

RURALTELECOM

Winter
2018

The Magazine
of Rural Telco
Management

2018

LEGISLATIVE & REGULATORY

OUTLOOK

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By Scott Lively

The drive to pass major tax reform legislation, possibly an infrastructure bill in its wake, and perhaps even changes to health care laws after numerous attempts will dominate Capitol Hill in 2018, leaving little room for work on major telecom legislation. However, smaller efforts to affect telecom law and policy, including some initiated by NTCA, could move alone or as part of a larger, higher-profile bill.

No Rest for the Weary; No Time To Be Weary

By Michael Romano

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The Rural Telecom Industry Meeting & Expo (RTIME), the largest conference of the rural telecom industry, is many things: a time of celebration, a time of preparation and a time of tradition. It's also a time for rural providers to come together and discuss investing in broadband.



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Product Previews

Our special product previews highlight companies exhibiting at the Rural Telecom Industry Meeting & EXPO (RTIME), February 25–28, 2018, in Austin, Texas. Find out about the latest products and services that you can explore during the show, and consult the previews as a resource the rest of the year.

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NTCA represents more than 800 small, rural, locally owned and operated broadband companies in the United States and abroad, as well as state and regional telephone associations and companies that are the suppliers of products and services to the small and rural broadband industry. Our readers are the managers, directors, attorneys and key employees of these broadband companies as well as consultants, government officials and telecommunications experts.

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What's New in the New Year

By Christian Hamaker, Editor



Welcome to 2018.

Last year was tough for some—just pull up Twitter or Facebook to be reminded of the many reasons people were glad to turn the page on 2017. If those sentiments seemed unsurprising, maybe that's because the recent "I'm ready for this year to be over" complaints reminded you of a similar batch of exhausted responses, 12 months earlier, to the end of 2016. "Can't this year just be done already?" many asked then—and again at the conclusion of 2017.

But last year saw progress for the independent broadband industry. While NTCA–The Rural Broadband Association worked to have the FCC fix the shortfall in the high cost Universal Service Fund budget, a change in leadership also led to a surprisingly robust pace of regulatory change.

As NTCA–The Rural Broadband Association Senior Vice President of Industry Affairs and Business Development Michael Romano wrote in this issue's "2018 Regulatory Outlook: No Rest for the Weary; No Time To Be Weary" (see p. 19), the NTCA members most engaged with policymakers last year expressed "astonishment at the level of activity by the FCC under Chairman [Ajit] Pai."

"This might have been expected considering then-Commissioner Pai's many robust dissents from orders issued by the Tom Wheeler-led FCC in prior years," Romano wrote, "but the brisk pace at which proposals have flowed to undo or do-over many of the [previous FCC Chairman Tom] Wheeler-era decisions and tackle other priorities surprised even the most veteran FCC watchers."

With no indication that 2018 will be any different with respect to the pace of activity or the issues to tackle, the prospect of another eventful year might be joyous or ominous depending on your expectations. From a legislative perspective (See Scott Lively's article, "2018 Legislative Outlook: Less Talk, More Action," p. 18), call-completion legislation has never been closer to final passage, the Farm Bill expires this September and an infrastructure package could affect broadband deployment. November's midterm elections also have the potential to shift party control of the U.S. Senate or House of Representatives.

It's all enough to make you wonder how those year-end tweets might read come late December of this year. Will exasperation dominate, or will people, on social media or otherwise, find things about 2018 to publicly praise?

You can follow along with us (on NTCA's new website!) at www.ntca.org to see how the industry is responding to the year's news as it breaks. And, of course, you can read deeper analysis in Rural Telecom of the issues affecting your industry. Whether you're anticipating or dreading the months to come, we hope you're looking forward to reading our coverage of the rural broadband industry in 2018 as much as we're looking forward to reporting it.



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- **KNOW** what you are paying for
- **KNOW** you have an insurance partner who understands your needs
- **KNOW** you are being taken care of by a company focused solely on your industry
- **KNOW** how to manage your risks

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“Because it’s always been a matter of trust”

By Christian Hamaker



Should a College Degree Be an Employment Requirement?

As the number of college graduates has increased, more and more companies are requiring a bachelor's degree for employment. But is such a requirement always justified?

A Harvard Business School study, conducted with Accenture, Grad of Life and Burning Glass Technologies, questions the wisdom of requiring college degrees for certain sectors (e.g., manufacturing) that didn't previously require a degree. Not only do current supervisors in those industries often not have the degree that they're requiring of new recruits, but college-educated workers cost as much as 30% more to hire than do workers without a degree. High turnover rates and long periods where jobs remain unfilled are additional hidden costs of the requirement to hire only workers with college degrees. ● **Source: money.cnn.com**

In the Workplace, Where Are the Men?



In 1957, 97% of American men age 25–54 were working or actively looking for a job. In 2017, only 89% are.

Many theories have been put forward to explain the declining labor-force participation rate of men in today's workforce. Could it be a decline in good jobs for men without information-technology skills? Are wages for certain open positions so low that men aren't motivated to apply for them?

Princeton economist Alan Krueger has another theory: deteriorating health. Krueger's research found that "almost half of working-age men who were not in the labor force were taking pain medication on a daily basis, and that two-thirds of those men were taking prescription medication. These men also reported more functional disabilities: Krueger found that

43% of prime-aged men who are out of the labor force report their health as fair or poor, compared with 12% of employed men and 16% of unemployed men. Health-related problems 'are a substantial barrier to work that would have to be addressed to significantly reverse their downward trend in participation,' Krueger writes. ● **Source: theatlantic.com**

Myths About Women in the Workforce

"The concern that working moms shortchange their kids was decades in the making, but ... do we really put our kids at risk every time we head to the office?" asked Solana Pyne and Erik German

Their answer: No. "Rather than spending less time with their kids, research shows that, on average, parents actually spend more total time with their kids now than they ever have." And when it comes to time spent interacting with kids—through singing, reading or feeding them, among other activities—"you find that by 2000 working mothers spent as much time as stay-at-home moms did back in 1975."

Even more important in a person's upbringing than time spent between parents and children are, the authors say, the safety of one's home or neighborhood, the quality of their local schools, and the education level and overall happiness of the parents.

● **Source: qz.com**

When people think of the arts, rural America likely isn't the first thing they picture. But ArtPlace America—a group that uses arts to “shape the social, physical and economic futures of communities”—is aiming to change that perception.

As part of its National Creative Placemaking Fund, ArtPlace “continues to give more attention to rural areas,” wrote Mike Scutari. Thirty-four percent of this year’s finalists for the 70 projects comprising the fund are from rural areas,



The Arts Find a Place in Rural America

building on 2016 investments of 30% in rural communities. Among its proposed 2017 projects, ArtPlace included “requests for improving or introducing broadband access to rural communities to ‘increase economic opportunity.’”

“ArtPlace understands that rural communities can’t lure millennials back home, build sustainable arts ecosystems, or attract high-tech employers with Stone Age internet speeds,” Scutari wrote.

