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- (71) Applicant (for all designated States except US): FUSION-IO, INC. [US/US]; 2855 East Cottonwood Parkway, Box 100, Salt Lake City, Utah 84121 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): FLYNN, David [US/US]; 11222 Eagle View Drive, Sandy, Utah 84092 (US). WIPFEL, Robert [US/US]; 2229 Kodiak Court, Draper, Utah 84020 (US). NELLANS, David [US/US]; 1120 South 1300 East, Salt Lake City, Utah 84105 (US). STRASSER, John [US/US]; 2323 South 550 West, Syracuse, Utah 84075 (US).

- (74) Agent: HAWKINS, Joseph J.; STOEL RIVES LLP, 201 So. Main Street, Suite 1100, Salt Lake City, Utah 84111 (US).
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[Continued on next page]

(54) Title: LOGICAL INTERFACES FOR CONTEXTUAL STORAGE

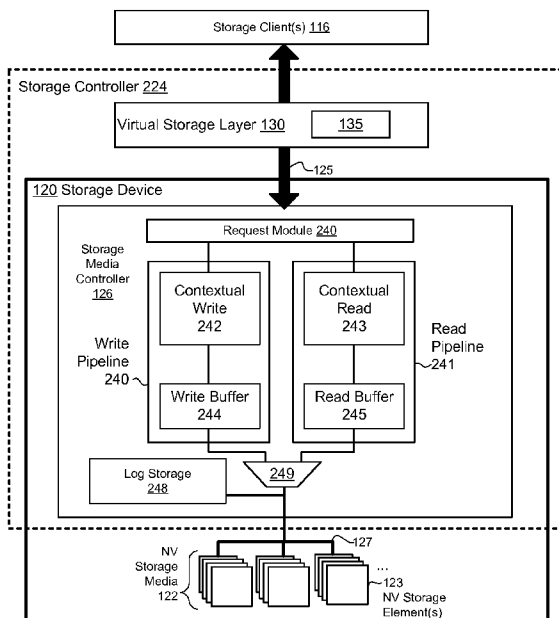


Figure 2A

(57) Abstract: A virtual storage layer (VSL) presents logical address space of a non-volatile storage device. The VSL maintains logical interfaces to the non-volatile storage device, which may include arbitrary, any-to-any mappings between logical identifiers and storage resources. Data may be stored on the non-volatile storage device in a contextual format, which includes persistent metadata that defines the logical interface of the data. The VSL may modify the logical interface of data that is stored in the contextual format. The modified logical interface may be inconsistent with the existing contextual format of the data on the non-volatile storage media. The VSL may provide access to the data in the inconsistent contextual format through the modified logical interface. The contextual format of the data may be updated to be consistent with the modified logical interface in a write out-of-place storage operation.

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## INTERNATIONAL SEARCH REPORT

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According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

G06F 12/00; G06F 1/32

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords: logical interface, contextual format, non-volatile storage, storage controller

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006-0136657 A1 (JOHN C. RUDELIC et al.) 22 June 2006 See paragraphs [0012]-[0016], and figure 1.	1-25
A	US 2007-0143532 A1 (SERGEY GOROBETS et al.) 21 June 2007 See paragraphs [0081]-[0167], and figures 1A-9B.	1-25
A	US 7293183 B2 (JIN-AEON LEE et al) 06 November 2007 See column 9 lines 17-19, and claim 1.	1-25
A	US 7853772 B2 (CHANG ROBERT C. et al.) 14 December 2010 See column 5 line 59 - column 7 line 38.	1-25

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

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"&amp;" document member of the same patent family

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Authorized officer

Park Ji Eun

Telephone No. 82-42-481-5696



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2012/029722**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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