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Jewett et al.

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(54) **NETWORK-BASED STORAGE SYSTEM CAPABLE OF ALLOCATING STORAGE PARTITIONS TO HOSTS**

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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 401 days.

This patent is subject to a terminal disclaimer.

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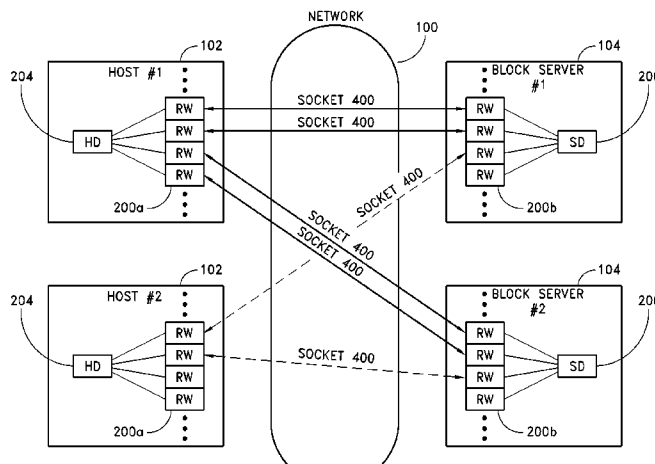
Related U.S. Application Data

(60) Division of application No. 11/683,944, filed on Mar. 8, 2007, now Pat. No. 7,428,581, which is a continuation of application No. 09/927,894, filed on Aug. 10, 2001, now Pat. No. 7,392,291.

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G06F 15/167 (2006.01)
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(52) **U.S. Cl.** **709/214**; 709/215; 711/114
(58) **Field of Classification Search** 709/223–231, 709/212–217, 239; 711/114
See application file for complete search history.

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(57) **ABSTRACT**

A network-based storage system comprises one or more block-level storage servers that connect to, and provide disk storage for, one or more host computers. In one embodiment, the system is capable of subdividing the storage space of an array of disk drives into multiple storage partitions, and allocating the partitions to host computers on a network. A storage partition allocated to a particular host computer may appear as local disk drive storage to user-level processes running on the host computer.

16 Claims, 9 Drawing Sheets

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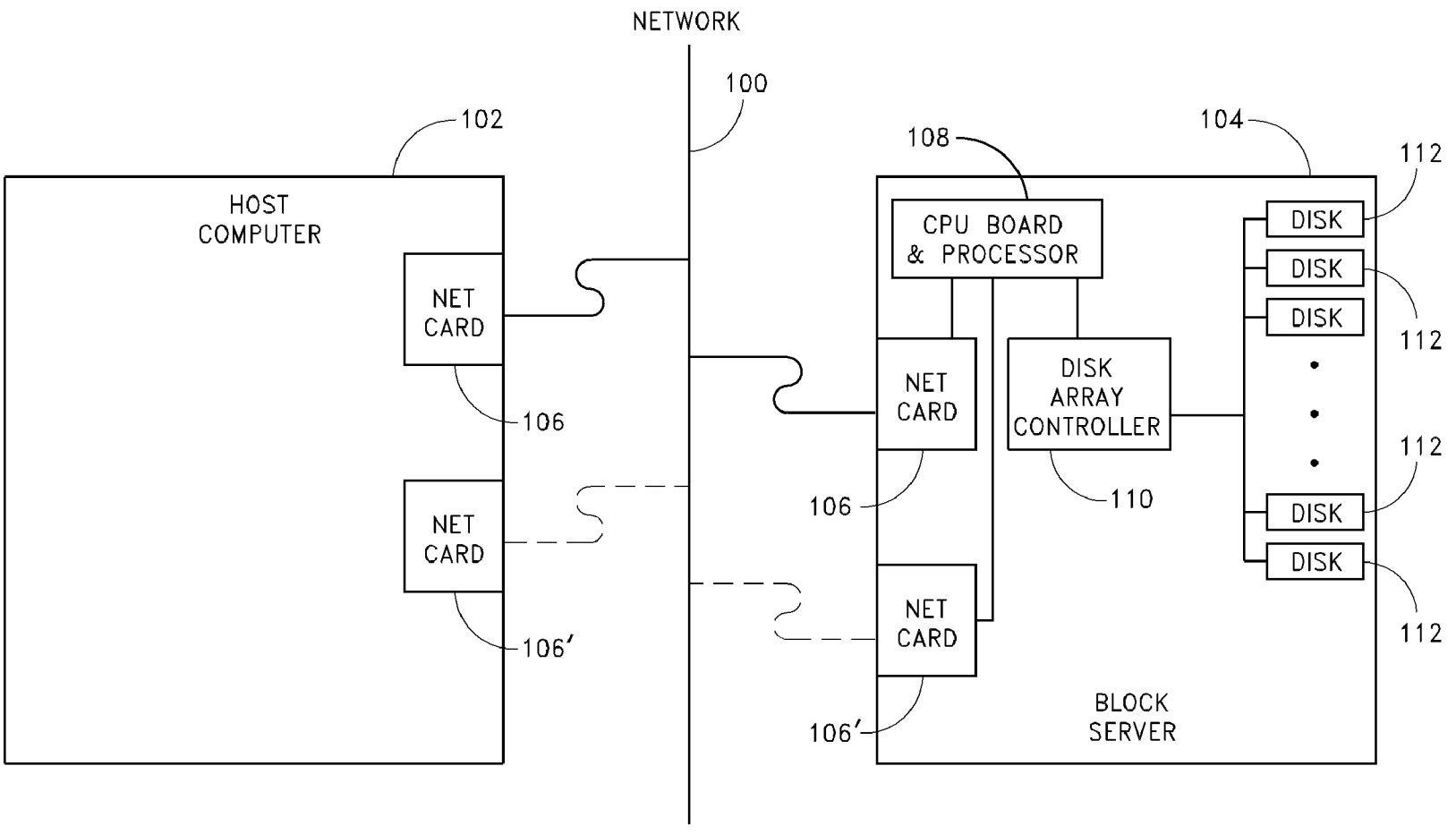
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NETWORK

