

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION
Petitioner

v.

BRADIUM TECHNOLOGIES LLC
Patent Owner

Case IPR2015-01432
Patent 7,139,794 B2

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

McNAMARA, *Administrative Patent Judge*.

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

BACKGROUND

On December 23, 2015, we instituted an *inter partes* review of claims 1 and 2 (“the challenged claims”) of U. S. Patent No. 7,139,794 B2 (“the ’794 Patent”). Paper 15 (“Dec. to Inst.”). Patent Owner filed a Patent Owner Response and a Corrected Patent Owner Response, (Paper 24, “PO Resp.”), and Petitioner filed a Petitioner Reply and a Corrected Petitioner Reply (Paper 33, “Pet. Reply”). Petitioner also filed a Motion to Exclude (Paper 43, “Mot. To Exclude”), Patent Owner filed an Opposition to Petitioner’s Motion to Exclude (Paper 45, “Opp. To Mot. To Exclude”), and Petitioner filed a Reply (Paper 45, “Reply to Opp. To Mot. to Exclude”). A transcript of an oral hearing held on September 19, 2015 (Paper 50, “Hr’g. Tr.”) has been entered into the record.

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. §318(a). We base our decision on the preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

Having reviewed the arguments of the parties and the supporting evidence, we conclude that Petitioner has not demonstrated by a preponderance of the evidence that the challenged claims are unpatentable.

THE ’794 PATENT (EXHIBIT 1001)

The ’794 Patent concerns reducing latency in transmitting full resolution images over the Internet on an “as needed” basis, particularly for “complex images” such as “geographic, topographic, and other highly detailed maps.” Ex. 1001, 1:32–47. According to the ’794 Patent, conventional approaches, such as progressive resolution build-up of the image in the current field of view, presume that client systems have an

excess of computing performance and memory storage that is not available in smaller devices, such as embedded clients, or in limited bandwidth circumstances. *Id.* at 1:48–58, 3:4–29.

The '794 Patent describes an image distribution system having a network image server and a client system, in which a client can input a navigational command to adjust a 3D viewing frustum for the image displayed on the client system. *Id.* at 5:23–53. The '794 Patent describes achieving dynamic visualization of image data provided through a communications channel by a client system including a parcel request system and a parcel rendering system. *Id.* at 3:42–47. Figure 2 of the '794 Patent shown below illustrates the preparation of an image parcel and overlay data set that are to be stored by and served from a network server system in accordance with a preferred embodiment. *Id.* at 4:54–56.

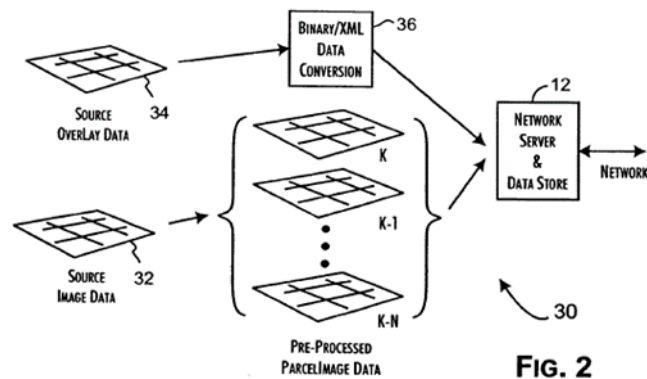


Figure 2 shows image parcel and overlay data stored on a server.

As shown in Figure 2, high resolution image data is pre-processed by the image server into a series K_{1-N} derivative images of progressively lower image resolution. *Id.* at 5:54–6:6. The source image is also subdivided into a regular array of 64 by 64 pixel resolution image parcels, or image tiles, and

each image parcel may be compressed to fit into a single TCP/IP packet for faster transmission. *Id.* at 6:6–22, 7:30–49.

Figure 3 of the '749 Patent shown below is a block diagram of the operation of the parcel request and parcel processing subsystem.

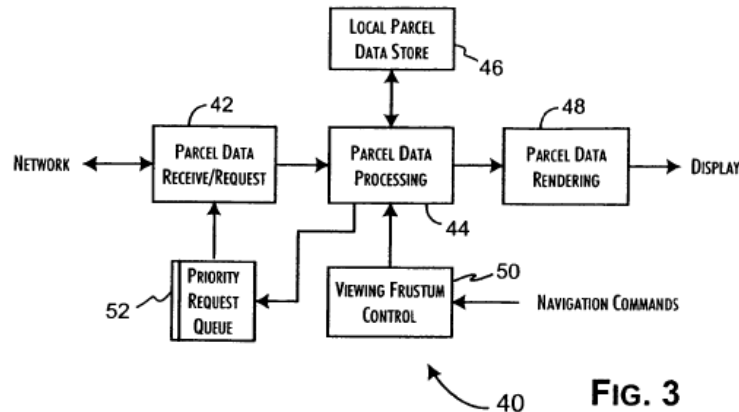


Figure 3 is a block diagram of a client system image presentation system.

When the viewing point is changed in response to a navigation command, the control block determines the ordered priority of image parcels to be requested from the server to support progressive rendering of the image. *Id.* at 7:19–22. Image parcel requests are placed in a queue and issued by the parcel request subsystem based on priority. *Id.* at 7:22–24, 8:24–36. The priority is determined based on a number of factors, including: whether the image parcel is outside the viewing frustum, *id.* at 9:26–29; the resolution of the client display (to avoid downloading and processing image parcels that cannot provide any perceptible improvement in the displayed image), *id.* at 8:54–9:4; the relative contribution of the parcel to total display quality of the image (e.g., assigning higher priority to parcels near the focal point of the viewer), *id.* at 10:20–38; and completeness of the image (e.g., assigning high priority to lower resolution parcels to

assure a complete image of at least low resolution will be available for fast rendering), *id.* at 10:11–19.

The '794 Patent states that its disclosed technology can achieve faster image transfer by (1) dividing the source image into parcels/tiles (*id.* at 6:1–16), (2) processing the parcels/tiles into a series of progressively lower resolution parcels/tiles (*id.*), and (3) requesting and transmitting the parcels/tiles needed for a particular viewpoint in a priority order, generally lower-resolution tiles first. *Id.* at 3:38–4:42.

After the image parcels are requested and received, an algorithm is applied to select image parcels for rendering and display and overlay data, e.g., street names and landmarks, may be added. *Id.* at 8:37–51.

CHALLENGED CLAIMS

The '749 Patent has two claims. Claim 1 is drawn to a system:

1. A client system for dynamic visualization of image data provided through a network communications channel, said client system comprising:
 - a parcel request subsystem, including a parcel request queue, operative to request discrete image data parcels in a priority order and to store received image data parcels in a parcel data store, said parcel request subsystem being responsive to an image parcel request of assigned priority to place said image parcel request in said parcel request queue ordered in correspondence with said assigned priority;
 - an parcel rendering subsystem coupled to said parcel data store to selectively retrieve and render received image data parcels to a display memory, said parcel rendering system providing said parcel request subsystem with said image parcel request of said assigned priority;

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