

10G CHALLENGE

More than \$300,000
in prizes up for grabs
pg 2

NEED FOR SPEED

Plenty of runway
left in DOCSIS
pg 4

ALWAYS LEARNING

Keeping up with the
pace of change
pg 6

Future Forward: Building Networks for the Promises of Tomorrow

By Sara Winegardner

It's hard to imagine the last 19 months without Zoom. The videoconferencing platform took the world by storm once in-person interactions were replaced by virtual alternatives. At the end of 2019, its daily meeting participant metric came in around 10 million. Once lockdowns and stay-at-home orders were established in March 2020, that number skyrocketed to 300 million.

But Zoom Founder/CEO Eric Yuan isn't satisfied with that. His dream: to transform Zoom into a platform company that facilitates virtual interactions that are even better than those people experience in the real world. But it's not there yet.



"Investments in infrastructure are a bet on progress, and that's a pretty safe bet," said Weeks during his keynote.

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"In the future, as you deliver a better experience than a face-to-face meeting, after the meeting is over, we can automatically generate a meeting summary, action items, meeting notes, and that's where we are going to live in the future... not to mention with AR integration, you and I will feel like we're sitting together in a local Starbucks," Yuan said during Tuesday's opening general session of SCTE's virtual Cable-Tec Expo. "That's why we're excited to keep adding more and more technologies to truly make video communication better."

Now more than ever before, Zoom employees are examining how each new feature they implement can support hybrid work environments. Yuan believes that the future of work for the foreseeable future will have employees splitting their week between an office location and their homes. That will have massive impacts on the investments companies put into their corporate offices, and ultimately how they allocate space for individual workstations or collaborative ideation locations.

"The future workplace is more like a mentoring or coaching place to facilitate those group activities. I think that's very important, and you really do not need to give

every employee a desk anymore because not every employee will go back to the office at the same time," Yuan said.

Education is also a huge area of focus moving forward for Zoom as students continue to learn from home. When Yuan imagines what the journey for students in higher education will look like in the next decade, he doesn't see the typical college move-in days or lecture halls of recent years.

"I think you have students that can come to the classroom. At the same time, you might have students who are willing to join remotely... I think that the future higher ed classroom will be very similar to the workplace," he said. "It will be a hybrid by giving the students flexibility and choice. They can join anywhere."

Powering all of those experiences will be the networks carefully crafted and built out by the cable industry. In his keynote address, Corning CEO Wendell Weeks applauded all those who are a part of the wider industry, saying each of them are making our lives better every day.

"Our infrastructure is enabling people to express themselves at scale. It's democratizing financial services, widening access to education, empowering creators and entre-

preneurs to connect directly with new audiences and markets. And, of course, we've kept the world going through the pandemic," he said. "When I reflect on all of these incredible achievements, I'm most proud and humble. And I'm quite sure that I didn't anticipate some of the most exciting innovations enabled by the network today."

It's risky to make a bet today about what will be the groundbreaking technology or innovation that will be shaping the world in 2030 and beyond. While Zoom, for example, was a successful company prior to the start of the pandemic, it has boomed in the less than two years since. No one could have seen that coming. But by investing in our infrastructure, Weeks said, the country and the world is making more than a safe bet on progress.

"New applications will emerge to take advantage of the network capacity that is available. Networks will only become more valuable to human progress," he said. "Specifically, how we get there, what technologies we use to achieve the goal, that is a challenge and open to debate... we want to work together as an entire industry to make the world more connected and make it just a little bit better, and that is what gets us really excited." ■

The Path to 10G for All

By Sara Winegardner

Progress toward the realization of 10G has been a topic of discussion at every Cable-Tec Expo since the initiative was announced. With so many dollars being thrown around in Washington to support broadband deployment and initiatives, cable operators now need to focus on bringing rural communities online while upgrading parts of the network in preparation for next-generation technologies.

Looking specifically at the \$65 billion allocated for broadband as part of the infrastructure bill currently being debated in the House, NCTA President/CEO Michael Powell said during an Expo panel Tuesday that there is tremendous risk that some of that funding will be given to new entities or government bodies that have no idea how complicated it is to build out a network capable of reliably serving a community.

"There's a kind of false narrative that somehow gets into the market that it's just a wire and you put that stuff in the ground and voila, you got broadband. There's a lot of people who really don't know what they're doing, whether it's a municipal government

or some new fiber company that founded itself a year ago and is going to solve this problem," he said. "When you look at the money, I guarantee you there's going to be a lot of very inexperienced initiatives that show up looking for that money, and they'll get some of it and they won't deliver."

He added that some Congressional expectations around timing are "absurd," with some parts of the bill insinuating that the federal government almost expects the digital divide to be closed within three years. "That's not likely for a lot of complex reasons that we'll have to help people understand, all the while proving that we're trying."

