

Video and the network: meeting the challenges, seizing the opportunities

by Grant Seiffert, President, Telecommunications Industry Association

Tremendous growth is expected from video-based applications, especially when WiFi-enabled TV sets are now available. While entertainment media is already swamping the networks and person-to-person video calling is becoming more popular, it is the M2M technology and business/government applications that are yet to hit the network infrastructure and bring about a capacity crisis. The way to resolve these issues can be laid at the regulators' doorstep, where freeing up the spectrum can help to unleash innovation. Consolidating mobile and fix technologies to improve efficiency of video delivery is another line of defence. All the stakeholders need to come together and discuss ways of encouraging innovation in video delivery and consider suitable solutions.



As President of TIA, Grant Seiffert oversees the policy, standards, tradeshow and marketing efforts for the leading advocate in Washington, D.C., for the information and communications technology (ICT) industry. TIA's member companies represent the entire supply chain of the ICT industry. These companies manufacture products, provide services and offer applications that transmit content by video, voice and data, thereby merging communications and entertainment options. As leaders in the industry, the companies and organizations participating in TIA develop and deliver communications innovations for consumers, government users and businesses alike, while improving productivity and access to information around the world.

Mr Seiffert joined TIA in 1996 as director of government relations. His main priority was the representation of the equipment industry's interests, particularly regarding competitive issues during implementation of the Telecommunications Act of 1996 by the Federal Communications Commission (FCC). He was promoted to vice president in 1998, directing domestic and global policy to help the association's supplier members gain marketing opportunities around the world. In that role, he oversaw policy, including interaction with the US Congress, the FCC and the Administration, as well as with international regulatory bodies and government leaders and fulfilling the senior management role for association membership and TIA tradeshow. He succeeded Matt Flanigan as president of TIA in January 2007.

Prior to joining TIA, Mr Seiffert served five years with Senator John McCain (R-Ariz.). He also serves on the Executive Committee of Connected Nation, the American National Standards Institute's (ANSI) CEO Advisory Committee, the Board of Directors of the Sustainable Technology Environments Program (STEP) and the Board of the National Science & Technology Education Partnership (NSTEP).

Grant Seiffert holds a Bachelor of Science degree in political science from Radford University. He and his wife, daughter and two sons reside in Mt. Vernon, Virginia.

The information and communications technology (ICT) industry is THE industry driving growth. We represent the engine that could do it. Despite global economic turbulence over the past few years, ICT has continued to thrive and support growth in other industries and the global economy overall.

In 2012, the Telecommunications Industry Association (TIA) forecasts that telecom

spending in the United States will top US\$1.1 trillion, international spending will reach US\$3.6 trillion, and combined spending will top US\$4.7 trillion. It is projected to surpass US\$5 trillion in 2013, according to TIA's 2012 ICT Market Review and Forecast.

What's helping to drive ICT growth is the explosion of video and data traffic on online and mobile platforms. TIA research

projects global Internet traffic to quadruple by 2015, the result of emerging cloud services, advances in data centres, growing penetration of smartphones and tablets, and large increases in video-streaming, to any device, anywhere, any time.

How much video is too much? For consumers, there's no such thing. Never enough is the answer. For example, Netflix alone said its customers watched

more than two billion hours of TV shows and movies through its streaming service during the fourth quarter of 2011. Over two billion videos are viewed every day on YouTube in 2011.

Broadband service providers, both fixed and mobile, now commonly provide TV as a part of their multi-service offerings. Today's operators, especially fixed operators, are showing strong interest in extending their TV service over multiple kinds of access and devices, in order to retain and expand their market position and grow new sources of income.

The market is segmented into IPTV and mobile TV offerings that utilize separate solutions in the network and service layers. However, offering both services today requires a duplication of user and content management functions, and a vertical approach with specific access technologies and devices in mind. What's more, these vertical systems are based on different sets of standards which were not designed with interoperability in mind. However, there are even greater challenges, as well as opportunities, out there.

