



US008924506B2

(12) **United States Patent**
Levanon et al.

(10) **Patent No.:** **US 8,924,506 B2**
(45) **Date of Patent:** ***Dec. 30, 2014**

(54) **OPTIMIZED IMAGE DELIVERY OVER LIMITED BANDWIDTH COMMUNICATION CHANNELS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 865 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/027,929**

(22) Filed: **Feb. 15, 2011**

(65) **Prior Publication Data**

US 2011/0175914 A1 Jul. 21, 2011

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/619,643, filed on Nov. 16, 2009, now Pat. No. 7,908,343, which is a continuation of application No. 10/035,987, filed on Dec. 24, 2001, now Pat. No. 7,644,131.

(60) Provisional application No. 60/258,488, filed on Dec. 27, 2000, provisional application No. 60/258,489, filed on Dec. 27, 2000, provisional application No. 60/258,465, filed on Dec. 27, 2000, provisional application No. 60/258,468, filed on Dec. 27, 2000, provisional application No. 60/258,466, filed on Dec. 27, 2000, provisional application No. 60/258,467, filed on Dec. 27, 2000.

(51) **Int. Cl.**
G06F 15/16 (2006.01)
G06F 3/14 (2006.01)
G06T 3/40 (2006.01)

(52) **U.S. Cl.**
CPC **G06F 3/1454** (2013.01); **G06T 3/4092** (2013.01); **G09G 2340/02** (2013.01); **G09G 2350/00** (2013.01)
USPC **709/217**; 709/203; 345/625; 382/232; 382/305

(58) **Field of Classification Search**
CPC G06T 3/4092; G09G 2340/02; G06F 3/14
USPC 709/202, 203, 217, 230, 246, 247; 345/625; 382/232, 305
See application file for complete search history.

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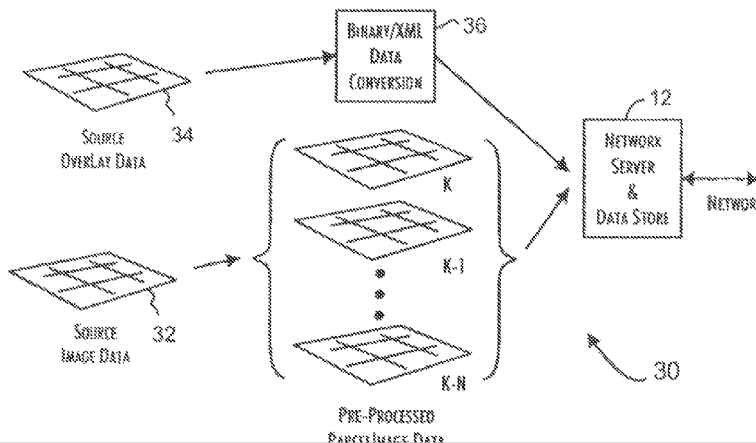
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(57) **ABSTRACT**

Large-scale images are retrieved over network communications channels for display on a client device by selecting an update image parcel relative to an operator controlled image viewpoint to display via the client device. A request is prepared for the update image parcel and associated with a request queue for subsequent issuance over a communications channel. The update image parcel is received from the communications channel and displayed as a discrete portion of the predetermined image. The update image parcel optimally has a fixed pixel array size, is received in a single and or plurality of network data packets, and were the fixed pixel array may be constrained to a resolution less than or equal to the resolution of the client device display.