Those expectations will also put a huge strain on both the industry's supply chains and its workforce. SCTE President/CEO Mark Dzuban said one of the largest issues he and the rest of the industry need to address is the lack of training and education in the workforce about how to construct and maintain networks.

"We have a lot of content that's evolving to include boot camps around how do we

train rapidly, and that's the key. How do we move people very rapidly from a basic knowledge or no knowledge into at least the fundamental knowledge because a lot of it is going to be hands-on," he said. "You cannot teach all of this in a classroom... We've done it before, we're going to do it again, but it's revitalizing what we did a number of years ago when we upgraded our networks on a national basis."

The networks that will be built out in the coming years with that funding will bring next-generation connectivity to communities that have never seen anything like it before. But what innovations will they have access to that will change how they live and learn?

To usher in the next wave of technologies to be powered by 10G networks, Cable-Labs is kicking off what it calls the 10G Challenge. Innovators will submit three-minute videos with an idea for a technology, what problem it solves, why it is dependent on the implementation of 10G and how it fits into one of four categories: Live, Work,

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Learn, and Play. The final deadline for submissions is July 1, and CableLabs has set aside more than \$300,000 in cash prizes for winning ideas.

"It was actually initiated by the Cable-

Labs board of directors wanting to encourage those outside of our industry—partners, co-innovators, collaborators—who are experts in their own area to think about what would you do with a 1 gig network, a 5 gig-

bit network, a 10 gigabit network," CableLabs President/CEO Phil McKinney said. Entries to the 10G Challenge will be judged by a number of outside partners including the Mayo Clinic, Corning and Zoom. ■

Dissecting the Fiber Wars

By Amy Maclean

It's not fiber vs cable. That was the message at an SCTE Cable-Tec Expo panel on broadband speed Tuesday.

"I wish we would be a little bit more on the fiber messaging with our existing networks right now. For on average 97% of our customers' connections, any customer's connection, is fiber," said Midco CTO Jonathan Pederson. "We're building the best network, and we're able to use whatever technology it takes to get there. And by the way, we can do that more cost effectively than anybody else."

CableLabs VP Wired Technologies Curtis Knittle said fiber deployments often come down to circumstance. "Telcos aren't putting fiber in the ground just because they want to. They're putting fiber in the ground because they have to, because of the technology," he said. "Telco had a technology, twisted pair, that took them a long way, provided help to get high-speed data and the internet off the ground. But now that we have those higher speeds approaching, twisted pair simply can't support the speeds that are being talked about by government officials as representing the minimum broadband speed."

As the federal government focuses on broadband adoption, some are putting an emphasis on fiber as a future-proof solution. Knittle said he cringes when someone suggests that government dollars need to go to fiber networks. "I think it should definitely be about the speed tiers that are necessary to do work and live from home and have some

entertainment as well," he said. "I think we've seen throughout the years that every version of DOCSIS and HFC has been able to meet customer demands. What's interesting is that all the hype about fiber is coming from people who don't have plant in the ground that's capable of meeting those needs."

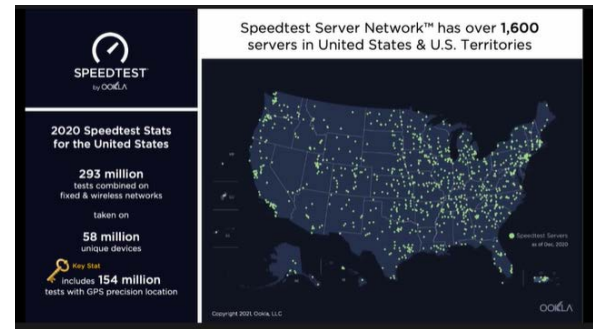
There's still a lot of life in coax thanks to DOCSIS, with 4.0 helping to get operators to 10G. But there's a place for fiber too. "[DOCSIS] is nowhere near life support, let alone death," Knittle said. "At the same time, fiber will continue to play an important role in the whole solution for a cable operator—whether it's out to the edge in a distributed access architecture, put more fiber in the ground, or taking fiber to the premises in those few key areas where it makes the most sense, especially in greenfield." He added fiber may be deployed in other areas where competition is tough.

While there's a lot of buzz about providing symmetrical speeds, Pederson said there just isn't much need for more upstream capacity right now. "We tend to have pretty small node sizes, and we're pretty confident we can offer 400Mbps upstream to our customers, and that will be good for a long time," he said. "I do think the supposed need for symmetry is very overblown. It would be nice if we could find a way to

counter that message that didn't involve millions of dollars in system upgrades."

