated the cash flows for each market. |
| 5 | NPV and IRR | We assumed that private capital would want at least 9% IRRs for their investments. As such, we calculated the NPV of cash flows for each county using a 9% rate of return. |
| 6 | Subsidy Required | We estimated that the upfront subsidy needed for each market with negative NPV, to make it a viable investment, was equal to the absolute value of the negative NPV. |

Addressable Locations

We have found that different sources use different location counts when determining the availability of broadband services across the country. We have decided to go with addressable residential locations including vacant homes for the purpose of our analysis as we believe that the focus of the administration is to get coverage to all households in the country. We have ignored business units from the cost analysis and from the revenue opportunity.

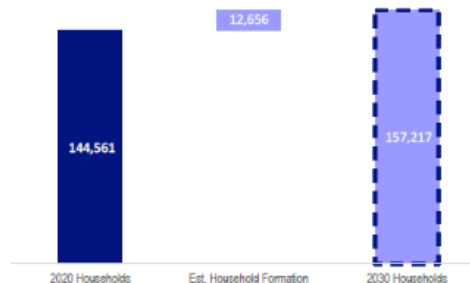
Current Addressable Households

In 000s



Estimated 2030 Households

In 000s



Source: NSR Analysis

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Broadband Penetration

Using the Census data for residential and commercial locations, FCC Broadband Map for Cable and Telco broadband availability, and our estimate for total broadband subs across cable and telcos, we estimate that cable currently has ~57% penetration and telcos have ~24% penetration of residential passings. Combined, residential broadband penetration is ~73%.

Broadband Penetration

Subs and HHs in 000s; %

| | Cable | Telco | Total |
|---|----------------|----------------|----------------|
| Broadband Subs | | | |
| Residential Subs | 73,313 | 32,514 | 105,827 |
| Commercial Subs | 5,091 | 3,070 | 8,161 |
| Total Broadband Subs | 78,404 | 35,584 | 113,988 |
| Addressable Locations | | | |
| Residential HHs | 117,488 | 124,472 | 132,770 |
| Total Residential HHs incl. Vacant HHs | 127,922 | 135,526 | 144,561 |
| Total Locations | 153,374 | 162,491 | 173,323 |
| Broadband Penetration | | | |
| Residential Subs / Occupied Residential HHs | 62.4% | 26.1% | 79.7% |
| Residential Subs / Total Residential HHs | 57.3% | 24.0% | 73.2% |
| Total Subs / Total Locations | 51.1% | 21.9% | 65.8% |

Source: NSR Analysis; Census; FCC Broadband Map

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Model Assumptions

Our model assumptions are laid out below. We assume that the total fixed penetration remains unchanged at 83% but the market shares for various operators varies by the type of market.

Base Case Model Assumptions

%, \$, Multiple

| | Unservd | Cable-only | Cable+Fiber |
|--------------------------------------|---------|------------|-------------|
| Penetration Assumptions | | | |
| Total Fixed Penetration | 83% | 83% | 83% |
| FTTH Market Share | 78% | 50% | 33% |
| Terminal Penetration | 64% | 41% | 28% |
| Churn Assumption | | | |
| Churn Assumption | 1.25% | 1.75% | 1.75% |
| Broadband ARPU | | | |
| Broadband ARPU | 65 | 65 | 65 |
| Annual ARPU Growth | 3.0% | 3.0% | 3.0% |
| Fixed cost per HH passed | | | |
| Fixed cost per HH passed | 5 | 5 | 5 |
| Variable cost per sub | | | |
| Variable cost per sub | 5 | 5 | 5 |
| Variable cost to acquire | | | |
| Variable cost to acquire | 200 | 250 | 250 |
| Capex cost to connect per sub | | | |
| Capex cost to connect per sub | 550 | 500 | 500 |
| Maintenance Capex intensity | | | |
| Maintenance Capex intensity | 10% | 8% | 5% |
| Asset Life (Years) | | | |
| Asset Life (Years) | 40 | 40 | 40 |
| Valuation Drivers | | | |
| Required IRR | 9% | 9% | 9% |
| Tax rate | 28% | 28% | 28% |
| Terminal Growth Rate | 3% | 3% | 3% |
| Terminal multiple | 16.7x | 16.7x | 16.7x |

Source: NSR Analysis

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Existing Broadband Subsidy Programs

- Emergency Broadband Benefit Program**

This is a \$3.2BN initiative by the FCC to subsidize broadband service for eligible households during the COVID-19 emergency.
- Lifeline Program**

Lifeline has been a long-time FCC program to help make communications services more affordable for low-income consumers.
- E-rate**

E-rate is an existing program which ensures that schools and libraries are connected to information and resources through the internet. The FCC is seeking comments on its \$7.2BN Emergency Connectivity Fund to help schools and libraries provide devices and connectivity to students, school staff, and library patrons during the pandemic.

Source: NSR Analysis

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Emergency Broadband Benefit Program

On Feb 25th 2021, the FCC adopted the Emergency Broadband Benefit Program (EBB), a \$3.2BN initiative to subsidize broadband service for eligible households during the COVID-19 emergency.

☐ What is the benefit?

- ☐ Up to \$50/month discount for broadband services;
- ☐ Up to \$50/month discount for broadband services for households on tribal lands;
- ☐ A one-time discount of up to \$100 for a laptop, desktop computer, or tablet;

☐ Who is eligible?

- ☐ Qualifies for the Lifeline program, including those who are on Medicaid or receive SNAP benefits;
- ☐ Receives benefits under the free and reduced-price school lunch program or the school breakfast program;
- ☐ Experienced a substantial loss of income since February 29, 2020, and the household had a total income in 2020 below \$99,000 for single filers and \$198,000 for joint filers;
- ☐ Received a Federal Pell Grant in the current award year;
- ☐ Meets the eligibility criteria for a participating provider's existing low-income or COVID-19 program.

☐ When can eligible households sign up?

- ☐ The program opened to eligible households on May 12, 2021.

☐ When does the program end?

- ☐ The program has been adopted to provide discounts to eligible households during the emergency period related to COVID-19. The emergency period ends on the date that is 6 months after the date on which the Secretary of Health and Human Services declares that the public health emergency related to COVID-19 has been terminated.

Source: NSR Analysis

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Lifeline Program

Lifeline has been a long-time FCC program to help make communications services more affordable for low-income consumers.

☐ What is the benefit?

- ☐ A \$9.25/month discount on wireline or wireless service for eligible low-income subscribers;
- ☐ An additional \$25/month discount for households on tribal lands;
- ☐ Link Up, another federal benefit program, provides qualified subscribers living on Tribal lands with a one-time discount of up to \$100 on the initial installation or activation of telephone service at their primary residence;
- ☐ For service initiation charges of up to \$200, Link Up also provides a deferred, no-interest payment plan to the subscriber for up to one year

☐ Who is eligible?

- ☐ If your income is 135% or less than the federal poverty guidelines;
- ☐ If You Use SNAP, Medicaid, or Other Programs;
- ☐ If your child or dependent participates in any of the programs listed above;

Source: NSR Analysis

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E-rate

E-rate is an existing program which ensures that schools and libraries are connected to information and resources through the internet. The FCC is seeking comments on its \$7.2BN Emergency Connectivity Fund to help schools and libraries provide devices and connectivity to students, school staff, and library patrons during the pandemic.

❑What is the benefit?

❑The FCC wants to utilize the fund for the purchase of eligible equipment or advanced telecommunications and information services for use by school students, staff or library patrons at locations other than schools and library.

❑Who is eligible?

- ❑A non-profit elementary school, including a public elementary charter school;
- ❑A non-profit secondary school, including a public secondary charter school;
- ❑A public library and in some cases, private libraries.

❑When does the program end?

❑The program will be active during the emergency period related to COVID-19. The emergency period ends on the June 30 that first occurs after the date that is one year after the Secretary of Health and Human Services determines that a public health emergency no longer exists.

Source: NSR Analysis

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Disclosures

12 month historical recommendation changes are available on request

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Call Notes March 5, 2021

Welcome/Roll Call

Mark Snow welcomed the group and provided an overview for the call.

Call Attendees:

Altice – Andre Martineau
Comcast – Peter Intermaggio
Comcast – John Hewson
Comcast – Sarah New
Cox – Jennifer Rich
Cox – Wendy Rosen
Mediacom – Eric Schoenfeldt
Shaw – Matt Matheson (For Lisa Cooke)
CTAM – Mark Snow, Renee Harris

Review of 2020 5G Work

The 5G Team was developed by a request from the CTAM Co-op Board. The CTAM 5G Team was formed in 2019 met to discuss best practices for competitive messaging around 5G. In 2020, the group focused on developing messaging to counter 5G mobile substitution threats. The final deck which resulted from the work the group completed is attached.

Define Scope for 2021 Broadband Competition work

The group discussed topics to focus on for 2021. Mark Snow noted the following areas of competitive threats as possible areas of focus:

- 5G Mobile and In-home fixed wireless
- Fiber – Telco, Independent, & Government
- Other fixed wireless/point-to-point - Starry
- Space-based – Viasat, StarLink, etc.

Comcast

Comcast agrees with the topics above and noted that in the Fiber bucket, government owned networks, rural utilities, and co-ops fall into this category including the Federal funding to expand the national broadband footprint into rural markets.

Comcast notes that in Miami, 5G tests were recently launched and it was found there was no coordination with the legacy business.

Cox

Cox feels the biggest threat is Fixed Wireless, particularly T-Mobile. Cox doesn't think of SpaceX (StarLink) as a threat as the set-up cost for customer will likely be very high and the

target areas for those products will likely be rural areas or those who don't otherwise have access to fast internet.

The following topics of focus were determined:

1. Fixed Wireless (T-Mobile in particular) – national threat
2. Fiber overbuilds – localized/regional threats

Positioning against Fixed Wireless Threat

Comcast

5G Fixed is not going as fast as feared. Comcast's strategy, from a messaging standpoint, remains the same which is to harden their network. The pandemic was an opportunity to demonstrate the reliability of the network and the ability to scale and that will position well for messaging later.

Comcast states it is important, as an industry, to establish the evaluation criteria – to get in customers minds what to look for – reliability, security, capacity, etc. If these can be established, then the industry is well positioned. T-Mobile will be very effective with their messaging so just having the right message and right product on the cable side is not enough.

Call Cadence/Defining Success/Actions

The group agreed to monthly one hour calls through October.

As far as deliverables, the group will determine what outputs will be developed as the topics are addressed.

Actions

- CTAM to send the group early results of the FB campaign using the 2020 5G messaging.
- Renee Harris will send a call poll to find the best day/time.

Addendum: Retention Working Group

The Retention Working Group met, and they are interested in collaborating on the 5G Fixed Wireless effort. They also believe that, in addition to T-Mobile, we should include Verizon's fixed wireless effort.

Call Notes: April 16, 2021

Welcome/Roll Call

Mark Snow welcomed the group and provided an overview for the call.

Call Attendees:

Altice – Andre Martineau
Comcast – Peter Intermaggio
Comcast – Stephanie Pearlman
Cox – Jennifer Rich
Cox – Wendy Rosen
Mediacom – Dianne Schanne
Mediacom – Eric Schoenfeldt
Rogers – Sameer Sheth
Shaw –Lisa Cooke
CTAM – Mark Snow, Renee Harris

Review of T-Mobile Deck

The group review the attached CTAM T-Mobile Fast Take deck.

- Cox noted T-Mobile would launch at 30 million people not homes passed
- Rogers noted they have done a lot of work on FWA –states that what is unique with T-Mobile is that they have a lot of low and mid band spectrum. With the advances coming in 5G, Rogers feels they can get to 7-8 million customers within 5 years. They feel they may do well in rural areas but do not feel they would get far in suburban/urban areas unless they offer a convergence value prop w their wireless offer.
- Rogers shared the following T-Mobile details: S-TMO: 40+MHz of 600MHz, PLUS 140-170MHz of 2.5GHz, PLUS 50+MHz of 3500MHz, PLUS 20-30MHz of PCS

Roundtable on work being done to react to T-Mobile

Charter

Charter has a number of testers across their footprint on the T-Mobile products. They see average download speeds of 170. They are trying to understand, from a competitive advantage, what kind of threat this presents – they have not seen a lot of direct impact yet. Charter feels like they can use their Internet product to lean into combating T-Mobile.

Charter has articles written regarding T-Mobile and many other competitors they provide to their call center reps to reference, if needed.

Question from Rogers question – Does Charter have any marketing for students?

- Charter does a specialized back to school offer in late August and September.

Comcast

Comcast has noticed that even though T-Mobile is trying to get the home – they are driving hard for the mobile conversion. Comcast notes that T-Mobile uses simple language for the consumer which is a strength for them and noted MSOs should review that tactic to use in their offensive/defensive messaging strategy as well.

Comcast is trying to understand “mobile only” which is their name for customers who use mobile devices for Internet in their homes. They will be completing research to understand which income levels, etc that are driven to mobile for Internet.

Cox

Cox has been looking at fixed wireless from a conceptional perspective to date. They have used choice research methods to get an understanding of how interested customers are in fixed wireless – they see that it is a strong preference for it when teed up in a concept format. However, when put into a hypothetical decision exercise, the interest diminishes as the customers realizes they are not ready to switch. Cox does, however, realize there is indeed an interest for fixed wireless for customers.

Cox also notes that customers may not exactly know what the term “fixed wireless” is – so it would be beneficial to ensure the description of fixed wireless is simple and clear.

Mediacom

Mediacom is starting to see customer’s use their mobile device as hotspots and thus not opting for in-home internet. They are preparing to launch messaging against fixed wireless and are crafting messaging around “is your mobile device optimal for in-hone Internet”.

Mediacom is in the field w research now to get a handle on how many consumers in their market/region to gauge how many are using hotspots for Internet in their homes.

Discussion for Future Calls/Actions

CTAM noted they would like to have an analyst join the next call to further dive into the topic of competition.

- Rogers noted they would indeed like to hear from an analyst and would particularly be interested in thoughts on the notation of Convergence – wireless.
- Comcast asked if CTAM could build a repository of in-market media from T-Mobile to further understand their messaging. All MSOs could contribute to the repository which could include direct mail, social ads, etc. CTAM will follow up with more details on this effort in the coming days.

Call Notes: May 14, 2021

Welcome/Roll Call

Mark Snow welcomed the group and provided an overview for the call.

Call Attendees:

Altice – Michael Kabel

Armstrong – Aaron Call, Dave Wittmann, Philip McJunkins

Comcast – Morgan Daloisio, Jenny Hartey, Jim Powel

Mediacom – Eric Schoenfeldt

Shaw – Pat Button, Jay Gardner, Paul Kippax

CTAM – Mark Snow, Renee Harris, Deepa Venkataraman, Cindy Mirabella, Ariane Guardarramas

T-Mobile Discussion led by New Street Research

Jonathan Chaplin, New Street Research, provided an analytic view of T-Mobile's Home Internet.

Highlights include:

- T-Mobile's offer is a fixed wireless broadband product with average speeds of 100 Mbps, minimum speeds of 25Mbps offered at \$60 a month.
 - The product will not be offered nationwide, it will be offered in targeted areas where T-Mobile has excess capacity. It will not be offered to everyone within a market because T-Mobile are dealing w capacity limitations.
 - Chaplin notes there are two markets for broadband – 80% are price insensitive and view speed/reliability as most important; 20% are price sensitive.
 - An offer of 25-100 MB service isn't compelling to the 80% market. Looks a lot like AT&T U-Verse product (50-75MB) - and these subs are declining at double-digit rates. That pace may accelerate after COVID.
 - For the 20%, the price of \$60 isn't attractive compared to Cable's lower speed tiers.
 - Chaplin doesn't see T-Mobile's Fixed Internet as much of a threat for Cable.
 - There are things to look out for though, T-Mobile Internet, once in rural areas, could be a "satellite killer" – the service and price will be much better than what satellite (HughesNet, ViaSat) can offer.
-
- In areas where there is upgraded cable, it is hard to see who the natural customer is for the T-Mobile offering would be.
 - With all above stated, T-Mobile has excellent marketing and good at making a pitch that will resonate with consumers. They also have a rapidly growing mobile base of customers to sell to.
 - Cable has an edge: there is a big difference between an MSO reselling Verizon wireless service with upgraded gigabit broadband at the base and T-Mobile's 25-100mb broadband service to its wireless base. Cable is stacking strength on top of strength with a discount. T-Mobile is stacking a weaker (in most areas) offering on top of a strong wireless offering.
 - They will likely roll out where they have the highest value wireless customers. It will be some time before they get the spectrum product out to areas where they will have a natural customer base (rural and exurban areas)
 - T-Mobiles believes they can get 7.5 – 8 million customers over time. Chaplin believes it is more like 4 million customers.
 - So, in thinking of the real threat as 4 million customers - the vast majority of those will be outside of MSOs footprints.
 - Chaplin also notes that T-Mobile now makes 100x the revenue on a gigabit of data with wireless users than they do with a wireless home internet product. (A mobile gigabit is worth 100x more than what a fixed gigabit is worth.) T-Mobile would not compromise mobile capacity to offer a fixed product - T-Mobile will only offer the fixed broadband product in areas where they have excess capacity.
 - Flavors of 5G – low band network with best coverage; the fixed network runs on a different mid-band network (140 mm pops of coverage) than wireless 5G; that spectrum doesn't propagate as well.

Questions from the group

Regarding devices, is T-Mobile using only the Nokia white cylinder? Or will they offer other devices?

- For the initial rollout phase, they are likely to use a common piece of equipment for the 5G launch. Chaplin has not seen the product yet.

T-Mobile has good penetration into their mobile only base with their various brands (including Boost, Metro, etc.). What do you think their strategy will be to sell their home product in that mobile only group?

- At the moment, T-Mo is going in the other direction. The vast majority of mobile only are very price sensitive and often don't need home broadband - mobile and work is enough. And some younger users do everything in life on a mobile device. The fixed wireless offering does not really resonate with these groups (\$60 is too much for the price sensitive group and too tethered for the young mobile set). The real opportunity not enough people are talking about is the pitch to business: this is likely to be a much more compelling offering (back-up service, conference rooms, etc.).
- Comcast noted that households in the wireless category have been an important sector during the pandemic. Nationally, Comcast believes it could be more than 7 million households with mobile only.

What is T-Mobile's thinking in getting into suburban/urban areas over the next 18-24 months -where they can densify their network?

- Chaplin doesn't think they will build a network just to go after the fixed wireless home internet market. The broadband market is less than half the size of the wireless market. They will use the mobile infrastructure opportunistically to serve home internet, but that will not be the driver.
- T-Mobile has a network / spectrum advantage vs. VZ and ATT. T-Mo can go get 40% of share of that, which is more profitable than chasing Home Internet share. Adding another full paying mobile sub is way more profitable than adding a fixed wireless sub.
- About 5% of total traffic rides on mobile and 95% rides on Wi-Fi and fixed mobile. The entire mobile industry has much less capacity than the MSOs do on their HFC networks.
- T-Mo will not be coming to Manhattan or Philadelphia. There are portions of suburban markets where there is excess capacity - that could be one front of threat for MSOs. But those tend to be very affluent areas that are not price sensitive and who want 1 gig speeds, etc. (Fairfield CT, etc).
- Anecdotally, New Street Research has noticed consumer chatter on social media, etc. that in areas where there is not a fiber competitor to the MSO and/or pockets of unhappy customers, folks are trying T-Mo fixed (the 10% who will always hate a solo incumbent?) and then not loving it once they experience the speed ups and downs, etc.

What do you think are other competitive threats besides T-Mobile?

- **Fiber overbuild is by the far the biggest threat.** AT&T will get to 30 possibly 40 million homes passed. Frontier will be getting to 8-9 million in the next 5-7 years. Small ILECs are also starting/expanding fiber builds in their footprint. One at a time, they are immaterial, but in aggregate, they matter:
 - In New Street's forecast, **fiber overbuilds will grow from 25% to 40% coverage of occupied HH.**

- Rolling out fiber is not a bad business if the areas do not already have a fiber network.
- The market for purchasing network / fiber assets/networks is insane - networks are selling for 15-25x EBITDA.
- **MSOs' improvements in CX and product quality** will help A LOT in combating fiber overbuilders. Even ATT cannot do this. **And MSOs wrapping wireless and other product around it is a HUGE tool.** Make your PRODUCT better than theirs, not just a fight on speed/price only.
- Fiber players without wireless will be easier to fight.
- Upselling fiber internet to wireless sales should be just as easy for ATT as adding wireless to broadband sales is. ATT is dysfunctional. Take advantage of this.
- If you're an MSO without a wireless play (MVNO), get one. Verizon may still be open to a few more deals and T-Mobile itself seems open to it as well.

Do you see AT&T leaning more into their wireless customers?

- While it is difficult to see from the outside, they should have an easy time attaching a fiber connection to wireless connects (strength on top of strength).
- AT&T is focusing all their energy on HBO. ATT is hanging their wireless business out to dry and placing all the bets on HBO– trying to turn it into Disney+. They spent a lot of money on C-band spectrum but are a year behind on deploying it. This is holding them back on mobile and broadband. MSOs should capitalize on that. ***{NOTE: this conversation happened before the Discovery Spin-Off announcement – it seems now more than ever ATT is going to focus on 5G wireless and fiber build-out}***
- ATT will begin to lose parity on wireless /mobile network quality and could become the next Sprint if this continues.
- Verizon is a totally different company. They continue to focus on their network. Verizon is not really a threat in the fixed space or the fiber space as they are all-in on wireless.

If the Congress Infrastructure Bill comes out, what might that do to fiber build out?

- New Street Research has a report coming out this week regarding the impacts of the Infrastructure Bill - there is high risk to the industry if the worst-case scenario occurs but that is unlikely. The bill will likely be focused on unserved areas. Some inside the admin want to 100% overbuild cable and have broad competition. But congress is a backstop, and this is one small part of a huge package. These muddied waters could mean a poorly written bill that puts money into areas that do not need it to grow overall coverage. Chances of this are low - less than 20%.

For any additional questions for Chaplin, please feel free to reach him directly at jonathan.chaplin@newstreetresearch.com.

Housekeeping/Actions

- CTAM is working on creating a repository of Competitive Ads within the existing CTAM Knowledge Portal. MSOs can begin sending documents they would like included in the repository to renee@ctam.com.

Call Notes: June 11, 2021

Welcome/Roll Call

Mark Snow welcomed the group and provided an overview for the call.

Call Attendees:

Comcast – Peter Intermaggio, Sarah New, Stephanie Pearlman
Mediacom – Dianne Schanne
CTAM – Mark Snow

2021 CTAM Broadband Adoption Study – Readout of Competitive Comparisons

Mark Snow presented an overview of the attached 2021 CTAM Broadband Adoption Study.

Highlights include:

- This study is an update of the Broadband study that was done at the beginning of the pandemic last year – this study looks at broadband adoption over the last 12 months
- Data in this study comes from 6000 adults surveyed in mid-May 2021
- Many more have upgraded service vs downgraded in the past year
- Almost 20% of all broadband subscribers were recent connects
- New connects are millennial dominated
- Broadband connects during the pandemic were more likely high earning, urban millennials
- Entertainment drove speed upgrades the most in the past year
- NPS scores of telcos were a lot higher than cable

Actions

- CTAM to ask HarrisX to cut New connects by Comcast by other MSOs and non-cable broken out by Telco
- HarrisX to provide more detail on NPS

Housekeeping/Actions

The group discussed cancelling July and August calls and resuming in September. CTAM will confirm w the remainder of group members if they agree to pause during the summer.

Call Notes: October 1, 2021

Welcome/Roll Call

Mark Snow welcomed the group and provided an overview for the call.

Call Attendees:

Altice – Helene Pandal
Charter – David Gray
Comcast – Sarah New
Cox – Adrian Bernal, Savia Coutinho, Jennifer Rich, Wendy Rosen
Mediacom – Dianne Schanne
CTAM – Mark Snow, Renee Harris + Cindy Mirabella

Review of the Fixed Wireless identification call on September 20

CTAM gave an overview of the 5G Detection call that was held in September.

- During the August 27 combined CTAM Convergence Team + Competition Team call, the topic of detecting 5G arose as an item of interest to some participants on the call and Comcast offered to provide their findings to those interested.
- On September 20 Comcast presented their findings to the participants who requested to join the call.
- Some of Comcast's components of detecting Fixed wireless 5G are:
 - Availability of the product via public statements and releases
 - Direct Mail Insights (where, what, how many)
 - Social Listening buzz
 - Hiring Patterns
 - Disconnect analysis (reason codes, research)
 - Speed test insights (speed, time of day, location, frequency)
- To view a recording of the full call, please click [here](#)

Charter noted they are doing many of the tactics Comcast is using to detect 5G. Charter also agrees that using the Speed test is a logical means to identify 5G. In addition, Charter teams use VIAVI meters to drive through areas to detect and map 5G.

Charter also noted that pulling local permits remains useful in detecting expansion.

CTAM noted that HarrisX offers a product called Telephia that detects non cellular wireless services and will look at fixed home in home wireless. CTAM will get more information on the product from HarrisX and will circle back to MSOs If this product is indeed that could be useful in detecting 5G.

Altice is also interested if the HarrisX product could pick up small fiber providers as well.

Research into Fiber and 5G as "power terms" among those seeking broadband ISP during a move

CTAM is adding questions to the Q4 edition of the Mover Study and asked the group their thoughts on how they feel the words "fiber" and "5G" affect people's purchase decisions when they are choosing an ISP when moving. CTAM collected valuable input on and after the call that is now in the survey.

Mediacom noted they have done some research, prior to 5G rollouts, in terms of asking potential prospects their choice between taking a Fiber or cable solution and found that 40% of the respondents would take fiber over cable – this outcome showed that consumers saw a value in the term Fiber. Mediacom asked if there is concern in people understanding the terms 5G and fixed home wireless. CTAM agrees there is concern around consumer understanding (and

confusion). Mediacom mentioned it may be helpful to include a description of those services in the study. (CTAM worked with HarrisX to address this.)

Cox is also concerned about consumers understanding what 5G and Fixed home wireless is but suggests including a mechanism in the study that can tease out data on a scale level. (CTAM worked with COX and HarrisX to address this.)

CTAM will send the Mover Study questions to the group for review and suggestions. (Responses from the group were used to improve the questions – many thanks!)

General discussion on how fiber overbuild, and telco fiber is playing out in your markets

Altice confirms that it is hard to detect small provider fiber builds. Currently they track press releases, PR investments, announcements, etc. but most of the tools they have won't pick up the smaller providers.

Altice noted providers such as Vexus, GoNet Speed, MetroNet and Dobson have come out in the press.

Charter noted that MetroNet has a color-coded map of their entire footprint and they have utilized that map to back into their own node maps to anticipate where they will be. Charter also notes that fiber providers that do “demand based” builds may have mapping information on their websites.

Next Steps/Actions

Questions/Topics the group are interested in for the next call:

Mediacom: when prospects are considering fiber, are they looking at for it the technology end or the synchronous speeds? CTAM has added this question to the study.

The group's last call of the year will be held Fri, October 29.

Call Notes: October 29, 2021

Welcome/Roll Call

Mark Snow welcomed the group and provided an overview for the call.

Call Attendees:

Altice – Scott Meador, Helene Pandal

Cox – Adrian Bernal, Savia Coutinho, Anthony DeFilippo, Jennifer Rich, Wendy Rosen

Comcast – Peter Intermaggio, Stephanie Pearlman

Mediacom – Dianne Schanne

CTAM – Mark Snow + Renee Harris

Review Mover Study Q4 2021 Fiber Questions

Background: The CTAM Mover Study completed by HarrisX was previously completed annually. However, HarrisX is now completing Mover Studies quarterly for CTAM. Quarterly studies allow for a more frequent read of consumer behavior but also a chance to add incremental lines of inquiries to the study.

For Q2 2021 questions regarding streaming services were added; for Q3 2021 questions on mobile/wireless were added; and for Q4 2021 questions regarding Fiber as a competitive threat will be added. Surprising findings and insights have been found from these added questions so far, including the increase move-related churn risk for SVOD streaming services and the increase in mobile switching behavior in the 60 days after a move.

CTAM reviewed the attached Fiber questions which will be added to the Q4 Mover Study. Researchers from Altice and Cox assisted in formulating these questions.