21 Claims, 5 Drawing Sheets



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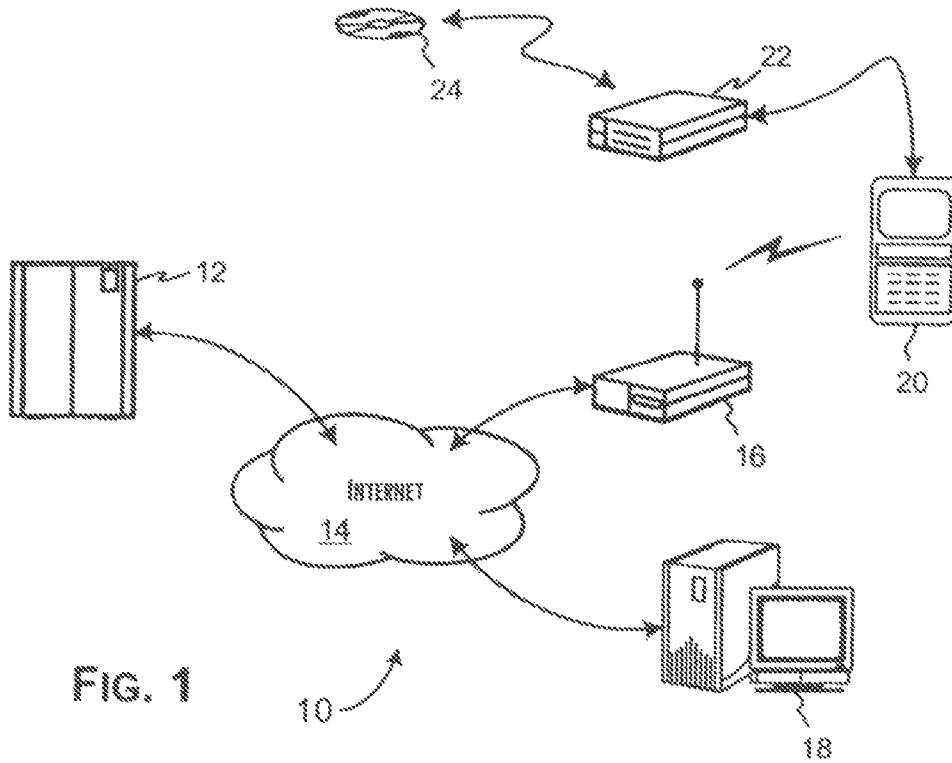