● Source: insidephilanthropy.com



Password King Expresses Regrets

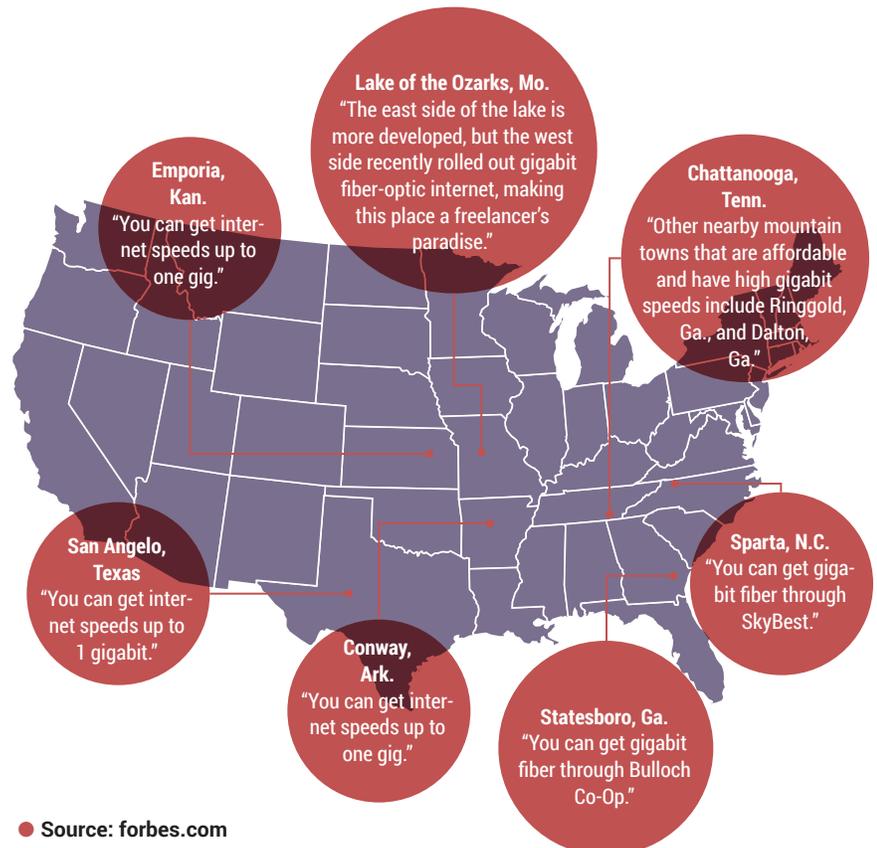
Tired of coming up with a new password every few months—one that always must be several characters and include a symbol and an uppercase letter? So is the man who came up with that guidance.

Bill Burr wrote an eight-page National Institute of Standards and Technology document in 2003 that became the blueprint for computer-password creation. That document has now been rewritten, with the old guidance thrown out in favor of new recommendations for passwords comprising long, easily remembered phrases. “Cartoonist Randall Munroe calculated it would take 550 years to crack the password ‘correct horse battery staple,’ all written as one word,” wrote Robert McMillan. “The password Tr0ub4dor&3—a typical example of a password using Mr. Burr’s old rules—could be cracked in three days, according to Mr. Munroe’s calculations.” ● Source: wsj.com

Want to Be an Entrepreneur? Move Here

“Have you ever dreamed of quitting your job and moving to a place where it’s so cheap you barely need to work?” asked Laura Begley Bloom. “Search for land with fiber-optic internet.”

Here are seven places “where the cost of living is so cheap you can afford to quit your day job and become an entrepreneur”:



● Source: forbes.com

continued

So Tired of Being Alone

Workers are experiencing an epidemic of loneliness and exhaustion.

The General Social Survey of 2016 shows that nearly 50% of today's employees are often or always exhausted due to work—twice the level of 20 years ago. And there's a "significant correlation between feeling lonely and work exhaustion: The more people are exhausted, the lonelier they feel," wrote Emma Seppal and Marissa King. "This loneliness is not a result of social isolation, as you might think, but rather is due to the emotional exhaustion of workplace burnout."

● Source: hbr.org



Social Media: Not for News

Fewer than

10%

of respondents

to an Adobe survey said they'd be very likely to pay to access news on those platforms.

Eighty-three percent of women and 86% of those over age 35 were particularly unlikely to do so.

● Source: Axios.com



Millennials Love Their Voice-Enabled Digital Assistants

The use of voice-enabled digital assistants in the United States is surging, driven by the increase in use of such assistants by millennials.

According to a May 2017 report from eMarketer, "The heaviest users of digital assistants are people between the ages of 25 and 34. They represent 26.3% of virtual assistant users. In terms of generation, more than one-third of millennials (33.5%) will use a virtual assistant this year." ● Source: emarketer.com

Backpacks Over Briefcases



\$823 million

August 2016

Goodbye, briefcases. Hello, backpacks.

NPD Inc. reports that sales of adult men's backpacks rose 5% to \$864 million between August 2016 and August 2017, and the grown-up demographic now comprises 48% of all U.S. backpack sales. The uptick corresponds to backpacks becoming more upscale in appearance and materials used. The newer backpacks also better suit the needs of today's workers.

"While carrying a briefcase leaves you with a single free hand ... a backpack schleps all your stuff and equips you to furiously multitask," wrote Jacob Gallagher.

● Source: wsj.com

\$864 million

August 2017

PHOTO: SALVATORE FERRO

COMINGS & GOINGS



◀ The Pulaski/White Rural Telephone Cooperative, doing business as LightStream (Buffalo, Ind.), named Brent Gillum as its chief executive officer. He was most recently director of operations for the company.



SC Telecom (Medicine Lodge, Kan.) named Carla Shearer as its new general manager (GM).

◀ Michele Gillespie is the new GM at Northeast Missouri Rural Telephone (Green City, Mo.), replacing James Sherburne, who retired.



Mr. Tracy Decker is the new GM/TechOpsMgr at Partner Communications (Gilman, Iowa).

◀ James F. Woodward is the new senior vice president, finance and chief financial officer for Shentel (Edinburg, Va.).

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@RobWittman

Great conversations yesterday at the first Rural Broadband Taskforce Summit. Thanks @AjitPaiFCC for joining. #VA01



@farmcredit

@CoBank's Halverson: "Every day, #FarmCredit sees how great the need is ... and how important infrastructure is to the quality of life in #rural communities." Tune in to the #InfrastructureDecoded conversation: #RebuildRural



@E_V_C_

@RuralTechFund Take a look at the work EVC is doing around broadband access and the urban-rural divide! #BridgingtheDivide



@RepShimkus

Title II regulations hurt rural broadband deployment. In the two years after the FCC's #NetNeutrality decision, broadband network investment dropped more than 5.6%—the first time a decline has happened outside of a recession.



@USDA_ERS

#Rural broadband connectivity remains more limited in remote, sparsely settled counties & in high-poverty regions. first time a decline has happened outside of a recession.



@RepStefanik

ICYMI: It's been a busy week for broadband. My colleagues and I are taking action to get needed broadband infrastructure to rural areas.



@SenJohnThune

Thanks to @SDNcomm for hosting this roundtable discussion about rural broadband issues that are so important to South Dakota.





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By Shirley Bloomfield



A Full Plate for 2018

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ast year brought the level of activity and interest in tackling rural broadband challenges to new heights. NTCA remained at the center of that activity throughout the year by holding over 100 *ex parte* meetings with the FCC, over 60 of which focused on Universal Service Fund (USF) issues, and testifying in front of Congress 11 times. We are still pushing for resolution on USF budget sufficiency, but FCC Chairman Ajit Pai has remained engaged with the rural industry and members of Congress continue to share our concerns regarding an insufficient USF budget. From infrastructure to the upcoming Farm Bill and ongoing USF issues, we have a full plate in front of us in 2018 on remaining policy challenges for our industry.

Shirley Bloomfield is chief executive officer of NTCA—The Rural Broadband Association. She can be reached at sbloomfield@ntca.org. You can also follow her blog at ntca.org/ceoblog.