- Question 1: Aside from your current home internet service, which of the following home internet technologies and terms have you heard of or used in the past?
 - **These technologies are separate from the Wireless/ LTE/ 5G offered by your mobile carrier that connects your mobile devices/ cellular phones. Please select only if you have heard of or used these technologies in the context of home internet services.*
- Question 2: Which of the following home internet technology types would you consider when deciding upon your next home internet service?
 - **Separate from the Wireless/ LTE/ 5G offered by your mobile carrier that connects your mobile devices/ cellular phones. Please select only if you have heard of or used these technologies in the context of home internet services.*
- Question 3: When thinking about home internet options, can you show us how you would rate Fiber/ Fiber-Optic as a technology on a sliding scale when considering the following attributes?
- Question 4: When thinking about home internet options, can you show us how you would rate Cable as a technology on a sliding scale when considering the following attributes?

Comments from the group

Comcast notes that for Question 4, one of the attributes added should be **Security**. Security defined as blocks from external threats, and hacks, etc.

- CTAM will contact HarrisX to try to can add this item to question 4.

Reading out of surprising results of switching behavior among wireless subscribers

CTAM provided an overview of the attached results of the Q3 Mover Study regarding wireless subscribers. Please note, these results are preliminary.

Highlights include:

- Trends indicate that moving can disrupt retention of mobile services.
- Nearly 1 out of 4 movers have switched their mobile provider in the past 12 months
- Q3 TCS data indicates that 24% of movers changed their mobile provider in the past 12 months, up from 3pts from Q3 2019
- 7 out of 10 movers who changed their mobile service provider in the past 12 months did so within two months of their move, half of who changed within one month

- Across all reasons to switch mobile providers, movers do so most frequently after the move, especially when it comes to mobile coverage issues
- Cable companies experience higher rates of mobile switchers among movers, however major providers such as T-Mobile flooded the market with such switchers in the past year
- Q3 2021 TCS data indicates that 29% of movers changed their service from T-Mobile in the past 12 months
- AT&T is the major mobile provider to gain market share among movers that have switched; Cable companies break even among movers who switched
- Network coverage is the most persuasive reason to switch mobile provider among housing opportunists. Additional free lines least popular persuasion method across all movers.

Please note, the following calls have been scheduled for HarrisX to present the full Q3 Mover Study:

1. **Wed, November 10 at 1:00 ET** - During this call, members of CTAM MSO Research Working Group are invited to preview the Q3 Mover Study presented by HarrisX. Participants will have the opportunity to offer feedback on the study before it is presented to the Mover Marketers on November 17. While attendance is optional, CTAM would love to have as many as possible join this call.
2. As mentioned above, HarrisX will again present the Q3 Study on **Wed, November 17 at 1:00 ET** to the CTAM Mover Marketers.

Please contact Renee Harris – renee@ctam.com if you would like to join either of the above calls.

T-Mobile Internet Map

CTAM received a request from an MSO asking if anyone had a T-Mobile Internet map.

During a previous call, the group discussed detecting the presence of a Fixed Wireless Provider. The results of that call indicated there are several methods of detecting 5G. CTAM notes Ookla is an inexpensive way to estimate presence of Fixed Wireless as Ookla sells speed test data.

CTAM asked the group if MSOs would want CTAM to work to develop a T-Mobile Internet map.

Cox would be interested in having CTAM work on creating a T-Mobile Internet map.

Altice notes that T-Mobile's Home Internet product is based on network capacity and coverage. There was a goal with the construct of the Sprint merger that by 2025, T-Mobile will cover 90% of the country with its Home Internet Broadband Fixed Wireless. As of now, there are about of 30 million homes passed out of 140 million occupied households in the country which shows limited capacity. It is based on network capacity for a particular market. This makes it hard to determine where T-Mobile's Home Internet is located.

Comcast notes that even in areas where T-Mobile may not have capacity, they are still sending a lot of direct mail. They are possible doing this to engage customers with another product with

hopes to gain the customers for Fixed Wireless when/if capacity becomes available at a later time.

CTAM will begin to explore developing a T-Mobile Internet map starting with engaging Ookla. If any MSOs have any information that would assist in determining T-Mobile Internet coverage, please feel free to send to CTAM.

2022 + Coordination with CTAM Retention Working Group

For 2022, to ensure CTAM is maintaining efficiency for MSOs, CTAM suggests combining the Competition Team with the CTAM Retention Working Group as group topics offer overlap with one other.

If there are no objection to combining the groups, CTAM will hold a joint call in Q1 2022 to kick off the year.

There will be no further Competition calls in 2021 as we will cancel the November 26 call that is currently on schedule. CTAM will be in touch in the coming weeks to schedule a kickoff call for 2022.

Please contact CTAM with any questions or comments.

Request from Comcast

Comcast would like CTAM to create a repository of how wireless providers are messaging EBB in different formats and tactics – digital, DM, etc.

CTAM will work with the CTAM EBB Team to discuss creating a repository.

RETENTION

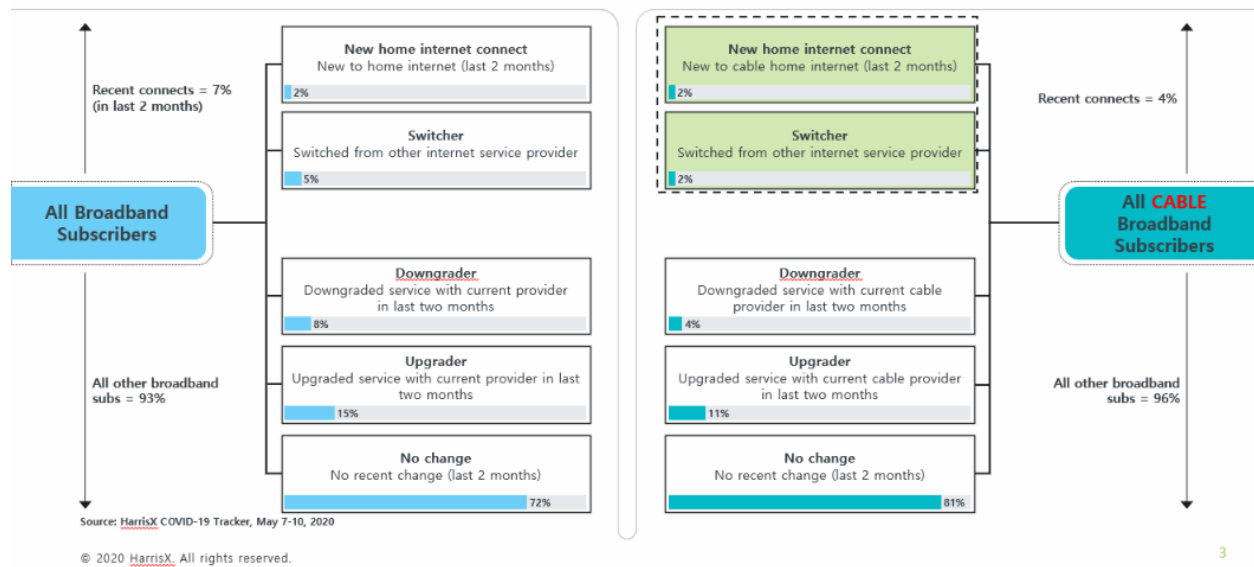
HarrisX COVID Broadband Adoption Study for CTAM – June, 2020



Executive Summary

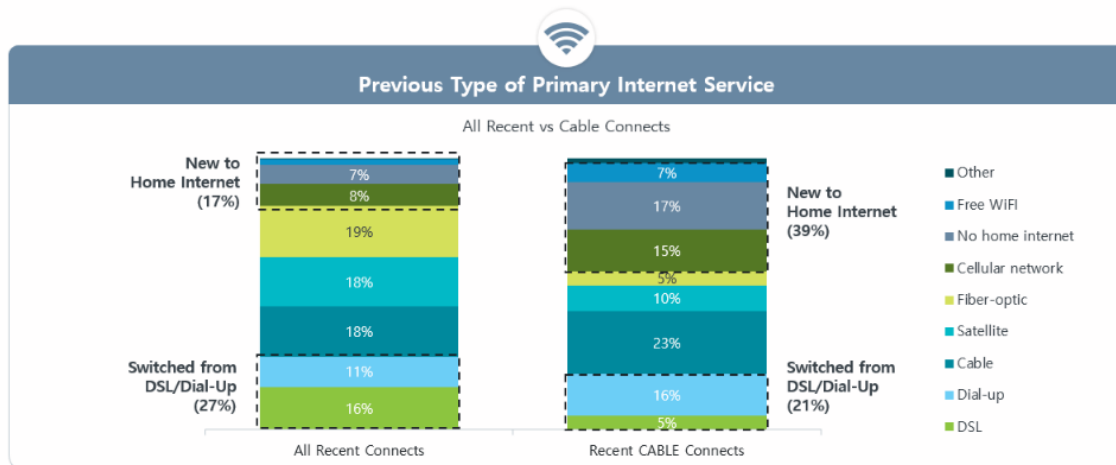
- 1** **During the pandemic, the cable industry provided a bridge to the unconnected.** Of new Cable connects, almost 40% were new to home internet, relying previously on free WiFi, cellular connections or on no internet at home at all, a share that was higher than the industry as a whole
 - Cable attracted **Working Young Mothers** in particular, who are very impacted by COVID-19 due to needing to educate school-age children from home, and likely to have had no home internet previously.
 - Among cable connects who switched, more came from outside the cable eco-system than those who stayed within cable.**Cable also fulfilled new pandemic-related needs.** The majority of existing cable subscribers making a change upgraded their service, and most consumers switching to cable from a competitor bought a higher value package
- 2** **Cable connects signed-up or switched to get faster speeds for streaming during COVID.** Educating children from home, as well as COVID related offers and promotions also ranked highly.
 - Current Cable subscribers upgrading broadband service also cited faster speeds for streaming the most, followed by the need for more bandwidth for multiple devices and for working from home. Those downgrading broadband service with their Cable other ISP cited financial difficulties.**Understanding urban, millennial post-pandemic needs and lifestyles will be key to retaining and attracting new connects.** Financial concerns remain a threat to retention
- 3** **Good news! Very few recent cable connects expect to switch, unlike the rest of the industry.** But as much as ~20% do not plan on keeping their home internet service.
 - Cable should target the **Millennial Urban Fathers** segment – they contributed the most to industry connects as a whole. These are a highly educated, higher income, a desirable demographic, but fickle. One-third are planning a change post-pandemic, giving cable a great opportunity.

4% among all cable subscribers signed up recently, almost evenly divided between switchers and those new to home internet



3

Another way to look at cable connects – 39% new-to-home internet, 36% from outside cable eco-system including 21% from DSL or Dial-up

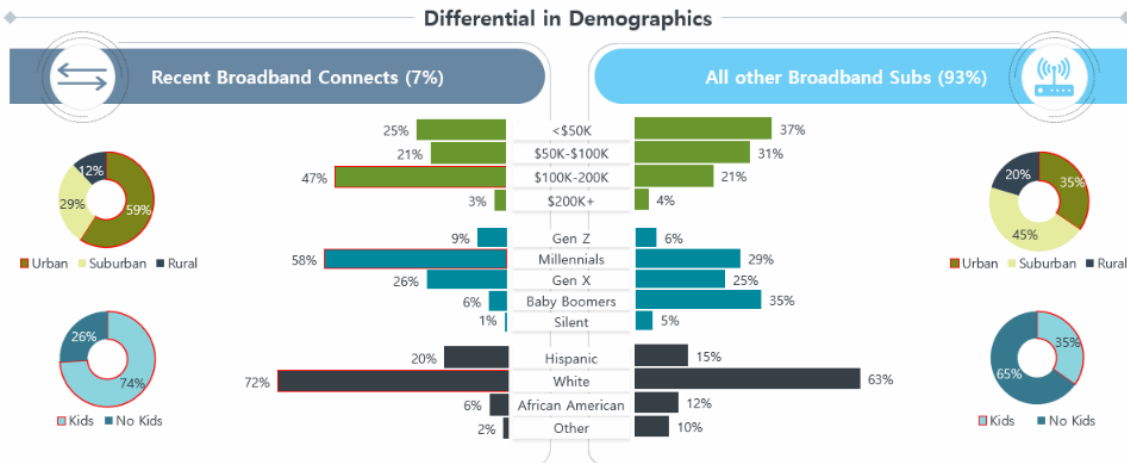


Source: HarrisX COVID-19 Tracker, May 7-10, 2020
Base: LHS— All Home Internet Subscribers (n=3691); RHS— Recent subscribers (n=254). Recent cable subscribers (n=55)* *Note: Low Sample
T860: How long has your primary service provider been providing this service to your household?
T821: Prior to subscribing to [primary internet service provider], what was the primary internet service being used in your household?

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4

Going back to recent connects for industry as a whole, they are likely to be younger, urban, higher earning millennial parents



Source: HarrisX COVID-19 Tracker, May 7-10, 2020
 Base: Recent Subscribers (n=254), Non-Recent Subscribers (n=3637)
 T801 Change in household's primary internet provider in last 2 months (Yes/No)

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5

Turning to upgraders, 15% of all broadband subs upgraded recently, and about one-third of switchers also indicated that they bought a higher value subscription

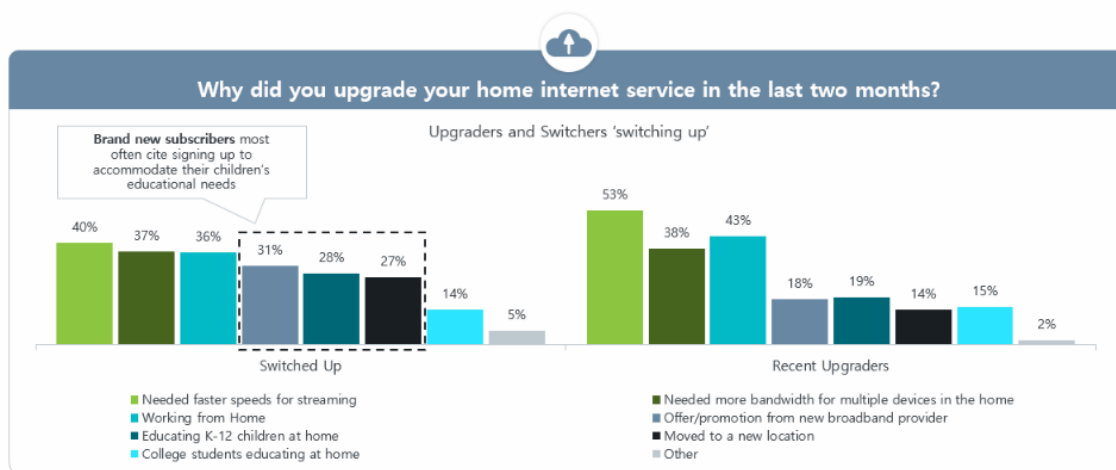


Source: HarrisX COVID-19 Tracker, May 7-10, 2020

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6

Most upgraders need fast speeds for streaming or working from home – but those ‘switching up’ are more likely to be driven by education, promotions & moving



Source: HarrisX COVID-19 Tracker, May 7-10, 2020
 Base: Switched Up (n=72), Recent Upgraders (n=443) *Note: Low Sample
 T301A. Why did you switch home internet service providers in the last two months? T301C. Why did you upgrade your home internet service plan in the last two months?

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7

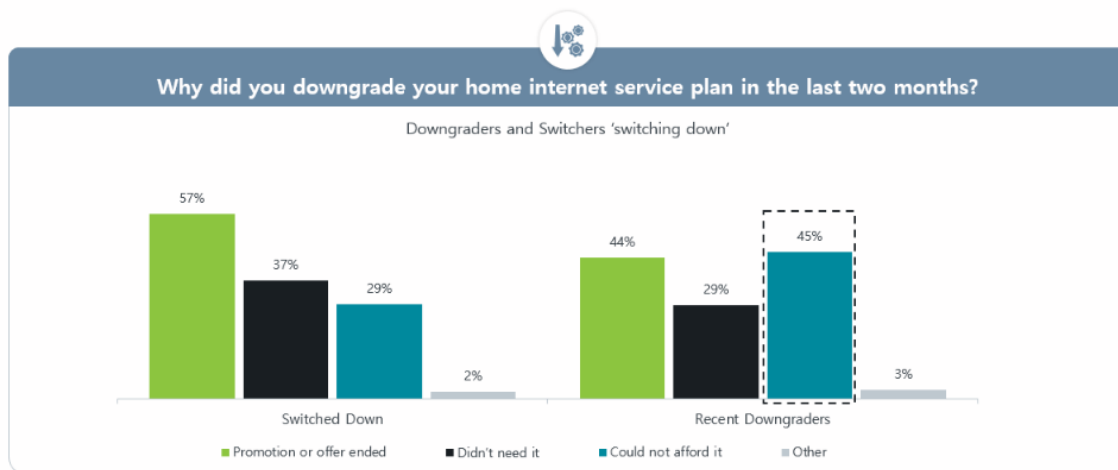
Turning to downgraders, 8% of all broadband subs downgraded recently, and about two-thirds of switchers also indicated buying a lower value subscription



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8

Finances were the biggest driver, especially those downgrading service with their current provider who cited not being able to afford their service



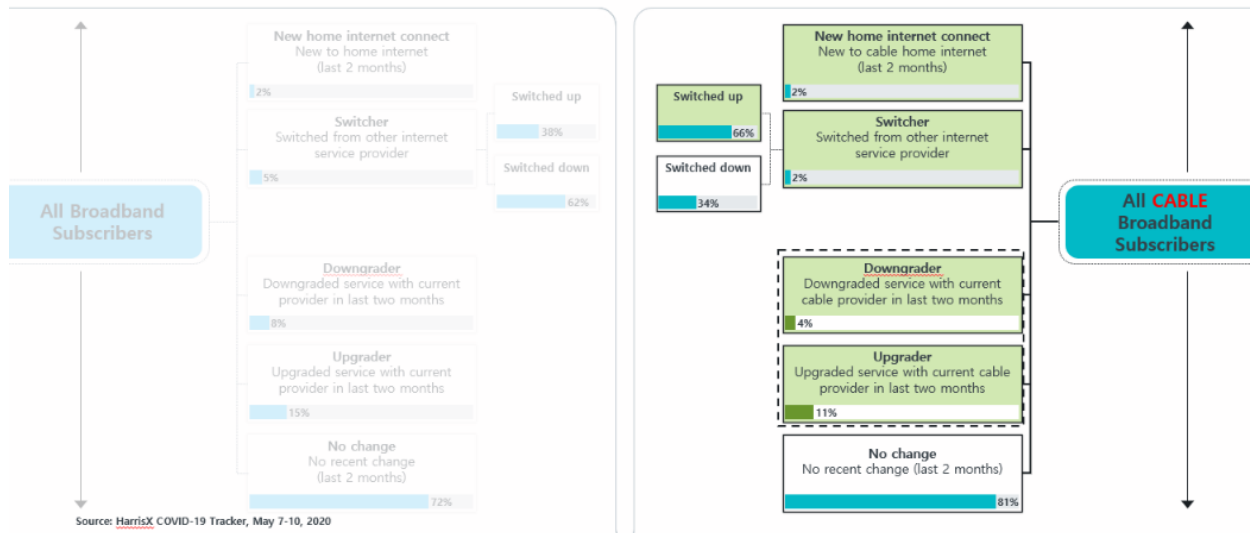
Source: HarrisX COVID-19 Tracker, May 7-10, 2020
 Base: Switched Down (n=151), Recent downgraders (n=275)
 T301D: Why did you downgrade your home internet service plan in the last two months?

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9

Cable

Turning to **CABLE** subscribers, in addition to 4% new connects, 11% upgraded and 4% downgraded recently. Of switchers, two-thirds opted for a higher value package

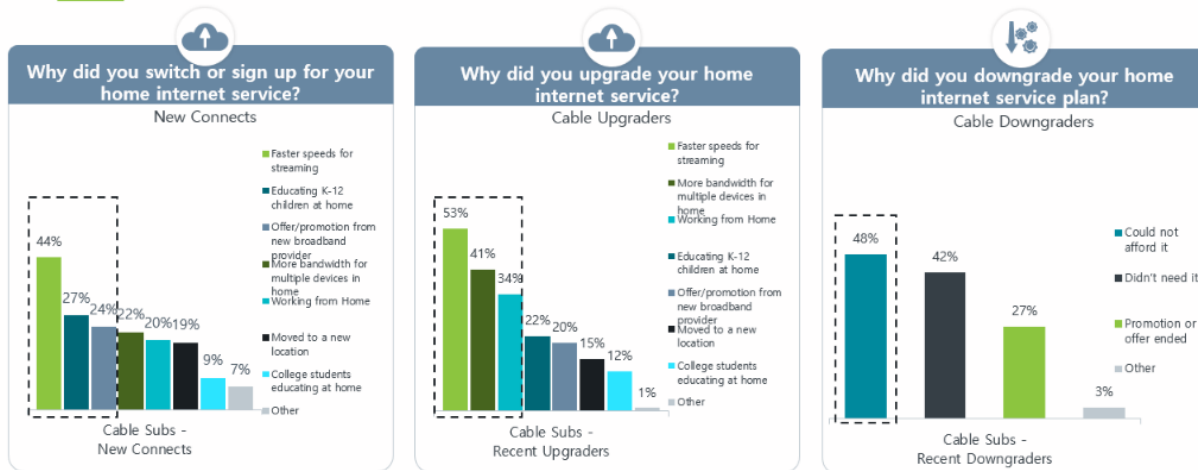


Source: HarrisX COVID-19 Tracker, May 7-10, 2020

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10

Cable subs signed up or upgraded due to changing needs at home during the pandemic, while cable downgraders couldn't afford their service



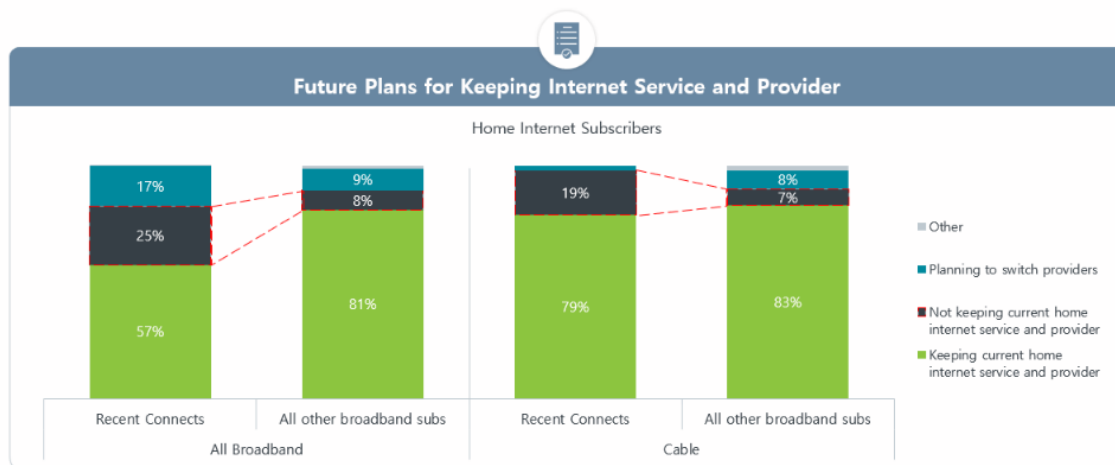
Source: HarrisX COVID-19 Tracker, May 7-10, 2020

Base: Cable subscribers; LHS - New Connects (n=38); Middle - Recent Upgraders (n=130); RHS - Recent Downgraders (n=71) *Low Sample T301A. Why did you switch home internet service providers in the last two months? T301B. Why did you sign up for home internet service plan in the last two months? T301C. Why did you upgrade your home internet service plan in the last two months? T301D. Why did you downgrade your home internet service plan in the last two months?

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11

Among recent connects, 25% overall and ~20% of cable connects* are planning to drop broadband service post-pandemic, very few cable connects plan to switch



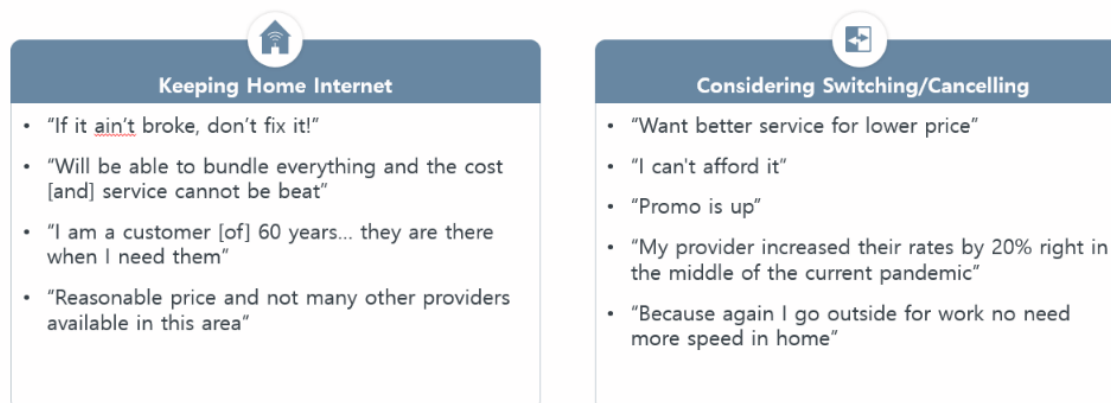
Source: HarrisX COVID-19 Tracker, May 7-10, 2020

Base: LHS - Recent Subscribers (n=254); Non-Recent Subscribers (n=3637); RHS - Cable home internet subscribers: Recent Subscribers (n=55); Non-Recent Subscribers (n=1729) *Note: Low Sample T302: When the pandemic ends, what are your plans for keeping your internet service & provider?