FIG. 1

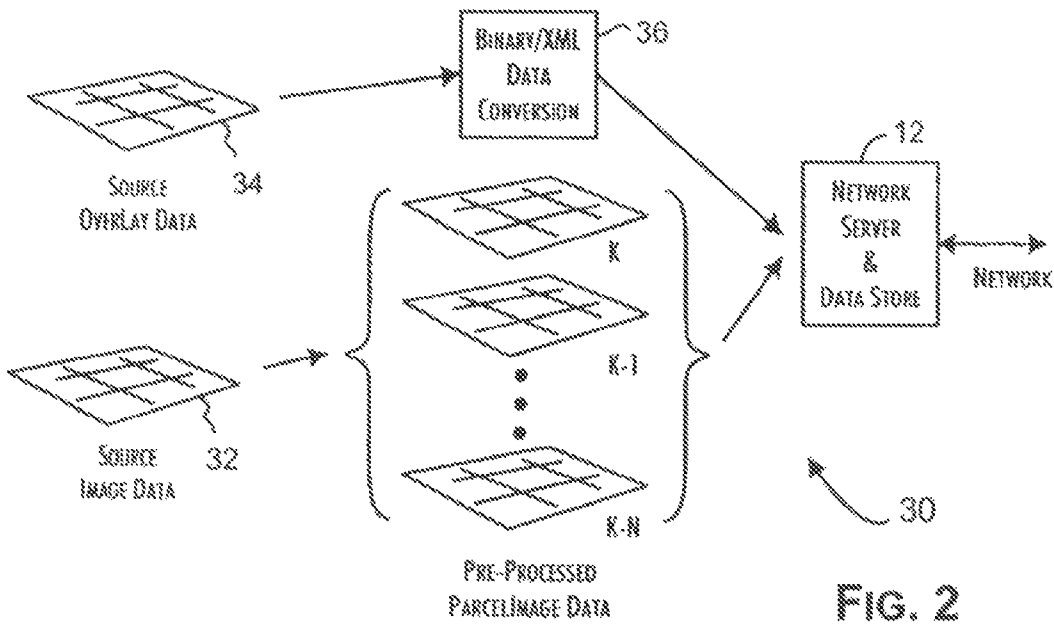
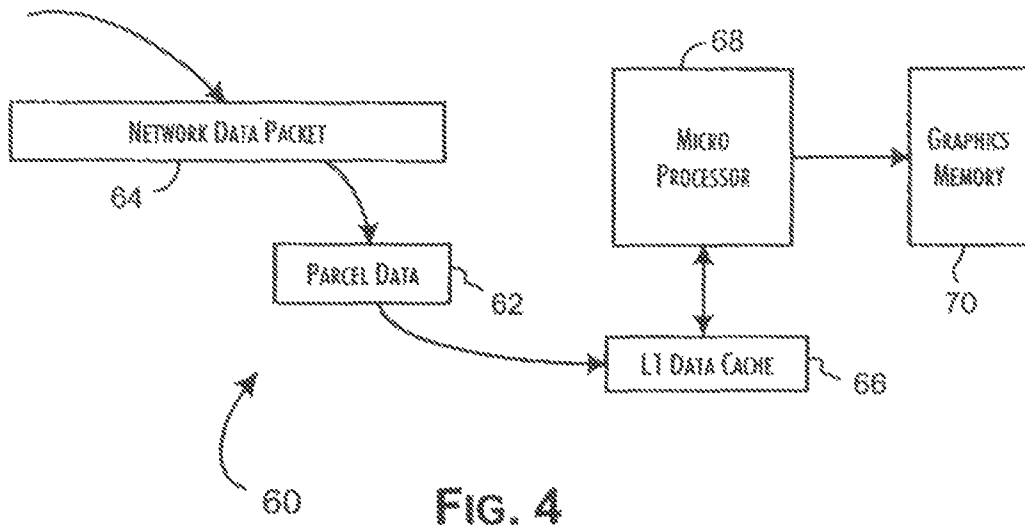
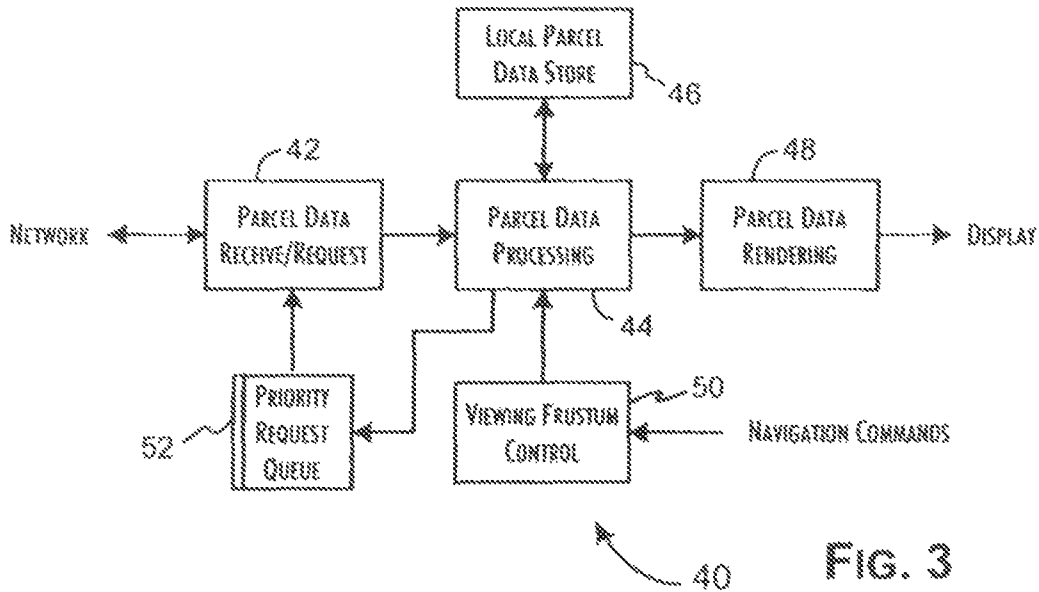
