

## Future Trends for Business Communications

The panel included Brian Iddon, Venus, Kate Rennicks, Metronet, Peter Taylor-Medhurst, Continuo Creative, Roger Keenan, City Lifeline, and was chaired by Andrew Glover, Bridge Fibre. In general, there was consensus amongst the speakers that whilst speed was often the first thing businesses think about when purchasing broadband packages, reliability was just as important and the key to sustaining business custom.

The key points were:

- Peter Taylor-Medhurst, MD of Continuo Creative, argued that now businesses such as his had seen how much technology could improve their business they would want more - faster, cheaper, and more reliable services, offered throughout the country.
- Brian Iddon, Director of Venus, stated that the availability of technology had changed the way business was conducted and argued that if London wants to keep pace with New York and Hong Kong we need to keep improving connection speeds.
- Roger Keenan, MD of City Lifeline, predicted that in the next few years we will see the death of in-house data centres, with more and more businesses moving to public cloud, private cloud, or hybrid cloud solutions.
- Kate Rennicks, Head of Digital Development at Metronet, highlighted the impact the internet is having on where businesses are located. Superfast capabilities are now one of the most important considerations for businesses when letting a property, she added.
- Taylor-Medhurst argued that whilst speed may bring customers to your door, it was reliability that was the key for keeping business customers happy.

## Keynote 1: Ashley Stephenson, Corero: DDoS Protection: Past, Present & Future

The first keynote of the day was from Ashley Stephenson, CEO of Corero, who focused on the importance of preparation in avoiding DDoS attacks.

His key points were:

- DDoS attacks are becoming more and more common, with Corero customers facing on average four DDoS attacks a day, with certain industries facing far more.
- He emphasised that the best form of defence in terms of DDoS was preparation, you cannot come along after an attack and fix things retrospectively, you need to have the technology installed prior to the attack.
- DDoS now present a greater challenge for businesses than natural disasters and power outages; DDoS threatened businesses more than any other factor.

## The Future of Investigatory Powers

The panel included Leigh Porter, Yaana Technologies, Joanna Cavan, Interception of Communications Commissioner's Office, Malcolm Hutton, LINX, Calum Jeffray, RUSI and was chaired by Glyn Gaskarth from Policy Exchange. The panel welcomed the new legislation, but expressed concern over the lack of clarity around definitions and how the new Bill may affect business.

The key points were:

- Joanna Cavan, Head of IoCCO, said that replacing several acts with one law would make obligations on ISPs simpler, while new oversight arrangements will generate more transparency. However, she also expressed some concerns and highlighted that 80% of the 550,000 communications made to CSPs were related to crime as opposed to terrorism.
- Malcolm Hutton, Head of Public Affairs at LINX, said the 'request filter' could be used as a search engine and the Bill needs to clarify the level of intrusion of the technology used. He further said that attempts to undermine encryption could hamper trust in online services. He also highlighted that compliance with the new rules would bring about opportunity costs that could not be recovered.
- Calum Jeffray, Research Fellow at RUSI, said the cost of storing data is high, but welcomed the new single Investigatory Powers Commissioner.
- Leigh Porter, Principal Solutions Architect at Yaana Technologies, stressed that not all ISPs will be compelled to retain data, and Yaana have developed a compliance solution that helps ISPs reduce the costs and time in complying with data retention.

## Keynote 2: Joe Garner, CEO, Openreach

Joe Garner, CEO of Openreach, delivered the second keynote of the day, he focused on the progress that had been made in terms of bandwidth capability in the past decade and took the opportunity to defend Openreach against some of the criticism it had faced.

His key points were:

- Demand for bandwidth will continue to grow, however, with innovations like G.FAST and XG-FAST he was confident that innovations will always be able to meet the growing demand on bandwidth.
- 10% of the UK GDP now comes from the internet, a figure he could only see growing in coming years, he was thus pleased about the Government announcement that there is to be a 10 Mbps USO.

