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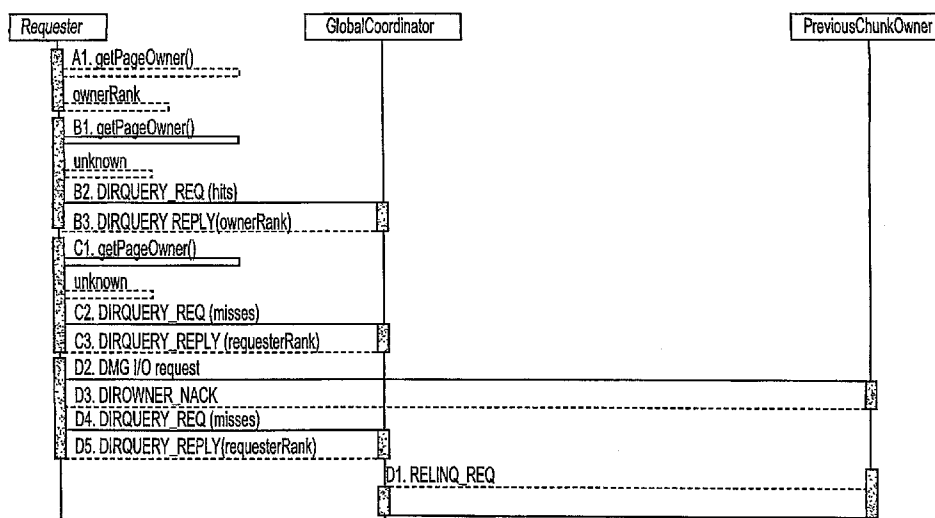
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Declaration under Rule 4.17:  
— of inventorship (Rule 4.17(iv))

[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR PROVIDING DISTRIBUTED CACHE COHERENCE



DMG LCDM Directory Ownership Changes

(57) Abstract: A plurality of access nodes sharing access to data on a storage network implement a directory based cache ownership scheme. One node, designated as a global coordinator, maintains a directory (e.g., table or other data structure) storing information about I/O operations by the access nodes. The other nodes send requests to the global coordinator when an I/O operation is to be performed on identified data. Ownership of that data in the directory is given to the first requesting node. Ownership may transfer to another node if the directory entry is unused or quiescent. The distributed directory-based cache coherency allows for reducing bandwidth requirements between geographically separated access nodes by allowing localized (cached) access to remote data.

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**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC: **G06F 12/00(2006.01),15/167(2006.01)**  
  
 USPC: 709/214,223  
 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)  
 U.S. : 709/214, 223

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 East search: cache, coherency, remote memory accessing, share, directory

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,766,360 B1 (CONWAY et al) 20 July 2004, see whole document.	1-20
Y, E	US 7,194,532 B2 (SAZAWA et al) 20 March 2007, see whole document.	1-20

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

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"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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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search 22 January 2008 (22.01.2008)	Date of mailing of the international search report <b>30 JAN 2008</b>
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