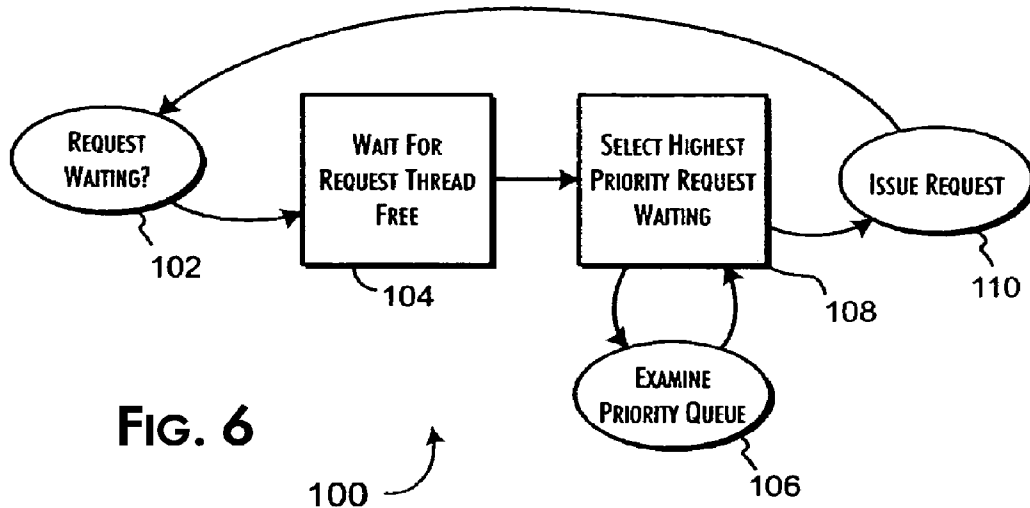
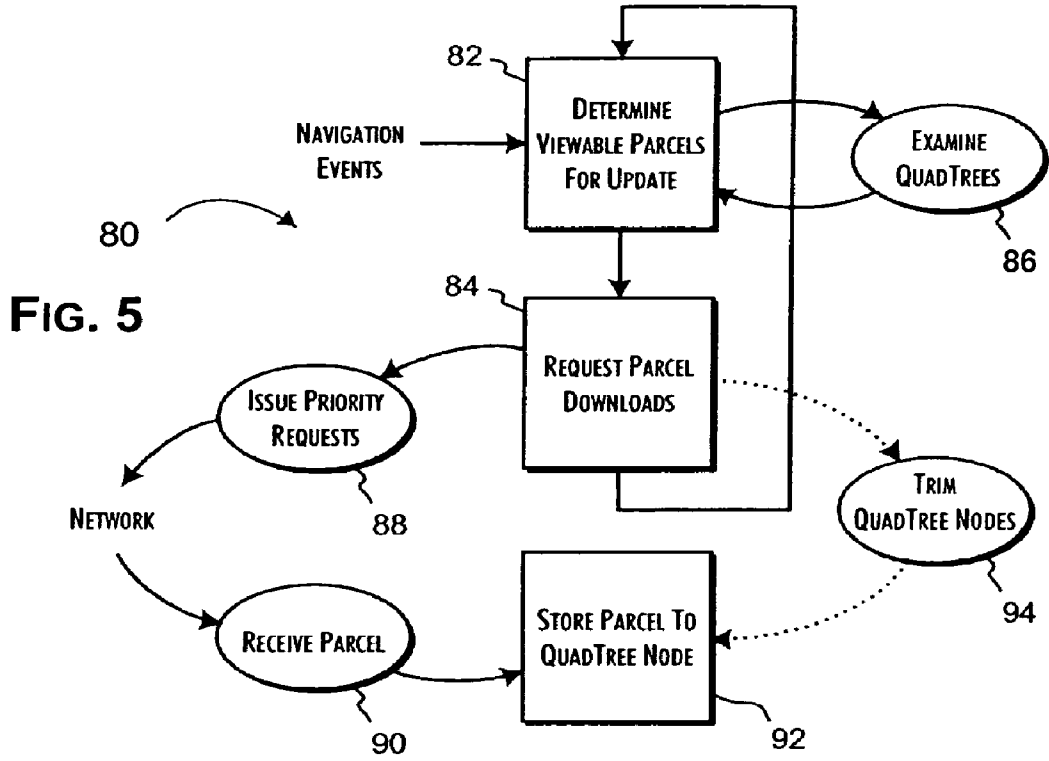


FIG. 2





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