



Reference:1508/9231/2009

For the attention of:

13 November 2009

Merja Saari
Anu Kettunen

Viestintävirasto
PL 313
Itämerankatu 3 A
00181 Helsinki
Finland

Dear Ms. Saari and Ms. Kettunen,

Request for clarification: Tethering on iPhone

Apple Inc. (*Apple*) has been passed a copy of FICORA's request for clarification, dated 13 October 2009, addressed to TeliaSonera Finland Oyj (*TeliaSonera*) concerning tethering on Apple's iPhone. Apple has been contacted by TeliaSonera in that regard and, in order to assist FICORA, Apple has set out below some additional information concerning the tethering function on iPhone that it hopes FICORA may find helpful.

The first point to note is that tethering is a new and novel feature on iPhone. This functionality has only been possible since the introduction of iPhone OS 3.0 which was released as a free software update for iPhone 3G on June 17, 2009 and was provided on iPhone 3G S which was launched in Finland in July 2009. Apple has introduced tethering on iPhone as it is a feature that some consumers value and Apple is always working to extend the features, functionality and services that can be provided to new and existing iPhone consumers. However, because tethering can involve significant volumes of data, it also has particular potential to create network congestion and other network management issues for carriers worldwide, which, if not managed carefully, might have a material impact on consumers' experiences of using iPhone (and the carriers' networks generally). Some mobile carriers worldwide do not allow tethering on their networks under any circumstances and these carriers have been concerned about the potential for iPhones to be used for tethering on their networks.

As a result of these risks, Apple has adopted a careful approach to the introduction of tethering and has not introduced it as a generally available feature. In order to enable iPhone tethering on its network, a mobile carrier must first enter into discussions with Apple to define the iPhone carrier settings so that potential network issues are minimized. The carrier settings, among other things, specify whether tethering will be allowed, and if so, whether it will be provided on a pre-

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specified dedicated carrier "Access Point Name" (APN) or included in the on-device data APN. In order to ensure that an iPhone user will be able to continue to enjoy a high quality of service and utilise the full range of iPhone functionality while tethering, Apple also tests that the carrier settings and the APN configurations on the mobile carriers' networks do not cause device data or multimedia messaging service (MMS) or voice calls to cease functioning while tethering. Mobile carriers that (i) have defined carrier settings for iPhone, (ii) have undergone such a testing process and (iii) have a commercial agreement with Apple, including whether the carrier will or will not offer tethering functionality on the carrier's network, are referred to herein as "Supported Carriers".

Currently, the only mobile carrier in Finland that is a Supported Carrier is TeliaSonera, though Apple has no agreement with TeliaSonera that would prevent other carriers in Finland from becoming Supported Carriers and offering iPhone tethering on their networks. TeliaSonera has agreed to allow iPhone tethering on its network.

Following the introduction of iPhone OS 3.0 in June 2009, Apple became aware that some consumers were "hacking" their iPhones to enable tethering manually in circumstances where either their mobile carrier did not yet support this service or where the relevant mobile carrier had decided not to allow the use of its network for such purposes. This led to concern from mobile carriers worldwide (although not specifically in Finland) that iPhones could be "hacked" in a manner that could cause network congestion problems, reduce consumers' ability to use services such as on-device data, MMS or voice calls while tethering or allow use of iPhone to bypass carriers' billing systems in respect of charges for tethering services (where the carrier charges additional fees for tethering). Apple was also concerned that this type of iPhone hacking could adversely impact not only the unsupported carrier's network but also the users' experience on such network.

As a result of the concerns of some mobile carriers since the launch of iPhone OS 3.0, Apple released the iPhone OS 3.1 software update on September 9, 2009, [REDACTED]

[REDACTED] The effect of this update is that iPhones running iPhone OS 3.1 are only able to activate the tethering functionality on the networks of Supported Carriers. As iPhone's operating system is designed and built as a single software load for worldwide deployment, the additional carrier settings verification process provided in iPhone OS 3.1 took effect on a worldwide basis. In Finland, as TeliaSonera is currently the only Supported Carrier, the practical effect is that iPhone users in Finland are only able to use the tethering function on TeliaSonera's network. Consumers that "hacked" their iPhone in order to enable tethering on the network of an unsupported carrier (in Finland or elsewhere) are no longer able to use tethering if they have upgraded their iPhone's operating system to iPhone OS 3.1.

Apple would like to make the tethering service available to as many consumers as possible worldwide, including in Finland, provided that the legitimate concerns of the carriers and Apple regarding network congestion, user experience, continued functioning of other key iPhone features while tethering, and other issues can be addressed. Apple is therefore currently working on a software implementation whose goal is to extend the tethering service to all mobile carriers worldwide (regardless of whether the carriers are Supported Carriers or unsupported carriers), while allowing mobile carriers to "opt out" of this service if they have specific concerns about tethering on their networks. If this software implementation can be developed it will permit the use of tethering on unlocked iPhones on any carrier in Finland, unless the carrier specifically opts out of the service. [REDACTED]

The underlined phrases above are business secrets of Apple and Apple asks FICORA to handle these parts of this letter as confidential under paragraph 24, section 1, subsection 20 of the Act on the Openness of Government Activities (21.5.1999/621).

We trust that this information is helpful and would be happy to provide any further clarification you may require.

Sincerely,



Catherine A. Novelli
Vice President, Worldwide Government Affairs
Apple Inc.