Bringing It Home

Sometimes to put things into perspective, we must get outside of D.C. Last fall, I had the pleasure of attending a Broadband Summit in Wichita, Kan., with Chairman Pai where the great mix of providers, policymakers, economic developers and entrepreneurs in attendance led to conversations covering the challenges and opportunities in the rural broadband arena. I appreciated getting to share my thoughts and perspectives from Washington with Chairman Pai in the room, as I focused on the need for budget sufficiency within the high-cost USF program. We wrapped up the day with a conversation—quite the experience to interview the FCC chairman in his home state!



Cybersecurity Remains Top of Mind

The cybersecurity stories grabbing media headlines are scary, which is why we believe it's imperative to provide you with opportunities to hear from cybersecurity experts and peers on how to protect your assets through avenues exclusively tailored for community-based broadband providers. We provide these opportunities through NTCA's annual Cybersecurity Summit, and our Cyber Bundle and Cyber Source publications. Stay up to date at ntca.org/cyber/



Taking Our Message to Capitol Hill



It's always nice to be invited to the party. NTCA staff and members were invited to testify before Congress 11 times in 2017, all excellent opportunities to tell your stories! From members offering input on the upcoming Farm Bill's effects on our industry to Mike Romano and me reiterating NTCA's priorities of achieving light-touch and right-sized regulations, ensuring reasonable interconnection with urban areas and USF budget sufficiency, it was a busy 2017 for us on Capitol Hill. We are using that momentum to continue our congressional engagement in 2018!

 @shirleybloomfield15

Community-based providers are a key part of the solution for rural America's broadband future. Fully funded USF will be key.



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A FEW QUESTIONS

By Christian Hamaker

Russell Kacer

President
YK Communications
(Ganado, Texas)



H

How long have you been president of YK Communications?

I started back at YK Communications in January 2009 as executive vice-president and was promoted to president in April 2015. Being a fourth-generation family-owned telco, my career at YK actually began when I was in diapers.

YK Communications is located in Ganado, Texas. How badly did Hurricane Harvey affect your company, and how long did it take to recover?

YK and the communities that we serve were extremely lucky during Hurricane Harvey, while areas all around us received devastating flood and windstorm damage. The only issue that we had was the loss of commercial power to a few locations. With the use of generators and a 100% underground network, we were able to maintain connectivity to our entire customer base during the storm.



Tell our readers about the Young Family Foundation and its recent landmark awarding of its one millionth dollar in scholarships and grants.

The Young Family Foundation is a local nonprofit organization that was founded by the family who owns YK Communications. To date, more than 70 scholarships have been awarded to students who have pursued degrees in nursing, biology, aviation, pre-med, business, psychology and more.

The Young Family Foundation recently awarded its one-millionth dollar to the community in the form of educational scholarships and grants. \$942,000 in scholarships has been awarded to students in Ganado, Louise, Tidehaven and El Campo for various academic and vocational programs. \$145,818.28 in grants has been awarded. ●

FAST AND FURIOUS:

- >> **For TV dramas, do you prefer the major networks or HBO?**
Both. "Game of Thrones" and "This Is Us" being household favorites.
- >> **What's your most recent binge watch?**
What is binge watching? With a 6-year-old and a 4-year-old at home, we are lucky to get two episodes in on a single day.
- >> **The best coffee is: a) black; b) with cream; c) with sweetener d) with b and c.**
D. I'll take mine with cream and sugar.
- >> **Dessert with dinner: a) always; b) once in a while; c) more vegetables, please.**
B. Once in a while.
- >> **My favorite memory of 2017 is _____.**
A family trip to Disneyland back in January. (And the Astros winning the World Series. Go Astros!).

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● BY SCOTT LIVELY

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Less Talk, More Action

LEGISLATIVE &

OUTI

Last year proved to be a watershed year for policymaker interest in rural broadband. Perhaps spurred in part by better understanding among decision-makers of broadband's role in economic development—to say nothing of consumers increasingly calling on elected officials to do something to improve service—and in part by the possibility of an administration infrastructure initiative, rural broadband was a featured topic for numerous congressional hearings and panel discussions in Washington, D.C., in 2017. Now that public officials increasingly agree on the importance of widespread access to robust broadband, the hard part is finding agreement on the best path toward securing that access over the long term.

NTCA was pleased to again work with dozens of members of Congress to petition the FCC last year to ensure that Universal Service Fund (USF) reforms will achieve the Communications Act of 1934 principle of reasonably comparable services and rates between urban and rural areas, even going a step further to specifically highlight the funding shortfalls in the high-cost USF program and to demand near and long-term solutions. While reminding Congress to not lose sight of the importance of high-cost USF, NTCA will continue working with representatives and senators eager to lead on broadband deployment on other ideas to promote rural investment as we await action from the FCC on USF.

Over all this activity looms the 2018 midterm election—voters' first opportunity to express their view of the current administration in a federal election. Republicans are desperately pursuing major legislative achievements to demonstrate that voters were wise to put them in charge of the White House and both chambers of Congress. The drive to pass an infrastructure bill, and perhaps further changes to health care laws in the wake of major tax reform legislation will dominate Capitol Hill in 2018, leaving little room for work on major telecom legislation.

However, smaller efforts to affect telecom law and policy, including some initiated by NTCA, could move alone or as part of a larger, higher-profile bill.

Call Completion

Since Sen. Tim Johnson (D-S.D.) first introduced rural call completion legislation in March 2014 after collaborating with NTCA on the language,

Congress has never been closer to passing the bill. The proposal aims to finally solve the years-old rural call completion problem by getting at the root cause—least cost route providers that drop calls destined for rural areas. The act would have least cost route providers register with the FCC and abide by basic call termination practices, and originating carriers would be permitted only to employ registered call routers.

The Senate and House have each passed identical versions of the bill—now titled the Improving Rural Call Quality and Reliability Act and led by

2018

BY MICHAEL ROMANO ●

& REGULATORY

No Rest for the Weary; No Time To Be Weary

LOOK

In talking with NTCA members most engaged in public policy debates over the course of 2017, the most commonly heard observation—after, of course, “when will they fix universal service?”—was astonishment at the level of activity by the FCC under Chairman Ajit Pai. This might have been

expected considering then-Commissioner Pai’s many robust dissents from orders issued by the Tom Wheeler-led FCC in prior years, but the brisk pace at which proposals have flowed to undo or do-over many of the Wheeler-era decisions and tackle other priorities surprised even the most veteran FCC watchers.

Of course, moving from proposal to order is a big leap of process and substance. It’s not as if every idea that has been floated to change direction or to take on new issues gets acted upon right away. And the details of how things get modified or rescinded are extremely important—execution is key, as missing or botched details can lead to confusion or even disruption. But the current FCC has not shied away from juggling multiple conversations at once in the interest of moving forward, and it did take some substantial actions in 2017 to address key regulatory priorities.

There is no indication that 2018 will be any different with respect to the pace of activity or the issues to tackle. Below, we discuss the status and anticipated activity for some of the matters of greatest importance to rural consumers and the small, hometown carriers most dedicated to serving them.

High-Cost Universal Service

There is no issue of greater common importance to the NTCA membership—and to all rural Americans who depend upon broadband—than a sufficient and predictable Universal Service Fund (USF) that enables the deployment and sustainability of rural telecom networks. There is also no program more successful historically in making the business case for broadband investments and operations in rural America, which is why addressing concerns about the program’s workings is the top association priority. Although the FCC took steps in 2016 to “modernize” the USF programs, implementation details or shortcomings in the design of the reforms continue to complicate rural carriers’ ability to build and operate rural networks and deliver affordable services to consumers.