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Those planning to keep their home internet are generally satisfied with the value of their service; potential switchers are looking for opportunities to cut costs



Source: HarrisX COVID-19 Tracker, May 7-10, 2020
 T302: Why are you...? (planning on keeping current home internet service and provider, planning to switch providers, planning on not keeping current home internet service and provider)

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13

Millennial Urban Fathers and Working Young Mothers are driving recent connects overall and are more likely to consider making more changes post-pandemic



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14

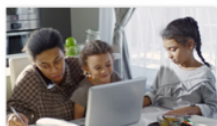
Millennial Urban Fathers are likely to make some change to their service; Young Working Mothers are more conservative with choices, but skew toward upgrading



Millennial Urban Fathers: Most impacted, most concerned, best informed, closely following news on COVID-19 pandemic

- Urban parents, nearly half are under 35
- Higher income and jobs; smoother transition to work from home
- Highly concerned about educating children from home
- 15% switched home internet providers in the past two months
- Almost two-thirds of non-recent subscribers still made changes to their internet service in the last two months – most often **upgrading** to better, faster service
- One third of Millennial fathers are **considering making another change post-pandemic**, almost equally split between switching providers and cancelling service altogether

Source: HarrisX COVID-19 Tracker, May 7-10, 2020
Base: Millennial Urban Fathers (n=800); Young Working Mothers (n=244)



Young Working Mothers: Highly impacted, somewhat concerned, somewhat informed about COVID-19 (via social media & friends/family)

- Young, worried working mothers with lower income
- Nearly half are missing 2+ devices to be able to work and educate from home
- Less worried about the level of service and more worried about cost and **saving money** foreseeing serious financial hardship
- 11% signed up for home internet in the past two months
- Non-recent subs are more reluctant to make changes – with only a third making a change in the past two months
- Of changes made, non-recent subscribers in this group skew toward **upgrading**

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COVID-19 Broadband Study by CTAM

- This survey was conducted online within the United States on May 7-10, 2020 among 4,059 adults by [HarrisX](#)
- The sampling margin of error of this poll is +/- 1.54 percentage points
- The results reflect a nationally representative sample of U.S. adults
- Results were weighted for age within gender, race/ethnicity, region, income, and mobile carrier where necessary to align them with their actual proportions in the population
- Due to the sample size of cable broadband connects being small, a longer and larger study would yield more comprehensive results



Retention-Related Documents in CTAM's Knowledge Portal as of 3/19/21

[Cox Lift & Shift – Call Routing/Ownership Strategy \(2018\)](#)
[Cox – Transfer Center of Excellence \(2018\)](#)
[Cox – Transfer As-Is Online Functionality \(2018\)](#)
[Cox – Segmented Services \(2018\)](#)
[Cox – Proactive Retention \(2018\)](#)
[Google – Speed, Scale and Service: The power of Search to Prevent Churn and Drive Growth \(2017\)](#)
[Suddenlink – Proactive Follow-Up Call Program \(2015\)](#)
[Midcontinent – Step Offer Program \(2015\)](#)
[MDU Work Stream Product \(2015\)](#)
[Lifetime Value Narrative \(2015\)](#)
[Cox – Customer Education Strategy \(2015\)](#)
[Midco – Decreasing At Risk Customers in the Base \(II\) \(2015\)](#)
[Midco – Decreasing At Risk Customers in the Base \(I\) \(2015\)](#)
[Bright House – Proactive Retention for Former Verizon Subscribers \(2015\)](#)
[Cox – Inbound Promo Roll-Off Transfer to Retention Team \(2015\)](#)
[Cogeco – Inbound Loyalty \(2015\)](#)
[Triggers and Stabilizers of Churn \(2014\)](#)
[Mediacom – Simplifying the Save \(2014\)](#)
[Comcast – High-Value/High-Risk Retention \(2014\)](#)
[Comcast – High-Risk Billing Outreach – Canary \(2014\)](#)
[Cogeco – Promo Roll Off Initiatives \(2014\)](#)

[Cogeco – Proactive OBTM Loyalty Call \(2014\)](#)
[Cablevision – Step Roll-off vs. Campaign Extension \(2014\)](#)
[Local Movers – Suddenlink \(2014\)](#)
[Local Movers – Cox \(2014\)](#)
[Local Movers – Comcast \(2014\)](#)
[Local Movers – Cablevision \(2014\)](#)
[Local Movers – Bright House \(2014\)](#)
[Local Movers – BendBroadband \(2014\)](#)
[TWC – Analysis of Drivers of Non-Pay Churn Abstract \(2013\)](#)
[Suddenlink – DM to High-Risk Customers with Special Offers \(2013\)](#)
[Rogers – Downgrade Domino Program \(2013\)](#)
[Cable One – Implementation of Credit Checks and Deposits on Non-Pay Churn \(2013\)](#)
[Organizational Design Work Product \(2013\)](#)
[KPI Work Product – Retention \(2013\)](#)
[Cox – Price Lock Guarantee Contracts for High-Risk Customers \(2013\)](#)
[Charter – Touch High-Risk SD Subs Likely to Have HD Sets \(2013\)](#)
[Charter – Route High-Risk Customers to Specially-Trained Group of Agents \(2013\)](#)
[Charter – Reactive Modular Offers by Product vs. Bundle-Wide \(2013\)](#)
[Cable One – Retention Queue Test \(2013\)](#)
[Bright House – Check-In Call 8 Weeks Prior to Rate Change \(2013\)](#)
[Bright House – Check-In Call 30 Days Prior to Rate Change \(2013\)](#)
[Bright House – Net Promoter Score and Disconnect Modeling Abstract \(2010\)](#)
[Bright House – Hello Friend Brand Update Abstract \(2013\)](#)

Sky VIP Introduction – June 2021



Agenda

- 1 A Sky VIP history lesson
- 2 Why does Loyalty and Engagement with Sky VIP Matter?
- 3 Our 2021 Strategy
- 4 How do we report and measure benefit of Sky VIP?
- 5 Q&A



A Sky VIP history lesson

A Sky VIP history lesson

Our challenge



of those leaving Sky cited "lack of recognition" among their top 5 reasons for leaving

Our insight



of people believe that Loyalty programmes should be about brands being loyal to them

Our mission



Flip loyalty on its head, by demonstrating our loyalty to our customers rather than demanding their loyalty to us

Sky VIP launches first programme in UK to reward customers tenure over spend in 2017



5

What is Sky VIP?

Sky VIP in a nutshell

- Our loyalty programme to say thank you to our customers
- It's designed to reward customers for their loyalty and make them feel valued and appreciated
- Open to all customers from the day they join Sky (one core Sky product must be active)
- All our customers are automatically Sky VIPs from the moment they join Sky

Tenure based programme

- A tenure based reward programme that gets better the longer a customer is with us
- Customers are given a tier based on their length of continuous tenure
- Each tier unlocks a different set of rewards (see next slide for reward summary by tier)

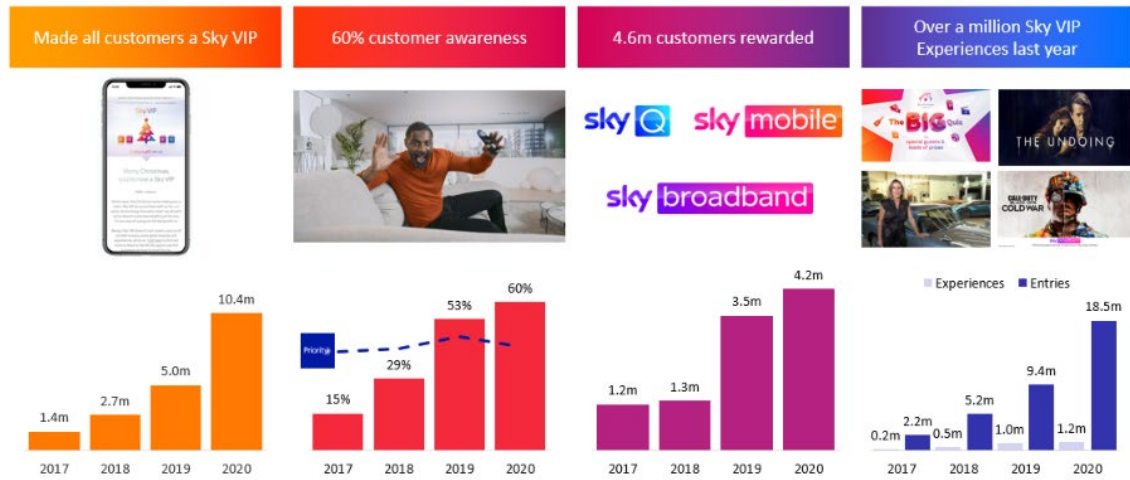


Join and redeem

- Sky VIP lives in the My Sky app and customers will need to download it from their app store to see and redeem all their rewards, including exclusive tickets to events



Since then, Sky VIP has reached more than half the base with all customers now enrolled



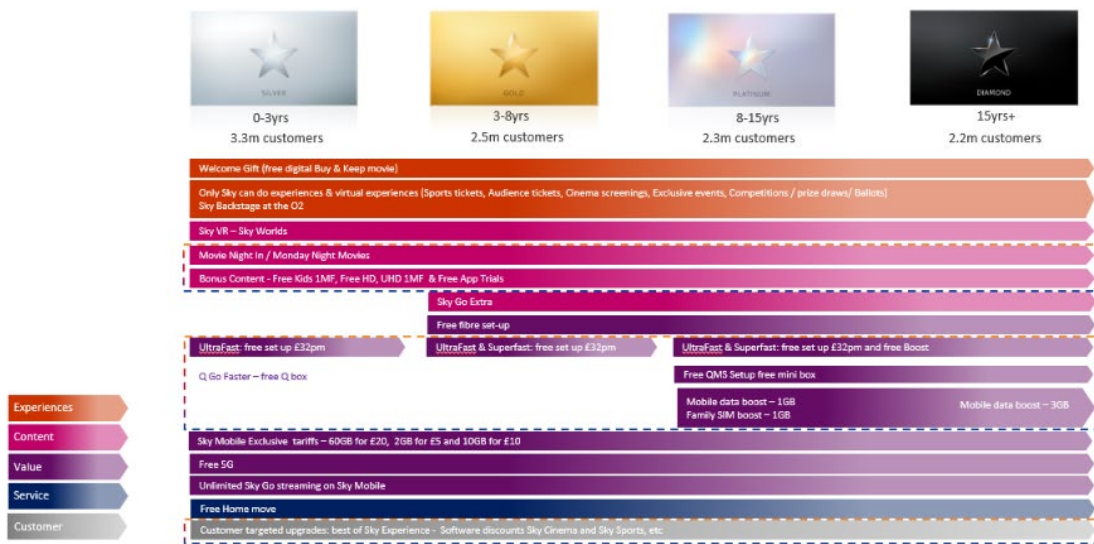
7

Our customer strategy has evolved since launch



8

Sky VIP Rewards customers for their loyalty... today



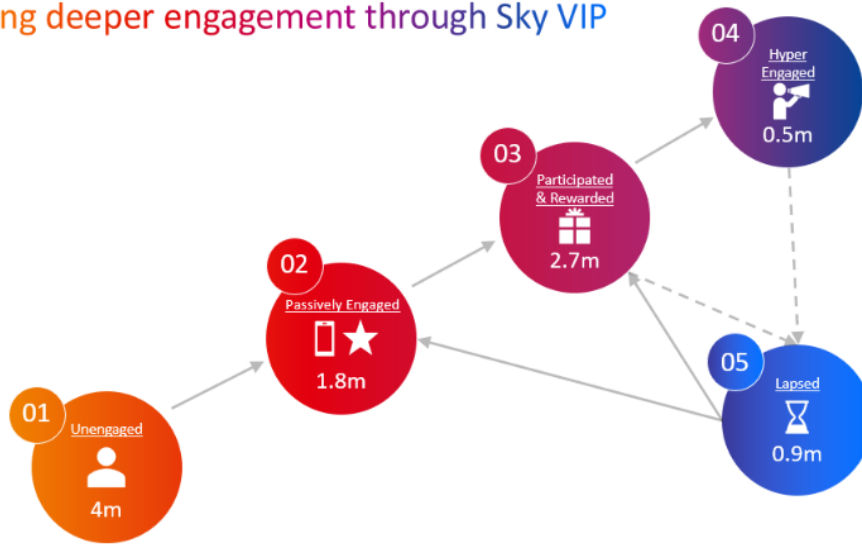
Proposed VIP Framework Jan 2021

With all customers a VIP we needed a new framework for evaluating VIP effectiveness and our customers

From
VIP enrolled Vs
non-VIP

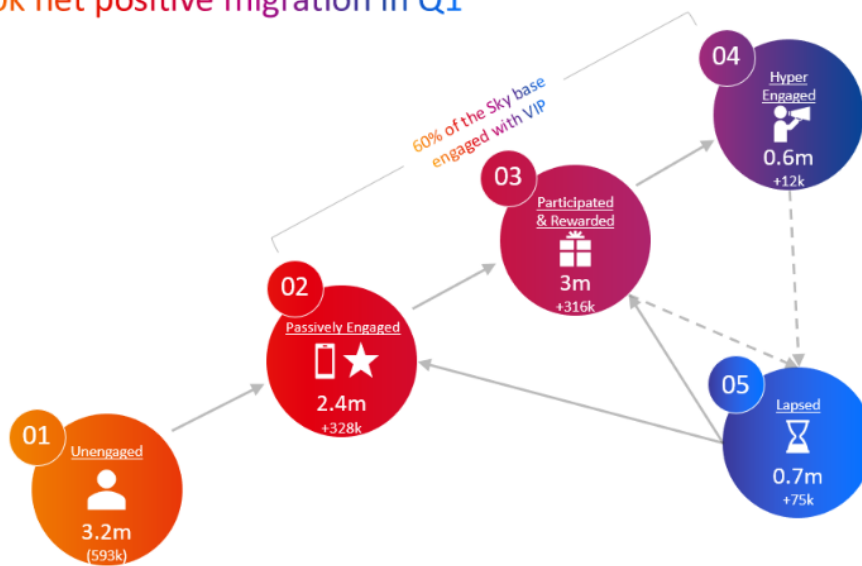
To
A new
segmentation
of the base at
the heart of
strategy and
measurement

And a new customer segmentation to focus on driving deeper engagement through Sky VIP



11

+500k net positive migration in Q1

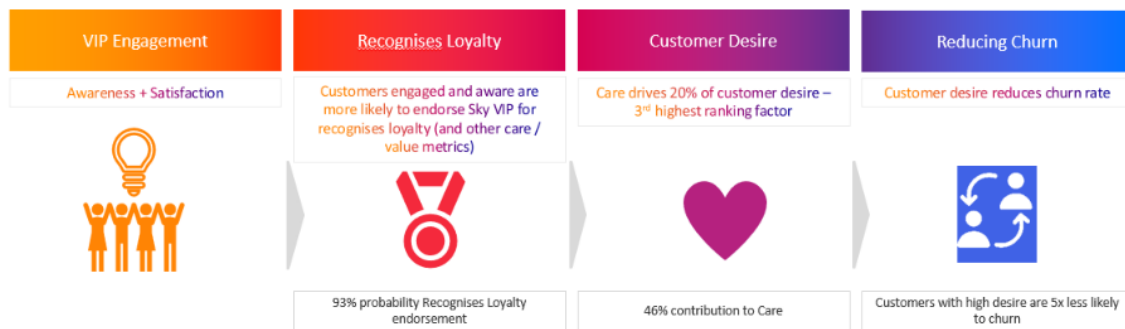


12

Why does Loyalty and Engagement with Sky VIP Matter?

Why does Loyalty matter?

VIP engagement increases customers loyalty perceptions and desire which reduces churn



Source:
VIP Driver Analysis Output – Oct20 (Strategic Insights)

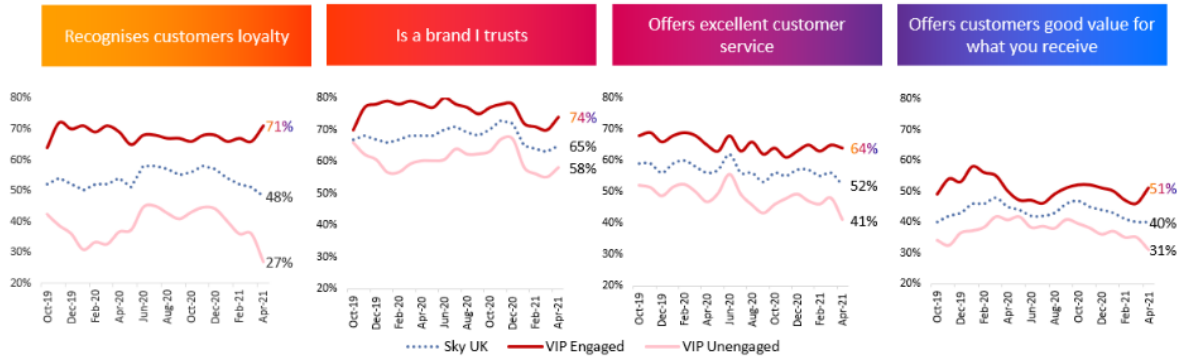
Source:
VIP Driver Analysis Output – Oct20 (Strategic Insights)
Strategic Insights; TV Brand Drivers through the funnel, 2020

Source:
Strategic Insights; TV Brand Drivers through the funnel, 2020

Source:
Strategic Insights; BPF Matchbook Survey March 2020

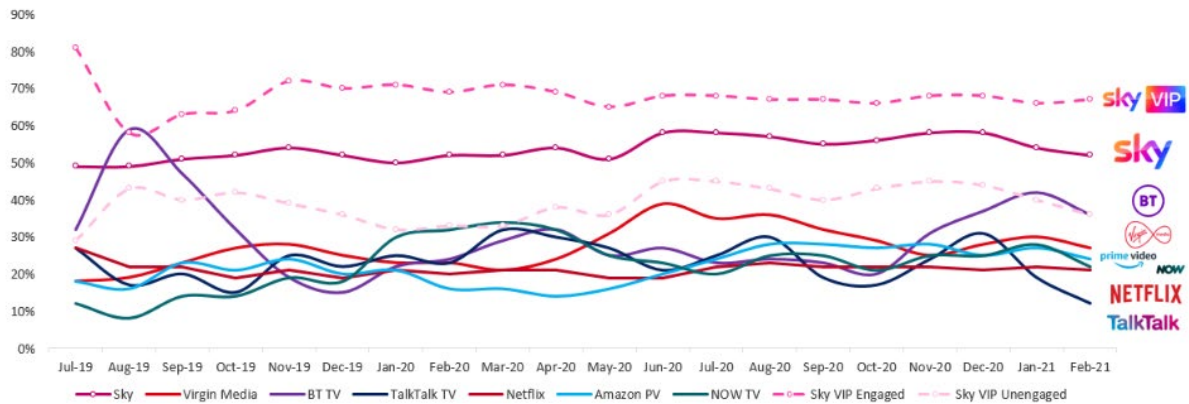
How does VIP engagement affect customer desire?

VIP engaged customers up to 44pp more likely to endorse Sky for Value and Care



Source: Brand Equity Tracker – TV Route | 3 month rolled
 Respondents only answer about brand imagery they select as important to them (Q17 which of these [attributes] matter to you when considering TV Providers?). They then choose which brands out of the ones they use or would consider using to associate with each attribute (Q18 select all the providers you feel are associated with [insert the attributes selected at Q17]). Base: 3 month rolled data till Nov 2020
 Currently split between respondents who claim they are enrolled / not enrolled in Sky VIP. In Dec-20 this will switch to awareness of VIP as we transition to the Brand Equity Tracker. We will monitor the impact on VIP impact on these brand statements

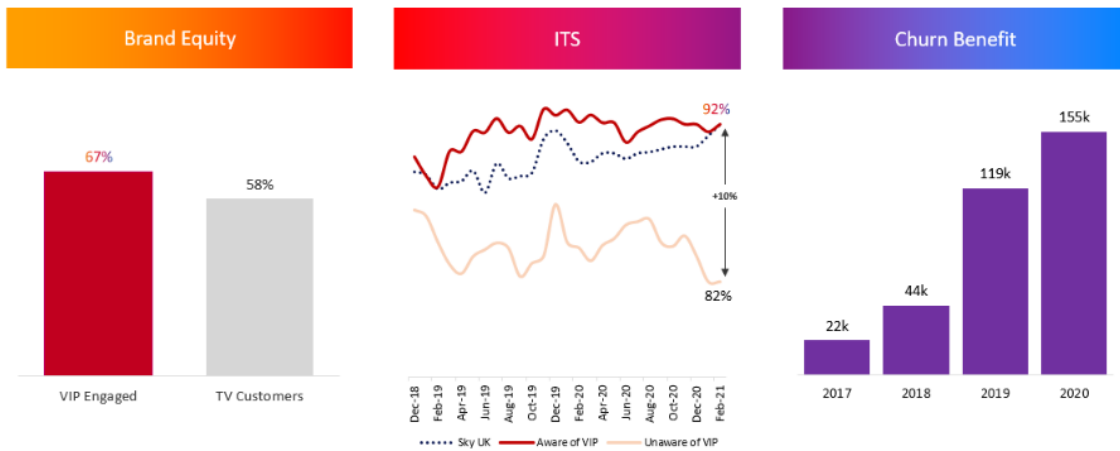
Sky's endorsement for loyalty significantly outperforms competitors



Source: Brand Equity Tracker – TV Route | 3 month rolled
 Respondents only answer about brand imagery they select as important to them (Q17 which of these [attributes] matter to you when considering TV Providers?). They then choose which brands out of the ones they use or would consider using to associate with each attribute (Q18 select all the providers you feel are associated with [insert the attributes selected at Q17]). Base: 3 month rolled data till Nov 2020
 Currently split between respondents who claim they are enrolled / not enrolled in Sky VIP. In Dec-20 this will switch to awareness of VIP as we transition to the Brand Equity Tracker. We will monitor the impact on VIP impact on these brand statements

And Loyalty drives brand equity, ITS and churn benefit

Resulting in 155k churn benefit last year



Source: Brand Equity Re-Sept-May 20
All Sky BB customers: c.4000, Sky VIP BB customers: c.1000, All Sky Mobile customers: c.700, Sky VIP Mobile customers: c.400, All Sky TV customers: c.5410, Sky VIP TV customers: c.2100
Committed Customers: % of customers that rank Sky as their number 1 preferred brand

Source: Price Tracker | 3 month rolled
On a scale of 1 to 10, where 1 is extremely unlikely and 10 is extremely likely, how likely are you to still be using the following TV service providers in 12 months? (n=7,015)

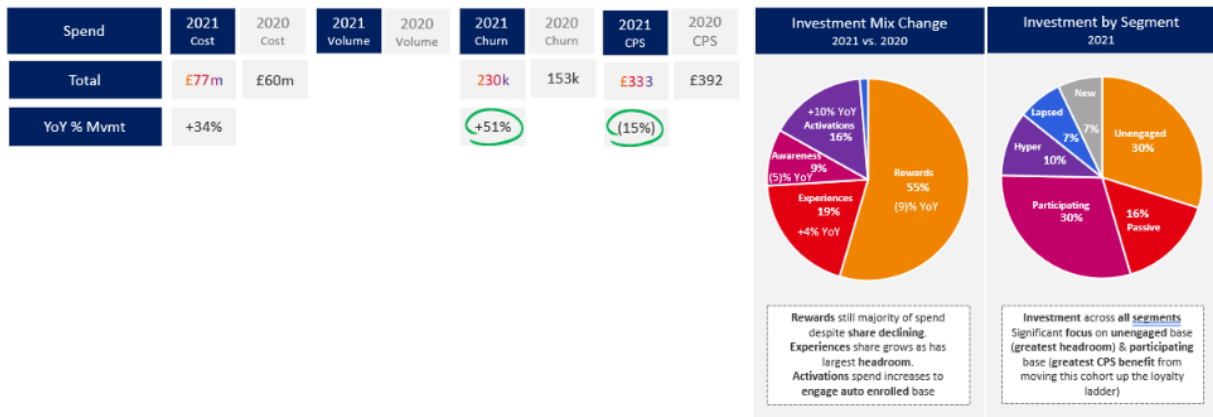
Our 2021 Strategy

In 2021, 3 out of 4 customers will engage with VIP - increasing ARPU and reducing churn across the segments

| | Unengaged (4m) | Passively Engaged (1.8m) | Participating (2.7m) | Hyper Engaged (0.5m) | Lapsed (0.9m) |
|--------------|---|---|--|---|--|
| Churn Index | 1.18 | 0.99 | 0.74 | 0.74 | 0.88 |
| ARPU Index | 0.86 | 1.00 | 1.02 | 1.07 | 1.05 |
| Insight | Enrolled in 2020 and low engagement with Sky and digital touchpoints Significant reward headroom with low adoption of Q, BB and Mobile | Highly engaged with Sky comms including VIP but not actively participating | Middle age/income customers actively participated with rewards or experiences - not both | Young families most engaged with Sky and VIP, likely early adopters and longer tenure with limited product headroom | Affluent long tenure customer less engaged with Sky Lapsed having enrolled early on, typically via a reward in contact centre |
| Our Approach | Make it easy | Motivate: Make VIP unmissable | Keep them coming back | Drive advocacy | Re-engage |
| | Drive first engagement with gifting and go again on core rewards | High appeal experiences to convert traffic and instant benefit (Welcome Gift, VIP offers) | Cross-sell with frequent reward by driving Experiences wins and personalised offers | Leverage high propensity with exclusive 'Just for Sky VIPs Experiences' and first in line for new rewards | Personalised reminders of what they're missing out and instant reward |

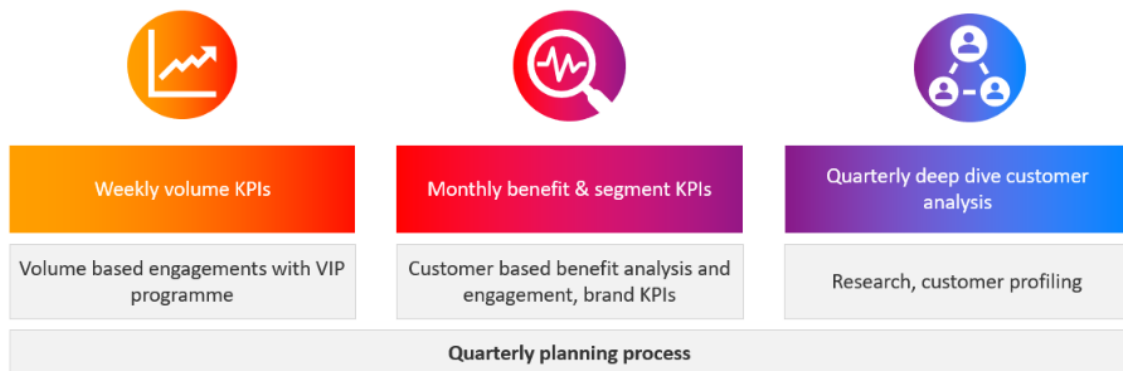
Churn benefit up over 50% YoY at a 15% lower cost per save

Investment mix changing with Experiences & Gifting growing, delivering benefit where headroom is highest



How do we report and measure benefit?