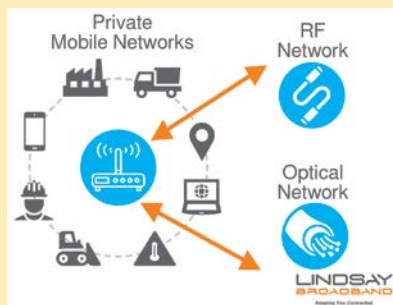
There's a lot of interest in what sort of parameters will be put on the pending infrastructure bill, which is expected to dole out \$42.5 billion for broadband deployment that would be given to the states. Bryan Darr, who serves as VP of Communities for speed test firm Ookla, said there doesn't seem to be a big push for symmetrical service in the bill. "But there are a few states that have stated that they want to see that and set their own standards," Darr said. "Washington state is one of them. I believe they've set it at 150Mbps synchronous as their goal in the next few years."

While a lot of emphasis is put on broadband speed, Darr said it's not the end-all-be-all: "As important as speed is in ultimately judging the quality of a network, ultimately, the customer experience is the most important thing." ■



Product Spotlight

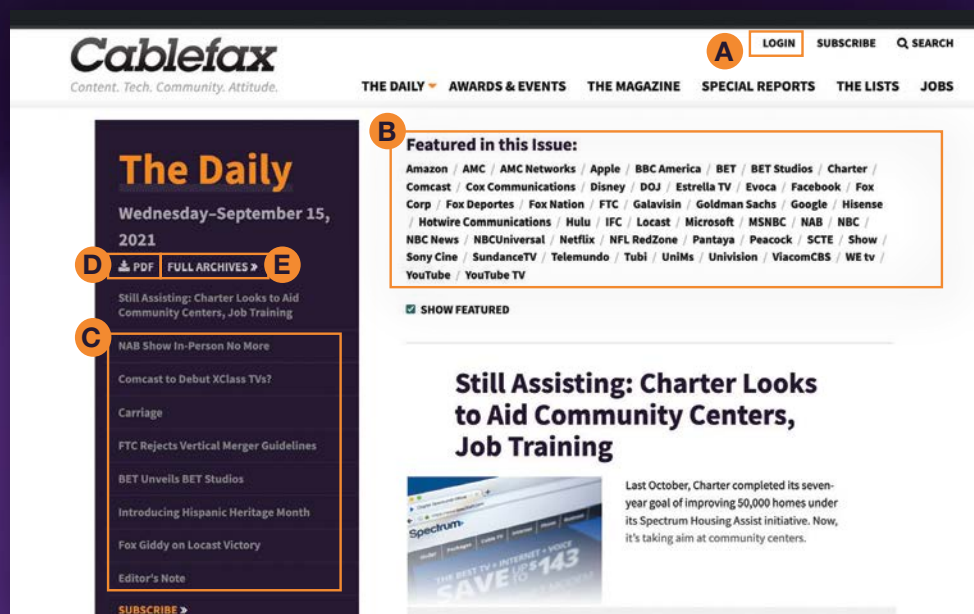
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New L&D Experiences on the Agenda for the Future of our Workforce

By Jill Banks

Director, Learning Operations
SCTE

As the premiere technical society in the telecommunications industry responsible to provide continuous training for the workforce of tomorrow, SCTE serves members across a broad geographic landscape and at various levels of facility. That's why we are especially eager to share new L&D approaches at this year's Cable-Tec Expo Learning & Development Experience, where we will be focused on our theme to "Unleash the Power of Limitless Learning."

We recognized early on that the greatest proficiencies in skill levels could be achieved when learners are engaged in innovative ways. Our members confront the need to apply solutions and services across a vast array of software and hardware. As a result, they need to quickly identify and implement relevant solutions via tools and technology that are constantly evolving. Everyone in the telecommunications industry is challenged to constantly learn and apply the latest technology in order to best serve customers and stay competitive. We see our role as providing the insight, skills, and experience our members need to do that.

Learning in Action

This year, the Cable-Tec Expo Learning & Development Experience has an exceptional program planned. We know that the pace of change in the market can be difficult to maintain. Part of the solution involves widening the focus to include more than skills. During the keynote presentation at Expo, this is exactly the issue we will address in the following ways:

- Explain why organizations must adjust their approach to talent to include a

focus on the human capabilities that will enable workers to adapt quickly and continuously to disruption

- Explore how leaders and HR can develop, nurture and amplify these attributes in the flow of work
- Define what it means to be a learning organization (and how it isn't about the L&D department)
- Identify the importance of cultivating a learning culture for the future of work

We will continue to expand the knowledge and skills of those dedicated to employee development with the Workplace of the Future/Workforce Operations and Learning and Development Track, which includes a panel discussion on Executing in Today's Digital Realms: New Tools in Remote Learning, Customer Journeys and Construction Know-How.