First and foremost in the list of complications is the USF budget. Nothing else matters if the budget does not fund the program; a phrase often used within NTCA is that even the best rebuilt engine cannot work if there is no gas in it. Capped at funding levels dating back almost a decade, the budget presents the single biggest impediment to the effective workings of the USF system. While the FCC provided some incremental funding for companies electing model-based USF support, even that amount was insufficient when compared with what the model itself indicated was necessary to build broadband networks. And for telcos continuing to receive actual



2018

▶ LEGISLATIVE ◀

OUTLOOK

cont'd
from
p18

Sen. Amy Klobuchar (D-Minn.) and Rep. David E. Young (R-Iowa). If one chamber will pass the other chamber's bill number, the legislation will go to the president's desk. NTCA is working closely with the bill sponsors to secure final passage as soon as possible.

FCC Reauthorization and Regulatory Reform

Much ink has been spilled in recent years over the possibility and particulars of the first major Communications Act overhaul since 1996. What would've been difficult legislatively was made even more challenging by sharp disagreements over net neutrality, which would have to be addressed in a big reform bill. Though Congress has little room this year to do more than take small steps toward a Communications Act update, work is already underway on regulatory reform efforts, such as the effort to reauthorize the FCC for the first time in 25 years. Legislative drafts for an FCC reauthorization include many process reforms, such as requiring the agency to make circulated and adopted items public and include a cost-benefit analysis of proposed rules that may have an economically significant impact.

NTCA and several other associations representing small carriers have expressly requested that Rep. Bob E. Latta (R-Ohio) and Rep. Kurt Schrader's (D-Ore.) Small Entity Regulatory Relief Opportunity Act (SERRO) either move alone or be included in any FCC reauthorization bill. SERRO would dramatically improve the regulatory environment for small, rural carriers by demanding streamlined procedures for small businesses seeking relief through petition waivers and providing a one-year grace period before new regulations apply to small entities after they become effective for larger businesses.

Recent Congresses have attempted to pass FCC process reforms with limited success, but in the absence of a path forward for more substantive telecom legislation, Republican leaders are actively trying to win over Democrats to secure bipartisan agreement on a bill.

Farm Bill

Work is already underway on reauthorizing the Farm Bill, which will expire at the end of September. That effort will include reauthorizing the Farm Bill Broadband Loans & Loan Guarantees program. Even though the program is considerably smaller than RUS's Telecom Infrastructure Program and provides financing and not ongoing support like the USF high-cost program that helps make the business case for securing loans, members of Congress often see the program's reauthorization in the Farm Bill as a route to enacting new legislative language in hope of spurring further rural broadband deployment.

Indeed, since the Broadband Loan Program was first authorized in the 2002 Farm Bill, each subsequent Farm Bill has made extensive reforms with the goal of greater program accountability, efficiency and effectiveness. Two rounds of program reforms in fewer than 15 years—the first of which was significantly delayed by the American Recovery and Reinvestment Act of 2009 (ARRA) Broadband Initiatives Program's use of the Broadband Loan Program mechanism—means that the Broadband Loan Program has been almost continuously “under construction” since its inception, rendering the program inaccessible to borrowers for long periods of time.

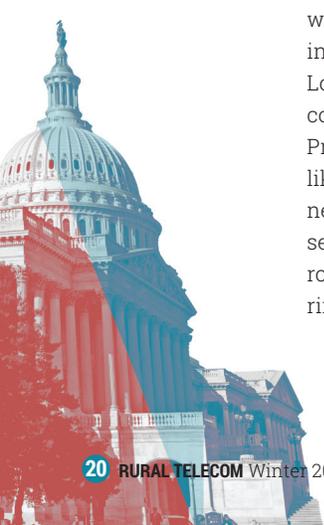
We can expect further changes in the next Farm Bill given that members of Congress are eager to leave a legacy of furthering broadband deployment. Sens. Kirsten E. Gillibrand (D-N.Y.) and Shelley Moore Capito (R-W.Va.) have already introduced the Broadband Connections for Rural Opportunities Program (B-CROP) Act, which would add a grant component to the Broadband Loan Program and adjust RUS's priorities for making awards in an effort to spur investment in the highest-cost areas. NTCA worked closely with the senators on drafting the bill and endorsed the final effort as a smart, carefully tailored package of reforms to the program. It's possible that B-CROP in all or part could end up in the Farm Bill.

The RUS lending process could be improved in the Farm Bill and made more user-friendly by allowing borrowers to undertake reviews required by the National Historical Preservation Act after funds are obligated but prior to disbursement. Some borrowers are currently deterred from approaching RUS by the possibility of expending thousands of dollars on the application process, only to be denied an award.

Remember that the 2008 Farm Bill expired in 2012 and was extended for two years until the current Farm Bill was finally passed in 2014. It's possible that the current Congress could face similar difficulties in an election year with a packed schedule, though Agriculture Committee leaders are committed to finishing the job and the White House has an interest in doing so given the rural support for President Donald Trump in 2016.

Infrastructure

Of President Trump's campaign pledges, none garnered more bipartisan support than the prospect of a major infrastructure initiative. Like so many other ideas, it becomes more difficult to accomplish as the election draws near. But don't rule out the possibility of Congress moving an infrastructure bill given the bipartisan interest, demand from state and local governments, and need for Republicans to show voters they can produce results.



Recent signals indicate that any measure will probably deliver block grants to states, leaving state and local governments to decide which infrastructure priorities should receive funding.

The president, some cabinet officials, and over 100 members of Congress are on record in support of including resources for broadband deployment in any infrastructure package. However, recent signals indicate that any measure will probably deliver block grants to states, leaving state and local governments to decide which infrastructure priorities should receive funding.

Further, NTCA and countless other entities have called for federal permitting reform, including standardizing applications and fees for land permits across federal agencies. A “shot-clock” for federal agency responses to applications for use of federal lands for broadband infrastructure deployment would expedite installations—or permit operators to make alternative plans if necessary. The Senate has already provided an example of how to achieve permitting reform by passing the MOBILE NOW Act last year. NTCA will continue pursuing this proposal as part of an infrastructure bill or as standalone measures.

Election Preview

Midterm congressional elections historically have not favored the incumbent president’s party, and certain statewide elections in November 2017 indicated that pattern may hold. However, the Republicans have time to show voters they can achieve meaningful changes, and the maps favor the GOP—Democrats are defending 25 Senate seats this year, 10 of them in states won by President Trump in 2016. And in the House, Republicans have been able to consistently hold healthy majorities since the 2010 wave election, in part because of favorable maps in most states and in part because Democratic voters tend to be concentrated in cities. It’s too early to predict a change in the majority party in either chamber, which would obviously dramatically affect which members of Congress have the most influence over telecom policy. Apart from that, House Energy and Commerce Communications and Technology Subcommittee Chair Marsha Blackburn (R-Tenn.) has already announced a Senate run, meaning her post will be filled by a different member come 2019. The subcommittee is the key House body for reviewing and enacting telecom law and policy. Her successor could possibly hail from a rural district, as Reps. John M. Shimkus (R-Ill.), Brett Guthrie (R-Ky.) and Latta all have seniority on the subcommittee.

Regardless of what Congress can accomplish this year, NTCA will continue working to channel the law and policy-maker interest in rural broadband into concrete policy gains for small carriers. ●

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cost-based support, the budget controls are affirmatively cutting support by 12.3% (or nearly \$175 million) through June 2018.