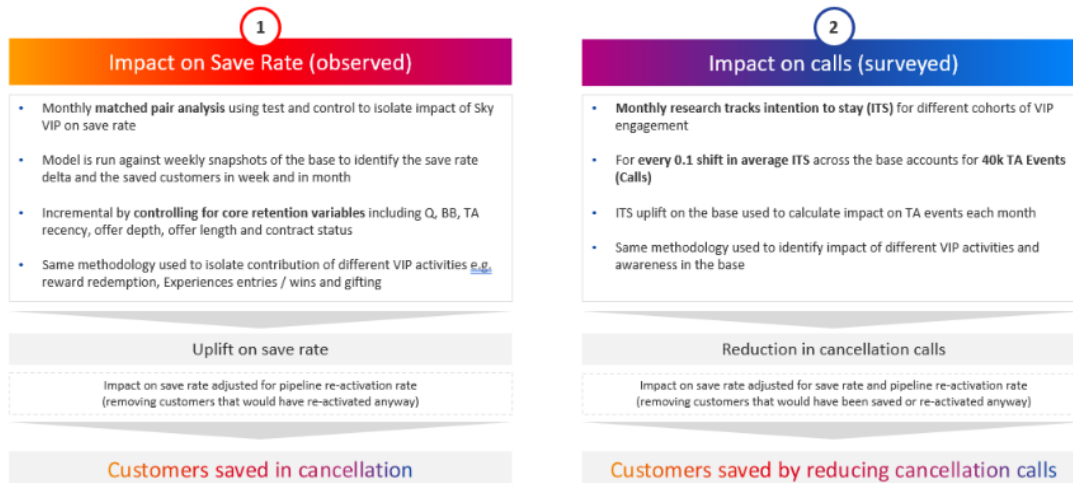
Framework for reporting engagement and benefit of Sky VIP



22

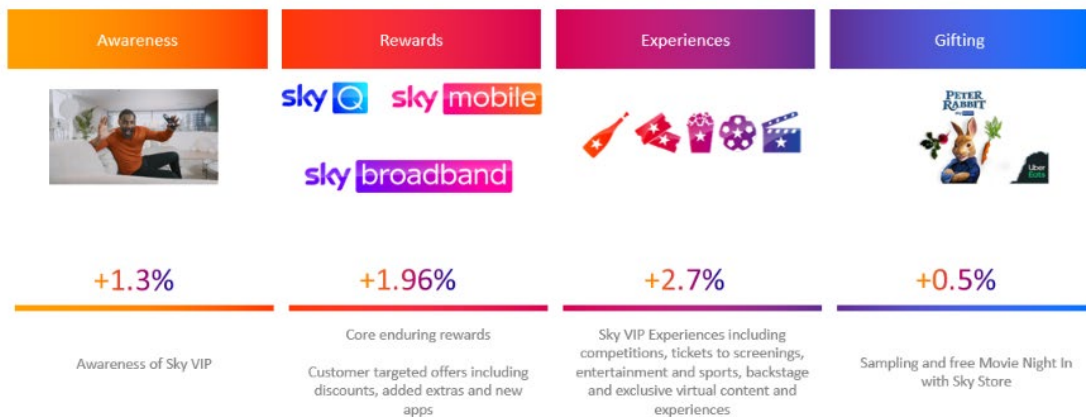
Monthly analysis enables us to isolate the benefit of Sky VIP

Analysis is independently calibrated annually by finance analytics “Drivers of churn analysis”



23

Translation into real churn benefit



24

Sky VIP Marketing

Sky VIP Marketing Principles

Be front of mind

- **Big awareness headroom** – 39% of Sky customers have not yet heard of Sky VIP, and 4M customers have not engaged with us
- **We have permission to communicate more** – customers would be happy to hear *more* from Sky VIP than they currently do, if in the right place for them ([e.g.](#) EPG, social), weekly NL achieves 49% OR!
- **Expanding our channel mix** – we only reach 70% of our base through Adsmart & email

Connect with customers in the channels they engage with us the most, simply & consistently

Get them onto the app

- **My Sky app is critical to engagement** – >80% of unengaged Sky VIPs don't have the My Sky app
- **It has to feel easy & motivating** – to overcome the barrier of downloading and using
- **First step is the hardest part** – once participating, customers enter 10 competitions and redeem 2 rewards on average

My Sky app at the heart of our comms, making it easy & compelling to download and participate

Make it personal

- **Make it relevant** – customers want to see rewards that reflect their interests; personalisation doubled weekly email participation
- **The right mix of rewards** – the “big” stuff can feel unattainable, even if we show *real* people do win
- **The “how” matters** – how we present rewards is just as important as what they are; our more emotive advertising has driven a stronger response

Communicate the right rewards to the right customers in a more emotive way

Click to add text

26

Brand campaigns

1 million experiences

30" TV ad



Channel idents

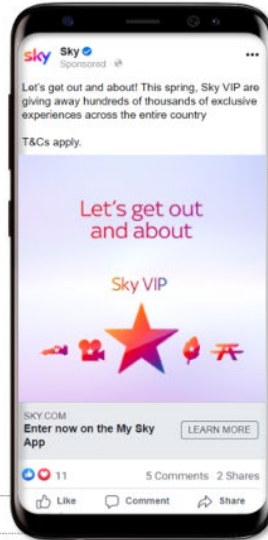


Click to add text

27

Activation campaigns

Get Out & About Social Asset



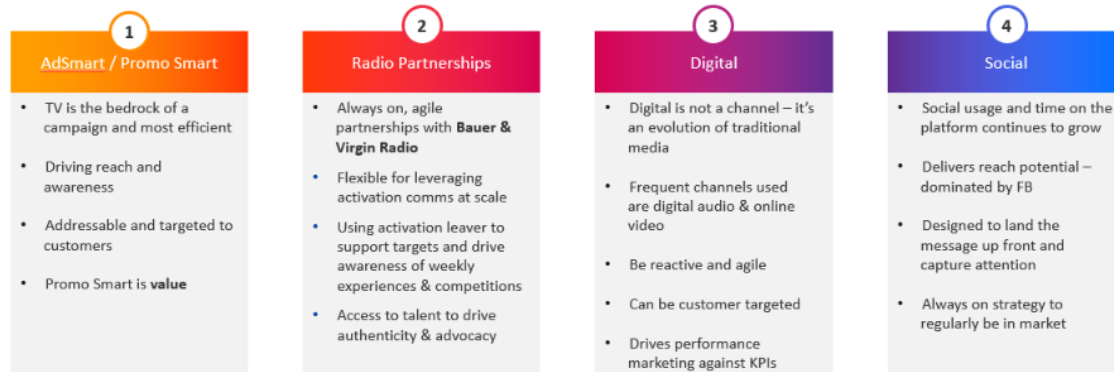
Movie Monday April Promo



Project More 30" TV Ad



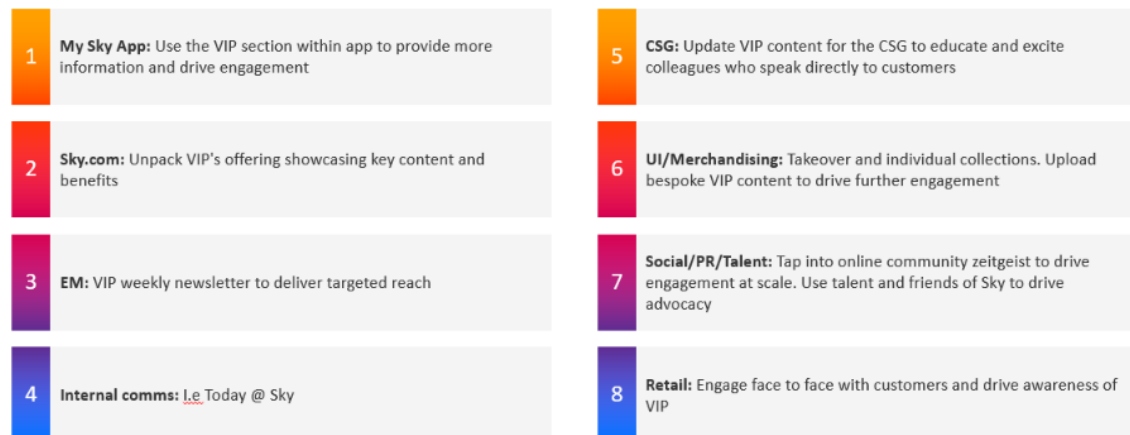
VIP's mix of paid media channels delivers customer targeting, reach and performance



Click to add text

29

Not forgetting the power of Sky's owned estate and people to leverage



30

Cinema 1MF Solus EM




Sky VIP
★
EXCLUSIVE
Four weeks of
Sky Cinema, on us

Hello Joe,




As a Sky VIP customer, **Enjoy four weeks of Sky Cinema, on us.**

[Start my trial today](#)




New and exclusive Sky Original films

Movies we know you'll love

Plus, 20% off Sky Store Rentals

As a VIP the benefits just keep coming. After your four week trial, Sky Cinema will become just **£5 extra a month for 6 months**. And you can cancel at any time.


[Start my trial today](#)

31

Offers & Rewards in the Weekly VIP Newsletter

A valued Gold VIP

This week's treats



Win a MINI car with discovery+


Sky VIP and discovery+ are giving one lucky customer the electrifying chance to win a brand new MINI Electric car

Have a movie night in, on us

Enjoy the ultimate spring Movie Night in with Sky VIP. Family favourite Peter Rabbit™ is yours to keep! Head to Sky Store or your Sky box and your HD digital Box & Group movie will be waiting, priced at £1.00. We've also got the rabbits covered with your chance to win a take-away courtesy of Uber Eats. And look out for Peter Rabbit™ 2, hopping into cinemas soon.


Win a Samsung Galaxy A32 5G and Galaxy Buds+

Enter for your chance to win a Samsung Galaxy A32 5G with a one-year data plan on Sky Mobile and a pair of Galaxy Buds+.




A Sky Kids and Netflix offer just for you

You'll find plenty to keep the whole family entertained when you add Netflix and Sky Kids. From action, wellbeing and fitness for the kids, to animated films and shows. Upgrade today for just £7 a month extra.




A night in with World Champion Katie Taylor

Get your access code for a night in that's guaranteed to pack a punch. Join world champion Katie Taylor alongside for a live, virtual Q&A with Adam Smith.




Get on board with The Flight Attendant

To celebrate the release of The Flight Attendant, we're giving you the chance to win a bundle of exclusive prizes to get you ready for your next trip.



Exclusive Drive-In Promising Young Woman

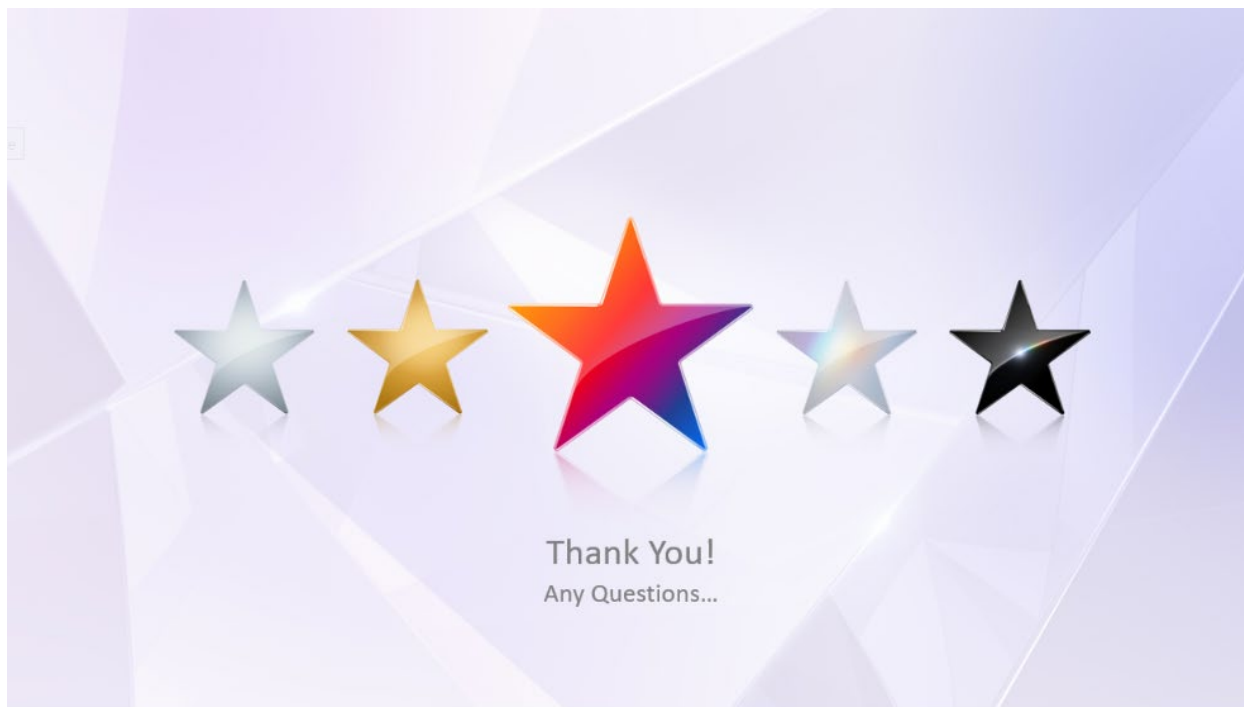
Enter now to catch this Oscar-nominated Sky Original up on the big screen at four UK locations this spring.



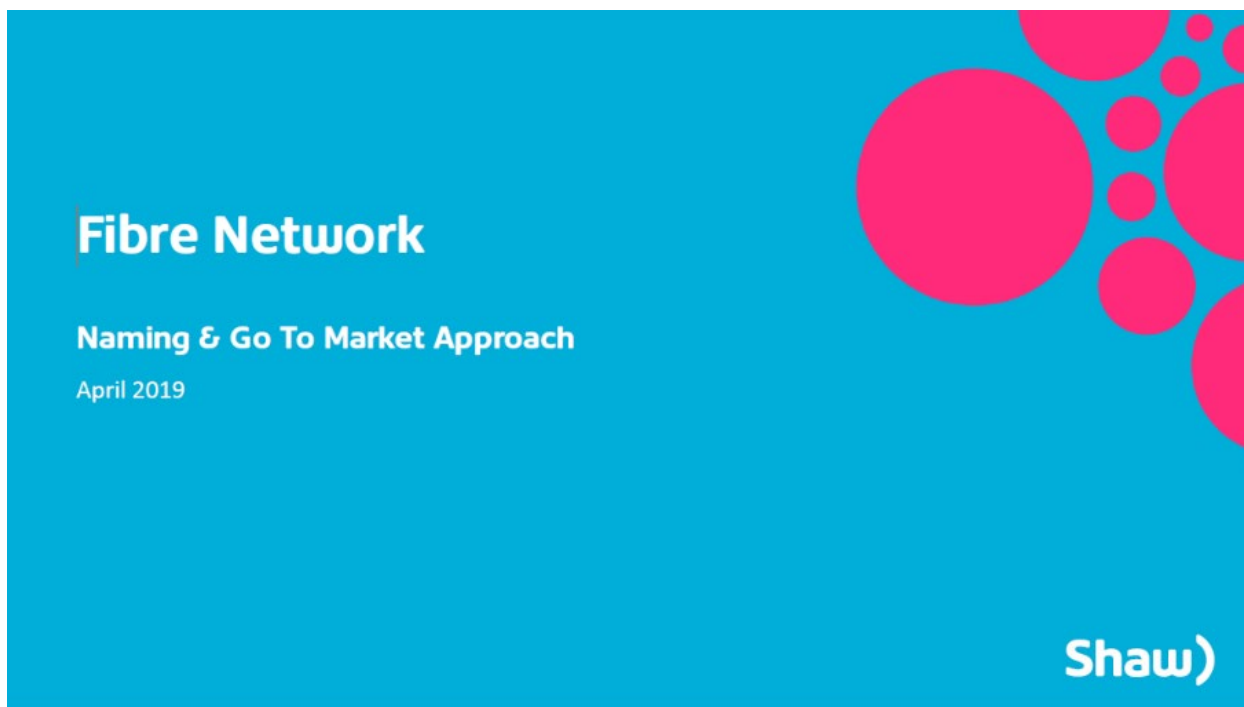
Exclusive Drive-In Six Minutes To Midnight

Enter for your chance to roll up the windows and settle in to watch a Sky Original film under the stars this spring.

32



Shaw's Fibre Network Naming & Go To Market Approach – April 2019





Our Fibre Network Opportunity

With the BlueCurve now in market, now is the time to bolster our tech leadership position by combining the strength of our All IP experience plus our super network.

Empower our teams.

Provide our staff with our network story and tools so they can be loud and proud, defending our network on the front line.

Own our advantage.

Where we were silent we will now own our network advantage proudly – we are the performance brand our customers expect and deserve. We will demonstrate our advantage through relevant tactics.

Support our speed pillar.

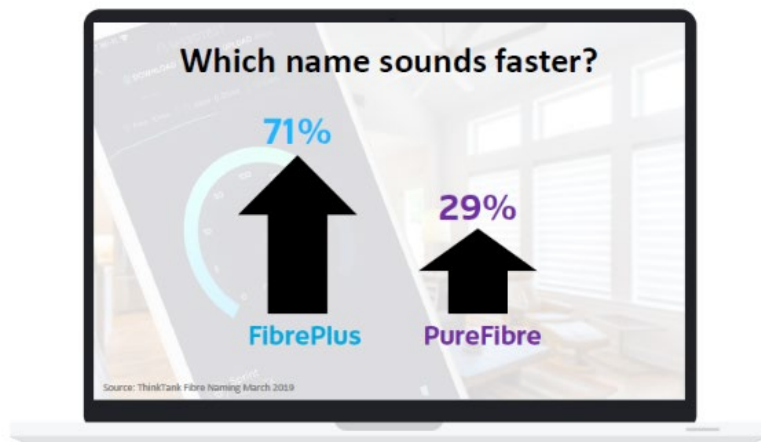
As the backbone for our speed messaging pillar, we will share how our speeds are provided on our FibrePlus network.

Introducing FibrePlus

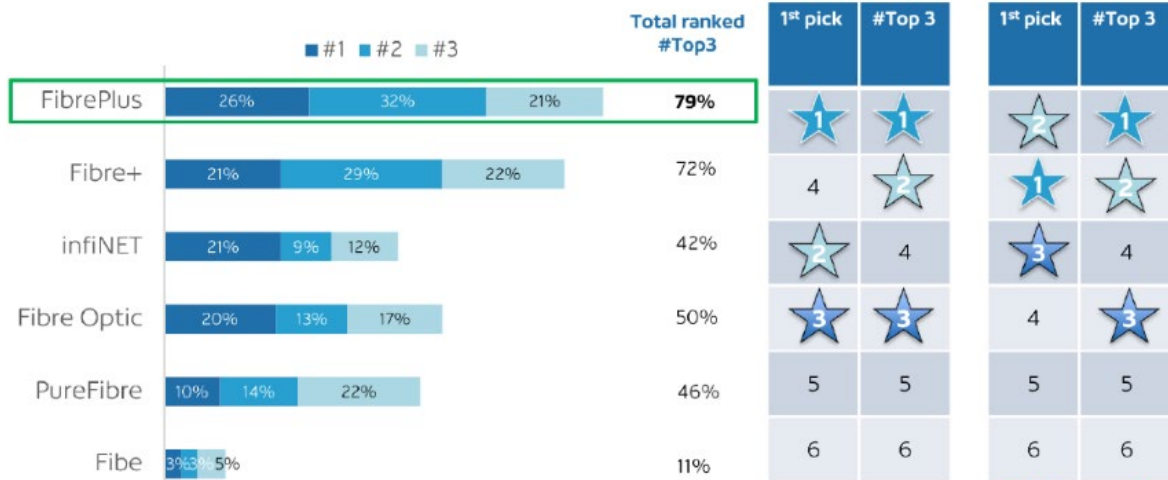
FibrePlus outperformed all Fibre names tested in ThinkTank, including competitor naming (PureFibre, infiNET, Fibe), as well as other naming options (Fibre+, Deep Fibre, etc.).

FibrePlus also ranked highest for purchase intent.

"FibrePlus makes it sound like you are offering more than TELUS."



Ranking for Purchase Intent



4 If you were searching for an Internet package, which of the following Internet product names would you find the most appealing? Please select your top 3, with 1 being the most appealing.

Shaw)

Work In Progress

There are endless proof points to speak to when it comes to our network advantage.



Speed.

- Our Fibre network offers the fastest broadly available download speeds of any operator in Western Canada.
- The strength of our Fibre network has allowed us to deliver our top speed to 94% of our footprint today.



Coverage & Capacity.

- Our network includes over 1.4 million kilometres of fibre distributed across 11K route KM throughout Canada and the US.
- Our network is 99.7% congestion free regardless of the time of day, meaning our customers aren't bogged down with slow speeds at peak usage times.
- Today we're only using about one fifth of our capacity for broadband.
- us to deliver our top speed to 94% of our footprint today.



Ease of Use.

- We leverage existing cable within the home, creating easy to install, easy to move connectivity options.
- FibrePlus is the backbone that allows us to provide the BlueCurve experience to Smart Homes across the country.

Built from our proof points, here's what we want our customers to take away.

6

Work In Progress



Ready to deliver.

Shaw FibrePlus delivers the fastest Internet speeds on the market today.

Only Shaw can bring fast for *all*. FibrePlus is available in 94% of our footprint today.



Install is a snap.

You don't need to dig up your lawn to get ultra-fast FibrePlus.

You can even self connect if you like.



The ultimate experience.

The key to the ultimate smart home experience is the combination of BlueCurve delivered over the FibrePlus network, giving you speed, coverage and control that you never have to question.



Future proofed.

Shaw FibrePlus is future proofed to deliver even faster multi-gigabit speeds in the future.

We are...

- ✓ Empowering our staff, giving them the knowledge and confidence to speak to our network advantage.
- ✓ Incorporating our proof points throughout the customer journey touchpoints.
- ✓ Surfacing the true story about network through owned tactics.

7

We are not...

- ✗ Launching a 360 degree mass marketing campaign that speaks to our FibrePlus network.

External approach

Surface the true story about network via owned tactics throughout the customer journey.

8

New, educational,
long form
content.



Video, text and digital content highlighting the Shaw's FibrePlus network.

Existing
touchpoints with
new content.



Leveraging proof points and key messages in existing touchpoints - Social RTB, retail, BlueCurve website, welcome journey, SEM, collateral, etc.

Update to
existing tactics.



Update the FibrePlus webpage which provides long form content on the FibrePlus network.

Work In Progress

Internal approach

Empowering our staff, giving them the knowledge and confidence to speak to our network advantage.

9

Employee
Campaign



[DRAFT] Launch an internal Network Week campaign around FibrePlus awareness, including contest and prize to ensure *all* employees understand our network advantage.

Training



We want to ensure that our customer facing employees have the information they need to educate our customers and act as our ambassadors. Tactics include FAQs documents, etc.

Tools



External tactics to be developed to be of use for external and internal teams. Additional materials to include updated sales sheets, collateral for major markets, etc.

Call Notes: February 11, 2021

Participants

- Jen Murphy-Packer – AlticeUSA
- Kathleen Griffin – Charter
- Roseanna Underwood – Charter
- Tony Maldonado – Cox
- Eric Schoenfeldt – Mediacom
- Mehrzad Ghassemi – Rogers
- Cindy Mirabella, Mark Snow – CTAM

Call Summary

- CTAM 2021 Marketing Groups
 - Retention
 - Convergence
 - Competition (evolved from 5G)
 - MDU Marketing (cross-over with Sales groups)
 - [See attached for requested charters and lists of current members](#)
- Retaining COVID-19 Broadband Connects
 - Cox still seeing extremely low churn, aided by extended unemployment benefits and eviction moratorium
 - Charter, Altice, Mediacom seeing same (broadband retention solid, non-pays down)
 - Negative impact of economy: HH consolidation
 - [Attaching \(reprise\) the COVID-19 Broadband Adoption Study performed last year by HarrisX for CTAM](#), which delved into broadband adoption
 - This study could be re-run for about \$5K to examine this year vs. last
 - CTAM will discuss with HarrisX whether same respondents can be surveyed again and whether that is necessary
- CTAM Move team seeing moves with a move out but not landing in a new HH – many are consolidating into existing HH.
 - AlticeUSA reporting higher moves and transfers in East (Optimum) territories vs. West (Suddenlink) territories, and many East homes, esp. NYC, not re-filling
 - Charter also reports NYC difficulties
 - K-shaped economic recovery in the move space: Bottom is moving but they are moving into existing HH, while the top are taking advantage of low rates and moving and reconnecting
 - Move team meets every other week; it may make sense to pull Retention and Move teams together regularly, or have a “summer virtual meeting” with the two teams

NOTE: Cindy checked with Mehrzad after the call, and downtown Toronto sounds like NYC: “A number of factors are at play: lower international students, Air BnB vacancies, and generally people moving out or we what we call ‘consolidating households’ (young professionals/students moving in with families). We see it in the vacancy rates in Toronto and the fact that rent for condo’s are at levels from 4 years ago.”

- Competition
 - Mediacom has overbuilder competition (MetroNet) funded by investors (Oak Hill Cap Partners) in multiple rural areas
 - CTAM can pull this team together with new Competition team to discuss wireless 5G, fixed 5G, returning fiber threat, satellite competition
- Retention General
 - Cox consumer marketing strategy includes new customer relations, connects and base cycle management, and COVID-19 has helped both connects (excellent BB share gains) AND churn
 - Charter observes that cable is now a utility in that reliance on performance is critical, tolerance for hiccups is almost zero
 - Cox notes same, and both companies closely watching nodes that are not only in duress but also those in a “close to trouble” type status

Running Topic List (current prioritization)

- Loyalty programs – who is doing them (again) and what does success look like (NPS vs. churn)
- Competitive areas of focus, including fixed 5G wireless
- How to retain broadband-only subs, although ideally all should also have IPTV box and/or mobile
- How to best manage platform migration from legacy to advanced STB (how to do best and fast, forced migration options)
- Proactive retention – mining network and produce performance metrics to ID those at risk and proactively retain them while keeping cost down and avoiding “poking the bear”
- Retaining the cohort of broadband connect during COVID once the pandemic ends (primary focus of 2/11/21 call)

Call Notes: March 18, 2021

Participants

- Peter Grewar – Armstrong
- Ken Flynn, Dina Pappas – Comcast
- Tony Maldonado – Cox
- Eric Schoenfeldt – Mediacom
- Mehrzad Ghassemi – Rogers

- Karin Borgersen, Daniel Sumner - Shaw
- Cindy Mirabella, Mark Snow – CTAM

Updates on CTAM's Competition and Convergence Teams

Mark provided updates on first meetings for these teams.

Competition:

- Expanding focus from 5G last year to all markets: 5G mobile and in-home, telco/fiber, traditional fiber, space-based/satellite
- Most pressing threats assessed to be T-Mobile fixed wireless and fiber overbuilds
 - Mark will ensure team covers both T-Mobile and VZ fixed wireless and on all overbuilders, not just regional/muni
- 5G fixed not as fast as expected – VZW issues
- Outputs will be socialized with this group
- Ken explained differentiation at Comcast
 - 'Vanilla' vs. enhanced internet relationships (higher speeds, Flex device, mobile service, etc.)
 - Recognition of need to protect vanilla broadband subscribers

Convergence:

- Broadband at the center of evolution from pricing (triple play, free phone) to general interoperability to functional benefits of the products working together
- Need to lower vulnerability of data-only subscribers, e.g., by adding Flex

Mark/Cindy will work on and suggest ways to keep the Retention team connected with these two teams.

Loyalty Programs

Shaw

- Not currently in market with a loyalty program
- Previous program dismantled 3-4 years ago due to erosion of revenue and increased cost (heavily free VOD coupons)
- Open to ways to maintain loyalty of long tenured subscribers
- When launched mobile in West, gave best deal to existing Shaw customers

Armstrong

- Not currently in market with a loyalty program
- Previous program was aggressive and comprehensive, ~2014-2016
 - Used a third party to set up merchants, credits, and discounts
 - Scale was an issue – in rural territories, difficult to generate nucleus of enough merchants to get traction

- Enrollment didn't reach desired volumes
- Cost was manageable – merchant covered discount and customer credits were covered by vendor

Comcast

- In active planning to launch new loyalty program this year
- Tenure-based program – not spend-based – and opt-in
- Careful balance to protect against becoming an upsell program
- Incorporates the broad set of assets (Peacock, cable properties, parks, etc.)
- No discounting of core services, but incremental benefits especially for mobile (e.g., additional device subsidies)
- Includes movie nights/VODs
- Also includes experiential opportunities to build community and excitement
- Refresh of initial research is currently being fielded
- Likely to pilot it, possibly with research panel

Cox

- Discussing concepts of earned loyalty vs. purchased loyalty
- Tony will present on next call

Cindy will extract and forward to team documentation on past loyalty case studies from CTAM's Knowledge Portal (included with this email).

Next Call

Team agreed tentatively to moving monthly calls to 1pm ET on 4th Friday of each month. Cindy has checked with team members who were not present on this call. The next call will be on 4/23, 1pm and the appointment series will be updated.

Running Topic List (current prioritization)

- Loyalty programs – who is doing them (again) and what does success look like, NPS vs. churn (primary focus of 3/18 call, will reprise on April call)
- Competitive areas of focus, including fixed 5G wireless
- How to retain broadband-only subs, although ideally all should also have IPTV box and/or mobile
- How to best manage platform migration from legacy to advanced STB (how to do best and fast, forced migration options)
- Proactive retention – mining network and produce performance metrics to ID those at risk and proactively retain them while keeping cost down and avoiding “poking the bear”
- Retaining the cohort of broadband connect during COVID once the pandemic ends (primary focus of 2/11/21 call)

Call Notes: June 1, 2021

Participants

- Jen Murphy-Packer – AlticeUSA
- Peter Grewar – Armstrong
- Roseanna Underwood – Charter
- Kenneth Flynn, Pooja Kapadia, Dina Pappas – Comcast
- Tony Maldonado – Cox
- Eric Schoenfeldt – Mediacom
- Chris Smale – Rogers
- Kiran Amin, Nic Aziz, Joel Keoghan - Sky
- Cindy Mirabella, Mark Snow – CTAM

This was our second call focused on Loyalty programs. Joel Keoghan introduced Nic Aziz to present Sky's VIP Loyalty Program. Kiran Amin is Sky's head of Loyalty and Joel handles activation of the VIP program.

Sky VIP Program

- Launched 2017 – first in UK to recognize and reward tenure
- Welcome gift of free movie
- Additional rewards unlocked by tenure (0-3 years, 3-8 years, 8-15 years, 15+ years)
- Email differentiated by tenure
- Began auto-enrollment in November 2020
- MySky app is the main service app for Sky and home of Sky VIP
 - App is currently only way to engage with Sky VIP, considering other methods
- 10M enrollees: Have reached > 50% of base, 4.6M have been rewarded
- Provided more than 1M Sky VIP experiences in 2020
- Strategy evolution:
 - 2017 – Retention (reduce churn)
 - 2018-19 – Scale (provide value)
 - 2020 – Affinity (put loyalty at the heart of the business)
 - 2021 – Will build trust and engagement with customer promise
- COVID-19 meant more movie nights and content sampling
- Measuring impact was simpler before auto-enrollment but monthly analysis of engagement using matched pairs provides method
 - Impact on save rate (observed)
 - Impact on calls (surveyed via monthly research tracking ITS (Intention To Stay))
- Engagement segmentation:
 - Unengaged (40%)
 - Passively engaged (18%)
 - Participated & rewarded (27%)
 - Hyper-engaged 5%)
 - Lapsed (9%)

- Driver analysis: Why does loyalty matter?
 - Perception of “Care” drives 20% of customer desire/commitment
 - Customers that are aware and satisfied with Sky VIP have a 93% probability of endorsing Sky for “recognizes loyalty”
 - VIP Engaged customers are up to 44 pp more likely to endorse Sky for Value and Care
 - Customers with high desire are 5x less likely to churn
 - Loyalty drives brand equity, ITS and churn benefit
 - Churn benefit is up over 50% year over year, with 15% lower cost per save (program is significantly cheaper at retaining customers than acquiring new)
- Observations:
 - Young families most engaged with Sky VIP, likely early adopters with limited product headroom
 - Affluent long-tenured customers are less engaged
 - Middle-income customers actively participated with rewards or experiences, but not both
- In 2021, three-quarters of customers will engage with Sky VIP
 - Seeing 50-60K daily engagements with the program
- Marketing Principles:
 - Be front of mind
 - Get customers into the app
 - Make it personal

Call Notes: June 25, 2021

Participants

- Jen Murphy-Packer – Altice
- Peter Grewar – Armstrong
- Ken Flynn – Comcast
- Tony Maldonado – Cox
- Eric Schoenfeldt – Mediacom
- Chris Smale – Rogers
- Nanci Campbell – Sparklight
- Cindy Mirabella – CTAM

Loyalty Programs

Note: This was call #3 on Loyalty Programs, to ensure discussion time for all participants, and a presentation (call #2) on the Sky VIP loyalty program.