Delivering Insights and Learning Techniques for a New Generation

Working with CableLabs, our collective mission is to create opportunities for our members to be the providers of choice in the markets they serve. We do this through ongoing training and education of our members and partners. At Cable-Tec Expo, we are focused on engaging our members through a network of like-minded people, participating in relationship-building activities, while generating new learning experiences.

Recognizing our mandate to help our members stay competitive, we are excited to hear from our signature speaker at this year's Expo, Dr. Jim Kirkpatrick, a visionary and an expert in training evaluation and the creator of the New World Kirkpatrick Model.



Using his 15 years of corporate experience, Jim trains and consults for organizations around the world. He assists learning professionals in redefining themselves as strategic business partners.

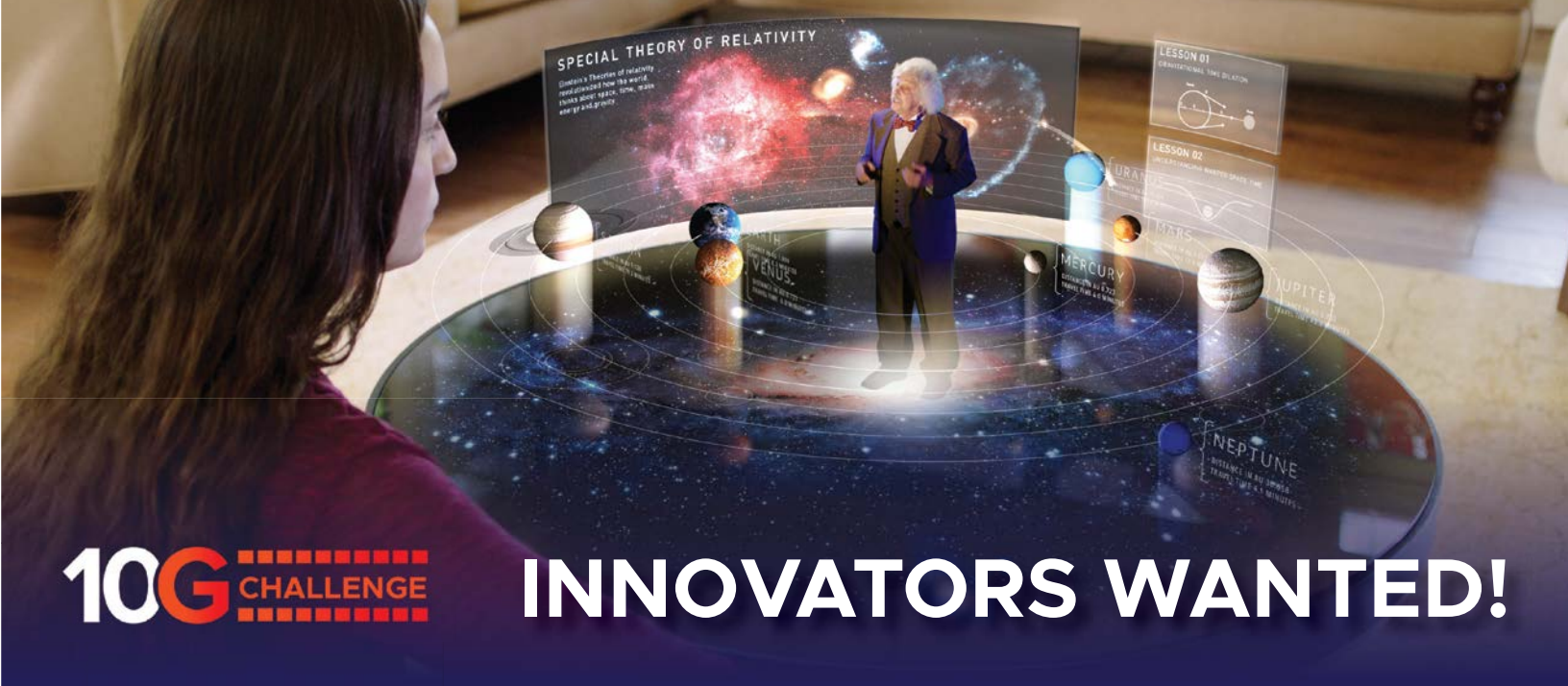
We know that Dr. Kirkpatrick's presentation will be but one highlight that will provide an experience to ensure that the learning and development we provide today will result in the enhanced knowledge and skills of our workforce tomorrow. Workforce development will rely on the latest technological advancements and understanding how the business can leverage them when external forces, like a pandemic, impact training programs. This track is for anyone across the organization who is focused on moving the business forward. As the world evolves, it's important to remember that learning should, too.

To learn more about this year's L&D experience at Cable-Tec Expo, visit our website. ■



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The 10G Challenge is looking for innovators developing new services, applications, or technologies that will require higher bandwidth, more speed, improved security and lower latency to operate.



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