



WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

(51) International Patent Classification ⁶ : G06F 12/12		A1	(11) International Publication Number: WO 99/21093
			(43) International Publication Date: 29 April 1999 (29.04.99)
(21) International Application Number: PCT/US98/21017 (22) International Filing Date: 5 October 1998 (05.10.98) (30) Priority Data: 08/951,644 16 October 1997 (16.10.97) US (71) Applicant (for all designated States except US): M-SYSTEMS FLASH DISK PIONEERS LTD. [IL/IL]; Building 7, Atidim Industrial Park, P.O. Box 58036, 61580 Tel Aviv (IL). (71) Applicant (for TJ only): FRIEDMAN, Mark, M. [US/IL]; Alharizi 1, 43406 Raanana (IL). (72) Inventor; and (75) Inventor/Applicant (for US only): BAN, Amir [IL/IL]; Yabok Street 4, 47205 Ramat Hasharon (IL). (74) Common Representative: FRIEDMAN, Mark, M.; c/o CAS- TORINA, Anthony, Suite 207, 2001 Jefferson Davis High- way, Arlington, VA 22202 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report. With amended claims. Date of publication of the amended claims: 22 July 1999 (22.07.99)	
(54) Title: IMPROVED FLASH FILE SYSTEM			
The diagram illustrates a flash memory device architecture. It consists of three main components connected in a sequence: a physical device (10) on the left, a virtual device (22) in the middle, and a virtual map (24) on the right. The physical device (10) is represented as a vertical stack of blocks, with 'block 1' at the top and 'block n' at the bottom, separated by vertical ellipses. It is labeled with '12' for the top block and '14' for the bottom block. The virtual device (22) is also a vertical stack of blocks, with 'block 1' at the top and 'block n' at the bottom, separated by vertical ellipses. It is labeled with '24' for the top block. The virtual map (24) is a vertical stack of blocks, with 'block 1' at the top and 'block n' at the bottom, separated by vertical ellipses. It is labeled with '20' for the top block. Arrows indicate the flow of data or mapping from the physical device (10) to the virtual device (22), and from the virtual device (22) to the virtual map (24).			
(57) Abstract A flash memory device, and methods for writing to the device and for reorganizing the device. The flash memory device (20) includes a physical device (10), a virtual device (22) and a virtual map (24) which relates the virtual addresses of the virtual device to the physical addresses of the physical device.			

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