UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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NOKIA SOLUTIONS AND NETWORKS US LLC and
NOKIA SOLUTIONS AND NETWORKS OY,
Petitioner,

v.

HUAWEI TECHNOLOGIES CO. LTD.,
Patent Owner.
_____

Case IPR2017-00592
Patent 8,798,575 B2
_____

Before JENNIFER MEYER CHAGNON,
MICHELLE N. WORMMEESTER, and CHRISTA P. ZADO,
Administrative Patent Judges.

WORMMEESTER, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Nokia Solutions and Networks US LLC as well as Nokia Solutions and Networks Oy (collectively, "Petitioner") filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claims 1–3, 5, 8, 9, 11, 16, 17, and 19 of U.S. Patent No. 8,798,575 B2 (Ex. 1001, "the '575 patent"). Huawei Technologies Co. Ltd. ("Patent Owner") filed a Preliminary Response (Paper 7, "Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted "unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." For the reasons that follow, we decline to institute an *inter partes* review.

II. BACKGROUND

A. Related Proceedings

The parties identify the following federal district court case involving the '575 patent: *Huawei Technologies Co. v. T-Mobile US, Inc.*, Case No. 2:16-cv-0055 (E.D. Tex.). Pet. 1; Paper 6, 2. The parties also identify several other related petitions for *inter partes* review. Pet. 1; Paper 6, 2.

B. The '575 Patent

According to the '575 patent, there is a wide range of available packet data services, including e-mail services, browsing services, and file transmission services. Ex. 1001, 1:19, 2:51–57. A user may access multiple services based on one activated Packet Data Protocol Context (PDP Context). *Id.* at 2:51–60.

The '575 patent notes that different charging policies may apply to different services. *Id.* at 2:61–62. For example, an e-mail service provider may charge a user according to the times of the receiving-sending events; a browsing service provider may charge the user according to the data flow using one charging rate; and a file transmission service provider may charge the user also according to the data flow but using another charging rate. *Id.* at 2:62–3:1. The '575 patent further notes that the 3rd Generation Partnership Project (3GPP) "is now discussing how to implement Flow Based Charging (FBC)," which provides for a charging system that can apply different charging policies to different services using the same PDP Context as the bearer. *Id.* at 3:1–26. According to the '575 patent,

> FBC can be regarded to be implemented by filtering the IP flows for different services borne in the same PDP context through different sieve-like "filters" and then charging for different services according to the corresponding "filters". Therefore, the "pore size" of the charging "filter" based on IP flows is much less than that based on one PDP Context. The "pore size" of the charging "filter" can be regarded as to indicate the size of a sieve hole. If the charging is based on one PDP Context, one PDP Context corresponds to one sieve hole; while if the charging is based on IP flows, one IP flow corresponds to one sieve hole and thus one PDP Context corresponds to multiple sieve holes in the FBC mode. Therefore, compared with the charging based on one PDP Context, the FBC provides more abundant charging means for operators or service providers.

Id. at 3:12–26.

Figures 2A and 2B of the '575 patent, which are reproduced below, show systematic configurations of FBC. *Id.* at 8:9–12.
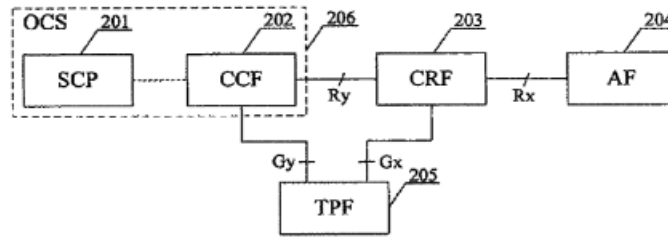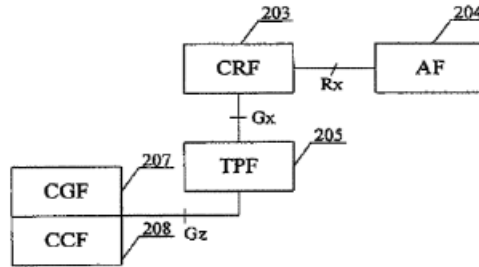
FIG. 2A

FIG. 2B

In particular, Figure 2A shows the FBC systematic configuration for online charging, while Figure 2B shows the FBC systematic configuration for offline charging. *Id.* Traffic Plane Function (TPF) 205 bears IP flow and sends a Charging Rules Request to Charging Rule Function (CRF) 203 when an IP flow bearer is established. *Id.* at 3:55–58. CRF 203 selects appropriate charging rules according to the input information provided by TPF 205 and returns to TPF 205 the selected charging rules, including the charging mechanism. *Id.* at 4:6–11. The charging mechanism may be online charging (where the user is provided with a prepaid service) or offline charging (where the user is provided with a post-paid service). *Id.* at 4:11–13, 9:9–20. CRF 203 may select the charging rules according to input from Application Function (AF) 204 or Online Charging System (OCS) 206, as well. *Id.* at 4:33–35. Credit Control Function (CCF) 202 manages and controls the user's credit and provides the related information used to determine the charging rules to CRF 203. *Id.* at 4:43–46. When the user uses a certain packet data service, CCF 202 also authenticates the user's

credit and provides TPF 205 with the available credit upon request. *Id.* at 4:48–56, 5:16–18. TPF 205 charges for IP flows according to the charging rules. *Id.* at 4:17–20.

Thus, when the bearer is established according to the 3GPP standard, the TPF requests the user's credit from the OCS, and the OCS returns the credit to the TPF. *Id.* at 7:1–6. According to the '575 patent, however, the means by which the TPF may address the correct OCS is not described in the 3GPP standard. *Id.* at 7:6–9. To address this problem, the invention of the '575 patent provides a system for improving service data flow based charging where the CRF provides the TPF with the address information of the charging system. *Id.* at 7:33–36. In particular, the CRF may provide the TPF with the address information of an OCS or Offline Charging System (OFCS), so that the TPF can address the appropriate OCS and request the user's credit information, or so that it can address the appropriate OFCS and send collected charging data information to the OFCS. *Id.* at 7:60–8:1. In this way, "the charging implementation procedure based on the FBC mechanism may be more complete and more reasonable." *Id.* at 8:1–3.

C. Challenged Claims

Petitioner challenges claims 1–3, 5, 8, 9, 11, 16, 17, and 19 of the '575 patent. Claim 1 is independent and illustrative of the claims under challenge:

> 1. A method for improving service data flow based charging in a communications network, comprising:
>
> > a Charging Rules Function (CRF) determining a charging method and charging rules in response to a service request or other trigger event, and

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