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1. Name of conveying partylies)/Execution Date(s): Yoshik KANO Execution Date(s)		lease	26	ress(es) below.	
Yoshiki KANO Name: Hitachi, Lid. Internal Execution Date(s) April 21, 2005 Additional name(s) of conveying party(tes) attached? Yes ⊠ No 3. Nature of conveying party(tes) attached? Yes ⊠ No Street Address: 900 3. Nature of conveying party(tes) attached? Yes ⊠ No Street Address: 900 3. Nature of conveying party(tes) attached? Yes ⊠ No Street Address: 900 Government Interest Assignment Change of Name ChityGa+ku, Tokyo, Japan ChityGa+ku, Tokyo, Japan Government Interest Assignment Change of Name Chity State: Zip: Additional name(s) & address(es) attached? Yes ⊠ No A. Application No.(s) If This document is being filed together with a new applic: B. Patent Registration No.(s) 5. Name and address of party to whom consepondence concerning document should be mailed: 6. Total number of applications and patents involved: gna Name: MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 7. Total fee (37 CFR 3.41)	1. Name of conveying party(ies)/Execution	on Date(s):	1	ess of receiving party(ies)	
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Internal Address: 1800 Diagonal Road – Suite 370 Authorized to be charged to deposit account Authorized to be charged to deposit account B. Deposit account number: City Alexandria State: VA Zip 22314 DO NOT USE THIS SPACE D	Name: MATTINGLY, STANGER, M/	ALUR & BRUNDIDGE, P.C.		R 3.41) \$40).00
City Alexandria State: VA Zip 22314 50-1417 (Attach duplicate copy of this page if paying by deposit accord and signature. DO NOT USE THIS SPACE 9. Statement and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Frederick D. Bailey April 21, 2005 Name of Person Signing Signature Total number of pages including cover sheet, attachments, and document: Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to: Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450	Internal Address: 1800 Diagonal F	Road – Suite 370		o be charged to deposit acco	unt
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PATENT REEL: 016496 FRAME: 0054

ASSIGNMENT

WHEREAS the below named inventor (if only one inventor is named below) or inventors (if plural inventors are named below) hereinafter referred to as the ASSIGNOR invented a certain improvement relating to

SYSTEM AND METHOD FOR MANAGING DISK SPACE IN A THIN-PROVISIONED STORAGE SUBSYSTEM

For which an application for Letters Patent to be filed in the United States Patent and Trademark Office was executed on even date,

AND WHEREAS

HITACH, LTD. 6-6, Marunouchi 1-chome, Chiyoda-ku Tokyo, JAPAN

hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, reexaminations and extensions thereof.

NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and application, including any and all renewals, reissues, reexaminations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.

AND ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States and foreign countries for said invention and to assign the same to said ASSIGNEE, its assigns and legal representatives and to execute any other papers that may be needed in connection with filing said applications and securing Letters Patents thereon.

AND ASSIGNOR authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on said application, and on any and all divisions and continuations thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.

The undersigned hereby grant(s) the law firm of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR.

201	FULL NAME OF SOLE OR FIRST NAMED INVENTOR Yoshiki KANO	INVENTOR'S SIGNATURE	DATE 50/21/05
202	FULL NAME OF SECOND JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
203	FULL NAME OF THIRD JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
204	FULL NAME OF FOURTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
205	FULL NAME OF FIFTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
206	FULL NAME OF SIXTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
207	FULL NAME OF TWELFTH JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE

PATENT REEL: 016496 FRAME: 0055

RECORDED: 04/21/2005