NTCA has led the charge for sufficient funding, petitioning for reconsideration of the budget in 2016 and promoting letters from hundreds of members of Congress in recent months and over the past several years that press for the levels of support necessary to make the reformed USF mechanisms operate as intended. Pai has acknowledged the problems of the underfunded high-cost USF budget, a strong bipartisan consensus on Capitol Hill has emerged in favor of solutions to the budget crisis as suggested by NTCA, and several FCC commissioners have likewise expressed public support for NTCA's recommendations. As of the time of drafting of this article, current indications are that the FCC will circulate a notice of proposed rulemaking by early 2018 suggesting ways of tackling the budget crisis in both the near- and longer-terms and seeking input on other potential measures to shore up the USF mechanisms.

As a separate but related matter, USF contribution reform remained a largely sidelined issue in 2017 as immediate budget concerns took precedence. There appears to be little to no appetite from others in the industry to tackle such reform, but even so, NTCA continues to explore various means of more equitably "broadening the contributions base." It is possible that a joint board of federal and state regulators that has been examining contributions reform since 2014 could finally come forward with some concepts or even recommendations in 2018.

Finally, for those telcos interested in expansion opportunities (or a preview of the potential future of certain USF programs), the Connect America Fund Phase 2 auction is worthy of close attention. As the auction design is finalized early next year, this program will provide a decade of support at bid-for levels to deploy broadband in currently unserved areas where larger price cap carriers declined to accept buildout obligations.

Intercarrier Compensation

Intercarrier compensation (ICC) is a long-standing component of our comprehensive national universal service policy, providing revenues critical to keep rural consumer rates reasonably comparable to those in urban areas. While the FCC took significant steps in 2011 to remake the mechanisms by transitioning certain ICC rates to zero—or, euphemistically, to "bill and keep"—NTCA led the successful charge to protect other rate elements that were important to establishing financial responsibility for the costs of getting traffic to and from rural America. The association also fought for alternative cost recovery mechanisms to help ensure that revenue streams would be continued for some time to sustain universal service in rural markets.

A renewed attack on the ICC mechanisms has arisen recently, however, with several notices seeking to "refresh the record" on how to move remaining ICC rate elements to "bill and keep." There is also discussion of how to head off discrete so-called "arbitrage" practices that have caught the attention of certain market participants and the FCC. Industry discussions and FCC proceedings are ongoing, but NTCA's surgical focus continues to be upon:

- ▶ Closing clear arbitrage loopholes that undermine the integrity of the ICC system as a whole.
- ▶ Obtaining alternative cost recovery for any reforms that reduce ICC rates without squeezing already insufficient high-cost USF budgets.
- ▶ Ensuring that transport responsibilities are not "flipped" in a way that would have small rural carriers—and ultimately the rural communities they serve—bearing the full cost of interconnecting with consumers across the nation and the globe.

Infrastructure Investment

As 2017 dawned, one of the most compelling new communications topics was a potential package of funding, streamlining efforts and tax incentives to help promote deployment of broadband networks. For a variety of reasons, including broader political debates and other congressional priorities, efforts toward this infrastructure initiative have not proceeded beyond tentative proposals and articulations of principles. NTCA has been a leader in the discussions to date, engaging in outreach with state governors in late 2016, assuming a prominent role within the Rebuild Rural Coalition of rural and agriculture-focused stakeholders, securing the first communications industry witness spot at a Senate infrastructure hearing in February 2017, and continuing to advocate for infrastructure funding to supplement the underfunded USF program. NTCA has also pursued streamlining of permitting rules and processes that can hinder broadband deployment, participating in the FCC's Broadband Deployment Advisory Council's deliberations and supporting congressional measures to change existing procedures.

As it moves through other key priorities over coming months, the Trump administration will likely release more details on a comprehensive infrastructure package in early 2018, kicking off new discussions at the federal and state level on the best means of promoting broadband deployment and balancing that goal with other infrastructure needs and interests.

Net Neutrality/Internet Freedom/Open Internet

Even if infrastructure investment was one of the hottest new telecom topics in 2017, the long-running debate over net neutrality—or "internet freedom" or the "open internet"—remains at the very top of the list in Washington, D.C.,

In addition to filing detailed comments at the FCC, NTCA recently secured a featured witness role at the only congressional hearing held in 2017 on net neutrality

telecom circles. In this frenzied and fervent debate, NTCA has focused on practical issues of essential importance to rural consumers, particularly how rural communities will stay interconnected with the rest of the world in a broadband era and how broadband rates will remain affordable without having the costs of network interconnection all fall onto the backs of rural consumers.

In addition to filing detailed comments at the FCC, NTCA recently secured a featured witness role at the only congressional hearing held in 2017 on net neutrality, providing a promising opportunity to articulate and highlight the needs of small rural providers and the consumers they serve on a prominent stage. The FCC voted on "Restoring Internet Freedom" at its December 2017 open meeting, but congressional activity and oversight—and litigation—will follow in the coming months.

Content and Spectrum Issues

NTCA members are committed to delivering all kinds of communications options to rural communities, and this effort can be furthered through improved terms and conditions for access to content and spectrum.

Unfortunately, there has been little progress in policy-making circles to address content costs—even as retransmission consent "negotiations" are poised to foist another round of substantial price increases on rural operators and their consumers. NTCA continues to explore new ways of making targeted arguments to help improve matters in the content marketplace, and has also actively opposed major transactions that would exacerbate matters by creating broadcast behemoths.

Meanwhile, NTCA is involved in several current proceedings at the FCC that have the potential to change the terms of access (for better or worse) for midband spectrum that could enable broadband availability. NTCA is also actively involved in the debate over how to identify areas needing support under the Mobility Fund Phase 2 auction, seeking to ensure that smaller providers will have a meaningful opportunity to challenge coverage claims by larger providers and will continue to receive support where needed to sustain rural operations. ●

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(as required by 39 U.S. Code 3685)

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	Average number of copies of each issue during preceding 12 months:	Actual number of copies of single issue published nearest to filing date:
Total number of copies	2,975	3,000
Paid and/or requested sales through dealers and carriers, street vendors and counter sales:	0	0
Paid and/or requested mail subscriptions:	1,852	1,716
Total paid and/or requested circulation:	1,852	1,716
Free distribution by mail:	0	0
Free distribution outside the mail:	345	175
Total free distribution:	345	175
Total distribution	2,197	1,891
Copies not distributed for office use, leftovers, spoiled:	778	1,109
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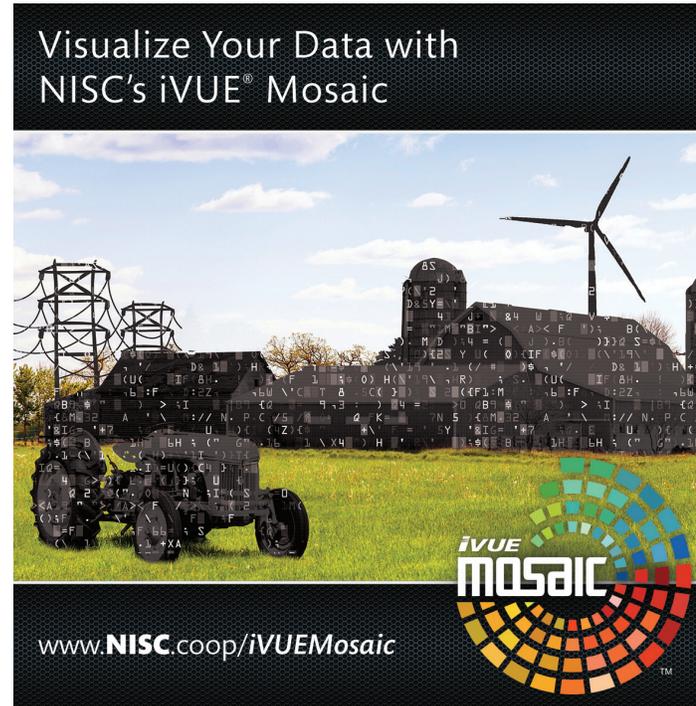
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2018 Rural Telecom Industry Meeting & Expo

It's Time for RTIME



● BY YOLANDA AKINRIMISI

The Rural Telecom Industry Meeting & Expo (RTIME), the largest conference of the rural telecom industry, is many things: a time of celebration, a time of preparation and a time of tradition. It's also a time for rural providers to come together and discuss investing in broadband.