- Cox
 - Loyalty program discussion cycles every 3-4 years, often initiated by senior management team
 - Have elected not to create a formal, branded program, but rather to pursue actions in the reward space that are meaningful to consumers

- Due diligence investigation revealed many don't like term "loyalty", associate it with points-based systems
- Reviewed a range of program types, from "Couples Counseling" level (discounts, buying loyalty) to more "Romance" (higher order)
- Haven't seen improvement in brand NPS from loyalty programs even as transactional NPS improves, and churn currently at an all-time low
- Earning loyalty vs. buying loyalty – considering need to play in both spaces
- Developed small-medium-large options:
 - Small – BAU, with very targeted tactics (e.g., offering faster internet for contract in competitive fiber-deployment areas), marketed one-to-one
 - Large – full-scale program, marketed one-to-many
 - Medium – more proactive "surprise & delight" approach, branded and marketed one-to-one especially in competitive areas, and making no promises going forward
- Likely going with medium option
- Will test benefits like gift card on anniversary, discount on anniversary month
- In a simple test run in December, a gift card as than you lowered churn but didn't cover the cost
- Currently considering financial guardrails – Is it a strategic investment with experimentation or specifically required to cover costs
- Altice USA
 - Optimum Rewards program was retired in 1Q 2021, primarily because rewards weren't being used
 - Was popular with customers when included owned assets like free movie (theatre) tickets, event tickets for Radio City Music Hall, Madison Square Garden, etc.
 - Most recent incarnation included discounts on items like parking garages, Broadway theatre tickets
 - Cost of these recent discounts was manageable
 - Not interested in a points-based program
 - Thinking about engagement and not just loyalty
 - Likely to tie rewards to consumer choices like autopay and paperless billing that are known to reduce churn
 - Have branded existing benefits as pseudo loyalty programs "Suddenlink Extra" and "Optimum Extra"
 - Considering several aspects of relationship: Acknowledgement, engagement, and appeasement (ability of reps to flex on a particularly difficult call)
 - Also interested in partnering with video programmers
 - Looking at chance-based opportunities – can drive excitement AND control economics
 - Would likely start very targeted and move toward one-to-many, and likely not auto-enroll since that can thwart engagement
- Mediacom
 - Not currently pursuing a loyalty program, due to resources to manage and lack of strong interest from senior management
- Sparklight
 - Not currently pursuing a loyalty program; have analyzed and covering the cost makes it difficult
 - Have tried other actions, including specific rewards for specific times, e.g., speed upgrades
 - Continue to test and learn

- Rogers
 - Chris experienced with loyalty from the wireless business
 - Rogers acquired Fido wireless brand in 2003-2004 timeframe
 - Fido dollars were accumulated throughout lifecycle and redeemed for discount on next handset
 - Points-based cable loyalty program offered catalog of rewards (VOD rentals, texting and calling discounts/minutes)
 - Both programs became hardware discounting programs people used to buy phones
 - Caused massive liabilities on balance sheet, cash stranded in these programs
 - Difference of opinion on whether programs impacted churn
 - Now taking a different approach
 - Purpose of loyalty is to drive brand affinity, and buying customers' love doesn't accomplish that
 - Focusing on better understanding Likelihood to Recommend (LTR)
 - Examining what's causing friction – more than creating more promoters, working to move detractors to neutral
 - Driving convergence viewed as #1 opportunity to reduce churn – one household, one account, one bill

Call Notes: July 23, 2021

On the Call

- Laura Goldring – AlticeUSA
- Peter Grewar – Armstrong
- Kathleen Griffin – Charter
- Kenneth Flynn – Comcast
- Tony Maldonado – Cox
- Eric Schoenfeldt – Mediacom
- Chris Smale – Rogers
- Nanci Campbell – Sparklight
- Cindy Mirabella, Mark Snow - CTAM

CTAM Safe Harbor Statement

CTAM has a policy of strict compliance with federal and state antitrust laws. As such, during this meeting, there will be no discussion allowed amongst members concerning: prices, fees, rates, profit margins, or other terms or conditions of sale (including allowances, credit terms, and warranties); allocation of markets or customers or division of territories; or refusals to deal with or boycotts of suppliers, customers or other third parties, or topics that may lead participants not to deal with a supplier, customer or third party.

Any discussion of this nature will be stopped immediately.

Move Trends

- Cox seeing different mover trends since last year:
 - Historically moves and transfers shift together
 - Starting in 2020, moves continue to go up but transfers have stabilized
 - Cause uncertain: Decreased mover flow share, or more moves out of market, higher vacancy rates, HH consolidation?
- Rogers still seeing moves and transfers shift together, although height of peaks/depth of valleys has changed
- Temporary emptying of urban core may also be a factor, has been seen in MDU occupancy rates in Canada as well
- CTAM had speaker from Realtor.com at least mover event – will provide deck
- CTAM also working with data on movers for all homes passed from MelissaData (they do cover Canada as well if that is of interest to Rogers/Shaw)

Metronet

- Mediacom competes with them in markets several markets – outside Chicago, Des Moines, and Quad Cities
- Metronet markets fiber with symmetrical speeds – “fiber” seems to pique consumer interest, even though cable download speeds are the same
- Company has two large backers providing money for expansion: Oakhill Capital and KKR
- Mediacom has seen Metronet invest more in grassroots marketing with local presence (fairs, events) and door to door
- Metronet pricing is aggressive
- Mediacom can use the maps Metronet provides to see where they are overbuilding, but isn’t currently making a proactive offer
- Cox has seen Metronet cherry-picking within DMAs, and is questioning this through Government Affairs; Mediacom has observed this practice as well, and reported that in quad cities, Metronet was directed to build out the entire market
- Cox is planning to offer customer some improved level of service in exchange for a contract as this practice has lowered churn somewhere in the ballpark of 20%
- Sparklight competes with Metronet in the Vincennes (IN) system
- CTAM reported that Jonathan Chaplin advised the Competition group that he expects 20 points of overbuild growth in the next 3-5 years

Loyalty Program Wrap-Up - Rogers

- Experience in proving out whether loyalty programs are worthwhile has tended to fall into the “optimistically inconclusive”
- Past loyalty programs carried a high balance sheet impact
- A program not delivering conclusive benefits and causing constraint on working capital is difficult to justify
- Three programs have been decommissioned
 - Fido Mobile (pre-existing program) decommissioned after acquisition rewarded loyalty with funds to discount handsets and ended 2013-14 period
 - Better Choice Bundles (retired 2018) was a converged loyalty discount (the more you buy the more discount, up to 15% for 4-product customers) for which value of discount was subsequently reduced and then eliminated entirely – became difficult competitively since had to match other pricing

- First Rewards points program (retired ~ 2016) created a catalog of offers (PPV events, VOD rentals, handset discounting dollars, etc.) and launched MasterCard (Rogers is a Schedule I bank) – while redemption drove the benefit, the rewards were NOT cashless and stranded capital
- General issues
 - With exception of handset discounting, redemption rates are low
 - Handset discounting strands cash
 - Rewards that boost redemption tend to be expensive
 - Issues can arise with employees with dueling P&Ls stuffing rewards into catalog
- Final decommissioning of Better Choice Bundles program and elimination of discounting drove some churn, but also drove some good outcomes- upgrades, migrations from legacy systems
- Playing around with how to leverage the loyalty concepts that are attached to the MasterCard (a cash-back card)
 - Internet of Things provides opportunity to leverage the MasterCard to finance peripherals on mobile or fixed network (ability to finance those things would be dependent on having service with Rogers)

Measuring Loyalty/Affinity

- CTAM reported that NPS score is coming for all US as part of mover study
- Also, will have data to share from one from BB adoption study that just completed in May of people who adopted broadband during the pandemic (STATSIG data for 5 largest MSOs)

Other

Mark reported that CTAM's bundling group has been re-branded to Convergence group

- Convergence beyond "parlor tricks" like caller ID on TV, to a complete experience
- First from Comcast/Cox/Charter is the value proposition of Gigabit internet at home paired with mobile 5G on the go: Not easily torn apart and perfectly converged

Future Topics

Carryover/running topic list:

- Proactive retention – mining network and produce performance metrics to ID those at risk and proactively retain them while keeping cost down and avoiding "poking the bear"
- Competitive areas of focus, including fixed 5G wireless
- LTR, NPS, etc – use and correlation with churn
- How to retain broadband-only subs, although ideally all should also have IPTV box and/or mobile
- How to best manage platform migration from legacy to advanced STB (how to do best and fast, forced migration options)
- Retaining the cohort of broadband connect during COVID once the pandemic ends (primary focus of 2/11/21 call)
- Loyalty programs – who is doing them and what does success look like (focus of Apr-Jul calls)

Next Call

Our next call is scheduled for September 24, 1pm ET (August call cancelled due to vacation timing)

Call Notes: September 24, 2021

On the Call

- Laura Goldring, Jen Murphy-Packer – Altice
- Peter Grewar – Armstrong
- Nanci Campbell – CableOne/Sparklight
- Rosanna Underwood – Charter
- Tony Maldonado - Cox
- Eric Schoenfeldt - Mediacom
- Cindy Mirabella, Mark Snow – CTAM

Announcements

Congratulations to Tony Maldonado, winner of a CTAM TAMI award for his leadership and engagement in Retention work. The award will be presented to Tony during CTAM Think on November 4 (NYC and virtual)

Updates

- Mark updated the team on workings of CTAM's Convergence group
 - Strategies on converging broadband at home and mobile 5G, and positioning MSOs as 5G providers
 - What is the evolution of the "bundle" beyond price/value
 - Initial concept that internet/broadband were the center of bundle has evolved to CONNECTIVITY as the center
 - Where this meets retention is that those members who offer mobile can offer broadband/mobile together
 - This CAN be an advantage over mobile companies who do not always have a broadband product to offer everywhere
 - Messaging of advantages can include:
 - Value/price
 - Management (one bill, one customer care, etc.)
 - Experiential (unified/seamless UX, e.g., start a show on X1 at home and pick up watching on the train)
 - Approach is to define and begin to claim the term "convergence" with trades and policy makers (but not necessarily consumers)
 - Working on script for a video that will run on website and clarify what cable offers customers
 - A component of planning is to ensure the next functionality isn't just coming from engineering, but potentially from marketing, research, etc.
 - DEPOT model: Design, Engineering, Product: One Team, with a leader who is not a member of any of those functional teams
- Quarterly mover study is coming out of field, with wireless as an add on question
 - Have assumed that wireless is the one connection to the outside world that doesn't have to change

- Surprisingly, people who move are 2x as likely to change their wireless provider in the year of the move
 - Tony pointed out this makes wireless for movers a scenario that could help the MSO, and that internet service is now more analogous to water and electricity as necessary utilities than ever
 - Q4 in next round asks how much “fiber” and “5G” are on consumer’s mind
 - Nanci suggested follow-ups to ask why respondent favors fiber or 5G, what attributes drive consumer toward or away from these as the best choice
- CTAM’s Knowledge Repository has a 2019 presentation to the In-Home Wifi Team on Shaw’s Fibre Plus initiative (below is an [overview in the original call notes](#), and full presentation is attached)

Erica Shield, Shaw presented an overview of Shaw’s Fiber Plus narrative:

*Shaw has launched **BlueCurve** which is the umbrella brand assigned to Comcast Xfinity products which include Wi-Fi extender pods and the xFi app. Shaw chose first to focus on the BlueCurve experience before marketing the network thus allowing BlueCurve to serve as the foundation for the network narrative.*

*Now that BlueCurve is in market, Shaw is creating a clean branding approach to their network and thus will market their network under the name **Fibre Plus**.*

The name Fibre Plus is a result of research and testing on names that would best define the network and the advantages available to customers

The Fibre Plus network narrative is a work in progress with Shaw working to ensure:

- *Internal staff is empowered with knowledge to speak to the network advantage through training and tools, etc.*
- *Educating customers including:*
 - *Long form content*
 - *Website tools*
 - *Digital Video*
 - *Social touch points, etc*
 - *Updating existing tactics*

Upcoming Calls

- October call (10/22) focus will be about disconnect activity levels, analyzed/perceived drivers, and actions
 - Cindy referenced article in Fierce Telecom featuring Tom Rutledge discussing how lower selling opportunity has meant lower cost structure
<https://www.fiercetelecom.com/telecom/charter-looks-forward-to-higher-churn-environment>
 - Mark will check with analysts CTAM works with to get their insights to provide to this team
- November call focus will be on analytics and modeling of retention/risk
 - Call will be rescheduled from current date (11/26)
 - Recognizing that all members are at different points in resources devoted to analytics and modeling, focus will be on identified triggers and stabilizers
 - Cindy will create and circulate a simple, short form for members to complete for the call, eliminating need for presentations
 - Key triggers of churn

- Key stabilizers
- A brief summary of analytic and/or anecdotal data regularly relied upon (could include research output as well)

Call Notes: October 22, 2021

On the Call

- Laura Goldring, Jen Murphy-Packer – Altice
- Peter Grewar – Armstrong
- Joe Carillo, Jen Smith – Charter
- Ken Flynn – Comcast
- Tony Maldonado - Cox
- Eric Schoenfeldt - Mediacom
- Cindy Mirabella, Mark Snow – CTAM

Announcements

- CTAM will bring Competition and Retention teams together for 2022
 - Separate groups/rosters, but some combined calls

Rewards Program Updates

- Ken updated the team on the Xfinity Rewards program
 - 1.2M enrolled so far, and enrollment is digital only
 - Pleased with program so far, using NBCU assets as much as possible
 - Members only livestream with Jamie Lee Curtis (Halloween Kills)
 - Tonight Show with Jimmy Fallon trip, free movie, virtual Real Housewives of NJ event, music events, live cooking shows
 - Working on best communication rhythm post enrollment to engage customers
 - Integration into app has been good; direct mail driving a lot of enrollments; paid media in social and running cross-channel
 - Mix looks much like base, but skewing slightly to newer customers
 - Will begin to mix in business drivers through program, such as amped-up rewards for taking mobile services, and introduce add-on pods, cameras, etc.
 - Expecting enhanced brand perception and ability to drive upgrade/adoption to be most important KPIs
 - Primary driver to implement was customer service feedback requesting something to give to long-tenured customers, but these are more difficult to execute against
 - Ken's team, customer experience team and technology group are all involved in program
- Experiences, opportunities to win experiences and aspirational prizes have worked better than tshotshkes in most programs; cash gets spent on groceries
 - Cox and Altice saw good take rates on "making life better"-type rewards in past, e.g., theatre movie nights

Update from Mover Team

- Mark reported that data shows moving is a bigger deal for mobile switching than thought, and 70% of switching happens in the 2 months post-move

Connects/Disconnect Volume

- Cox, Comcast, Charter met separately to discussion suppression of connects that all are seeing in connects
- Overall volume is down for both connects and disconnects
- Interested in a call to discuss what was on the original agenda for THIS call - disconnect activity levels, analyzed/perceived drivers, and actions
 - Tony also suggested discussion of what business looks like once business begins to normalize

Upcoming Calls

- November call appointment was advanced from 11/26 to 11/19 (1pm) – this will be the last 2021 call
 - Focus will be on triggers, drivers, analytics, and modeling of retention/risk
 - Key triggers of churn
 - Key stabilizers
 - A summary of analytic and/or anecdotal data regularly relied upon (could include research output as well)
- CTAM will attempt to schedule a call PRIOR to discuss disconnect activity levels, analyzed/perceived drivers, and actions

Call Notes: November 19, 2021

On the Call

Kathleen Griffin – Charter

Tony Maldonado - Cox

Eric Schoenfeldt - Mediacom

Cindy Mirabella, Mark Snow – CTAM

Announcements

- The new \$14.2 billion Affordable Connectivity Program (ACP) modifies and extends the temporary Emergency Broadband Benefit (EBB) program to ease affordability barriers to high-speed internet services during the pandemic
 - EBB program was scheduled to end either when the funding ran out or on December 31, 2021, whichever happened earlier
- Convergence team will focus on wireless and 5G

Connect/Disconnect Activity Levels

- Tony reported on a call which took place among a subset of the team members
- All are seeing suppressed connects and low churn
- Connects slowed in summer and have not rebounded
- Appears to be across the telecom space
- Mark confirmed that analyst reported this as an ISP issue driven by income constraints, pandemic moves and other causes but not a single factor or “smoking gun”
- AT&T [reported](#) 289,000 AT&T Fiber net adds in Q3

Roundtable

- Spectrum
 - Kathleen reported close watch on ability to retain EBB subscribers
 - Also focused on retaining employee talent

- Cox
 - Tony noted that historical pattern of out of footprint moves and within footprint transfers no longer holds; moves are up, and transfers are below estimates
 - Moves now beginning to come down, but percent of new customer relationships driven by move is at all-time high
 - Pattern break is not believed to be due to weakening flow share
 - HH consolidation not as impactful as once thought
 - Verified a rep coding issue that has made controllable (voluntary) churn appear more favorable than it is
 - Mark noted that research has recently shown a clear link between moves and changing wireless providers (70% of wireless switching happens right after a move)
- Mediacom
 - Fiber overbuilders are a primary concern
 - Customers calling AFTER service installed, thus no way to save the customers
 - Working on machine learning to ID highest-risk customers before they switch

Security

- Fraud increases this time of year
 - How to educate and message to consumers on fraud and vigilance is always a challenge (not unlike Piracy)
 - CTAM will put on agenda for January call
 - Key stabilizers
 - A summary of analytic and/or anecdotal data regularly relied upon (could include research output as well)
- CTAM will attempt to schedule a call PRIOR to discuss disconnect activity levels, analyzed/perceived drivers, and actions

Follow Ups

- Cathy Hackl presentation from CTAM Think is available to watch: <https://www.ctam.com/executive-education/ctam-think/ctam-think-2021-recaps/>
- Mark has a “keynote” deck from 2008 pitching how the metaverse may impact business – will share
- Mark will share notes from a recent investor conference

Next Call

- This team has finished for 2021 and will meet again in January 2022 (to be scheduled)

MDU

Call Notes: April 9, 2021

Kickoff Call Summary

Participants

- Stephanie Pearlman, Meghan Wismer – Comcast
- Suzanne Schlundt, Robert Seldon – Cox
- Cindy Mirabella, Deepa Venkataraman – CTAM

Purpose/Initial Objectives

- Share approaches and practices in MDU marketing
- Identify specific issues/opportunities

Structure of MDU-focused Resources

- Comcast and Cox have “Communities” teams
 - For Cox, newly branded team handles MDU and New Build, working with property owners and developers, while B2C (Jason Axsom) handles most other properties incl. bulk
 - Cox has strategy (for MDU & Movers) and implementation teams
 - For Comcast, Communities team sits within Sales organization, handling all multi-family, MDUs and single-family new builds, incl. B2B agreements with property owners
- B2B and B2C are mostly separate but interdependent, and at Cox at least, measure of success is performance on B2C side

Issues & Opportunities

- Mover market overlap (Deepa/CTAM can assist with coordinating this)
- Comcast very focused on MDU – good timing
- Predictive modeling - including predictive move signals – still very challenging for MDU, even more so than single family
- Cox prefers focus on B2B side since B2C is worked in many other places, and on segmentation and messaging strategy (conversations not held elsewhere)
- B2B
 - Cox trying to serve as business advisor to property managers, presenting MSO as thought leader, partner, problem-solver (IOT, planning for long term)
 - Comcast interested in simple segmentation that is actionable (results in different output/treatments)
 - Comcast current view is +/-75 units, with vs. without income constraints, owners vs. renters and diverse segments are a priority (over-index in footprint)

- Retaining MDUs also a priority for Comcast (Stephanie & Meghan are acquisition but can pull in base team)

Next Call

- April 30, 1pm ET (we'll set a cadence at that time, some teams interested in more than monthly frequency to make quick progress)
- These are "no-camera Friday" calls unless agreed otherwise
- Focus: Segments/types of segments that are sizeable, not TOO granular, and actionable

Call Notes: June 2, 2021

Summary

Participants

- Jason Barone, Lisa Cortes, Cindy Heitsman – Charter
- Stephanie Pearlman – Comcast
- Robert Seldon, Suzanne Schlundt – Cox
- Eric Gill – Mediacom
- Cindy Mirabella, Deepa Venkataraman - CTAM

Stephanie shared in the chat a link to a report from the Joint Center for Housing Studies of Harvard University:

https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_The_State_of_the_Nations_Housing_2020_Report_Revised_120720.pdf

The report contains detailed economic and demographic trend data and potentially useful analyses.

Primary Responsibilities

- Lisa - B2B (bulk) but often involved funneling requests to the B2C team
- Stephanie - B2C, but work closely with B2B
- Robert - B2B but responsible for B2B, B2C, and B2B2C
- Eric – B2B, bulk, commercial, and added Leann Treloar to team for Residential

B2C Segmentation

- Comcast
 - Great program foundation
 - Analyzing to understand complexity of prospects within dwell type
 - Income-constrained (e.g., EBB) / Non-income constrained
 - Diverse audiences
 - Renters vs. owners

- Movers
 - HH w/ kids (particularly affected by pandemic)
 - Competitive (defending against fiber)
- Acquisition mailings cover all, would like to start measuring MDU vs SFU on the back end
- For movers, beginning to differentiate between MDU and SFU
- Charter
 - Began to build MDU-specific marketing foundation in 2020
 - Segmentation includes:
 - Senior living: Independent
 - Senior living: Assisted (lower response rate)
 - Further segmentation into skilled nursing, memory care, etc.
 - HOA (gated communities, townhomes, etc.)
 - Core video only
 - Offer/message may be slightly differentiated in marketing (e.g., “streaming” for students, basic video for senior living)
 - Currently introducing lower-priced internet into market
- Cox
 - Segmentation history includes canned “Savvy Seniors”-type structure, and personas
 - Current BAU approach:
 - Income constrained
 - Diverse, specifically African American
 - High-speed fiber competition available
- Mediacom
 - COVID-19 ended valuable, dedicated door-to-door marketing process with non-bulk MDU
 - Relying more on apartment manager relationships and fulfilling remotely

B2B Segmentation

- Cox
 - Segmentation focus based on portfolio value
 - Top 10-15 = 30% of national portfolio, and Top 100 – 90%
 - Top portfolios receive differentiated treatment, have dedicated sales resources
 - Communities approach is as trusted advisor (not selling widgets or even products)
 - New brand, solution-based message strategy – not just collateral
 - No current plans to further segment Communities portfolio
- Comcast
 - Number of unit threshold for application of a Community Account Rep (CARs)
 - Properties ranked by Customer Lifetime Value
 - Research team has studied:
 - Urban single
 - Suburban garden
 - Luxury
 - HH with kids
- Charter
 - Bulk (including student housing, RV parks, marinas, etc.)
 - Contracts team for properties not doing bulk

- Have created a program for public housing authorities
- Mediacom
 - Focus on managing relationships with developers, HOA managers, etc.
 - Small business, bulk, MDUs, HOAs going back to face-to-face post-COVID

CTAM Mover Program

- Examining back-end analytics on the campaigns
 - Are we reaching movers?
 - Does anything give us a sense that program is more relevant to MDUs vs. SFUs?
 - How does Apartments.com compare to Realtor.com?
 - In some cases, MDUs have been paused based on lower rates

Next Call

- Wednesday, July 14, 4-5pm ET
- We agreed to continue with monthly cadence for calls
- We will try to find a balance through free-form discussion format tackling specific issues and problems
- Agenda items for next call: “Quick connect”-type processes in use by each MSO, and approach to exclusive marketing programs

Call Notes: July 14, 2021

Summary

Participants

- Jason Barone, Lisa Cortes – Charter
- Stephanie Pearlman, Meghan Wismer – Comcast
- Jason Axsom, Robert Seldon – Cox
- Eric Gill, Leann Treloar – Mediacom
- Cindy Mirabella, Deepa Venkataraman – CTAM

Quick/Hot Connects & Alternative Programs

- Charter had “Spectrum Ready” program
 - Not currently active
 - Equipment was built into units; customers could scan barcode to activate service
 - Where bulk agreement in place with MDU owns and if property manager takes responsibility for equipment, wouldn’t likely have such a program
- Mediacom doesn’t have a quick connect program
 - However, under bulk agreements, all units are ‘hot’ and management of MDU responsible for equipment remaining with unit
 - In fully encrypted systems ONLY (video), a quick connect-type process might work well
- Comcast has a variety of solutions

- Bulk/managed WiFi (residents can connect immediately)
- WiFi-ready – retail solution, with gateway in unit, renter scans barcode to activate and can add video later
- Cox does as well
 - Move-in ready
 - Managed WiFi
 - Managed IoT
 - Bulk

Referral Programs/Rewards Programs

- Comcast
 - Xfinity Rewards program in development, based on learnings from Sky VIP program
 - *Note: If you're interested in slides Sky presented to CTAM Retention Team in June, please email Cindy to send via wetransfer*
 - Refer-a-Friend program – up to \$500/year for referrals
 - Have encountered legal issues around rewards programs for property managers; also, hard to tie a single sale to a leasing agent
- Charter
 - Not currently doing a rewards program
 - Difficulty for some agents to accept reward/benefit
 - National account teams love the rewards, but have yet to find a perfect program that sales teams can get behind
- Mediacom
 - Have given credit on account for leasing agent or manager, with a max credit up to total of monthly recurring
 - Have just started an MDU referral program
 - Rewards leasing agent, requires a W-9
 - May be difficult to know whether customers are truly incremental
 - Referral programs obviously only useful for competitive MDUs
- Cox
 - Haven't done a rewards program
 - With leasing referral program, were paying for leads that would have gotten anyway
 - Typically, haven't seen lift to cover cost of programs, even in competitive MDUs
- Starry offering up to \$55K to affiliates who make introductions to a residential property owner, manager, or condo board member that result in a sales:
 - <https://starry.com/blog/mission/make-55-000-with-starrys-affiliate-program>
- Teams are interested in referral programs and rewards programs
 - *CTAM will research, including other subscription services industries*

Exclusives & Other Agreements

- Agreements:
 - Door to door marketing rights, onsite events popular – allow ability to monitor collateral
 - Very valuable to get on portal of builders
 - Revenue shares, door fees

- Employ property scoring criteria, top builders to target
- Parties
 - Builders
 - Property management organizations
 - Realty companies
 - Single family HOAs and community associations
 - Third parties for lead gen (still need to do deal with property)
 - Yardi <https://www.yardi.com/>
 - RealPage <https://www.realpage.com/>
 - Onboarding experts like Choice Properties <https://choiceproperties.com/>
- On residential side, new company, Rovr <https://www.rovrscore.com/> provides a Rovr score that “gives the owner and the consumer a tool that evaluates and promotes the quality of Wi-Fi and Cellular connectivity throughout the entire property”
- CTAM will research exclusive marketing partnerships to share any additional information

Next Call

- We will skip August – next call will be scheduled for September (watch for a “Doodle” poll!)
- Please send any agenda requests to Cindy and Deepa – thank you!

Call Notes: October 21, 2021

Summary

Participants

- Michael Ramos - AlticeUSA
- Lisa Cortes, Kat Filosa, Andrew Rote, Christina Sedrak-Soliman – Charter/Spectrum
- Robert Seldon - Cox
- Eric Gill – Mediacom
- Cindy Mirabella, Mark Snow, Deepa Venkataraman – CTAM

Competition Working Group Update

Mark provided an update on CTAM’s Competition Working Group since fixed wireless was a requested topic for the agenda.

