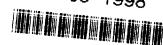
MRD 5-28-98



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R SHEET

PATENT	'S ONLY
To the Assistant Commissioner for Patents: documents or copy thereof.	Please record the attached original
documents or copy thereof. 1. Name of conveying party(ies): Joel James McCormack - May 4, 1998 Christopher Charles Gianos - May 21, 1998 James Timothy Claffey - May 15, 1998 Danny Paul Eggleston - May 9, 1998 Tracey L. Gustafson - May 21, 1998 Additional name(s) of conveying party(ies) attached? []Yes [X]No 3. Nature of Conveyance: [X]Assignment []Merger []Security Agreement []Change of Name [] Other	2. Name and address of receiving party(ies): Name: Digital Equipment Corporation Internal Address: Patent Law Group MSO2-3/G3 Street Address: 111 Powdermill Road City: Maynard, State: MA Zip: 01754 Additional name(s) and address(es) attached? []Yes [X]No
Execution Date: See # 1 above 4. Application number(s) or patent number(s) If this document is being filed togethe of the application is: See # 1 Above.	r with a new application, the execution da
A. Patent Application No.(s) Additional numbers a	B. Patent No.(s)
5. Name and address of party to whom correspondence concerning document should be mailed: Name: Digital Equipment Corporation Internal Address: Patent Law Group MSO2-3/G3	6. Total number of applications and patents involved: [1] 7. Total fee (37CFR 3.41): \$40.00 [] Enclosed [X] Authorized to be charged to deposit account
Street Address: 111 Powdermill Foad City: Maynard, State: MA Zip: 01754-1499	8. Deposit account number: <u>04-1079</u>
Q/1998 DCDATES 00000103 041079 09086134 9. Statement and signature. To the best of my knowledge and belief correct and any attached copy is a true copy. Dirk Brinkman Name of Person Signing Signat	of the original document. May 27, 1998

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ASSIGNMENT

WHEREAS, Joel James McCormack, Christopher Charles Gianos, James Timothy Claffey, Danny Paul Eggleston and Tracey L. Gustafson, have made certain inventions or discoveries (or both) set forth in an Application for Letters Patent of the United States of America entitled "Hierarchical Ring Buffers for Buffering Data Between a Processor and an I/O Device", the specification of which was executed by us on the date(s) indicated below;

WHEREAS, Digital Equipment Corporation, a corporation of the Commonwealth of Massachusetts, whose address is 111 Powdermill Road, Maynard, Massachusetts 01754, and who, together with its successors and assigns is hereinafter called "Assignee", is desirous of acquiring the entire right, title and interest together with the benefits and privileges hereinafter recited;

NOW, THEREFORE, for valuable consideration furnished by Assignee to us, receipt and sufficiency of which we hereby acknowledge, we hereby, without reservation;

1. Assign, transfer and convey to Assignee the entire right, title and interest together with the benefits and privileges in and to said inventions and discoveries, said Application for Letters Patent or similar forms of protection of the United States of America, and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all divisional, renewal, substitute, continuation and convention applications based in whole or in part upon said inventions or discoveries, or upon said application, and any and all Letters Patent, reissues and extensions of Letters Patent or similar forms of protection granted for said inventions and discoveries or upon said applications,

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and every priority right that is or may be predicated upon or arise from said inventions, said discoveries, said applications and said Letters Patent;

- 2. Authorize Assignee to file patent applications in any or all countries or groups of countries on any or all of said inventions and discoveries in our name or in the name of Assignee or otherwise as Assignee may deem advisable, under the International Convention or any other relevant convention or treaty or otherwise;
- 3. Authorize and request the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as assignee of the entire right, title and interest therein, or otherwise as Assignee may direct;
- 4. Warrant that we have not knowingly conveyed to others any rights in said inventions, discoveries, applications or patents or any license to use the same or to make, use or sell anything embodying or utilizing any of said inventions or discoveries; and that we have good right to assign the same to Assignee without encumbrance;
- 5. Bind our heirs, legal representatives and assigns, as well as ourselves, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to us or them, all acts reasonable serving to assure that said inventions and discoveries, said patent applications and said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by us, our heirs, legal representatives and assigns if this assignment had not been made; and particularly to execute and deliver to Assignee all lawful application documents including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by Assignee; to communicate to Assignee all facts known to us relating to

said inventions and discoveries or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples and other physical exhibits in our control or in the control of our heirs, legal representatives or assigns which may be useful for establishing any facts of our conceptions, disclosures, and reduction to practice of said inventions or discoveries.

IN WITNESS WHEREOF:

DATE I SIGNED INVENTOR'S DECLARATION:

Today	's			
Pate:	4	Nay	1998	
Jan V	m	Corna	le	_
				- 100000-5511 5

Joel James McCormack

STATE OF: Colorado

COUNTY OF: Bonble

On this $4 \not\leftarrow$ day of $1 \not\sim$, 1998 before me personally appeared Joel James McCormack known to me to be the person described in and who executed the foregoing instrument, and who acknowledged that he executed the same as his free act and deed. Witness my hard and official seal:

My Commission Expires: 3-2-02

Seal:



IN WITNESS WHEREOF:
DATE I SIGNED INVENTOR'S DECLARATION:
Today's Date: 5/1/18 Chilophilis San
Gianos Christopher Charles
STATE OF: Massachusetts
COUNTY OF: Alidalese
On this
Signature: Line H. Louden
Name: Karen H. Couden
My Commission Expires: Aly Consensation Profession 16, 2
Seal:

IN WITNESS WHEREOF:

DATE I SIGNED INVENTOR'S DECLARATION:

Today's
Date: 5-15-95

James Timothy Claffey

STATE OF: Massachusetts

COUNTY OF: Massachusetts

COUNTY OF: Massachusetts

On this /5 day of Mar , 1998, before me personally appeared James Timothy Claffey known to me to be the person described in and who executed the foregoing instrument, and who acknowledged that he/she executed the same as his/her free act and deed. Witness my hand and official seal:

Signature: Carrier Massachusetts

Name: Ca

Seal:

IN WITNESS WHEREOF:
DATE I SIGNED INVENTOR'S DECLARATION:
Danny Paul Eggleston
STATE OF: : Massachusetts
COUNTY OF: Worcester
On this day of, 1998, before me personally appeared Danny Paul Eggleston known to me to be the person described in and who executed the foregoing instrument, and who acknowledged that he/she executed the same as his/her free act and deed. Witness my hand and official seal:
Signature: Arlie Q. Halercella
Name: Sallie A. Babniella
My Commission Expires: Qct. 22, 2004
Seal:

IN WITNESS WHEREOF:
DATE I SIGNED INVENTOR'S DECLARATION:
Today's Date: May 3/, 1998 Musey Hustafus Tracey L. Gustafsor
STATE OF: Massachusetts
COUNTY OF: Middle Sex
On this 2/ day of // 1998, before me personally appeared Tracey L. Gustafson known to me to be the person described in and who executed the foregoing instrument, and who acknowledged that he/she executed the same as his/her free act and deed. Witness my hand and official seal:
Signature: Kau A. Couden
Name: Kgien A. Couden
My Commission Expires: Mv(11-11-11-11-11-11-11-11-11-11-11-11-11-

Seal:

RECORDED: 05/28/1998