EE's 5G SA Launch: A Platform for Multi-Year Service Extension

UK operator EE sets a high bar for European 5G SA network coverage and capability.

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BT-owned EE, the leading UK mobile operator by subscribers, revenue, and network size, has launched 5G standalone (SA). It is the third operator to launch SA in the UK after Vodafone and O2. EE believes it has a more compelling network offer that will translate to a better customer experience and be more attractive to ecosystem partners such as device makers, gaming companies, streamers, artificial intelligence (AI) providers, enterprise vendors, etc.

Heavy Reading attended the launch, which was hosted by Marc Allera, the CEO of EE and the Consumer Division at BT Group, and Howard Watson, BT's chief security and networks officer. The 5G SA launch was combined with the introduction of Wi-Fi 7 for residential fiber customers. Both executives underscored that the wider network strategy is to give customers the best experience wherever they are, on any device, and across fixed, mobile, and Wi-Fi.

5G SA network strategy

This note focuses on the network aspects of EE's 5G SA launch. The key points are as follows:

- **SA is live in 15 cities and will expand rapidly into new markets. SA cities enjoy a minimum of 95%, and typically 98%, outdoor coverage**. On paper, this level of SA coverage puts EE launch cities in the same league as the world's strongest SA networks. SA will be networkwide by the end of 2028, at which point EE expects to provide 5G coverage to greater than 90% of the UK landmass (vs. 40% currently). Initially, SA service will be limited to high end devices and require an SA service plan.

- **EE upgraded 30,000 cells (equivalent to 9,000-plus cell sites) for the SA launch.** The launch markets cover major urban areas served by Nokia and Ericsson 5G RAN equipment (both vendors deliver similar performance, according to the lead RAN engineer for the SA deployment). Each market is typically served by five or six SA carriers across 700MHz, 1800MHz, 2.1GHz, 2.6GHz, and 3.5GHz. This deep SA

spectrum allocation differentiates EE from its UK competitors and many of its European peers. On the device side, the current state-of-the-art is four carrier aggregation (4CA).

- **700 MHz enables superior coverage for 5G SA.** EE's 700MHz band is dedicated to 5G, which means it can serve as an SA anchor to enable better coverage (especially indoors) than EE currently achieves with LTE or 5G non-standalone (NSA) (which anchor on 1800MHz). In this sense, the spectrum strategy is similar to how T-Mobile US uses 600MHz to enable widespread SA.

- **The 5G SA core is based on a cloud native mobile core, which supports 4G, 5G NSA, and 5G SA access and runs on BT's in-house telco cloud platform.** Building a cloud native core platform has been a major engineering investment for BT. The 5G SA user plane is deployed nationally at 16 edge locations, and the control plane at 8 locations.

End-user services, AI, tariffs, and bundles

EE is packaging the SA network with devices and service plans. It intends to create a well-rounded offer that showcases SA capabilities for customers on its higher tier service plans. Securing premium customers is the initial way EE expects to generate revenue from SA. Various other monetization models will follow (enterprise services, etc.).

At the time of launch, a Motorola phone was the only compatible device; however, high end Samsung devices are imminent. None of the EE representatives would be drawn to comment on iPhones, but given that EE is relatively close to Apple and is highly focused on network quality, there is a good chance that the iPhone 16 will be offered in due course. EE also showed a 5G SA fixed wireless access device with Wi-Fi 7 designed in-house and based on Qualcomm chipsets.

EE introduced a partnership to bundle the Google One AI Premium service with its top 5G SA plan. The company's CEO believes AI services will drive demand for new AI-optimized devices and high tier service plans. AI was a prominent topic throughout the launch presentation.

Differentiated connectivity

Building on the theme, BT discussed how it is working to optimize its networks for AI. There was little detail, but the best AI experience does not necessarily only mean the fastest connection, said CEO Allera. The inference (pardon the pun) is that latency, routing, edge computing, and so on are also important. Allera referenced working with Samsung to optimize the AI experience on Samsung devices across the SA network.

Watson, BT's chief security and networks officer, identified network slicing as a benefit of SA. Nothing concrete was announced in terms of commercial services. But in the demo area, the EE representatives showed how network slicing could protect services for gamers in congested conditions. They explained that the technology could also be applied to other services, such as payments.

For Android devices where users have both a work and personal profile, the company showed how UE Route Selection Policy (URSP) can protect the work experience if congestion occurs. Heavy Reading has seen multiple versions of both demos by vendors over the years. A major operator showing the service concept to industry media and analysts perhaps indicates network slicing is moving closer to the commercial mainstream.

For LTE and 5G NSA customers, EE introduced Network Boost, a capability to give customers higher-than-average throughput versus those without the boost feature. In essence, this is a way to prioritize radio resources to premium users over regular users if/when congestion occurs. Network Boost is available on higher tier service plans.

A platform for service extension

EE emphasized that the launch of the 5G SA network is a step on a multi-year journey. The RAN engineering work, the core network build, and the collaboration with device makers and ecosystem partners represent a major technology investment for EE. This makes for a creditable and serious launch that establishes a competitive baseline for SA coverage and performance in Europe.

The launch is just a baseline, however. Over time, expect a much wider range of services on the SA network—from more advanced consumer services to services that reach deep into the business market. For EE, 5G SA is a platform investment that will enable service innovation over the next decade.

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