- Whilst Openreach had taken some criticism for not moving straight to FTTP rather than using the copper network, he highlighted that BT had built more FTTP than any other provider in the UK and would continue to do so.

## **A Future Environment to Increase Investment**

The panel included Joe Garner, Openreach, Clive Carter, Ofcom, Dana Tobak, Hyperoptic, David Rodman, Virgin Media, Phill Oliver, Fluidata and was chaired by Andrew Glover, Bridge Fibre. The panel focused on the upcoming Ofcom strategic review, the 10 Mbps USO, and structural separation of BT and Openreach.

The key points were:

- Clive Carter, Director of Strategy at Ofcom, questioned what the right environment was for investment, stating that people in the industry were divided on what was the best thing to do about competition in fixed networks.
- David Rodman, Director for Regulation and Public Policy at Virgin Media, said that evidence shows that the best competition is between end-to-end providers.
- Dana Tobak, MD of Hyperoptic, asked who was going to pay for the new Government USO, shouting 'legal right' doesn't really mean anything without information on how the project is going to be funded. Joe Garner, CEO of Openreach, stated that the decision over who would fund the USO was ultimately a political one.
- On structural separation, Garner challenged the audience on why it should happen. Tobak suggested that perhaps Openreach separation could lead to shareholders wanting a better mix of FTTC and FTTP. When an audience member suggested that BT is an anchor tenant for Openreach, Garner responded saying that 40% of their revenue does not come from BT. There was also a suggestion from the audience that there had been positive outcomes driven by retail broadband competition, thus, infrastructure competition could lead to an improved service.

## **Future Technologies: What will the Technology Enable?**

The panel included Dr Tim Whitley, Research & Innovation and Adastral Park, Gerry Foster, University of Surrey, Matthew Hare, Gigaclear, and was chaired by James Blessing, Keycom. The focus was on the new technologies being developed, G.FAST and 5G, as well as the challenges faced in getting new technologies to the market.

The key points were:

- Matthew Hare, CEO of Gigaclear, said that by using Nielsen's Law of internet bandwidth, we can predict that households will need 10Gbps by 2023.
- Dr. Tim Whitley, MD at Research & Innovation and Adastral Park, said G.FAST will help to deliver ultrafast speeds, G.FAST is all about maximising capacity on the spectrum passing through copper, but the challenge for BT is to successfully deploy G.FAST as the spectrum able to hold 300mbps doesn't travel far.
- Dr. Whitley also discussed xG.FAST which he described as indicative of the way research was going. In laboratories XG-FAST delivered speeds of 5.5Gbps over 35m & 1.8Gbps over 100m.
- Gerry Foster, 5G Systems Architect, University of Surrey said that 5G is still in development, and the challenge is how one network can serve IoT apps & mobile broadband users. He also stated that we would have twenty years of 5G. When challenged on this by James Blessing, CTO at Keycom, Foster stated that whilst 3G was massively over engineered it was still in usage and argued that 20 years was a reasonable amount of time for new radio innovation.

## **Future Technologies: What will the Technology Enable?**

The panel included Mark Carnighan, Arista Networks, Gerold Arheilger, Xantaro Group, Walter Rossi, Daisy Group and was chaired by James Blessing, Keycom.

The key points were:

- Gerold Arheilger, CTO of Xantaro Group, spoke about how ISPs can benefit from systems integration. Xantaro Group has grown from 27 people to 110 this is because ISPs want services closer to the edge.
- Mark Carnighan, Head of Service Providers at Arista Networks, said he'd like access to dark fibre and gave examples from US to show how they've been better able to offer services.
- Arheilger stated that people can become virtual network operators offering services like MVNOs currently do.
- Walter Rossi, Director of Architecture and Strategy at Daisy Group, said that big data offered big opportunities for ISPs.
- Rossi advised that it was important that ISPs using SDN ensure resilience & security.