CASE STUDY

ZTE and Thales deliver effortless instant connectivity for Fixed Wireless Access (FWA)

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ZTE and Thales have worked together to create a wireless Gateway Router, an FWA device that makes it easier than ever for Mobile Network Operators (MNOs) to enter this fast growing consumer IoT market.

Thales Instant Connect (TIC) supports ZTE's innovative new Gateway Router solution, based on eSIM (embedded SIM technology) eliminating the need for MNOs to pre-load SIMs and subscriptions, or for end users to connect their devices to cellular networks via Bluetooth.

Fixed wireless vs cable: changing the rules of home broadband

But what is FWA?

FWA internet is a game changer for home broadband. This disruptive consumer IoT technology means householders no longer need to wait days or even weeks for an engineer to visit and install a router to a cable network. Instead, consumers enjoy instant, ultra-fast wireless broadband via a simple plug-and-play device.

Not surprisingly, FWA represents a huge commercial opportunity for MNOs. By leveraging their existing cellular networks and, in particular, the latest 5G technology, MNOs can use Gateway Routers to deliver an unparalleled user experience. What's more, FWA dramatically reduces the cost and complexity of providing a home broadband service to new subscribers. The potential market is also significantly bigger. Unlike conventional home broadband, FWA is not dependent on access to cable infrastructure. MNOs can deliver home broadband to any location covered by their cellular networks.

Recent research highlights how FWA is transforming the broadband landscape. According to a 2024 report from Ericsson, the number of FWA connections worldwide will grow from 100 million in 2022 to 300 million by the end of 2028. Nearly 80% of those 300 million connections are expected to be enabled by 5G FWA. By 2028, 17% of fixed home broadband connections will be FWA.

Addressing the challenges of instant connectivity

For MNOs, this new consumer IoT market offers considerable potential to address critical commercial objectives. Around the world, MNOs face an increasingly saturated market. Profit margins are under intense pressure. Significant investment is being committed to the roll-out of 5G networks. In response, MNOs are seeking to create new revenue streams, boost return on capital expenditure, and achieve greater differentiation. In theory at least, FWA ticks all these boxes.

However, FWA still presents MNOs with some significant challenges. These include the need to make connecting LWA (LTE-WLAN Aggregation) devices to cellular networks as straightforward and efficient as possible. Connectivity solutions also need to provide a smooth and seamless experience for end users.

Traditionally, MNOs address these issues by pre-loading a SIM and subscription into an FWA device before it is despatched to the end user. However, these must be adapted specifically to the country in which it is being used, and the customer who is going to use

it. This adds considerable headwind to the MNO's logistics and supply chain. Multiple different combinations of SIMs, subscriptions and devices are required to target different markets. Costs are increased, and verifying each of these variants puts the brakes on time to market.

An alternative approach involves fitting devices with an initial 'bootstrap' connectivity mechanism. This is activated by the end user via Bluetooth and triggers the download of the MNO's permanent subscription. In this case, issues are encountered when the FWA device reaches the customer. Expecting the subscriber to use Bluetooth to activate th mobile subscription represents a far from ideal user experience. If the subscriber has difficulty setting up their device, the MNO is likely to see a costly increase in calls to its customer support team.

Thales Instant Connect: an out of the box solution for ZTE

ZTE, a leading global manufacturer of smartphones, tablets and mobile internet devices, collaborated with Thales to develop a new 'white label' solution that transforms the FWA experience for MNOs and end users alike. ZTE's new FWA design streamlines the MNO's supply chain and logistics, and simplifies activation of new subscriptions.

ZTE's new approach leverages the innovative Thales Instant Connect (TIC) service. TIC is a patented and proven solution, based on a specially designed app that is integrated in a Thales eSIM (embedded SIM). This app operates in conjunction with a Thales server to provide initial connectivity for the FWA device, and facilitates seamless download and activation of the MNO's permanent subscription.
As a result, ZTE's FWA device does not require MNOs to pre-load a SIM card and/or subscription prior to despatch to the end user. Moreover, there is no need for an additional and clumsy initial connectivity mechanism. When the customer switches on their FWA device for the first time, the correct subscription is downloaded and activated automatically, remotely. Customers enjoy a true plug-and-play experience, straight out of the box.

Streamlining logistics and optimising the user experience

The new ZTE device enables MNOs around the world to launch compelling, branded FWA services, quickly and efficiently. Thanks to TIC, the MNO provides a 'one touch' user experience that matches the highest expectations of today's consumers.
A single SKU (Stock Keeping Unit) can serve any number of different countries and customers. Product inventory is simplified and minimised.

The ZTE solution continues to deliver benefits throughout the product lifecycle. Subscriptions can be changed remotely at any time. In some countries, local regulations do not permit mobile subscriptions to be moved from one region to another. TIC provides the connectivity for seamless remote download of a new subscription. Similarly, if a customer chooses not to renew their FWA subscription, the ZTE device can be recovered by the MNO, refurbished, and despatched to a new customer. This optimises the return on their investment in FWA devices, and minimises electronic waste.

Building the future of the consumer and industrial IoT

The eSIM and TIC will play a key role not just in the future of the LWA market, but throughout the consumer and industrial IoT ecosystems. Crucially, the combination of eSIM and TIC will provide the foundations for massive numbers of simple, remote devices to communicate securely and reliably via cellular networks, and for their mobile subscriptions to be managed efficiently over lifecycles that extend many years into the future. By providing the right solutions for OEMs, MNOs, IoT service providers and end users alike, the eSIM and TIC will help the IoT to flourish, and facilitate a world in which billions of devices as well as people are permanently connected to one another.

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