100

102

HOST
COMPUTER

NET
CARD

106

NET
CARD

106'

108

CPU BOARD
& PROCESSOR

NET
CARD

106

DISK
ARRAY
CONTROLLER

110

NET
CARD

106'

BLOCK
SERVER

104

112

DISK

DISK

DISK

112

112

DISK

DISK

112

112

FIG. 1

NETWORK

100

102

HOST
COMPUTER

202   204

O/S   HOST
               DEVICE
               DRIVER

R/W

200a

104

BLOCK
SERVER
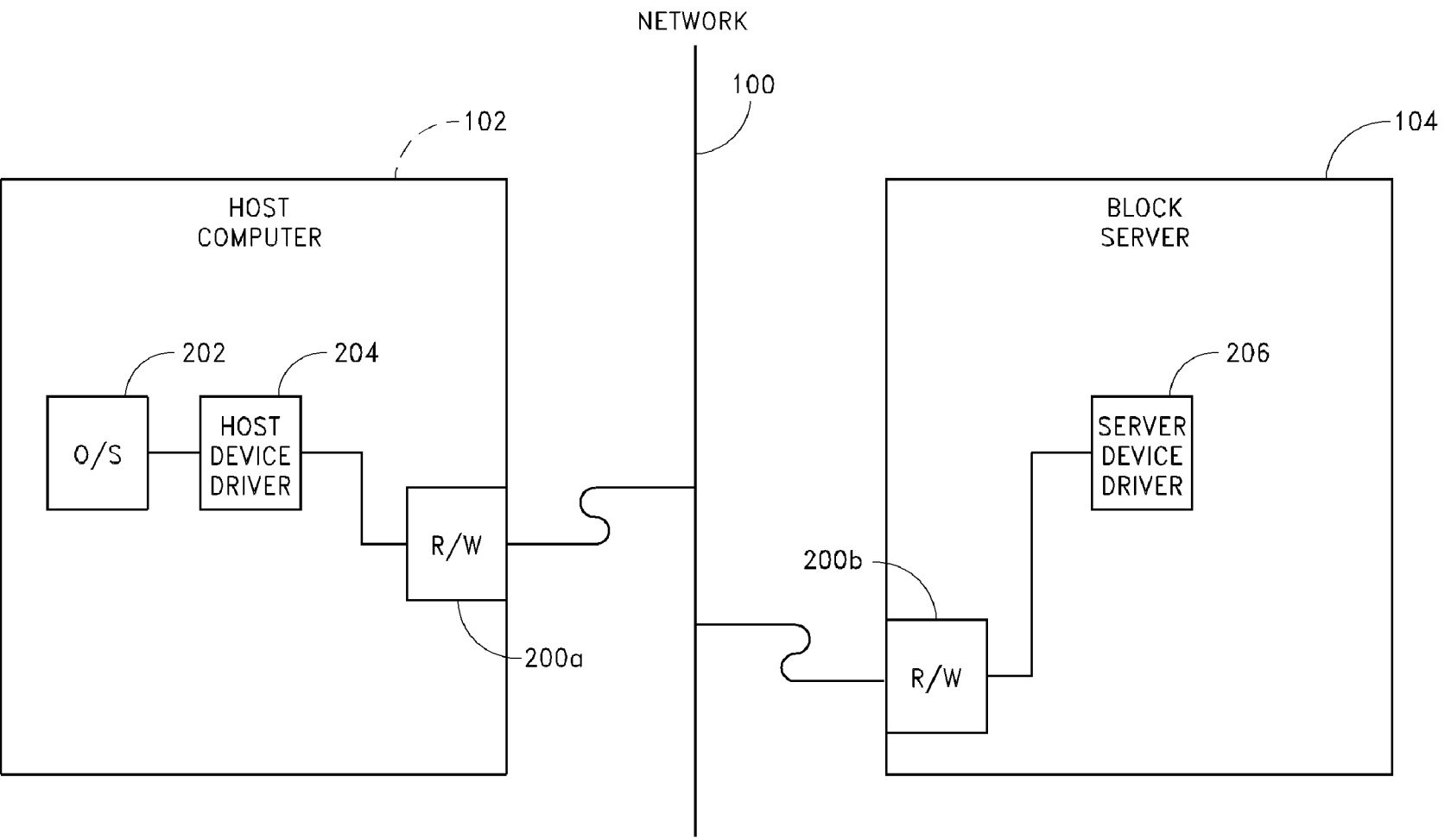
206

SERVER
DEVICE
DRIVER

200b

R/W

FIG. 2

DOCKET ALARM

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