Telstra and Ericsson conduct a live trial of LTE Broadcast technology
CUSTOMER PROFILE

Telstra is Australia’s leading telecommunications and media company, with an international presence spanning 15 countries. Telstra builds and operates the country’s largest and most reliable national mobile network and markets voice, mobile, internet access, pay television and other entertainment products and services. It has 16 million mobile services, 6.2 million fixed voice services, 3 million retail fixed broadband services and, through a 50 percent joint venture, 2.6 million pay television services.

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Now more than ever, network performance and customer satisfaction are extremely high on the agenda for all operators. Providing a superior experience across all environments can be challenging – particularly at large-scale events, where multiple users are concentrated in one location. In this situation, available spectrum and network resources can be pushed to the limit.

First of its kind

In what was the first demonstration of its kind, Telstra set out to plan and execute a trial for LTE Broadcast technology at a large stadium. Working in partnership with Ericsson, it was able to successfully deliver high quality, live footage to multiple users at a T20 cricket game at the Melbourne Cricket Ground. The trial took place during a match between Australia and England, with approximately 65,000 people in attendance. The broadcast session ran continuously for five hours, without any system or device failure.

Three dedicated streams of content were broadcast to participants: live coverage, highlights and statistics. By using a specially designed application and LTE Broadcast-enabled device, participants were able to select the content of most interest to them. Broadcasting just a single stream allows an unlimited number of users in the broadcast areas to receive the content they are looking for, ensuring a high-quality user experience while making the most efficient use of spectrum.

“The purpose of the trial was initially to understand the LTE Broadcast technology when lots of people are close together in a stadium,” says Mike Wright, Group Managing Director, Networks, Telstra. “We were able to stitch together virtually an end-to-end simulation of taking a live game and broadcasting it back over the LTE network. We can understand a bit about how the cells interacted, but also what’s involved in creating a whole solution.”

Untapped potential

Throughout the trial, Telstra and Ericsson worked closely together to build and deliver end-to-end LTE Broadcast network capabilities. This involved the development of the LTE Broadcast-enabled application for live video streaming, as well as configuration and optimization of LTE Broadcast-enabled handsets. These handsets featured the activation and tuning necessary to enable the solution via Ericsson’s LTE base stations.

In addition, further work was required on the mobile backhaul and wireless core, followed by integration with Telstra’s IP core to bring about multicast services. The final stage was to integrate with Ericsson’s live video encoding servers, providing a true end-to-end solution across multiple domains in the network. Engineers on both sides worked hard through various challenges in order to deploy a ground-breaking world first.

The solution enables new revenue models for premium content, and efficiently utilizes LTE spectrum and network resources. It offers high quality video content to anyone, anywhere, anytime – without buffering. Unique content can therefore be delivered concurrently to a large number of subscribers, for example multiple video feeds showing different angles, close-ups or replays during live events.

David Everingham, CTO of Telstra Account, Ericsson, believes that the full potential of the technology has yet to be fully realized. “There’s a wide range of applications LTE Broadcast can enable, for example machine-type devices and connected cars, as well as augmenting public safety and emergency service broadcasts,” he says.
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A unique opportunity

The trial demonstrated that the LTE Broadcast solution works, and that it does so effectively in a stadium environment. Instead of requiring approximately 2GB of data per user to stream one content channel of the game, Telstra was able to serve every one of the LTE Broadcast users with 3 concurrent streams, requiring a total of 6GB for the entire broadcast. This clearly demonstrates an efficient use of spectrum. The outcome means there is great potential to provide new services to attendees at sporting or other entertainment events.

In all, the LTE Broadcast solution presents unique opportunities for MNOs to improve customer experience and increase customer loyalty. It enables users to enjoy faster access to content and improved video quality, all without buffering. The trial was a world first, for which Telstra and Ericsson received the prestigious 2014 Telecoms.com Industry Award for the category ‘Pushing the Limits Mobile’.

In trialing the solution, Telstra and Ericsson are now paving the way for worldwide adoption.

“Telstra and Ericsson have a long history together,” says Mike Wright. “We have done a lot of world firsts, and we tend to break a lot of new ground – particularly in the wireless broadband space. This is just another example.”

Significant savings

As multi-screen usage becomes more popular, consumers have become used to this fragmented way of viewing the world in many aspects of their lives – adding an extra digital layer to their everyday experiences. In this instance, the LTE Broadcast solution turned a simple cricket game into an experience that could be personalized, offering greater detail and insight.

In the years to come, this technology has the potential to grow much further. It has a wide variety of possible uses, such as the ability to send updates and content to digital signage or billboards. Consumers will also be able to enjoy pre-loaded updates, meaning they don’t need to wait for downloads in high-traffic situations. Ultimately, spectrum efficiency translates into significant capex savings for operators, meaning they are free to invest in other services or reach more users.

Overview

Customer

Telstra, Australia

Challenge

Showcase live video and large file delivery over Telstra’s LTE network.

Broadcast live video coverage to multiple users at the Melbourne Cricket Ground.

Deliver unique content concurrently to individual subscribers, while efficiently utilizing network spectrum and resources.

Solution

Ericsson LTE Broadcast solution.

Software updates.

Consulting and System Integration services.

Results

Proof that the solution works, paving the way for new services at live events.

Telstra was able to serve all participants, using just 6GB for the entire broadcast.

Users received a superior experience, with access to unique content.

Efficient use of spectrum.