Now in its fifth year, RTIME (the NTCA Annual Meeting) is also a time to reflect on the direction of the industry. After a year of uncertainty, the rural telecom industry is ready to lay the groundwork to move rural communities toward growth and economic development.

RTIME brings together approximately 2,000 individuals who play a key role in advancing technology in rural areas, and this year's theme, "Mapping the Customer Experience," looks at how companies need to do more than provide excellent customer service. Instead, they must examine the whole customer experience and what this means for their business. After all, without the customer, a business cannot exist.

RTIME 2018 takes place in Austin, Texas, which, with more than 100 shows per week, is known as the Live Music Capital of the World®. Austin is also a city full of innovation and technological advancements, providing the perfect backdrop for RTIME.

Advances in technology challenge us to keep up with the latest trends—the latest apps, the latest software, the latest social media platforms. RTIME sessions are here to help, with an in-depth look at cybersecurity, smart ag, streaming video and telehealth. And RTIME's focus on the customer experience blends well with a city at the heart of Southern hospitality.

"RTIME is an opportunity for the industry to come together to tackle the issues facing us and to strengthen the argument of investing in rural broadband," said NTCA Chief Executive Officer Shirley Bloomfield, who will deliver opening remarks on Monday, February 26.

Other notable RTIME keynote speakers include:

▶ **FCC Commissioner Brendan Carr**, who shares his insight into current and future broadband policy.





◀ **Nicholas Webb**, bestselling author and innovation strategist, who provides tips and expertise on best practices to maximize the customer experience.

▶ **Marcus Sachs**, senior vice president and chief security officer, North American Electric Reliability Corp., who discusses the necessities of a cybersecurity strategy.



◀ **Anirban Basu**, chief executive officer and nationally known economist of the Sage Policy Group, who offers an outlook on global, national and local economic trends.

RTIME educational sessions are tailored to meet the needs of managers, directors and key employees.

Manager sessions include discussions on customer service, economic trends, executive leadership, collaboration, wireless usage and next-generation gamers. Director sessions focus on hiring practices, bylaws, investing in fiber, legal issues and smart agriculture.

The RTIME 2018 Expo, the largest showcase of its kind and the networking hub of the conference, includes service providers that are very familiar with the needs and challenges of rural service providers. New this year is "Expo Plus," an opportunity for managers to talk one-on-one with vendors and discuss challenges specific to their communities.

RTIME also offers opportunities to relax and have fun. Team up with a buddy during the Foundation for Rural Service's golf outing at Onion Creek Golf Club, or enjoy an exciting evening at the Rattle Inn. Join the NTCA Rural Broadband PAC/RTAF for an evening in Hill Country, where you will visit the famous Salt Lick BBQ, or take the Waco & Magnolia Market tour, where you will see a little more of Texas outside of Austin.

RTIME is more than an annual meeting. It's the industry event for everyone, well timed to help you move into the broadband future. The rural telecom community is waiting to welcome you to Austin in February. ●

Yolanda Akinrimisi is senior marketing specialist at NTCA. Contact her at yakinrimisi@ntca.org.

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By Mark Marion and Rick Schadelbauer

Depopulation, Robots and Economic Realities

A Q&A With Anirban Basu



A

nirban Basu, chief executive officer of Sage Policy Group in Baltimore, Md., and a nationally recognized economist, will speak with telco executives in Austin at the NTCA Annual Meeting. We sat down with him in advance of the meeting to ask a few questions about economic trends and conditions.

What are the biggest global opportunities and threats for the U.S. economy?

America is home to less than 5% of the world's population. Despite that, America is the worldwide leader in aerospace, medical research, software, big data analysis, defense technologies, microchips, drilling technologies and many other cutting-edge segments. The United States is also still home to the world's greatest collection of research universities and research laboratories. I believe America's greatest opportunity lies in pushing the edges of science.

The most significant threat is the emergence of other nations that are increasingly capable of innovating. America's share of published scientific articles has been shrinking. Increasingly, nations like China, India and Germany have been accumulating more global patents, and research and development budgets are expanding more rapidly outside the United States.

What are the biggest economic challenges facing rural communities? How might they be addressed?

The economic challenges to rural communities are too numerous to list, but two significant factors are depopulation and the opioid epidemic—a social pathology once considered unique to inner cities. At the same time, rural America is packed with entrepreneurs specializing in wineries, the implementation of new farming techniques, horticulture, tourism and other activities that attract capital, create jobs and keep land prices stable. The key to supporting rural communities is to attract and embrace these entrepreneurs, including while they are still in school.

We see robots performing some work faster, more precisely, and at lower cost than humans, but robots will cost some workers their jobs. Do you see these outcomes balancing?

Robots will become ever more apparent in our lives. So too will artificial intelligence, driverless vehicles and 3D printing. This will occur because of the profit motivation, which requires that businesses be cost minimizers. Many humans will be replaced in the process, and the gap between the “haves” and “have-nots” will likely continue to expand. The implication is that while mechanization will be a net plus for the competitiveness of the U.S. economy, many additional people will be displaced.

With economic expansion surpassing the 100-month mark as we speak, how much longer can it continue?

Economists are fond of saying things like “economic recoveries don't die of old age.” The fact that it is already the third-longest recovery does not imply an immediate end. Still, no recovery has lasted indefinitely. They have all ended. This one will likely end due to a rise in inflation, prompting meaningful increases in interest rates and significant declines in stock, bond and commercial real estate valuations.

How much of a threat to long-term economic growth is the deficit currently, and what would be the future impact of a substantial increase in the size of the deficit?

Current federal budget deficits and the expanding national debt represent a threat over the intermediate and long term, as opposed to the short term. Presently, there is plenty of demand for U.S. Treasuries, which allows the U.S. to continue to inexpensively finance its debt. However, roughly a decade from now, the Medicare Trust Fund will become insolvent. A few years after that, the Social Security Trust Fund will become insolvent. At that time, bondholders may become nervous, and may demand meaningfully higher interest payments. That would lead to a fiscal crisis, resulting in rising taxes and curtailed federal spending on infrastructure and entitlements.

Mark Marion is director of training and development at NTCA—The Rural Broadband Association. Contact him at mmarion@ntca.org.

Coming Up...



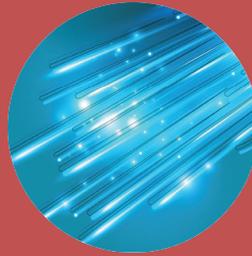
Telecom Executive Forum

March 11-13, 2018
Marriott Monterey
Monterey, CA



Legislative & Policy Conference

April 15-17, 2018
Hyatt Regency
Washington on Capitol Hill
Washington, DC



IP Vision Conference & Expo

April 23-25, 2018
Hyatt Regency
New Orleans, LA



PR & Marketing Conference

April 29-May 1, 2018
Renaissance
Nashville Hotel
Nashville, TN



Pre-Retirement Planning Seminar

May 15-16, 2018 Bally's
Las Vegas
Las Vegas, NV

The Federal Reserve is reducing bond holdings while increasing the federal funds rate. Do you think the Fed's timing is appropriate?

