



## (51) International Patent Classification:

G06F 15/16 (2006.01) G06F 21/00 (2006.01)  
G06F 17/30 (2006.01)

## (21) International Application Number:

PCT/US2009/040007

## (22) International Filing Date:

9 April 2009 (09.04.2009)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

12/100,302 9 April 2008 (09.04.2008) US

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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, 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, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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,

[Continued on next page]

## (54) Title: DIRECTED PLACEMENT OF DATA IN A REDUNDANT DATA STORAGE SYSTEM

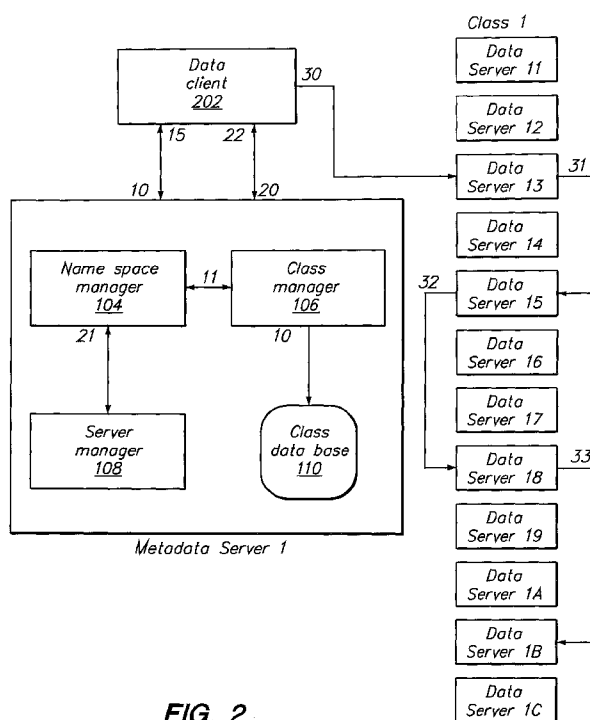


FIG. 2

(57) Abstract: A data processing apparatus, comprising a metadata store storing information about files that are stored in a distributed data storage system, and comprising a class database; one or more processing units; logic configured for receiving and storing in the class database a definition of a class of data storage servers comprising one or more subclasses each comprising one or more server selection criteria; associating the class with one or more directories of the data storage system; in response to a data client storing a data file in a directory, binding the class to the data file, determining and storing a set of identifiers of one or more data storage servers in the system that match the server selection criteria, and providing the set of identifiers to the data client.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *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:**

17 December 2009

**Published:**

— *with international search report (Art. 21(3))*

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2009/040007****A. CLASSIFICATION OF SUBJECT MATTER****G06F 15/16(2006.01)i, G06F 17/30(2006.01)i, G06F 21/00(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)

IPC: G06F

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 since 1975  
Japanese utility models and applications for utility models since 1975

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

eKOMPASS(KIPO Internal), Google, YesKisti  
keywords: class database, redundant storage, metadata, subclass**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 20070198593 A1 (PRAHLAD, A. et al.) 23 August 2007 See abstract, figures 3,14-15, and claims 1-20.	1-29
A	US 20070185934 A1 (CANNON, D. M. et al.) 9 August 2007 See abstract, figures 1-2, paragraphs [29]-[34].	1-29
A	US 20040186854 A1 (CHOI, M. S.) 23 September 2004 See abstract, figures 1-6, and claims 1-28.	1-29
A	US 20020124006 A1 (PARNELL, T. C. et al.) 5 September 2002 See abstract, figures 2-3,6, and claims 1-32.	1-29



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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

Date of the actual completion of the international search

28 OCTOBER 2009 (28.10.2009)

Date of mailing of the international search report

**29 OCTOBER 2009 (29.10.2009)**

Name and mailing address of the ISA/KR

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Government Complex-Daejeon, 139 Seonsa-ro, Seo-  
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2009/040007**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 20070198593 A1	23.08.2007	NONE	
US 20070185934 A1	09.08.2007	CN 101361048 A EP 1984821 A2 WO 2007-088084 A3	04.02.2009 29.10.2008 13.12.2007
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US 20020124006 A1	05.09.2002	NONE	