- Fiber is reemerging
- Fixed wireless being promoted as a substitute for in-home broadband
- Analysts expect opportunistic approach to marketing of fixed wireless in areas with spectrum and capacity

- Further, analysts warn that fiber will be the bigger issue, with labor availability the primary factor limiting expansion for AT&T and Frontier
- The group has shared approaches for detecting presence of fixed wireless competition
 - Matching publicly announced DMAs to footprint zips to watch
 - Employing a vendor that offers DM insights and evolution of copy over time
 - Social listening with internal resources and/or 3rd party companies
 - Monitoring hiring patterns, job postings
 - Analyzing purchased data from Speedtest by Ookla
 - Tracking permits pulled and pole attachments

Convergence Working Group Update

Mark provided an update on CTAM's Convergence Working Group.

- This group is tackling how cable can best position 5G and broadband Wi-Fi
- Working primarily with Cox, Comcast and Charter which have or will soon have mobile
 - GCI (Alaska) and Rogers, Shaw (Canada) will provide insights from their experiences
- The combination of 5G and broadband Wi-Fi are built to work together and provide the best value
- Positioning will help inoculate against competition

Fixed Wireless

- Lisa mentioned that Charter has analyzed bandwidth consumption and whether fixed wireless can handle those needs
 - This is an internal white paper not yet available to circulate
- Eric indicated that Mediacom is seeing more fiber in the group to new apartment complexes in some markets
- Robert said that Cox has seen more buzz than actual activity, and that most activity in Cox territory has been already-competitive major metro markets
 - Michael reported that Altice is seeing the same, and that companies are willing to lease extra capacity in these markets cheaply, so they are a good place to test new technologies

MDU Wi-Fi Solutions

- Eric observed that feedback in community webinars is that community managers don't want to see residential solutions in MDUs, i.e., individual unit equipment that they need to keep track of
 - Mediacom generally offers these residential solutions, however, since the service level provided reflects on the brand, causing reluctance to give up any control over the end-user experience
 - Lisa noted same perspective at Charter, and the desire to provide a true residential experience in the bulk scenario
 - Charter will ultimately have a product support portal that gives the property owner some visibility as well (this portal is used today in Charter's managed Wi-Fi solutions)
 - Mediacom and Charter both use access points for Wi-Fi in common areas

- Altice uses these solutions, also, based on needs: Managed, traditional bulk, hybrid services
- Michael also noted the high capital requirements of full managed solutions for scenarios like high-end properties with 3 access points in a single unit
- Cox current and future approach employs gateways and modems to provide a good end user experience and an “always on” network, which also makes Quick Connect work better

Transitions

- Mark reported that Cindy will be moving soon to entrepreneurial ventures
- Deepa will step in to take lead with the MDU Working Group

Next Call

- CTAM will solicit for a date and time in November for a final call in 2021
- Kat suggested a “year in review” agenda – we’ll share a piece of creative (or tactic) that worked and one that didn’t work (aka, “The Good, The Bad and The Ugly”)

P.S. Here are the articles on MDUs and subscription services that Cindy mentioned on the call, in case any are unfamiliar to you. Several are older – not a lot of current writing on this subject.

Why MDUs Are Helping Expand the Smart Home Market (2021)

<https://www.cepro.com/control/why-mdus-are-helping-expand-the-smart-home-market/>

Approach an MDU Property Owner to Upgrade Infrastructure in 5 Steps (2021)

<https://blog.ccisystems.com/blog/approach-mdu-property-owner>

AT&T: Mining the MDU Market (2016)

<https://www.lightreading.com/gigabit/fttx/atandt-mining-the-mdu-market/a/d-id/728973>

Nuanced engagement strategies key to sell FTTH in MDUs (2014)

<https://www.perle.com/articles/nuanced-engagement-strategies-key-to-sell-ftth-in-mdus-638363.shtml>

Advice for Capitalizing on a Multi-Dwelling Unit Building Revival (2013)

<https://www.residentialsystems.com/features/advice-for-capitalizing-on-a-multidwelling-unit-building-revival>

Call Notes: December 8, 2021

MSO Discussion: Year in Review

Charter presented an overview of what worked and didn't work in their creative. Highlights include:

- Samples of Charter's creative were presented- please see attached.
- Charter noted that as far as "successful creative", there isn't one creative to point to; most of their success stems from work done on enhancing marketing data end to end (to better connect MDU marketplace data to billing and marketing database records). Charter typically piggybacks residential creative (they have honed in on best performing offers and formats. Formats for direct mail such as postcards, and those less promotional in nature tend to work best. And a "less is more" approach (more white space, easy to read, straight to the point positioning) works best. As for email, Charter sees the best success when we include expiration dates and a "sense of urgency" implied (e.g.: action required, time running out)
- From a "didn't work" perspective, Charter has the attached postcard. It was the effort to get resident interest on behalf of the property. They received three QR code scans in the first send; and in the second send – R2 (with a different CTA) – they have yet to receive any responses. QR codes for residential tend to increase engagement. Charter didn't see that in this case, so perhaps it was the positioning "take a survey").

Next Steps

The MDU Team has completed their work for 2021 – we thank you for your contributions this year.

EBB

CTAM EBB Group Contact Directory – March 2021



2021 CTAM EBB Group Directory

Altice

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EBB Paid Search Campaign Proposal – May 2021



EBB Paid Search Campaign Proposal

CTAM Co-op Team



SmartMove Paid Search

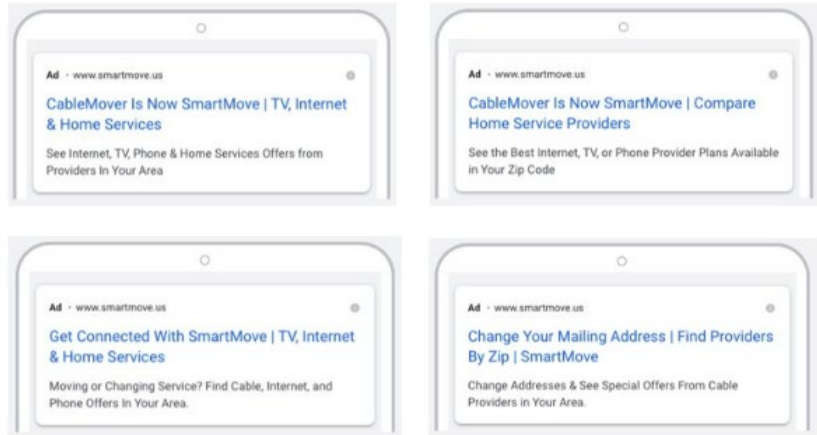


CTAM has been successfully running a mover digital media campaign for 10+ years. It includes paid search where we bid for mover and SmartMove branded keywords on Google.

In 2021, we expect to spend 5% of our digital media budget on paid search at a little over \$3 CPL.



SmartMove Paid Search



EBB Paid Search Opportunity



CTAM launched a dedicated EBB page last week that determines serviceability by street address and routes leads to respective MSO EBB landing pages.

There is also an opportunity to bid for relevant keywords (EBB program, emergency broadband benefit, low-income internet, lifeline internet etc.)



EBB Paid Search Opportunity



SmartMove will leverage its national scale to identify and route leads belonging to each MSO, thus improving program efficiency.

SmartMove will stay away from MSO branded keywords and MSO programs like Internet Essentials.

SmartMove will evaluate keywords and markets that MSOs are currently have paid search coverage and make necessary adjustments.



Call Notes: March 19, 2021

Welcome/Roll Call

Mark Snow welcomed the group and gave an overview of the call agenda.

Call Attendees:

Altice – Audrey Pinn
Armstrong – Dave Wittmann
Atlantic – Paul Sheridan
Charter – David Andreski, Sharon Peters
Comcast – Eileen Cassidy
Cox – Bill Lynch
GCI – Stephanie Lovett
MCTV – Katherine Gessner
Mediacom – Tom Larsen, David McNaughton
Sparklight – Varn Chavez
CTAM – Mark Snow + Renee Harris

Purpose of Working Group

During the March 11 CTAM Co-op Board meeting, several board members suggested CTAM create a working group to facilitate a conversation for MSOs to discuss the Emergency Broadband Benefit program.

Group Discussion

Altice

Altice is highly focused on the operational side of the program. Altice notes that FCC filings are clear in that video packages cannot be included in the program – only internet.

Comcast

Comcast is more so focused on how to get the subsidy for all of their promotions, opportunities and packages. While they are taking an immediate short-term focus on the program, they are also looking at what could happen if the program is extended, and other ways of approaching Comcast will also be requesting reimbursement for internet only cost of bundled packages, just as Sparklight. Reimbursements will be shown the customer's bill.

MCTV

MCTV noted that USAC has webinar available regarding EBB on their website. MCTV is interested in learning about messaging and how others are reaching the target population for this program.

Armstrong

Armstrong is also interested in messaging but is particularly interested in the sign-up time frame.

Sparklight

Sparklight has submitted their Broadband Provider application for EBB with their current active bundles which includes internet and will request reimburse for the actual internet cost per package based on December 1, 2020, rates as rate changes for 2021 do not qualify for the program.

Mediacom

Mediacom's application for EBB includes their active internet packages and grandfathered internet packages only.

Questions from the Group:

Altice had a question regarding the opt-in. In the order, it specifies that the customer has to opt-in to continue service with a provider after the credit ends. How are MSOs handling this if customers do not opt-in?

MCTV is including a written notification monthly to customers regarding their program.

Mediacom notes easiest option to have customers opt in should be done when the program is chosen.

Charter noted customers have to opt-in to the service and opt-in to continue the service. Charter will have their reps positively identify yes or no for the opt-in.

GCI noted that last March they offered free internet to customers who needed it from March – June. After the free internet period ended, they had to try to retain customers so offered a promotion that if customers continued their service, they would receive a discount and with that they had an 80% takeback, so if MSOs have an option for customers to roll off to after the EBB programs ends that may be a way to retain customers. GCI also offered existing customers offered free upgrades, so they didn't feel new customers were receiving all the benefits. GCI also has Lifeline mobile customers that do not have internet so they will market to them and will be talking with low-income housing landlords, MDUs and Bulks in an effort to connect them with the EBB program with hopes to transition them to Bulk after the program ends. GCI confirmed with their lawyers that bulk is eligible in the EBB program.

Altice asked about start date – what are the MSOs thoughts on when this program will start?

Charter noted they are hearing the end of April group launch date for those who are approved.

Cox submitted their application and received an approval notice but still has questions on the process they submitted but are guessing a launch date by the end of April.

Cox had a question on non-customers – Are MSOs signing customers up and then having customers go through the EBB application process or having them go through EBB first?

Sparklight is still working to confirm this process but is looking at customers qualifying first through the federal system then having them finalize with them – they feel it would be better if the customers already know they are qualified for the program beforehand. For non-customers Sparklight will have a webpage with a banner that directs customers to the EBB program. Sparklight is also including in direct mail a buck slip regarding the EBB program.

CTAM asked the group if anyone is having a specific demographic or economic targeting messaging plan?

Charter noted that many MSOs already have programs targeted to low-income customers so will be using those same groups to message regarding this program.

Altice asked if any MSOs using a different name for the program?

No, MSOs on the call noted they will be using the EBB program name. Charter noted they may use descriptive names with it but will not rename the program.

CTAM asked the group is B2B under consideration?

Mediacom believes B2B is not out of scope as the EBB program is all to deliver services to a consumer's household so the consumer and B2B sides dovetail together. Mediacom notes schools have lists of all households who participate in the lunch programs so knows the customers who would need their services.

The group agreed they do not believe schools will provide customer lists for use with the EBB program but will give the list for the case of centralized billing going through the E-Rate program.

Charter asked if anyone is looking at automating the interface to handle volumes?

The group agrees they would want to automate.

Armstrong asked MSOs what percentage of existing customers they think would sign up for the EBB program? Armstrong has heard around 20% of those eligible but feels that number is low.

Cox agrees with the 20% existing customers as they have assumed 50% awareness and 40% take rate of the 50% so land around 20%.

Mediacom noted the message MSOs can claim is now customers can get broadband for the price or less of DSL and that may be a way to have more customers join.

MCTV has brand new systems coming online w zero subscribers and asked is it an opportunity to give people economically challenged a free trial?

Armstrong states they should take advantage of it.

Cox noted they are trying to stay away from the word “free” and are being diligent in ensuring consumers know this is a government program.

Goals/Next Steps/Call Cadence

- The group decided Share and learn would be most beneficial at this time.
- The group decided on a call cadence of weekly 30 mins calls on Fridays at 2:30 ET through April. CTAM will send an invite series.
- The group is also open to email discussions between scheduled calls as needed via the Teams chat.
- CTAM will provide the group a contact directory.

Call Notes: March 26, 2021

Call Attendees

- Armstrong – Dave Wittmann
- Atlantic – Andy Walton
- Comcast – Eileen Cassidy, Ken Flynn
- Cox – Bill Lynch
- GCI – Stephanie Lovett
- Mediacom – David McNaughton
- NCTA – Jennifer McKee

- Sparklight – Varn Chavez

Call Summary

- Armstrong asked how MSOs are approaching advertising.
 - Atlantic noted while they want customers to know the program is available, they do not want to aggravate customers who do not qualify. They will be careful about promoting and will keep it low profile.
 - Cox mentioned Kantar indicated there is sentiment about “social responsibility”; Cox is going to go beyond looking at current customers. They are doing some work for outbound digital campaigning with most effort around mobile. From a current customer standpoint, they are deploying texts and emails.
 - Mediacom notes the problem may be reaching customers digitally who do not have internet. Target of interest for Mediacom - retention among those who can’t afford it when they call in to disconnect.
 - Comcast is actively discussing how they will handle existing customers. They have a large set of customers that qualify who are in their internet essentials program. They are still working through on how to communicate to the remaining customers.
- NCTA attorney, Jennifer McKee, confirmed that with the EBB program the discount must be allocated to the internet portion of the bundle.
- WRT support for extending the subsidy, perhaps via the infrastructure bill, NCTA notes they are taking a wait and see approach on how well it goes before supporting an extension.
- Armstrong asked if any MSOs will issue a full or prorated credit in the first month.
 - Cable One will give all customers an appropriate credit and are still working on the operational details.
 - Comcast will check to see if the customer is eligible when bill is cut then will provide a credit – they will include a tracking code for “EBB” when customers sign up so they know which accounts to review. An existing customer who enrolls will get a proration on their bill.
- Sparklight asked what will this program do to call times for customers wanting to qualify for the program. Sparklight is concerned about call volume implications.
 - Comcast noted their strategy will be to qualify customers digitally not over the phone.
 - Mediacom echoed Comcast’s strategy in this regard.
- Our next call will be Fri, April 2, 2021 @ 2:30 ET

Call Notes: April 2, 2021

Call Attendees

- Altice – Audrey Pinn
- Cox – Bill Lynch
- MCTV – Katherine Gessner
- Mediacom – David McNaughton

- Sparklight – Varn Chavez
- CTAM - Mark Snow

Call Summary

- Sparklight has been approved by USAC.
- WRT Marketing EBB, Altice stated, they are keeping marketing high level and just stating LifeLine eligible. Altice notes, to be careful w the poverty line – it is income and household qualification not just income. Altice also notes that people who receive government assistance most likely know they will qualify for the program.
- Altice question – How are MSOs proving they offer a given service in a given state?
 - MCTV has not completed the USAC application yet but notes that ACA has webinars on this subject.
 - Sparklight has the same services and prices everywhere, so they chose active offerings in December and submitted rate cards w one exception of a service in Mississippi in which they submitted a bill. The rate cards include an effective date.
- MCTV question – How are MSOs handling the first month of service? Are they prorating?
 - Altice gave an example – If a customer starts service in April – they will credit the customer the full amount and then request the full amount from the fund. The customer would have a partial credit carry forward, but it would all even out in the end. Audrey noted that their firm rule is every cent that gets requested must flow to the customer.
 - Sparklight will also apply the full credit. They have 9 billing cycles.
- Sparklight question – What about customers who do not pay their portion of the bill? Example: Customer's bill is \$80, government program credit is \$50, so customer owes \$30. Sparklight notes, that with the EBB program the customer's core broadband service cannot be disconnected.
 - Cox notes that if a customer does not pay the portion of the bill not covered by EBB they will downgrade them to a tier product that matches the \$50 broadband government credit for the customer. They will not disconnect the customer.
 - MCTV notes that on page 17, paragraph 37 of the EBB policy, it states the rules for customer's not paying the portion of their bill not covered by EBB. MCTV also notes that for non-pay customers in the past, the only way to get customers to pay was to disconnect them so notes that for this program.
 - General note – the group generally agreed that non-broadband services could be suspended/disconnected for non-pay; and broadband could be downgraded to a tier at or below the subsidy.
- Altice question – How are MSOs dealing w the existing customer base so they know where to apply for EBB?
 - Sparklight states they are still figuring things out – they have a landing page for customer information. They are concerned about call volume.
 - Cox has identified within their customer base those that would qualify and will email, text and message those customers. If customers call in they will redirect

- them through the IVR to the .com site - they are driving all inquiries to the website.
 - Mark Snow noted he can contact C5 to find out who might be using the IVR to divert questions on EBB to .com or some other online resource.
- Sparklight question for Cox – Once the customer is directed to their website, how do they know when they have been qualified?
 - Cox reviews many factors and mark those in their database that they would most likely qualify. For current customers that are not prequalified, they have integrated a 3rd party, ID.me, that will help identify what customers are on government programs. But there is still no info on how qualifying via furloughs will work. Non-customers are tricky, and they are still trying to work through the process.
- Cox question – If MSOs have customers who have a \$50 bill but have a small portion above that that is owed for tax, for example \$0.80 due for tax, how are MSOs handling sending bills for this amount? Send a bill for \$.80? Have any MSOs discussed this with their governmental departments?
 - MCTV doesn't send a bill for anything less than \$10.00
 - Mediacom also does not send bills for anything less than \$10.00
- CTAM will work to have a Rogers CTAM member join the call next week to share best practices for a program similar to EBB that was created in Canada.

Call Notes: April 9, 2021

Call Attendees

- Atlantic – Andy Walton
- Cox – Bill Lynch Mediacom – Chris Lord
- NCTA – Jennifer McKee
- Rogers – Peter King
- Sparklight – Varn Chavez

Call Summary

Peter King, Sr. Director, Corporate Social Responsibility at Rogers provided an overview of Rogers' low-cost Internet program, Connected for Success.

- Connected for Success was initiated in 2013. The program offers high-speed, low-cost internet across Ontario, New Brunswick and Newfoundland to subsidized tenants, seniors, families with children and to individuals receiving disability and income support.
- Program requirements are: Minimum 10 MB, no credit check, no install fee and unlimited data.
- The process for connecting families is as follows:
 - The government sends out Direct Mail to families who qualify with a unique pin code –

- Qualified customers then go to a government website and enter the pin code, once the pin code is entered it lets the consumer know which ISP to contact.
 - The consumer then contacts their ISP to get set up
 - Rogers has a dedicated CSS of 40 reps and they have a government site the reps go to activate the pin code.
- In 2019, Rogers increased their MB offering to a 25 Mbps product offered at \$10. Last March they expanded offerings to 75 Mbps at \$24.99 and 150 at \$34.99 Mbps and will be introducing a 15 Mbps at \$14.99
- Containment and qualification is important.
- RGI program – there is a contract with every housing organization. Two ways – they provide a list of all their units or Rogers assigns pin codes to their units.
- Just this past March the program was expanded to include Seniors. They have programs for those receiving disability and income support – these programs are done manually. For these customers they visit the website, enter their details then Rogers verifies information in their digital hub. After that the customer can be onboarded in one call.
- WRT call volume, when knowing when the Direct Mail for the programs will go out, they come up a formula to model out how many calls they expect to get to prepare for the volume. They have a dedicated CSS for the program.
- They are revisiting their digital hub now to determine how to automate processes; the challenge is verifying the customer – as of now they verify with the aforementioned pin code.

Call Notes: April 16, 2021

Call Attendees

- Armstrong – Dave Wittmann
- Comcast – Stephanie Pearlman
- Cox – Bill Lynch
- MCTV – Katherine Gessner
- Mediacom – Chris Lord
- NCTA – Jennifer McKee

Call Summary

- April 27 - likely launch date for EBB
- Link to the FCC notice about the webinar - [DOC-371674A1.pdf \(fcc.gov\)](#)
- Best guess on how long the funding will last - end of the year? 3-4 months? If 10 MM take advantage, it gets used up in 3 months.
- Most are down into gotchas in the operational details. The government's lack of clarity is frustrating.
- Hard to gauge the scale of consumer response will be.
- Varies widely by state and even county on how governments are doing outreach.

- E-Rate will be a very different process - run through schools and libraries - coming later this year.
- Katherine - will folks ask for and give pro-rated credits for the first month? Varn - no, doing the whole \$50 and some credit \$ will carry over and it will true up at the end. Mark noted Altice's \$1 in / \$1 out rule they established for themselves as a guideline.

Call Notes: April 23, 2021

Call Attendees

- Altice – Andre Martineau
- Armstrong – Dave Wittmann
- Atlantic – Andy Walton
- Cox – Bill Lynch
- MCTV – Katherine Gessner
- Mediacom – Chris Lord
- NCTA – Jennifer McKee
- Sparklight – Varn Chavez
- CTAM - Mark Snow

Call Summary

- Mediacom noted that the predicted hard launch date for EBB is no longer April 27, the new date will be set in the coming days – possible revised start dates could be April 30 or May 3.
- Mark Snow mentioned that CTAM will be able to set up information pages about EBB on Smartmove.us and drive traffic from that page to MSOs. Mark also noted that CTAM could also do targeted outreach on social platforms. Mark asked the group approval to move forward. MSOs on the call had no objections to this initiative. CTAM will contact MSOs to obtain the URLs for pages MSOs would like the traffic to route to.
- Armstrong noted that Interim FCC Commissioner Rosenworcel discussed possible federal government community outreach - still not entirely clear what this is or when it will launch other than the group agreed it would be on or after the launch date.
- Mediacom notes they can potentially grow subs with as much as 15-20% of participants being new subscribers, based on a similar state program in Alabama.
- Altice is looking at the program in a defensive play - competitors will offer this program too.
- Atlantic question – For those who want to participate in the program if they qualify, can you disconnect for non-payment?
 - MSOs on the call noted the customer can be downgraded to a tier at or less than \$50, but the customer cannot be disconnected. Other non-broadband services could be disconnected, however.
- Atlantic question – Does the EBB program specifically say you cannot disconnect the customer?
 - Sparklight noted their understanding is participating ISPs cannot deny qualifying participants qualifying service or disconnect them.

Our last call in this series will be Fri, April 30, 2021 @ 2:30 ET.

Call Notes: April 30, 2021

Call Attendees

- Armstrong – Dave Wittmann
- Atlantic – Andy Walton
- Comcast – Stephanie Pearlman
- MCTV – Katherine Gessner
- NCTA – Jennifer McKee
- Sparklight – Varn Chavez
- CTAM - Mark Snow

Call Summary

- The group confirmed the EBB program will launch Wed, May 12, 2021.
- Mark Snow noted CTAM is continuing on work on SEO pages for the EBB program and presented a screenshare of CTAM draft smartmove.us page for EBB. Link here: <https://dev.smartmove.us/internet/ebb>
- Mark mentioned CTAM can also do social outreach to further drive organic traffic and build SEO ahead of and after the launch.
- MSOs on the call noted they are not offering the \$100 discount on the purchase of laptops, desktops or tablets – CTAM will remove this notation from the smartmove.us EBB page.

Our current call series has ended for this working group – the group will meet the week after the program launches for a one hour call on Wed, May 19 or Thurs, May 20 for MSOs to discuss how the program is going after launch.

Using the link below, please include your availability for a one hour follow up call:

https://doodle.com/poll/pi4b8625h9sq5p27?utm_source=poll&utm_medium=link

Once we have a time that works, I'll send an invite.

Call Notes: May 20, 2021

Call Attendees

- Altice – Audrey Pinn
- Armstrong – Dave Wittmann
- Charter – Sharon Peters
- Comcast – Jeff Burke
- MCTV – Katherine Gessner
- Mediacom – Tom Larsen
- Sparklight – Varn Chavez
- CTAM - Mark Snow, Mohib Ahmad, Renee Harris

Call Summary

- The EBB program officially launched on May 12, 2021.
- Sparklight noted the only challenge they are seeing is that 25% of their customers are not able to upload after approval due to possible address mismatch. Otherwise, all is working well.
- Charter noted they see a lot of customers caught in pending/denied status and asked if any other MSOs are seeing this as well
 - Altice has an independent verification process so they are not relying on the national verification ... issues they see are customers are not following directions – addresses must match. Altice also notes that some consumers who are technologically challenged have issues w uploading documents.
- Altice asked if MSOs are seeing new customers or existing base taking advantage of the program?
 - MCTV is seeing mostly current customers. They have a 60-70% penetration of broadband.
 - Armstrong has a similar penetration to MCTV and is also seeing mostly existing customers, very low new customers
 - Charter is seeing existing customers utilize the program.
 - Mediacom is seeing 10-15% new customers
 - Comcast is less than 1% new customers – all are existing customers
- MCTV notes they feel once marketing and outreach get out to more consumers via schools and libraries there may be an uptick in new customers
- Comcast question – How many days does it take for a consumer to go through the government approval process?
 - MCTV noted it depends on what program the customer is using – SNAP is instant while others may be slower.
- Charter question – Regarding billing, have there been any prorate issues?
 - Sparklight takes a snapshot at the end of the calendar month and gives customers the full credit when the credit is received. So, even if the customer's bill starts midmonth, full credit will be given at the end of the month.
 - Altice stated they are not prorating.
 - MCTV noted they are prorating the credit. They noted there was a USAC webinar recently that also stated they should prorate. MCTV also noted that even for current subs, they are getting legal guidance internally they will use the EBB enrollment date to set the proration for that first month.
 - Armstrong agrees w MCTV. There has been no official guidance from FCC regarding this yet. Dave notes the ACA has been asking the FCC for more guidance.
 - Mediacom stated the proration would mostly effect new customers who take less than a \$50 plan.
- Sparklight shared the following questions and answers from USAC regarding reimbursement:
 - *How can a provider determine the correct amount to seek reimbursement for?*
 - **USAC understands that providers may have billing cycles that do not align with the calendar month. For purposes of EBB reimbursement, providers should claim the discount associated with the given service month, even if that amount has not been invoiced yet.**

- *How do I claim reimbursement for EBB subscribers who de-enrolled or transferred before the snapshot date?*
 - **Providers cannot claim an EBB household for reimbursement if that household transferred or was de-enrolled during the service month and did not appear on the snapshot report for that month. For example, if an EBB household transferred to another provider on June 15, they will not appear on the original provider's July 1 snapshot and therefore cannot be claimed for reimbursement. The new provider, however, will be able to claim the subscriber for reimbursement for the discounts provided in the month of June.**
- Mediacom shared the following from USAC:
 - **USAC will not pro-rate or adjust reimbursement claims based on the number of days the customer was enrolled in NLAD for that month. Under § 56.1603(a), the support amount claimed cannot be more than the actual discount provided to the EBB subscriber in the relevant service month, and the EBB support must be fully passed through to the consumer in the form of a discount. That discount, in turn, cannot be more than the standard rate for the relevant Internet service offering, but if the discount is lower due to pro-rating, the reimbursement claimed by the provider must also be decreased to be no more than the discount actually provided to the consumer.**
- MCTV shared the following from USAC:
 - **USAC understands that providers may have billing cycles that do not align with the calendar month. For purposes of EBB reimbursement, providers should claim the discount associated with the given service month, even if that amount has not been invoiced yet. For example, assume a subscriber began a \$20 EBB service plan on May 25 and the provider enrolled the subscriber in NLAD the same day. The provider's billing cycle runs from the 15th to the 15th of the following month. On the June 1 snapshot, the provider may only claim the discount actually associated with the service provided in May, which would likely be less than \$20 due to the late-in-the-month enrollment if the provider prorates its pricing for service only provided for part of the month. On the July 1 snapshot, the provider would claim the full \$20 discount if that is the discount that was passed through to the household.**
- Mohib Ahmad, CTAM presented the attached CTAM EBB Paid Search Campaign
 - CTAM feels there is opportunity to buy relevant keywords that relate to the EBB program such as EBB program, emergency broadband benefit, low-income internet, etc.
 - There would be no incremental budget ask – the campaign will be paid for through LeadShare revenue.
 - The pilot campaign would start at \$10,000 per month
 - CTAM will obtain approval from LeadShare chairs to move forward w the program
 - All MSOs on the call agreed to the EBB paid search campaign

Cox was unable to attend the call but sent the following for review and comment:

- Cox early results are very positive in terms of customer applicants and C/X

- Cox notes the back-office, internal side of things has been less smooth, largely due to integrations with USAC and lack of facilities for end-to-end testing in advance of launch; catching up on backlog and coming through this so expecting smoother sailing going forward
- Cox question – “I understand there has been some press and conversation around restricting access to EBB to higher tiers and wondering if there has been any conversations around FCC looking into this?” Group members, please feel free to reply all to this email to answer this question, Bill can be reached directly at Bill.Lynch@cox.com

Lastly, CTAM would like to schedule a second follow up call for the group.

