



*Clear. Creative. Communications.*

Ronan Scanlan  
Principal Case Officer,  
Competition and Markets Authority  
Victoria House  
Southampton Row  
LONDON  
WC1B 4AD

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By e-mail

Dear Ronan

**Reference: Proposed acquisition of EE Limited (“EE”) by British Telecommunications plc (“BT”) - Supplementary submission regarding wireless hotspots.**

**NON-CONFIDENTIAL**

The telecommunications market is moving towards a position where business and residential subscribers will expect continuous data connectivity for their mobile devices, with a minimum reliable data rate (and this expected minimum, which we consider to be 4 megabits per second will rise with time), with near universal coverage and seamless transfer between access methods. They will not expect to need to be concerned about the actual radio access method in use, and who owns which elements of the radio access. This effect will be compounded by ever increasing total usage of data services in transit, which, given a finite amount of spectrum, will eventually lead to saturation of the resource unless something changes.

To avoid this in the UK there will need to be an increasingly larger number of ever smaller cells, including WiFi nodes which can act as a small cell, making optimum use of both licensed and unlicensed spectrum.

In order for a supplier of mobile services to compete they are likely to need access to all connectivity methods, including as many WiFi nodes, as possible, so as to manage their costs and be able to offer competitive prices and services to subscribers who require data capabilities that meet their current and future expectations.

Presently, Mobile Virtual Network Operators can be squeezed as data usage rises by the perpetuation of the wholesale ‘per megabyte’ charge currently common for radio access using licensed spectrum; which may over time mean they are unable to compete with Mobile Network Operators and/or those with access to a large network of WiFi cells, where the incremental cost of carrying extra data may be small compared with masts and licensed spectrum.



Control of the bottleneck asset (WiFi and licenced spectrum applied across geography capable of meeting users' data expectations) can be exerted in several ways including:

- 'ownership' of licensed spectrum
- Control (ownership or contractual restriction) of the key locations for providing smaller cells including WiFi hotspots

BT claims to have at least 5 million WiFi hotspots<sup>1</sup>, which appears to have been achieved by ensuring that their substantial (if not dominant) position in the provision of residential broadband is exploited by deploying customer premises equipment which has its own WiFi hotspot service set to on as a default<sup>2</sup>.

This set of 5m hotspots is therefore a substantial proportion of the UK geographical radio access coverage capable of handling a high aggregate data rate. Also there may be areas in buildings where the only realistic radio access is via WiFi hotspots controlled by BT. For the avoidance of doubt, the evolution of voice services such that the voice traffic is carried as data means that Voice over WiFi will become as equally ubiquitous as Voice over LTE and therefore references herein to voice and data are essentially interchangeable. What this means is that WiFi hotspot operators may have a dominant, even monopoly position in the provision of in-building voice and data coverage in certain locations where traditional spectrum coverage is weaker.

Without a direct commercial relationship with millions of individual consumer and business broadband customers, this network of cells would be very difficult to replicate. When combined with the licenced spectrum holding of EE this gives BT control of a significant part of the effective data handling capacity via radio access in the UK.

We are concerned that BT would be able to exploit this control so as to prevent competitors from being able to offer comparable seamless and pervasive high-speed connectivity to mobile users.

This could be achieved by methods including;

- a failure to resell wholesale access to the hotspots at realistic rates;
- pricing models which squeeze for certain usage profiles;
- technical delays and blocking or disruption to the signaling that would otherwise enable, for instance, handover of voice calls and data sessions between licensed cells and WiFi cells<sup>3</sup>.

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<sup>1</sup> Shown front and centre at <http://www.btwifi.com/>

<sup>2</sup> We are unclear as to the contractual basis for this or whether the end user receives any inducement in return.

<sup>3</sup> We note the recent passing by the European Union of a regulation regarding so-called net neutrality, but that generally covers the handling of traffic at a network core and does not, *prima facie*, cover scenarios where firmware of edge router equipment *et cetera* could be the root cause of disruption.

- where the WiFi operators prefer their own retail customers such as could be the case with BT favouring EE subscribers across its own WiFi hotspots, be that technically or commercially.

The underpinning technology to allow seamless roaming between fixed WiFi and traditional licenced spectrum is evolving at a rapid pace; the Apple iPhone 6 on EE already supports voice over WiFi for example and with the upgrade rate of handsets, it is easy to see how this technology could become pervasive even within the timescales of the review of this proposed transaction.

To that end, we would suggest that when considering possible remedies around the protection of access to mobile networks on a wholesale basis, the Competition and Markets Authority also considers the need for comparable access to WiFi and not just traditional spectrum.

As ever, we are at your disposal to discuss the issues raised herein.

Yours sincerely,

Peter J Farmer  
Head of Regulatory Affairs

Cc Ed Leighton, Office of Communications Strategic Review of Digital Communications Team