



(51) International Patent Classification:
G06F 12/06 (2006.01)

(21) International Application Number:
PCT/US2011/028656

(22) International Filing Date:
16 March 2011 (16.03.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/314,293 16 March 2010 (16.03.2010) US

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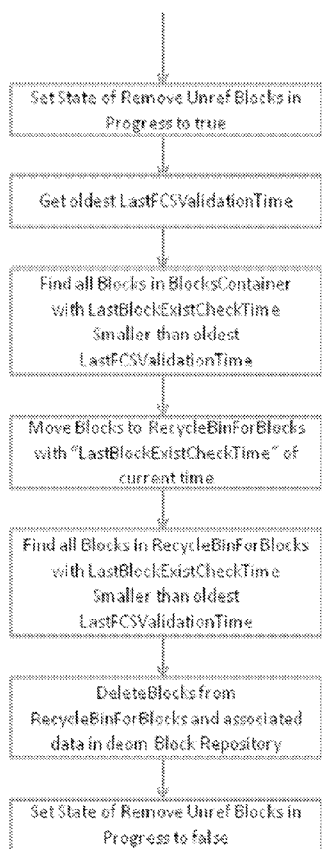
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,

[Continued on next page]

(54) Title: HIGHLY SCALABLE AND DISTRIBUTED DATA DE-DUPLICATION

FIG. 3



(57) Abstract: This disclosure relates to systems and methods for both maintaining referential integrity within a data storage system, and freeing unused storage in the system, without the need to maintain reference counts to the blocks of storage used to represent and store the data.



NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

29 December 2011

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/028656**A. CLASSIFICATION OF SUBJECT MATTER****G06F 12/06(2006.01)i**

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 12/06; G06F 12/16; G06F 7/00; G06F 11/14; 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) & Keywords:de-duplication,timestamp,compare

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2009-0083563 A1 (MURASE, ATSUSHI) 26 March 2009 See abstract and claims.	1-16
A	US 2004-0139097 A1 (FARBER, DAVID A. et al.) 15 July 2004 See abstract and claims.	1-16
A	WO 2009-087028 A1 (INTERNATIONAL BUSINESS MACHINES CORPORATION) 16 July 2009 See abstract and claims.	1-16



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

26 OCTOBER 2011 (26.10.2011)

Date of mailing of the international search report

27 OCTOBER 2011 (27.10.2011)

Name and mailing address of the ISA/KR

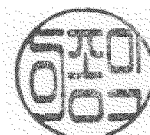
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Facsimile No. 82-42-472-7140

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Telephone No. 82-42-481-8373



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/028656

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