

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Microsoft Corporation (“Petitioner”) challenges the patentability of claims 1–21 (the “challenged claims”) of U.S. Patent No. 8,924,506 B2 (Ex. 1002, “the ’506 patent”), owned by Bradium Technologies LLC (“Patent Owner”). The Board has jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. With respect to the grounds instituted in this trial, we have considered the papers submitted by the parties and the evidence cited therein. For the reasons discussed below, we determine Petitioner has shown by a preponderance of the evidence that claims 1–21 of the ’506 patent are unpatentable.

A. Procedural History

On January 11, 2016, Petitioner filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–21 of the ’506 patent. Patent Owner filed a Preliminary Response (Paper 8, “Prelim. Resp.”). On July 27, 2016, we instituted an *inter partes* review of claims 1–21 of the ’506 patent based on the following specific ground (Paper 9, “Dec. on Inst.,” 44).

Claims Challenged	Statutory Basis	References
1–21	§ 103(a)	Reddy ¹ and Hornbacker ²

¹ Ex. 1004, M. Reddy, Y. Leclerc, L. Iverson, N. Bletter, *TerraVision II: Visualizing Massive Terrain Databases in VRML*, IEEE Computer Graphics and Applications, Vol. 19, No. 2, 30–38, IEEE Computer Society, March/April 1999 (“Reddy”).

² Ex. 1003, WO 99/41675 (Aug. 19, 1999) (“Hornbacker”).

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 17, “PO Resp.”)³ and a confidential version (Paper 16), to which Petitioner filed a Reply (Paper 31, “Pet. Reply”). Subsequently, Petitioner moved to exclude (Paper 42) certain exhibits submitted by Patent Owner; Patent Owner opposed (Papers 49 (confidential) and 50 (public)); and Petitioner replied (Paper 52). Patent Owner also moved to exclude (Paper 44) certain evidence introduced by Petitioner; Petitioner opposed (Paper 46); and Patent Owner replied (Papers 55 (confidential) and 56 (public)). Petitioner and Patent Owner filed Motions to Seal their confidential information. Papers 15, 18, 48, 54. In addition, Patent Owner filed a Motion for Observations on certain cross-examination testimony of Dr. William R. Michalson (Paper 41, “Obs.”), to which Petitioner filed Responses (Paper 45, “Obs. Resp.”).

A combined oral hearing in this proceeding and IPR2016-00448 was held on April 18, 2017. Transcripts of the hearing have been entered into the record as Papers 61 (“Hrg. Tr.” (public)) and 62 (“Confidential Hrg. Tr.” (confidential)).

B. 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”) 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-

³ Unless otherwise indicated, we refer to public (including redacted) Papers and Exhibits.

00031-RGA, filed on January 9, 2015 in the District of Delaware. *See* Pet. 1. The '506 patent was also the subject of IPR2015-01435, in which *inter partes* review was not instituted. In related proceedings before the Board, we instituted *inter partes* reviews of various claims of the '343 patent in Case IPR2016-00448 and certain claims of the '794 patent in Case IPR2015-01432. In addition, we instituted an *inter partes* review of various claims of U.S. Patent No. 9,253,239 B2 in Case IPR2016-01897.

II. THE '506 PATENT

A. *Described Invention*

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.

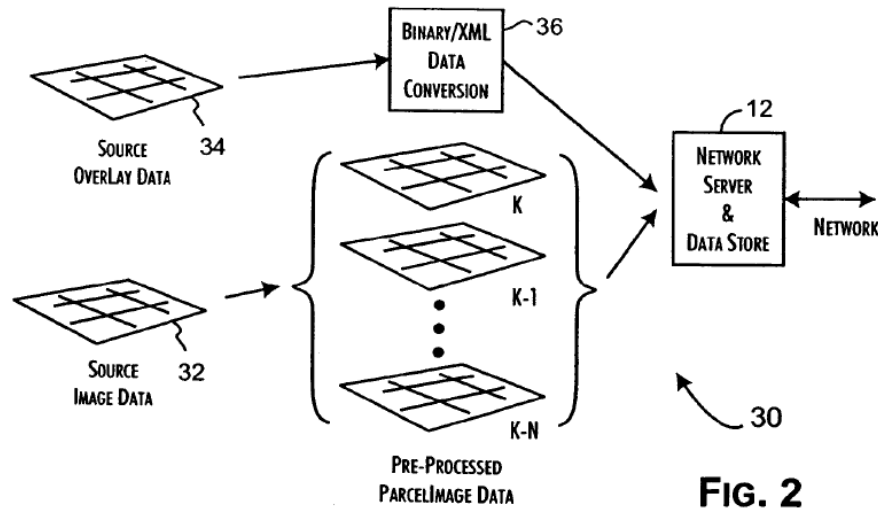


Figure 2 depicts preparation of pre-processed image parcels at the network image server. *See id.* at col. 4, ll. 60–63; col. 5, ll. 60–63; col. 6, ll. 7–10. As illustrated in Figure 2, source image data 32 is pre-processed to obtain a series K_{1-N} of derivative images of progressively lower image 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.

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