Using the link below, please include your availability for a one hour follow up call:

https://doodle.com/poll/kf2sxvpwvn9fnpu3?utm_source=poll&utm_medium=link

Once we have a time that works, I'll send an invite.

Call Notes: June 4, 2021

Call Attendees

- Altice – Audrey Pinn
- Armstrong – Dave Wittmann
- Charter – David Andreski
- Cox – Bill Lynch
- MCTV – Katherine Gessner
- Mediacom – Chris Lord
- Sparklight – Varn Chavez
- CTAM - Mark Snow, Mohib Ahmad, Renee Harris

Call Summary

- Sparklight question - Are MSOs seeing an increase in new subscribers due to EBB?
 - MCTV had seen two or three new subscribers
 - Armstrong noted they have not actively tried to get subscribers from EBB but have not seen new subscribers
- Charter noted they are having issues through the national verifier.
 - Mediacom noted they had a lot of problems w the national verifier the first couple weeks but have a 75% acceptance rate as of this past week. They believe the issues the first week stemmed from reps not fully understanding the process and customers not providing all the information needed. The main issue now is customer hold time.
 - Sparklight noted they have a 25% failure rate w 75% going through fine.
- Charter question – Is anyone seeing a failure rate by state?
 - Mediacom noted they had issues w Iowa but that is their main state so it could just be volume, they haven't had any issues w the other 22 states they have.
- Mediacom question – Is anyone having an issue updating customer data?

- MSOs on the call haven't had to make updates yet.
- Cox has approx. 80k customers on the program and a small fraction of those are new.
- Cox question – Is there any sense around timing of the program, how long will it be around?
 - Charter believes it will go at least until the end of the year and possibly into mid-2022.
- Mark noted we could have NCTA join a call to provide insights into the over/under on additional EBB funding/extensions via the Infrastructure bill being debated in Congress.
- Mohib Ahmad, CTAM provided an update on the EBB Paid Search Campaign:
 - The MSO EBB Working Group approved a paid search pilot on May 20 with a budget of 10k funded from LeadShare revenue.
 - The EBB paid search campaign has generated 478 MSO leads with a 27% conversion rate and \$4.01 cost per lead through June 1.
 - We have garnered 23,748 impressions, 1,766 clicks and 7.44% CTR with an average CPC of \$1.09 and cost of about \$2K.
 - Over the same time period, the SmartMove Mover paid search campaigns converted at a rate of 39% with CPA of \$4.10. Note, bulk of these conversions are driven by “smart move” or “cable mover” branded keywords. As such, the EBB campaign is performing a lot better as we're not bidding on any branded keywords there.
 - EBB impression share is 16% of all available impressions with a budget of \$10K in the first month, so we're losing out on a lot of potential impressions, leads and sales. CTAM projects the maximum traffic and conversions would be generated at about \$35K-\$40K monthly budget.
- **ACTION:** CTAM will provide MSOs SEM trial lead totals by address next week. **RESPONSE**

REQUESTED: The group noted they would like to continue these calls. Using the link below, please include your availability for weekly calls through the end of June:

https://doodle.com/poll/qwacycfrzb69p7d5?utm_source=poll&utm_medium=link

Once we have a time that works, I'll send the new invite series.

Call Notes: June 10, 2021

Call Attendees

- Altice – Audrey Pinn
- Armstrong – Dave Wittmann
- Atlantic – Andy Walton
- Comcast – Jeff Burke
- MCTV – Katherine Gessner
- Mediacom – Tom Larsen, Chris Lord
- CTAM - Mark Snow, Renee Harris

Call Summary

- WRT the CTAM trial EBB search campaign, Mark Snow noted that CTAM will send MSOs leads data in the coming days. Please see below for most recent data overall:
 - Since launch Friday May 21, the EBB campaign has generated 42,430 impressions and 3,214 clicks for a 7.57% CTR.
 - Average EBB CPC is \$1.08 for a cost of \$3,474.94.
 - The EBB campaign has generated 917 conversions for a 29% conversion rate at \$3.79 CPA.
 - EBB impression share is 16%. Top competitors are assurancewireless.com, cox.com, att.com, Verizon.com, and qlinkwireless.com.
 - Over the same time period, the other SmartMove SEM campaigns converted at a rate of 39% with CPA of \$4.13.
- WRT to the EBB program, Comcast noted that it seems to be the same trend continuing in that it's predominately 98% a current customer program.
 - Mediacom noted they see a consistent number of call-ins and their success rate w/ NLAD has increased.
 - Altice agrees that EBB is an existing customer program. Altice noted they have voiced to their government affairs team that they feel the program should have been executed better - possibly w application going through landlords versus the service provider.
- Altice question – What are your denial rates?
 - Atlantic notes they are about 50% denial rates
 - Mediacom is at about 60 – 65% approval rate
 - Comcast is about at a 60% acceptance rate
- Mediacom question – Is anyone offering a connected device?
 - No one on the call is offering a device but Cox may be doing so.
- CTAM question – Has there been any issue w customers w lifeline phones being disturbed as “duplicates” when applying for the broadband credit?
 - Mediacom has not had any issue
- Altice question – Are MSOs getting any escalations from government officials from customer who have been denied
 - No MSO on the call has had any issue
- Altice question – Now that the numbers are out, how long do MSOs think the program will last?
 - Comcast believes there will be a variation of the program into the future
 - Armstrong believes it will last at least through this year and possibly into 2022
 - **ACTION:** CTAM to contact NCTA to get their thoughts on the program duration

Our next call will be held Thurs, June 17 @ 11:00 ET

Call Notes: June 17, 2021

Call Attendees

- Altice – Audrey Pinn
- Cox – Bill Lynch
- MCTV – Katherine Gessner
- Mediacom – Tom Larsen, Chris Lord
- Sparklight – Varn Chavez
- CTAM - Mark Snow, Renee Harris

Call Summary

- MCTV question – What are MSOs doing to promote EBB to new + existing customers?
MCTV has seen a large decline in enrollments.
 - Sparklight is including a buckslip in direct mail. They have 300 new customers that have requested EBB and over 5000 existing customers who have requested. They are looking to target late and non pay existing internet customers.
 - Altice is positioning marketing for EBB as “Internet as low as \$0”
- CTAM is working with MSO digital teams to get sales disposition data on the leads sent from the SEM trial. Results should be ready to share by the end of June.
- CTAM asked if MSOs are mass marketing to churches, schools or other non-profit organizations?
 - MCTV marketed to schools but notes marketing to churches is a good idea.
- Altice question – Altice notices they have a lot of applicants that are being denied. Are any other MSOs having this issue?
 - MCTV is at less than a 10% denial rate, but they are using the national verifier where the customers have to obtain approval before applying w the MSO.
 - Sparklight is at about 20% denial. They do not actually deny the customer but simply pause the application for the customer to correct any erroneous information in their government application.
 - Mediacom can see the failed uploads through the national verifier - they are at about 20% failure rate. On June 15 a tool was released where information can be viewed prior to the upload so they expect the 20% rate to decline.

Altice notes that they will be submitting their EBB claims soon and would like to discuss this in a future call – possibly the June 24 call. They also note another future topic should be sunseting the program once an end date is known.

Our next call will be held Thurs, June 24 @ 11:00 ET.

Call Notes: July 8, 2021

Call Attendees

- Armstrong – Dave Wittmann
- Comcast – Stephanie Pearlman
- MCTV – Katherine Gessner
- Mediacom – Chris Lord
- CTAM - Mark Snow, Renee Harris

Call Summary

- Armstrong is curious if there will be an uptick in EBB applications once school resumes.
- CTAM question - Regarding filings, has anyone had an issue getting payments? Armstrong filed and has been paid.
- Comcast question – Do the MSOs on the call work on the acquisition or Retention side or both? Has there been any push on acquisition for the EBB program?
 - Both from Mediacom – not doing any acquisition push but are seeing a steady push of customers. They have not been marketing – most of their push has come from local governments and schools
 - Both from Armstrong
 - MCTV has not done a lot of marketing besides sending flyers out to local community groups. They noted most effective marketing may be within the community such as with back-to-school backpack giveaways, etc.
- Comcast question – Does MCTV have a program like Comcast's Internet Essentials?
 - Yes, they have a program called internet Connect that was launched late last summer.
- MCTV inquired if CTAM could possibly help w developing a marketing flyer to include w Dollar General Literacy Program. MCTV also noted that Dolly Parton Imagination Program could also be something to be investigated.
- CTAM shared the following notes from a call CTAM had with Craig Moffett regarding his take on competitive threats to the MSOs' broadband business.
 - Broadband has seen significant deceleration from 2020 ·
 - We are at 85% broadband penetration and 2020 *was* a pull-through year, so a slowdown is expected
 - Growth going forward will largely be HH formation (population growth) ·
 - Principle worries for MSOs:
 - Fixed wireless from T-Mobile and Verizon
 - AT&T and Frontier fiber build-outs

- Federal government / regulatory risk around 100/100 definition of BB coverage
- LEO Satellite Internet
- Worries have mostly dissipated except fiber:
 - Fixed wireless: mm wave doesn't work well for fixed; mid-band is better but this is not a good use of wireless spectrum; more of a rural play
 - LEO Satellite is not a real threat - more of a rural play
 - Regulatory:
 - Title II is unlikely to return (Dems fear a SCOTUS revisit of the concept of "Chevron Deference", or a Court's deference to an executive branch administrative body (FCC) to broadly interpret and implement laws passed by Congress. If SCOTUS overturns this doctrine, federal agencies may lose their broad powers to turn laws into action and policy)
 - 100/100 is unlikely to be the test for BB coverage but may only be a hurdle for subsidized builds.
 - Price controls also seem unlikely (NY State attempt was overturned by the Courts).
 - Rural subsidies may take a form similar to RDOF (rural reverse auction subsidies) and rural electric co-ops are more likely the municipalities to take advantage of this new round
- REMAINING WORRY IS FIBER BUILDOUTS
 - 2020 saw *increases* in fiber builds except for AT&T - they ran out of money
 - All are on pace for big buildout years for several years into the future, particularly AT&T and Frontier (recently reorganized out of bankruptcy)
 - Telco forecasts for buildouts are very aggressive - Craig doubts there are even enough fiber technicians and installers to do 7 million passings per year when the average has been 2-3 million.
 - This time is different: Cable (particularly Altice) has higher prices than Fiber Telco prices vs. being at parity or below Telcos last time. This puts potential share losses on the table for MSOs.
 - Craig's firm looks at share assumptions like this:
 - Cable share in uncontested DSL markets: 95%
 - Cable share in FTTN (VDSL) markets: 90%
 - Cable share in fiber overbuild markets: 50% (fiber gets 40% and other gets 10%)
 - This ignores price differential we have now, so may be worse
- Where is growth coming from for the MSOs in the next several years?
 - Base case is they hold BB firm using wireless as a bundle price value proposition and milk video into the sunset
 - PLUS:
 - Wireless could be a much bigger thing, especially for Comcast and Charter (and soon Cox BTW) who have the VZ MVNO - they can build a NMO where it makes economic sense and

rent VZ's network via the MVNO where it doesn't make sense to have the best of both words and scale and be very profitably. Lots of traffic offload opportunities. Could buy spectrum in the upcoming 3.45Ghz auction.

- Business Services: lots of room to grow more and more - both in the SMB and particularly in the Enterprise space.

Our next call will be held Thurs, July 15 @ 11:00 ET.

Call Notes: July 15, 2021

Call Attendees

- Armstrong – Dave Wittmann
- Mediacom – Chris Lord
- Sparklight – Varn Chavez
- CTAM – Mark Snow, Renee Harris

Call Summary

- CTAM found contacts for the Dollar General Literacy Program and the Dolly Pardon Imagination Library – Mark has reached out to the contacts for more information. CTAM asks MSOs to send any contacts they may have for these programs.
 - CTAM notes there may be a chance that the programs may ask for a donation to the program given that they will be packing the flyers.
 - Mediacom mentioned the Dollar General program to their marketing department, and they are working on deciding how to proceed.
- Sparklight question – Have MSOs seen an increase or decrease in subscribers?
 - Mediacom notes subscribers are steady.
- Sparklight question – Did MSOs see a lot of subscribers who were non broadband customers prior to applying for EBB?
 - Mark noted that this was the case for the COVID broadband connects but wasn't sure about EBB
- Sparklight question – Do MSOs anticipate churn in the program when customers go back to school?
 - Mediacom does not expect churn until the program is out of money
 - Armstrong agrees w Mediacom
- Mark noted he will send out the final EBB lead report from the digital media test after the call – sales disposition will come next week for as many MSOs as possible. (Please see attached) Mark will send a copy of the CTAM Broadband Adoption Study (COVID connects) mentioned on the call to the EBB group. (Please see attached)

Our next call will be held Thurs, July 22 @ 11:00 ET.

Call Notes: July 22, 2021

Call Attendees

- Comcast – Jeff Burke
- MCTV – Katherine Gessner
- Mediacom – Chris Lord
- Sparklight – Varn Chavez
- CTAM – Mark Snow, Renee Harris

Call Summary

- Mark Snow noted CTAM is beginning to hear back from MSOs regarding EBB digital program performance. Charter stated 19% of consumers sent to them from CTAM turned into customers – CTAM is still waiting to hear what percentage of the 19% is new versus existing. CTAM will continue to gather data and present to the group.
- As previously discussed, Mark reached out to Dollar General and the Dolly Pardon Literacy program. While Mark has not heard back from Dollar General he did hear back from the Dolly Pardon program and they were concerned w their rules and regulations regarding what can be included in their packages.
- Mary Shaw, Sr. Director, Communications & Strategic Alliances, CTAM, joined the group to discuss helping raise awareness to the EBB program. Mary notes the following:
 - Mary feels like EBB is an easy product to pitch on consumer broadcast levels.
 - Mary has reached out to producers she knows to begin discussing how to add EBB notifications to broadcast.
 - Mary has reached out to her contact at Vooks, an online book program for children, to discuss a possible partnership to promote EBB.
 - CTAM has pulled a press report to view positive reports on EBB – positive reports were found which could be used to further promote.
 - Mary believes there is a chance to keep EBB program promotion “in house” versus going to the FCC directly.
- The group agreed to let Mary explore partnerships and work w their colleagues to develop more program awareness.
- Comcast will reach out to their NBC contacts to determine if broadcast on USA Today or similar program to promote EBB could be possible.
- MCTV question – Where does a lead go if the customer is not serviceable?
 - CTAM uses GSI and Homes passed serviceability databases, therefore addresses are accurately accounted for – so the lead is sent to the correct MSOs. If there happens to be an overbuild, then both MSOs are shown. If the lead it indeed not cable serviceable, CTAM can let the consumer know where they could receive service.
- CTAM will continue to work on gathering information on promoting EBB and will circle back.

Our next call will be held Thurs, July 30 @ 11:00 ET.

Call Notes: July 29, 2021

Call Attendees

- Armstrong – Dave Wittmann
- MCTV – Katherine Gessner
- Sparklight – Varn Chavez
- CTAM – Mark Snow, Mary Shaw + Renee Harris

Call Summary

- Mark advised the group that Comcast reached out to their NBCU contacts but has not gotten a lot of traction at this time.
- Mary Shaw, CTAM has created a RFP for PR agencies to get pricing for EBB Promotion via broadcast or other means. Mary will share proposals once received. Mark noted that there should be enough budget in LeadShare to cover costs for EBB PR/Comms efforts.
- Armstrong noted they saw an animated 30 second PSA spot from Comcast regarding EBB – the group wonders if Comcast would share this spot w the group – CTAM will ask Comcast if they would be able to share a customizable version of the spot.
- MCTV shared the following link for EBB TV Spots with the group:
<http://www.ibexspots.com/internet.htm>
 - :30 spot -
http://www.ibexspots.com/sample_mediaPlayers/retention_plr/ret0163_player.htm
 - 15 spot: ib
http://www.ibexspots.com/sample_mediaPlayers/retention_plr/ret0164_player.htm
- Sparklight question – Since customers in the EBB program cannot be disconnected for nonpay, has anyone experienced any non-pays that have TV or any other products in their package?
 - Armstrong has not had an issue so far but if anyone doesn't pay they downgrade to a \$50 plan
 - MCTV has not downgraded anyone yet.
- Mark asked the group if going into 2022, this group morphs into a working group with a broader mandate to include low income and rural broadband, including EBB, E-Rate, lowincome broadband services, reaching the rural market, etc.?
 - The group will consider, and the co-op Board will make a decision on this and other working groups later in the year.
- Sparklight question – Does anyone believe the definition of Broadband will change?
 - MCTV wouldn't be surprised if the definition changed. It's 25/3 today with language to be building for the future for 100/25 or even 100/100.
- MCTV question – Has Comcast put their low-income programs on pause due to EBB program?
 - CTAM has reached out to Comcast to get an answer.

The group decided to extend the call series through August. Our next call will be held Thurs, Aug 5 @ 11:00 ET.

Call Notes: August 5, 2021

Call Attendees

- Comcast – Jeff Burke
- Sparklight – Varn Chavez
- CTAM – Mark Snow + Renee Harris

Call Summary

- Following up from a question last week regarding if Comcast was still offering their Internet Essentials (IE) program in light of EBB, Comcast is indeed still offering the IE program – Comcast is linking EBB and IE together in backpack programs, their IE customers are guaranteed enrollment so there is no harm in marketing EBB to them. They also do not upsell to get the service closer to \$50 - they strictly find the tier that fits the user needs.
- Comcast is using EBB to assist with non-pays in that they are advising non-pays of the program and offering to switch to allow the customer to retain at least internet service.
- CTAM EBB Program Awareness Campaign Status Update: Mary Shaw has submitted an RFP to a Communications Consultant and is currently awaiting replies.
- WRT to the new EBB law that may be passed, CTAM will ask NCTA to join our call next week to provide their insights on the Infrastructure bill that is starting to come into focus and may pass the Senate as early as this weekend.

Question for the group:

- Sparklight question - Has anyone looked at whether the EBB connects are rolling into non-pay status at any different a rate as the embedded base?

Our next call will be held Thurs, Aug 12 @ 11:00 ET with a probable guest speaker from the NCTA

Call Notes: August 12, 2021

Call Attendees

- Cox – Bill Lynch
- Sparklight – Varn Chavez
- CTAM – Mark Snow, Mary Shaw + Renee Harris

Call Summary

- Regarding the Infrastructure bill passed in the Senate this week, Mark spoke w NCTA and they would like to wait to discuss the bill with the group after the House takes it up – there are likely to be changes between now and when the bill reaches the President's desk for signature. However, they did indicate that the Senate bill language re: the name change and the reduction in the subsidy from \$50 to \$30 was likely to remain in the final bill.
- Sparklight question - Is EBB replacing the Lifeline program?
 - Mark will confirm w NCTA
- Cox question – With the funding extension of the EBB program, will it change how MSOs think about the program given so many sign-ups are current subscribers?
 - Sparklight noted that still less than 10% of their EBB sign-ups are new customers. They are concerned about the possibility that the subsidy going down to \$30 could create a greater non-pays/bad debit risk.
 - Sparklight also noted that 25% of their EBB subscribers who were existing subs upgraded their speed when signing up for the program.
- CTAM EBB Program Awareness Campaign Status Update: Mary Shaw has a call scheduled call w a communications agency tomorrow to discuss the RFP sent last week. Mary also has another agency she will be reaching out to in the coming days. Mary noted that back-to school messaging will carry through the start of the school so the timing focus to market does not absolutely have to just be timed to the back-to-school season. Mark S. also noted that it may make more sense in the long run to launch any awareness campaign with the final name and program details coming in the final version of the Infrastructure bill.

Our next call will be held Thurs, Aug 19 @ 11:00 ET.

Call Notes: August 19, 2021

Call Attendees

- Armstrong – Dave Wittmann
- Comcast – Jeff Burke
- MCTV – Katherine Gessner
- Mediacom – Chris Lord
- CTAM – Mark Snow + Renee Harris

Call Summary

- Armstrong wonders if the EBB fund would be exhausted first before any permanent program funding would be enacted. CTAM noted this was their understanding but would check with contacts at the NCTA and elsewhere to get a better understanding.
- MCTV question – Has anyone been able to figure out how customers are qualifying for the EBB program?
 - Mediacom noted that the number one qualifying program for their EBB customers is SNAP, followed closely by Medicaid. Less than 1% qualified via E52 (Substantial

loss of income). Mediacom shared the below e-codes for NLAD. CTAM offered to search for national statistics.

- E1 – Medicaid
 - E2 – Supplemental Nutrition Assistance Program (SNAP)
 - E3 – Supplemental Security
 - E4 – Federal Public Housing Assistance
 - E8 – Bureau of Indian Affairs General Assistance
 - E9 – Tribal Temporary Assistance for Needy Families (Tribal TANF)
 - E10 – Food Distribution Program on Indian Reservations (FDPIR)
 - E11 – Head Start
 - E13 – Eligibility Based on Income
 - E15 – Veterans Pension or Survivors Pension
 - E50 – School Lunch/Breakfast Program
 - E51 – Federal Pell Grant
 - E52 – Substantial Loss of Income
 - E53 – Existing low-income program/COVID-19 program
- MCTV noted that with schools starting in their area, there are currently no plans for virtual learning so there has not been much push for the low income Internet programs marketing since schools have only plans for in person learning.
 - Mediacom noted their broadband growth has been steady.
 - MCTV question – MCTV currently has 200 customers in EBB and a handful of those are nonpays. How are other MSOs handling non pays?
 - Mediacom – if the customer has other services and becomes a non-pay, Mediacom will disconnect or downgrade the other services. Mediacom is concerned that when the EBB program changes and the amount of subsidiary goes to \$30, how will affect the bad debt exposure for MSOs.
 - Comcast handles non pays the same as Mediacom. The broadband goes to Internet Essentials for those who do not pay.
 - Mediacom question – Is anyone aware of a 5 by 100 requirement? Will EBB be required to have a certain speed? CTAM will contact NCTA to get clarification on speed requirements for EBB eligible plans.
 - CTAM question – Are any states doing their own local version of broadband subsidies?
 - Mediacom noted there are a couple states doing information superhighway programs. But most are focused on broadband footprint growth vs. penetration/subscriber adoption.
 - Mediacom – Has anyone heard anything about the EBB program opening again to allow for new rate plans that did not exist before the program began?
 - CTAM will contact NCTA to find out if there will be a window between EBB and the permanent program that would allow new rate plans to qualify.
 - **Attached please find the CTAM Competition Working Group's broadband positioning document created in 2020.** Could be a helpful reference tool vs. 5G/Wireless broadband.

Our next call will be held Thurs, Aug 26 @ 11:00 ET. This will be the last call in our current series.

Call Notes: August 26, 2021

Call Attendees

- Armstrong – Dave Wittmann
- Cox – Bill Lynch
- MCTV – Katherine Gessner
- Mediacom – Chris Lord
- Sparklight – Varn Chavez
- CTAM – Mark Snow + Renee Harris

Call Summary

- The group confirmed there have been no new updates or issues w the EBB program at this time.
- Mark Snow suggested the group take a break from calls until the Infrastructure Bill is approved in the House.
 - Mediacom and Armstrong agreed a pause on calls would make sense.

Please note, group calls will be paused until after the Infrastructure Bill is approved. Please feel free to reach out with any questions or concerns that may arise during our hiatus.

Call Notes: November 12, 2021

Call Attendees

- Altice – Audrey Pinn
- Armstrong – Dave Wittmann
- Atlantic – Paul Sheridan
- Charter – David Andreski
- Comcast – Alejandro Solorio
- Mediacom – Chris Lord
- CTAM – Mark Snow, Deepa Venkataraman + Renee Harris

Call Summary

- Now that the Infrastructure bill is approved, CTAM will have someone from the NCTA join the next call to provide a summary of bill.
- The group discussed creating Spanish language versions of all the EBB content on the site.
 - Altice's EBB site and approval/ denial emails for the program are done in both English and Spanish - this helps conversion
 - Charter will confirm how much of their EBB promotion is in Spanish
 - Comcast tries to ensure all their content is both in English and Spanish
- Armstrong noted the new name for the EBB program will be the Affordability Connectivity Act and asked the group when we should market under the new program name.

- Charter noted they have heard from their gov affairs team that there may be new enrollments for EBB after December.
- Comcast noted there will be two moments in time where changes will take place in the program when the name/benefit changes in December and when the new program takes effect sometime in early 2022.
- CTAM notes what may need to occur is updating the sites to notify customers that EBB enrollments will cease after December and a new program will take its place in 2022. (Details TBD pending FCC order after Monday)
- Note: dates are not final for the end of the EBB program. The group will further discuss details of updating website with notices once the FCC has provided a summary of the updates.
- CTAM wants to ensure that we mirror MSO communications regarding the EBB program update.
 - Armstrong notes they would want the program PR update to be positioned as “Good News” in that the program is continuing indefinitely although at a slightly lower benefit amount.
- Altice asked if any MSOs have implemented the new APIs that were released at the end of September.
 - As far as APIs, Charter has been able to give a real time approval online.
- Altice asked if MSOs are interested in meeting separately to discuss how they are setting up the next phase of operations?
 - MSOs on the call were interested
 - CTAM will poll the group to schedule a separate call to include the operations folks best able to speak to the issue.

Our next call is scheduled for Fri, November 19 at 11:00 ET

Call Notes: November 19, 2021

Call Attendees

- Armstrong – Dave Wittmann
- Atlantic – Paul Sheridan
- Charter – David Andreski
- Comcast – Ken Flynn, Stephanie Pearlman, Alejandro Solorio
- GCI – Steve Ault
- MCTV – Katherine Gessner
- Mediacom – Chris Lord
- NCTA – Steve Morris, Rob Stoddard
- Sparklight – Varn Chavez
- CTAM – Mark Snow, Deepa Venkataraman + Renee Harris

Call Summary

Steve Morris, VP and Deputy General Counsel, NCTA, provided an overview of the Infrastructure Bill.

Highlights include:

- Steve notes that roll out of the bill is playing out in real time, so he is providing his take on the bill based on current circumstances – he suggests MSOs stay close to their regulatory departments to stay informed of any updates.
- After many months the Infrastructure bill was signed on November 15, 2021.
- The new name of the program is the Affordably Connectivity Program (ACP) – This program modifies and extends the EBB program which was created in early 2020.
- Notable changes included are:
 - The benefit amount changes from \$50 to \$30
 - Eligibility criteria – under EBB consumers could qualify for the program based on loss of income due to COVID but this is no longer a qualifying factor
- Timing is tricky – some aspects of the program are effective Dec 31 (including the benefit amount change) while others have a 60-day transition period (EBB will continue at \$50 for 60 days into 2022, then will shift to \$30 subsidy).
 - NCTA believes December 31, 2021 will be the start of ACP
 - Clarity is needed on all dates of the program transition
 - Not knowing all dates at this time makes it difficult for MSOs to plan sending notices
- FCC will provide guidance in real time.
- Steve notes there is a very complex task from getting to where things are today under EBB to running under ACP.
- Some questions will be:
 - Is consumer consent needed to switch to the new program? If consent is required, this will be a very cumbersome process. If consumers don't consent, what does that mean?
 - When do MSOs notify consumers of the change?
 - When is the last day consumers can enroll in EBB to ensure they get the \$50 credit?
 - When is the first day to enroll in the ACP program?
- MCTV asked if they can follow the EBB wind-down rules to sunset EBB?
 - Steve noted that may require a total ramp back up for ACP possibly; hoping MSOs can avoid the opt-in scenario.
- GCI noted that it sounds like a Rate Change notification could be done
 - Steve stated that would be the idea with an opt-out scenario
- For providers relying on the national verifier, USAC will likely handle continued eligibility issues; for providers who did their own verification, they will need to do this.
- The FCC issued a public notice on November 18 asking questions on the program – <https://www.fcc.gov/document/fcc-seeks-comment-new-affordable-connectivity-program>
- The comment deadline for this questionnaire is December 8.
 - NCTA believes there will be a guidance document from the FCC that may be helpful to MSOs for implementation of ACP.
 - An official rule from the FCC should be sent in mid-January 2022.