The Fed's announced and planned actions are both appropriate and threatening to the current economic expansion. There are now nascent indications of rising inflationary pressures, including from rising wages, home prices and health care. The Federal Reserve is mandated to maintain policies that strive for price stability. One could also argue that the Fed has supported the creation of asset bubbles given the presence of ultra-low interest rates over such a lengthy period. Normalizing monetary policy would frustrate the formation of larger and more numerous asset price bubbles. Moreover, the move to normalize would provide the Fed with more policy flexibility when the next downturn arrives.

Speaking of bubbles, what is the long-term outlook for the construction and housing sectors?

Each construction cycle ends. Often, the end is brought about by the bursting of asset price bubbles and associated excess leverage. During the current cycle, commercial real estate seems to be associated with more of a bubble, though one could make the same assertion regarding the multifamily rental market. I believe an eventual downturn is inevitable. ●

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Profitable Providers Share Their Best Practices for Your Video Business



CASE STUDY

BEVCOMM, Minn.

Empire Access, N.Y.

Marquette-Adams
Telephone Cooperative,
Wis.

This case study details three rural providers who are not only profiting in video, but they maintain that getting out of video would make them highly vulnerable to double and triple play competitors. Labeled a high revenue/low margin business, video has taken a beating for quite a few years from the perspective of many service providers. The prime culprit has been content costs with increases upward of 500%, leaving some providers to question whether to stay in video. These examples show that video is a required and profitable service in today's competitive marketplace.

BEVCOMM Has Desensitized Rate Increases

Bill Eckles, the CEO for this rural provider that serves over 20,000 homes in South Central Minnesota and Wisconsin, says annual rate increases have been a regrettable part of their company culture for many years, but he adds that this is what keeps BEVCOMM profitable in video. Marketing Manager Amy Schonborn says every time they get together to discuss the next rate increase, some including herself feel like the sky will fall, but she goes on to say that it never happens. In the last five years, BEVCOMM has lost less than 1% of their subscribers due to rate increases.



Programming costs for each content provider are reviewed and discussed every fall before their annual rate increase. Dropping channels, where it makes sense, is part of their discussion, but the primary discussion revolves around cost recovery and an unwillingness to allow video to put them in the red. Schonborn says they prepare notices to customers and notify city officials where they have franchise agreements. BEVCOMM also provides further customer education on their website, and internally the staff maintains a positive attitude on a topic that can be discouraging at times.

Use Value-Added Features to Support Cost Increases

Twenty percent of BEVCOMM's subscribers have registered for TV Everywhere. This service costs very little, and consumers like the ability to move subscription video from their TVs to other devices.

New York Independent Operator Competing as the Local Hometown Provider

Most companies expand into other territories with a business-first approach, but Empire Access in the Finger Lakes region of New York and Northern Pennsylvania has dived in with a full-blown residential play. Bob VanDelinder, Empire's director of marketing, says that business owners in their new CLEC territories also live in those communities and want the same quality fiber service in their homes that they are receiving in their



businesses. The competitive landscape for Empire Access includes large cable companies, and offering both business and residential fiber, as a local provider, has helped them to grow their revenue. Live customer service support and quick response times have also given them an advantage over their competitors, whose customers normally wait just to get a call back from support. Fiber has given Empire the ability to provide digital voice, IPTV, internet up to a Gig and security monitoring.

Having the Biggest Pipe Is Key

VanDelinder says internet drives the boat for business and residential customers, so they actively promote themselves as the local company with the fastest internet. He goes on to say that this has been the biggest reason they have been successful against their competitors.

Wisconsin Telco Grows Their Video With a Focus on Time-Shifted Viewing

As one of the Video on Demand (VoD) pioneers in the rural telecom space starting back in 2010, Marquette-Adams Telephone Cooperative in Oxford, Wis., has seen a lot of equipment vendors come and go. According to CEO Jerry Schneider, things have stabilized significantly on the equipment side, which makes it easier now than when they started. Schneider added that the efficiencies they gained by having their middleware and VoD software from a single vendor like Innovative Systems has been very beneficial.



Marquette-Adams ingests VoD content from a variety of sources, including locally produced content, and on average offers around 6,000 assets to their customers at any given time. With the sheer volume of content, their customers have less reason to go off their video network to access additional content Over the Top (OTT). All subscribers to the Marquette-Adams video service have free access to the VoD library, and Schneider says their 2,700+ subscribers make an average of 3,000 VoD transactions per month. He says one thing service providers don't always realize about VoD is the fact that it enhances their subscription service, allowing customers to quickly access a missed program in the VoD library. Local content from five different high schools is also part of their VoD library, which is something that is not available from their Dish and DirecTV competitors.

VoD Monthly Cost Per Subscriber Is a Real Value

Schneider has calculated the net monthly cost of VoD to be around 45 cents per subscriber, and considering what he pays for other channels, he considers it a good value. Schneider says they also serve as a VoD head-end for numerous service providers, and this has allowed them to negotiate their monthly cost down to around 20 cents per subscriber. Marquette-Adams promotes VoD in their marketing campaigns and collateral. Schneider emphasizes that when they talk about their video product they always use the phrase "TV with VoD." He believes VoD has given them an edge and can back up that belief with consistent video subscriber count growth of about 4% per year for the last seven years, in the same geographic footprint.

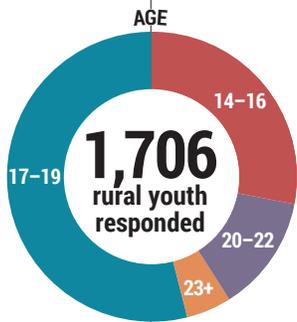
Back Office Savings Add to the Bottom Line

Using the Innovative Systems InnoStream™ hardware platform in Schneider's opinion has reduced operational costs by its ability to perform many functions that would normally take different pieces of equipment from multiple vendors. Marquette-Adams is currently using InnoStream™ for VoD, Restart TV, and Cloud DVR (cDVR). Schneider adds that savings continue to grow as they are no longer purchasing DVR set-top boxes (STBs) and will ultimately migrate everyone over to cDVR, which will save on both equipment (CAPEX) and reduced service calls (OPEX) to replace DVR STB hard drive failures. Schneider says that if they diagnose a hard drive failure on a DVR and if the STB is still working, they just switch them over to cloud DVR and avoid a truck roll and paying for a DVR. It has positively impacted their video profitability.

