UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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MICROSOFT CORPORATION,
Petitioner,

v.

BRADIUM TECHNOLOGIES LLC,
Patent Owner.

_____

Case IPR2016-00449
Patent 8,924,506 B2

Before BRYAN F. MOORE, BRIAN J. McNAMARA, and
MINN CHUNG, *Administrative Patent Judges.*

CHUNG, *Administrative Patent Judge.*

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

I. INTRODUCTION

Microsoft Corporation ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1–21 (the "challenged claims") of U.S. Patent No. 8,924,506 B2 (Ex. 1002, "the '506 patent"). Bradium Technologies LLC ("Patent Owner") filed a Preliminary Response (Paper 8, "Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted "unless the Director determines . . . 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 described below, we determine that Petitioner has established a reasonable likelihood of prevailing in showing the unpatentability of claims 1–21. Accordingly, we institute an *inter partes* review of claims 1–21 of the '506 patent.

A. Related Proceedings

According to Petitioner, the '506 patent and two other patents in the same family, U.S. Patent Nos. 7,139,794 B2 ("the '794 patent")[1] and 7,908,343 B2 ("the '343 patent"), are being asserted by Patent Owner in the following litigation: *Bradium Techs. LLC v. Microsoft Corp.*, 1:15-cv-00031-RGA, filed on January 9, 2015 in the District of Delaware. *See* Pet.

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[1] The '794 patent is the subject of on-going IPR2015-01432. The '343 patent was the subject of IPR2015-01434, in which *inter partes* review was not instituted, and is currently the subject of IPR2016-0448.

1. The '506 patent was also the subject of IPR2015-01435, in which *inter partes* review was not instituted.

B. The '506 Patent

The '506 patent describes an image distribution system for retrieving high-resolution or large-scale images from a network image server over a limited-bandwidth communications channel for display on client devices, where a user may navigate over the images displayed on the client device by controlling a viewing frustum placed over the displayed images. *See* Ex. 1002, Abstract; col. 1, ll. 29–34; col. 5, ll. 31–59. The retrieval of large-scale or high-resolution images is achieved by selecting, requesting, and receiving update image parcels relative to an operator or user controlled image viewpoint. *See id.* at Abstract; col. 3, ll. 50–59. In an embodiment, when the viewing frustum is changed by user navigation commands, the client device determines the priority of the image parcels to be requested from the server "to support the progressive rendering of the displayed image," and the image parcel requests are placed in a request queue to be issued in priority order. *See id.* at col. 7, ll. 50–65.

On the server side, high-resolution source image data is pre-processed by the image server to create a series of derivative images of progressively lower resolution. *See id.* at col. 6, ll. 7–12. Figure 2 of the '506 patent is reproduced below.
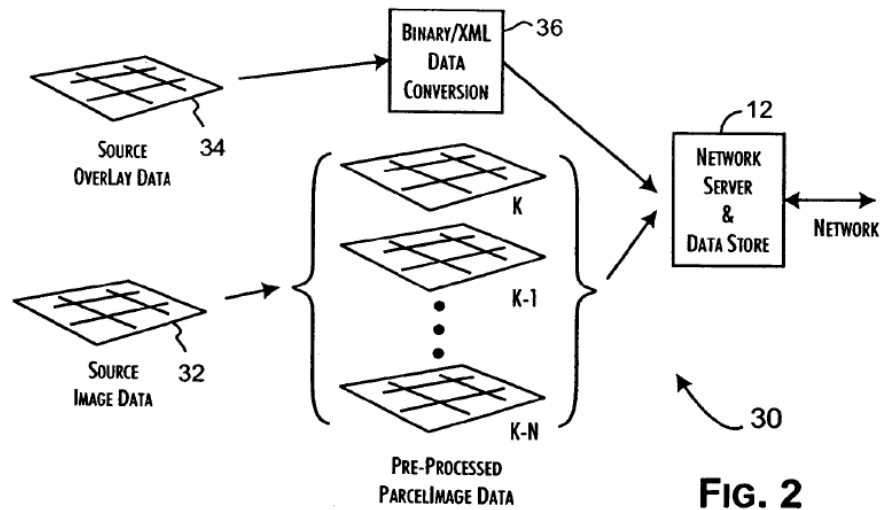
FIG. 2

Figure 2 depicts preparation of pre-processed image parcels at the network image server. *See id.* at col. 4, ll. 60–63; col. 5, ll. 60–63; col. 6, ll. 7–10. As illustrated in Figure 2, source image data 32 is pre-processed to obtain a series K_{1-N} of derivative images of progressively lower image resolution. *Id.* at col. 6, ll. 10–12. Initially, the source image data—i.e., the series image K_0—is subdivided into a regular array of image parcels of a fixed byte size, e.g., 8K bytes. *Id.* at col. 6, ll. 12–17. In an embodiment, the resolution of a particular image in the series is related to the predecessor image by a factor of four while, at the same time, the array subdivision is also related by a factor of four, such that each image parcel of the series images has the same fixed byte size, e.g., 8K bytes. *Id.* at col. 6, ll. 17–22.

In another embodiment, the image parcels are compressed by a fixed ratio—for example, the 8K byte parcels are compressed by a 4-to-1 compression ratio such that each image parcel has a fixed 2K byte size. *Id.* at col. 6, ll. 23–28. This allows each image parcel to fit into a single network data packet, which improves data delivery and avoids the

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transmission latency and processing overhead of managing image parcel

data broken up over multiple network data packets. *See id.* at col. 8, ll. 15–

22.

C. Illustrative Claim

Of the challenged claims, claims 1, 8, and 15 are independent. Claim

1 is illustrative of the challenged claims and is reproduced below:

> 1.   A method of retrieving large-scale images over network communications channels for display on a limited communication bandwidth computer device, said method comprising:

> issuing, from a limited communication bandwidth computer device to a remote computer, a request for an update data parcel wherein the update data parcel is selected based on an operator controlled image viewpoint on the computer device relative to a predetermined image and the update data parcel contains data that is used to generate a display on the limited communication bandwidth computer device;

> processing, on the remote computer, source image data to obtain a series K_{1-N} of derivative images of progressively lower image resolution and wherein series image K_0 being subdivided into a regular array wherein each resulting image parcel of the array has a predetermined pixel resolution wherein image data has a color or bit per pixel depth representing a data parcel size of a predetermined number of bytes, resolution of the series K_{1-N} of derivative images being related to that of the source image data or predecessor image in the series by a factor of two, and said array subdivision being related by a factor of two such that each image parcel being of a fixed byte size;

> receiving said update data parcel from the data parcel stored in the remote computer over a communications channel; and

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