Steve offered to join a future call-in mid-December to continue the discussion and hopefully have more clarity on dates, etc. MSOs - please feel to email CTAM any question you may have for Steve in the meantime.

Our next call is scheduled for Fri, December 3 at 10:00 ET.

Call Notes: December 3, 2021

Call Attendees

- Altice – Audrey Pinn
- Armstrong – Dave Wittmann
- Cox – Bill Lynch
- MCTV – Katherine Gessner
- Mediacom – Chris Lord, Carolina Escobar Paredes
- Sparklight – Varn Chavez
- CTAM – Mark Snow + Renee Harris

Call Summary

- MSOs on the call confirmed they are preparing to launch ACP on December 31.
- Mediacom noted January 17, 2022, is the date the FCC rules for ACP should launch.
- March 1, 2022, is the date when EBB ceases.
- Based on when MSOs apply the credit, there might be a period where MSOs give customers the \$50 credit but may only get the \$30 from the government.
 - MSOs on the call said that to mitigate this they must work diligently to migrate customers from EBB to ACP to avoid a heavy loss in March
 - Mediacom is hoping the FCC rules will allow them to do a non-contact method to have customers opt into ACP.
 - Sparklight notes that if live consent is required from customers there will be many customers turned off as consumers are not quick to respond to requests such as these.
- Mediacom and Sparklight believe that customers must indeed opt in for the ACP program
 - Cox believes they will still be able to serve customers at full rate, but the customer must accept the ACP to get the credit
- Altice asked if anyone is using customer facing APIs?
 - Mediacom is looking at them now – they didn't use them for EBB but will for ACP
 - Sparklight believes their web team has used an API – will confirm and provide more information to the group.
- MCTV shared the following qualification codes:
 - NVE1 – Medicaid
 - E2 – Supplemental Nutrition Assistance Program (SNAP)
 - E3 – Supplemental Security E4 – Federal Public Housing Assistance
 - E11 – Head Start E13 – Eligibility Based on Income (135% of poverty level)
 - E15 – Veterans Pension or Survivors Pension
 - E50 – School Lunch/Breakfast Program
 - E51 – Federal Pell Grant

E52 – Substantial Loss of Income
E8 – Bureau of Indian Affairs General Assistance
E9 – Tribal Temporary Assistance for Needy Families (Tribal TANF)
E10 – Food Distribution Program on Indian Reservations (FDPIR)
E53 – Existing low-income program/COVID-19 program

Our next call is scheduled for Fri, December 10 at 10:00 ET.

Call Notes: December 10, 2021

Call Attendees

- Altice – Audrey Pinn
- Armstrong – Dave Wittmann
- Charter – David Andreski
- Cox – Bill Lynch
- MCTV – Katherine Gessner
- Mediacom – Chris Lord, Carolina Escobar Paredes
- Sparklight – Varn Chavez
- CTAM – Mark Snow, Mohib Ahmad, Deepa Venkataraman, Ariane Guardarramas

Call Summary

- Mohib briefed the group on CTAM's progress modifying the EBB page and creating the new ACP page. Please take a moment and review and give us feedback before we go live. Thanks!
- Links to the pages on the dev site:
 - Current EBB Live Page: <https://www.smartmove.us/internet/ebb>
 - New EBB Page for Feedback: <https://dev.smartmove.us/internet/ebb-1>
 - New ACP Page for Feedback: <https://dev.smartmove.us/internet/affordableconnectivity-program-acp>
 - Mohib notes we also need the updated destination URLs from the MSO to route ACP leads.
- Mark noted that CTAM will make an aggressive SEO push and asked the group if doing verification before sending the lead to the MSO would be helpful. All agreed that it would be best for CTAM to pass the lead to the serving MSO and not try to do verification.
- Mark asked the group about the New Street Media thesis that a lack of DSL switching was an outsized reason for the slowdown in broadband connects. Most thought this was not correct - that lower churn in general, the pull forward effect from 2020 were more likely. Others noted that the connect slow down seems to be coming from all over - geographically, prior provider/service type. New Street's deck on this is attached. The section on broadband connects starts on page 24.

- David mentioned that Charter will be going ahead and getting the opt-in for ACP when they connect anyone to EBB.
- Group feels things are leaning toward the FCC ruling that notice letters will be ok, and they won't require opt-in, but nothing is certain yet. Mark reached out to Steve at NCTA for his take on where this is heading.
- Prorating discussion - some are prorating partial month and others took the full month on the front end and will eat the difference on the back end and things will even out.
- Audrey asked: during the transition period, if an EBB customer moves or switches providers between 12/31/21 and 2/28/22, what happens? Chris L - you can check the application date in the national verifier; if before 12/31, EBB if after, ACP. That would dictate which subsidy they get for January and March. There was some question about whether that date was when they started their process or when the customer activated service.
- Katherine noted that USAC is holding an ACP webinar on 12/14:
<https://www.usac.org/about/affordable-connectivity-program/> There will also be a webinar for consumer advocates on 12/15.

Our next last call for 2021 is scheduled for Fri, December 17 at 10:00 ET.

Direct Sales

CTAM Employee Recruitment + Retention Best Practices Survey

Purpose: This survey will be used to gather and disseminate best practices and learnings on recruitment, retention, and compensation of MSO Direct + Retail sales employees.

Please answer the following questions regarding your organization's employment processes, any issues currently faced in light of the pandemic and any new procedures added to aide in employee retention.

1. **MSO Name:** Choose an item.
2. **Your Name:** Click or tap here to enter text.
3. **Date:** Click or tap to enter a date.
4. **Approximate current # of Direct/Retail Sales Employees:** Click or tap here to enter text.
5. **Ideal # of Direct/Retail Sales Employees:** Click or tap here to enter text.

6. **What is your current recruitment process, and what are your main challenges?** Click or tap here to enter text.
7. **What recruitment tactics have worked well?** Click or tap here to enter text.
8. **Describe your current compensation package for Direct/Retail employees?** Click or tap here to enter text.
9. **What employee benefits or career advancements are highlighted for recruits?** Click or tap here to enter text.
10. **What are your current COVID Vaccine Requirements for employees and do you have any mechanisms to ensure compliance?** Click or tap here to enter text.
11. **What do you feel is the primary cause of employee turnover?** Click or tap here to enter text.
12. **Have you completed any type of internal employee survey to assess morale? If so, please describe.** Click or tap here to enter text.
13. **What type of employee retention tactics have been used? Of those, what has worked best?** Click or tap here to enter text.
14. **Have you considered hiring non-traditional workers? If so, what criteria has been used to source these potential hires** Click or tap here to enter text.
15. **What are some ideas you would like to explore to retain employees?** Click or tap here to enter text.

Please return completed survey to Renee Harris | renee@ctam.com

Call Notes: February 19, 2021

Welcome + Introductions

Call Attendees:

Altice – Dan Ferrara, VP, Field Sales
Armstrong – Peter Grewar, Director, Marketing
Charter – Scott Niles, Group VP, Residential Direct Sales
Comcast – Adrian Adriano, VP, Field, Residential Sales & Marketing
Shaw – Pat Button, SVP, Sales & Distribution
CTAM – Ariane Guardarramas, Director, Marketing
CTAM – Renee Harris, Project Management Sr. Analyst & Executive Assistant
CTAM – Deepa Venkataraman, VP, Consumer Marketing

Current MSO Current Status + Initiatives

Altice

Altice's focus is getting back to BAU after the pandemic. Altice is in rebuilding mode and has recently resumed door-to-door sales. With more people working from home these days, Altice is having more contacts with potential customers. Altice is in the process of defining goals in this new environment. Direct sales reps do not perform installs.

Charter

Charter resumed 100% door-to-door sales in SFU and MDU July 2020 and have a high percentage of self-installs. While things have changed, contact rates are up. Charter is as close to BAU as could be during a pandemic. Charter's biggest challenge is the absence of talent – recruiting, staffing quality employees is a priority right now.

Comcast

California is still on lockdown so there are no door-to-door sales. Direct Sales reps in CA are supporting in a call center capacity. Other divisions in states that are open during the pandemic are performing door-to-sales as able. Direct sales reps do not perform installs. Comcast plans July 1, 2021, to be back in office on July 1, 2021 and hopes that will be the start to BAU.

Shaw

Shaw is performing selective self-installs at around 60%.

Armstrong

Armstrong referenced their techs use an app to assist customers with installs.

Group discussion on possible topic areas to explore this year (2-4)

The group discussed focusing on the following topics for 2021:

- Evolving Metrics/possible benchmarking

- Use of Third-party partners
- Ongoing discussions on contact rates and nuances/conversion

Next Steps/Actions

Call cadence: The group decided calls should be held every 6 weeks. Renee Harris will send a call poll to secure a call series.

Possible next call agenda item:

- Charter presentation on their current metrics

Call Notes: April 2, 2021

Welcome + Introductions

Call Attendees:

Altice – Dan Ferrara
 Altice – Michael Kabel
 CTAM – Ariane Guardarramas
 CTAM – Renee Harris
 CTAM – Deepa Venkataraman

Current MSO Current Activity

Altice

Altice's focus is getting back to BAU after the pandemic. Altice is in rebuilding mode and has recently resumed door-to-door sales. With more people working from home these days, Altice is having more contacts with potential customers. Altice is in the process of defining goals in this new environment. Direct sales reps do not perform installs.

Next Steps/Actions

Next call agenda item:

- Charter presentation on their current metrics

Call Notes: August 6, 2021

Welcome + Introduction

Call Attendees:

Altice – Michael Kabel
Comcast – Jenny Hartey
Cox – Ron Herring
CTAM – Deepa Venkataraman, Ariane Guardarramas + Renee Harris

Group Discussion: Current MSO Direct Sales Operating Status

Altice

Altice is largely back in the market BAU. Altice reps are not doing any self-installs personally, only direct shipping self-install packages. They have seen some headcount issues in trying to recruit reps. The largest operational shift made is integrating the New Build portion of Direct Sales under New Build Operations.

From a retention standpoint of reps, a couple months ago, Altice changed their shifts to Monday - Friday schedules, removing weekends. They have not seen any loss of productivity with this change and employees appreciated the schedule change.

For wireless, Altice has incorporated it into their comp plan, so it is now becoming a focus. In addition, Altice has recently focused on comp plan alignment across markets.

Comcast

Comcast has their Direct Sales reps back in the field but are taking necessary precautions and supplying PPE, etc. When the pandemic hit, they had a dramatic reduction on their sales team. Comcast has two models – one for SFU and one for MDU and are trying to decipher how to blend the two models while maintaining the quality seen in the SFU space.

For employee retention, Comcast has a similar experience to Altice and Cox. Comcast is at about 30% of their previous headcount.

Comcast is working to add wireless in as a core line of business moving forward.

Cox

As Cox has brought back their Direct Sales force, they have made some changes along the way. The main change was combining SFU + MDU Direct Sales teams. As a result of this they have a lower headcount, but their attrition rate has improved since this change, along with their ability to hire. Currently they have 200+ reps in the field.

With the combination of SFU + MDU, Cox gave reps both SFU + MDU assignments and from a commissionable assignment they added an SFU gate; reps had to secure ten customer relationships to accelerate their comp past 100% - this provided the leverage needed to ensure reps would not just focus on MDU. From a quantity standpoint, Cox's overall relationships per rep targets the 40-50 range per month, and that is where reps have been performing.

With the current unknowns of the pandemic, Cox is in a bit of "wait + see" status; however, they have had processes in place to handle the changes that may come – reps have been provided PPE and have instructions on how to interact with customers while maintaining social distance.

For employee retention, Cox had a lot of employee turnover in SFU but with blending SFU/MDU they have seen higher employee retention.

Next Steps/Actions

Possible next call agenda item:

- Recruiting/retention (including employee morale, satisfaction, onboarding) efforts for Direct Sales reps

Call Notes: September 17, 2021

Welcome + Introduction

Call Attendees:

Altice – Michael Kabel

Armstrong – Peter Grewar

CTAM – Deepa Venkataraman, Ariane Guardarramas + Renee Harris

Group Discussion: Updates by MSO

Armstrong

Direct Sales reps have been in the field throughout the summer. Reps have a COVID protocol and are continuing to wear masks and have a series of questions to ask customers. Armstrong notes, in the rural areas, customers are more lax when it comes to COVID procedures in that they do not wear masks or have asked reps why they are wearing masks. Self-install has been expanding in these areas.

Armstrong outsources recruitment but notes that recruiting has been difficult especially for techs, tech supports and agents – they are simply not getting applicants.

As far as in-office employees, Armstrong has brought back approximately 50% of their call center staff in May and as a result of that lost some employees – some to retirement and others due to other remote work opportunities. Armstrong probably won't bring additional staff back for quite some time.

Morale in call centers has been pretty good. A couple of months ago, Armstrong allowed vaccinated employees to go mask-less but due to recent OSHA guidelines, all employees, whether vaccinated or not, are required to wear masks – this was a disappointment to vaccinated employees. Corporate office employees are also not overly excited about being back in the office. WRT vaccine requirements, Armstrong has been studying approaches to encourage vaccinations from other industries.

To keep morale up, Armstrong has done activities, giveaways, hand-delivered holiday goody bags and weekly virtual meetings so there's face to face time.

Armstrong has an aggressive new build plan for their new fiscal year which starts October 1, which will keep their direct sales teams busy. So, currently they are operating at BAU capacity but that all depends on the state of the pandemic and what happens this fall.

Altice

Altice primarily has been operating BAU with the exception of not having all staff working in the office. Staff were scheduled to come back to the office in September, but that date has been pushed out and is TBD at this time.

Altice will be mandating employees to be vaccinated or get tested weekly – this will go in effect November 1. They are not providing incentives besides paid leave for time for the employees need to get vaccinated.

Altice is concerned about their employees in mid-west Texas who are against mandated vaccinations and are bracing for possible attrition come November. They have been studying approaches to encourage vaccinations from other industries.

Altice is outsourcing recruitment with a new partner and are cautiously optimistic about gaining new employees given they have tried so many tactics in recruiting.

There are currently no new plans for employee retention incentives. Altice continues to look at opportunities for retention – they do not have much issue with tenured employees, but for new reps they have given modest milestones, so they can earn more, faster. Employees hired during the pandemic are also struggling with a return to traditional direct sales contact (versus hanging door tags).

Recruitment + Best Practices Survey

The group discussed the attached Recruitment and Best Practices survey. This survey will allow the group to take a glimpse into how each MSO is handling recruitment and retention of employees.

Next Steps/Actions

- CTAM will send the Recruitment and Best Practices survey to the group for completion and will present the findings on a future call.

Retail Sales

Call Notes: February 26, 2021

Welcome + Roll Call

Call Attendees:

Cox - Ron Herring, Director Sales Strategy
Mediacom - David McNaughton, SVP Marketing/CMO
Mediacom - Jeri Williams, VP, Marketing & Sales
CTAM - Deepa Venkataraman + Renee Harris

Current Status/2021 Plans

Cox

Cox never closed stores through the pandemic although some stores had to close due to exposure. Payment traffic was down but is starting to come back. Cox is looking into how to move payment only traffic out of stores.

Revenue has been solid – product mix is mostly on the data side. Video is still selling – HomeLife was put on hold due to the inability to install due to the pandemic but is now returning.

Cox offers a Connect to Compete product for low-income customers; however, those customers do not come through their retail stores but rather are handled at specific centers that validate their eligibility.

For 2021, Cox is beginning to update their Retail stores for mobility, including using iPads versus POS stations to expand the sales floor and provide social distancing. They hope this change will make a difference in the sales teams' approach to selling, as well as to an improved customer experience.

Cox has not experienced a decline in Retail employee talent; they have more so experienced attrition due to the prevalence of available remote work opportunities these days.

Mediacom

Mediacom nearly shut down their retail operations during the pandemic. As with many others recovering, Mediacom has recently had an increase in sales. They are in the midst of reviewing retail locations/traffic in stores and are looking to update stores this year.

Mediacom does not have a mobile product which is what typically draws customers to stores so that makes it difficult to drive traffic to stores.

Mediacom is currently determining, globally, how many locations are needed as well as looking at which stores need to be updated. Mediacom would also prefer customers not pay in store but in some instances those who pay in store have eventually upgraded.

Mediacom has not experienced a decline in Retail sales employee talent or attrition.

Next Steps/Actions

The group suggested calls be held quarterly but with another meeting held again in 8 weeks since several were unable to attend the kickoff call.

Action

- Renee Harris will poll the group for the next call

Call Notes: April 23, 2021

Welcome + Roll Call

Call Attendees:

Comcast – Rich Bloom
Comcast – Heather Whalen
Shaw – Paul Kippax
CTAM – Deepa Venkataraman + Renee Harris

Roundtable: Retail Space Update

Comcast

During the pandemic, Comcast closed 80% of their Retail stores and repurposed their employees during that time. As of April 2021, they are nearly 100% open and have a growth plan to continue to keep their stores open as well as expand in Retail. They are back on track in 2021 and are getting back to where they were in sales and revenue pre pandemic.

Comcast shifted their retail marketing efforts to more digital focus through 2020 and in early 2021, which means shifting traffic-driving funds from the media plan. However, in recent weeks they have dialed back and are working to drive awareness to Retail. Awareness of their stores are mixed amongst customers and prospects as many of the stores are new. A lot of the marketing effort is driven toward awareness.

Comcast mobile continues to accelerate and most traffic in stores is driven by mobile and data sales. Comcast just launched new pricing tiers on April 15 which is driving increased convergence in the retail stores. In the coming weeks Comcast will launch new marketing and messaging specific to Retail and can share those on the next quarterly call.

As far as customer experience in store, they are focused on true shopping traffic and not any hands-on event or activation workshops. Stores still have social distancing signage, floor placements, plexiglass, etc. and will do so for the foreseeable future. On the operations side,

there are kiosk payment centers in all stores for quick transactions. For 2022 Comcast is looking to return to consultation type style but will continue to have social distancing procedures in place per state mandates.

Comcast does not have any expectations for closing stores again, but they have plans to respond as needed should the pandemic worsen. Comcast adjusts their retail store procedures based on state/areas mandates. Comcast is working to increase appointments for anticipated customer visits in 2021/2022 – they have received positive feedback from consumers on the appointment experience.

Shaw

Shaw's wireline has never been much of a retail play, but they started just before the pandemic, growing their wireline retail footprint. Traffic was down; but it is not slowing their growth in terms of building and renovating stores with an eye on the future.

On the wireless side, the pandemic heavily affected these stores. Wireless is an activity-based sale for Shaw, and they need retail for its success. They did pivot to a digital format in wireless; but in Canada, wireless is not sold digitally unless to existing customers. Shaw is operating all their stores. However, about 2/3 of their business is out of Ontario (40% of the Canadian population); as of today, Ontario is in total lockdown due to the pandemic, so stores are currently closed. They have seen a significant hit in wireless traffic because of this.

Retail stores and 3rd party retail that are open are mostly by appointment only. On a positive note, they just launched a new brand in the wireless market which has given them an opportunity to grow their business despite the declines in traffic.

On the talent side, they have had no decline whatsoever.

Shaw is taking things day to day – they do not expect to close any stores, but it depends on the pandemic and government mandates.

Shaw notes their customer appointment system has received positive feedback from the consumer as well.

Next Steps

Please reach out to CTAM with any questions or any topics that group would like to address.

Call Notes: August 13, 2021

Welcome + Roll Call

Call Attendees:

Altice – Jonah Pollack

Comcast – Robert Wyllner

Comcast – Joe McCann (Proxy for Rich Bloom)

Roundtable: Check-in on Retail Operations by MSO

Altice

All frontline Altice retail employees whether vaccinated or not are required to wear masks. Back-office employees who are vaccinated and not in contact w customers were allowed to go mask less. However, with the recent surge of COVID cases, all employees are now once again required to wear masks.

Altice is following government mandates per state regarding masks. For each state that mandates a mask, Altice is adding “mask required” signage. Altice will be reviewing-high risk areas and will look to be proactive in mask mandates.

Altice is also looking to hire security for areas that may have higher risk for customers who reject wearing masks, for the safety of employees and other customers.

Altice is currently having trouble with staffing; many of their stores have one employee. Attrition is at 44% at the first year, and 70% at two years. There are also challenges managing leave, sick days, etc. Altice is looking at adding referral and retention bonuses to assist with attrition, as well outsourcing recruiting.

Altice’s Retail Sales hierarchy includes Retail Sales Consultants, Team Lead/Supervisor, Asst Manager, Manager, Director, Sr. Director, VP, etc. Highlighting this career potential is helpful in development planning for retention of employees.

Altice is reviewing overall compensation structures now, as well as store makeups to determine which stores need dedicated sales versus service reps.

Retails sales transactions account for 15% of Altice’s volume so they are growing in the right direction, but they are in the middle of the journey to expand; there are many areas to focus on to ensure new customers are coming to stores. There are also variances by region on the primary activities conducted in the retail store, and the amount of marketing driving traffic.

Regarding Altice’s wireless product, Altice is using Optimum Mobile as their branding for their wireless side. Altice is working on consolidating to this one brand, as well as having innovative product and pricing to be competitive in the mobile front.

Comcast

Comcast has been very conservative as compared to like competitors (ATT, Verizon, Apple, etc.) with regards to safety protocols. They have stayed very consistent with CDC guidelines. Comcast was the last to have employees go mask-less if fully vaccinated. Wearing a mask is now optional for employees who are fully vaccinated. Comcast has employees utilize the My COVID Screening App to attest to whether they have symptoms of COVID, etc. and they have added a checkbox for employees to indicate if they have been vaccinated (honor system - proof not required).

Comcast has recently implemented a policy they refer to as their “Mirror Policy”, that if a customer has a mask on, as a courtesy, the employee should wear a mask as well; employees also wear masks if requested by a customer

As COVID cases rise, Comcast is following state and municipalities guidelines regarding mask mandates. For customers who do not want to wear masks, Comcast has policies in place in that the manager will offer the customer to complete the transaction online or service the customer in an isolated area away from others. Comcast is not refusing service to customers without a mask nor contacting authorities to assist.

Regarding employee morale, Comcast has handled divisions differently. Some have given \$1000 bonus, and some award days (relaxation of quotas), generous COVID-related leave, etc. Employee feedback, as well as customer feedback, has been good regarding to safety protocols.

Regarding hiring, Comcast outsources retail employee hiring. Comcast has implemented referral bonus for areas where hiring rate is low and are looking at adding retention bonuses as well, along with recruitment signage. Comcast is currently looking at adding a role for a central hiring manager that would be responsible for the staffing level of specific stores – also allowing the maintenance of the proper gender and diversity in the stores. Another strategy Comcast will look at in the future, when employee numbers are stable, are Hiring Circles. This is identifying a cluster of stores that are commutable to a new hire and in that circle identify a strong store manager and over hire to that store, with the possibility this employee can deploy to another store. This allows there to be a bench of employees (planning for attrition); and for the fact it takes approximately ninety days for a rep from recruiting/hiring, to training to starting work in-store.,

Comcast has recently implemented a new commission plan that is a combination of hitting RGUs, Revenue and Customer Satisfaction. As they see more push to digital, Comcast recognizes they need to focus on upsell in Retail as most customers come to their stores for servicing, so they are working to determine the best ways to delicately upsell during a service transaction.

Page Break

Unwinding of COVID protocols (employee mask protocols, COVID related signage and in-store materials, PPE supply, etc.)

Comcast

Comcast is no longer gating traffic and has moved away from having customers in curbside. Appointments are still strongly encouraged, and appointment capacity has increased. Managers are still able to reactivate old protocols/systems if there are concerns about social distancing.

Due to the surge of recent COVID cases, full unwinding of COVID protocols has been delayed. Comcast has plexiglass removal slated for October but plans on having hand sanitizer and masks available for customers for the foreseeable future.

Altice

As mentioned, Altice is following government mandates per state.

Next Steps

Possible topic for next call:

- Employee Retention + Compensation

Please contact CTAM with any additional topics to include.

Call Notes: October 15, 2021

Welcome + Roll Call

Call Attendees:

Altice - Mike D'Alessandro
Comcast – Robert Wyllner
Comcast – Sara Console
Shaw – Paul Kippax
CTAM – Deepa Venkataraman

MSO COVID-19 Updates

Altice

Altice will require all employees be vaccinated for COVID-19 by November 1. If employees are not vaccinated, they must test at home weekly. Altice notes about 70% of their employees are vaccinated.

Comcast

Comcast is requiring COVID-19 vaccinations for employees coming into the office but are still working through implementing a full vaccine mandate. Comcast believes the number of employees in the field who are vaccinated are about 45%.

Shaw

Shaw is requiring all employees be vaccinated for COVID-19 by November 15, 2021. However, if an employee does not want to be vaccinated, they will make accommodations for existing employees to be tested prior to coming into the office or other work site. All new hires must be fully vaccinated. Shaw is still working on policies for sales force employees who work 100% remote but may visit client partners from time to time – they will look to implement a testing requirement for those employees when visiting partner offices.

CTAM

CTAM will be requiring COVID-19 vaccinations for employees by November 30, 2021.

MSO Discussion on Recruitment/Retention Best Practices (Survey) + 2022

Thank you to those MSOs who completed the Recruitment/Retention Best Practices Survey. The group discussed some of the questions included on the survey.

Comcast

Comcast notes the COVID work environment has created many work from home jobs that people have found very attractive. Fear of working in an environment that presents an increased risk of exposure is also a driving factor. In addition, the stimulus money, and other benefits available to people has caused turnover.

Comcast gave raises to their central divisions. They also gave \$1000 bonuses to some divisions as a “thank you” for working through the pandemic.

Comcast offers a bi-monthly employee Net Promotor Score survey program to their employees. The survey is very basic with five questions and is utilized mainly for engagement. There is also a much more robust annual ‘Your Voice’ survey that covers the full gambit of the employee experience.

For recruiting, Comcast currently relies on several of the larger, well-known posting sites but they also have their own internal site – job.comcast.com. They have added ‘Now Hiring’ signage to stores as well, along with offering referral bonuses to employees. The challenge has been simply attracting candidates at a rate where they can outrun attrition. Today they have applicants complete an online assessment which scores them from one to five. The data shows that those that score a five are typically hired after a series of interviews and they perform well. Comcast is about to pilot hiring those that score a five straight away, skipping several interviews steps as a tactic to outrun attrition.

In looking ahead to 2022, Comcast notes a big challenge for the business right now is supply chain on the mobile side. For next year Comcast is looking to expand their omni strategy – with such things as giving customers the option to buy anywhere and pick up in store in 2 hours. They are also thinking of using lockers for pick up and drop off – making things easier for the customers in a digital world.

Altice

Altice notes they have seventy-five new stores they plan on opening in the eighteen months, and getting the right talent is of utmost importance. Altice has partnered with Adecco to recruit for full-time openings. Since that partnership, they have seen a 10% decrease in open head count.

Altice recently held a compensation review and updated all the salaries for retail employees across their states. Approximately 200 employees were given raises without having to ask for them.

Altice offers \$2000 referrals bonuses for employees who refer a candidate who is successfully hired.

For 2022, Altice also notes the supply chain issues. They hope to have five-seven new stores by the end of Q4, and 2022 will be filled with new store openings. Altice has acquired Morris

Broadband in Western, NC and at the end of the month they will be added to their billing platform. Altice will also re-branding for Suddenlink markets in Q2 2022.

Shaw

Shaw's main issue with recruiting is that for most people it doesn't make sense to work as a retail employee because of the recovery benefits the government is offering.

Shaw notes for Q4 2021 and for 2022 they are anticipating wireless will continue to grow from a market perspective. However, the massive supply chain issue makes it difficult when devices can't be delivered. Shaw is in the process of implementing a direct ship model meaning they do not have to stock particular phones in every store – they are able to ship from warehouses. Shaw is anticipating they may not be able to reach the volume they would like because they will not be able to deliver the inventory.

Next Steps/2022

For 2022, the group would like to continue to meet quarterly. Fraud is possibly a topic of interest for next year.

CTAM will be in touch with the group with an outline for 2022 plans for the group.

Please contact CTAM with any additional thoughts or questions.