TRENDING

Data source: FRS 2017 Rural Youth Telecom Survey

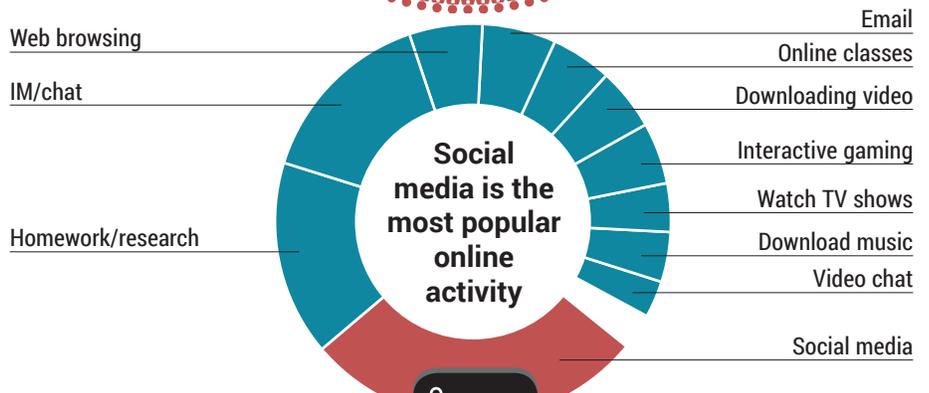
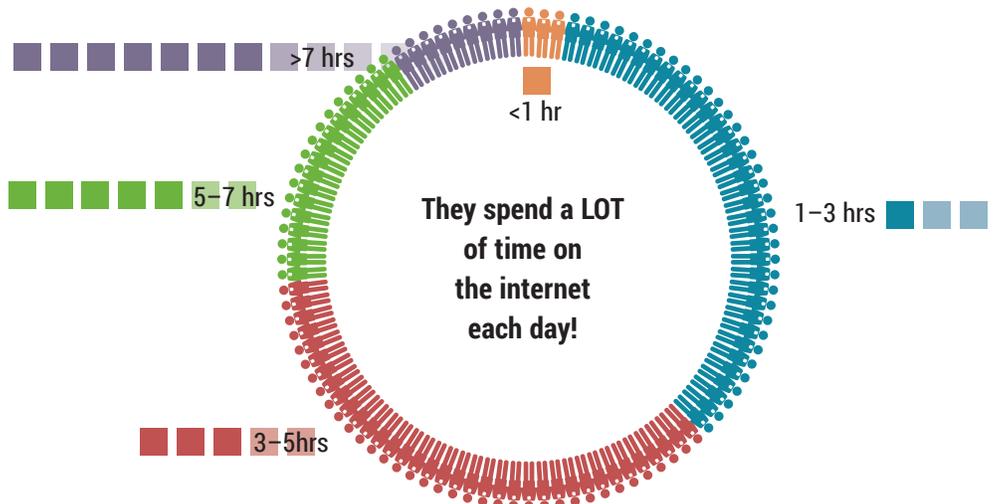
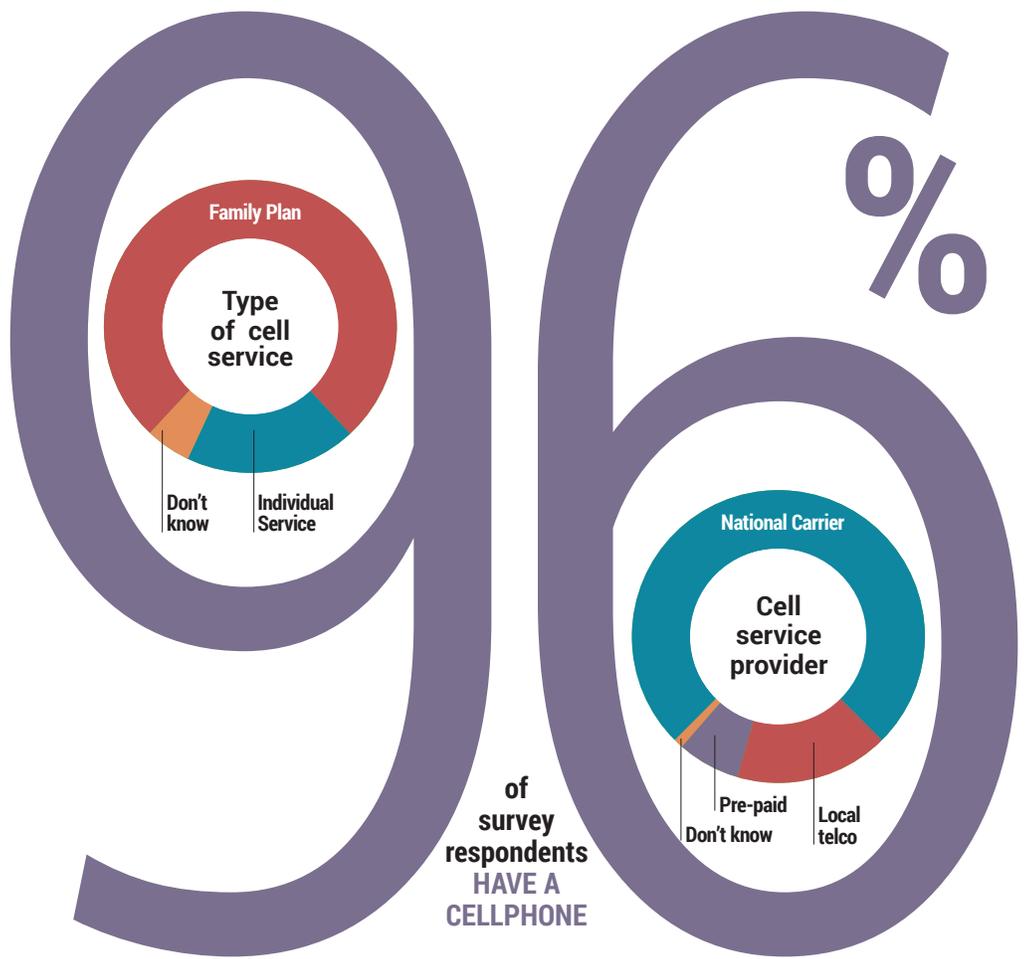
Kids These Days



As strange as it may seem, not only are nearly all of today's high school students unable to conceive of a time when cellphones were not ubiquitously available, many have never seen, much less used, a non-smartphone.

Having grown up with state-of-the-art technology always accessible to them in the palm of their hands, they not only embrace constant technological innovation, they demand it.

For more information, watch the "Rural Youth Tech Trends" webcast at www.frs.org.



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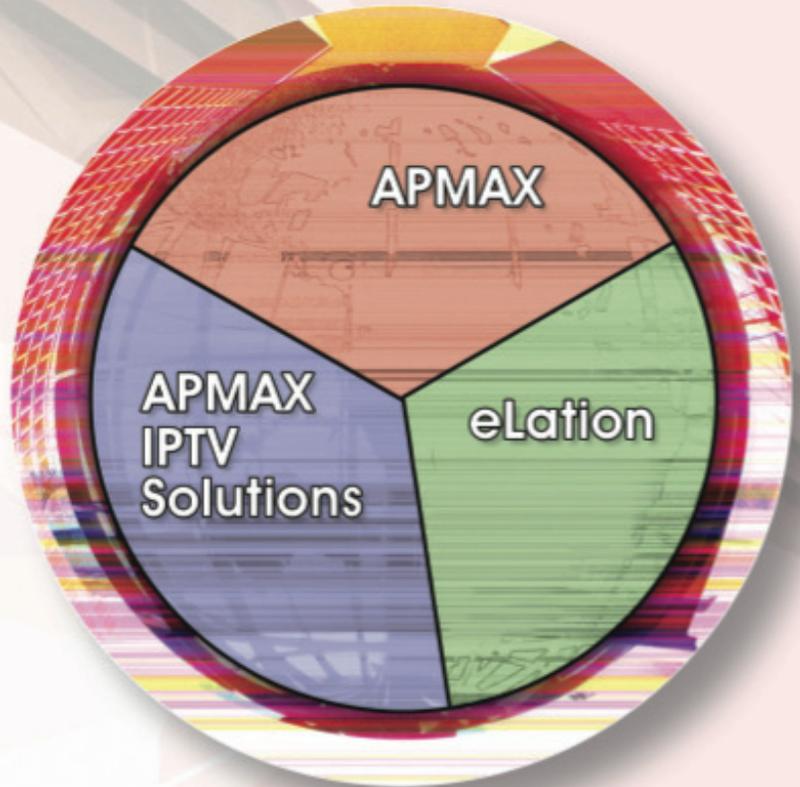
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