The advent of connected TV will deliver tremendous new benefits and services, but the rise of this readily available 'over the top video' will bring an explosion that will severely strain networks that carry the video and the business model of parties that deliver the video. With WiFi connection ports being built into new TVs, the data and video content floodgates are now fully open.

Compounding the strain on the network is growing interest in face-to-face communication in social and web conversations, especially for Generation Xrs and Millennials. Because of exploding usage of Skype video FaceTime and similar products via Facebook and other collaboration software, face-to-face communications will become the 'must-have' requirement of today's business and youth culture.

Let's not forget that connectivity and bandwidth challenges will be dramatically affected by advances in machine-to-machine (M2M) communications and the 'Internet of Things'. M2M communication connects machines and devices so that they automatically transmit information and serve the growing demand for real-time information. It is growing

exponentially in multiple vertical markets. By 2020 there will be 50 billion connected devices in the world.

It is important to remember that connected technology is not all about entertainment. Consumer adoption of health IT is also increasing rapidly. According to the Pew Internet and American Life Project, 17 per cent of mobile phone users have looked up health or medical information on their devices. Health and Human Services Secretary Kathleen Sebelius recently pointed out that there are nearly 12,000 apps related to health at the Apples iTunes store.

Some of the new mobile apps are helping first responders during emergencies. In addition, video sent via cellphones by Emergency Medical Technicians is increasingly used by physicians to receive ECG (*Electro Cardiography*) results almost instantaneously, saving critical minutes that can make the difference between life and death. However, these apps and technologies are equally reliant on the network as mobile video entertainment. In other words, broadband service providers have their work cut out for them to build new infrastructure and innovate to enhance capacity for existing networks.

Innovating to solve the capacity crisis

The solution to the capacity crisis is innovation. The ICT industry created the online, mobile multimedia boom by innovating. No industry is better prepared - not only to meet that challenge but to fully embrace and exceed it.

The top priority for broadband service providers is spectrum for mobile broadband. Spectrum is scarce and spectrum reallocation is a time-consuming process in Washington. While TIA continues to strongly urge Congress to grant the FCC authority to conduct spectrum auctions to alleviate the spectrum crunch, the current reality is that we are arriving at a choke point for mobile broadband.

While the battle for spectrum is waged in corporate boardrooms and congressional hearing rooms, the industry needs to look for 'end-around' solutions. To advance innovation, what is needed now is a climate to allow broadband network innovators to thrive and deliver solutions to enable the online media boom to continue.

It's simple: Congress and the federal government need to free our industry from burdensome regulation that interferes with innovation. When ICT companies are free to innovate, nobody does it better, and that's when investment in innovation will follow.

Investment in backbone infrastructure

Another major factor in solving the capacity issue is investment. Surging Internet and mobile traffic will require high levels of ongoing infrastructure investment. TIA predicts that spending on combined wireless and wireline infrastructure will near US\$70 billion in 2012.

Here we must mention progress in network convergence. Distinctions between wireline and wireless networks are now blurred beyond recognition. It's one network, plain and simple. The fact is, no wireless network can function without land-based infrastructure. The backbone infrastructure is critical to mobile backhaul of data and video. Without it, mobile speeds will slow to a crawl.

Other solutions on the horizon

One new frontier for the ICT industry will be the emergence of applications developed for the network. Mobile device applications will continue to be hot topics in the consumer segment but network applications will emerge in business-to-business (B2B).

In addition, development of interoperable technology standards for M2M and smart device communications across vertical markets is critical. TIA is collaborating with other standards developing organizations to tackle this problem.

To address all of the issues mentioned above and many others TIA organizes an annual exhibition and conference in Dallas. The ongoing industry-wide conversation that began at last year's stimulating event is focused on how innovating will expand network capacity to meet demand. All stakeholders should join this discussion that covers innovation in content delivery to devices over the converged network. ●