

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 January 2002 (03.01.2002)

PCT

(10) International Publication Number
WO 02/001366 A3

(51) International Patent Classification⁷: **G06F 12/08**

(21) International Application Number: **PCT/US01/18683**

(22) International Filing Date: **7 June 2001 (07.06.2001)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
09/605,239 28 June 2000 (28.06.2000) US

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

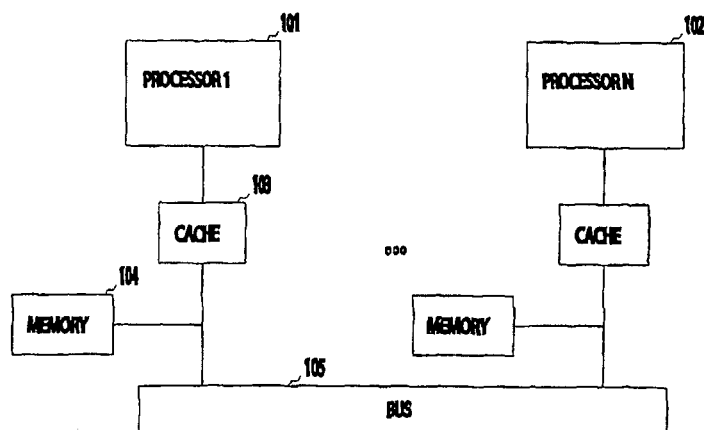
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
4 July 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **CACHE LINE PRE-LOAD AND PRE-OWN BASED ON CACHE COHERENCE SPECULATION**



(57) Abstract: The invention provides a cache management system comprising in various embodiment pre-load and pre-own functionality to enhance cache efficiency in shared memory distributed cache multiprocessor computer systems. Some embodiments of the invention comprise an invalidation history table to record the line addresses of cache lines invalidated through dirty or clean invalidation, and which is used such that invalidated cache lines recorded in an invalidation history table are reloaded into cache by monitoring the bus for cache line addresses of cache line recorded in the invalidation history table. In some further embodiments, a write-back bit associated with each L2 cache entry records when either a hit to the same line in another processor is detected or when the

same line is invalidated in another processor's cache, and the system broadcasts write-backs from the selected local cache only when the line being written back has a write-back bit that has been set.