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OMB No. 0651-0011 (exp. 4/94) M&G- 60001.0015I1 To the Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies): Microsoft Corporation Arthur Zwiegincew A.27 UI James E. Walsh One Microsoft Way Redmond, WA 98052 Additional name(s) of conveying party(ies) attached?

Yes

No Nature of conveyance: Assignment Merger Change of Name Security Agreement Other: Execution Date: 2-19-01 and 2-21-01 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: 2-19-01 and 2-21-01 B. Patent No.(s) A. Patent Application No.(s) Additional numbers attached?
Yes
No 6. Total number of applications and patents involved: 1 Name and address of party to whom correspondence concerning document should be mailed: \$40 7. Total fee (37 CFR 3.41): M. Todd Mitchem Enclosed Name: Authorized to be charged to deposit account Address: Merchant & Gould P.C. P.O. Box 2903 Minneapolis, MN 55402-0903 Please charge any additional fees or credit any overpayments to our Deposit account number: 13-2725 DO NOT USE THIS SPACE 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. M. Todd Mitchem February 27, 2001

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Name of Person Signing

PATENT REEL: 011582 FRAME: 0086

Total number of pages including cover sheet, attachments, and document: 3

Date

ASSIGNMENT

WHEREAS, we, Arthur Zwiegincew, residing at 11911 NE 163rd Pl. Bothell, WA 98011,, and James E. Walsh, residing at 5611 125th Lane, NE, Kirkland, WA 98033, (hereinafter referred to as ASSIGNORS), respectively, are the joint inventors of an invention entitled "Pre-Fetching of Pages Prior to a Hard Page Fault Sequence", as described and claimed in the specification forming part of an application for United States letters patent executed herewith;

WHEREAS, Microsoft Corporation (hereinafter referred to as ASSIGNEE), a corporation of the State of Washington having a place of business at One Microsoft Way, Redmond WA 98052, is desirous of acquiring the entire right, title and interest in and to any letters patent that may be granted therefor in the United States and in any and all foreign countries;

NOW THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNORS hereby sell, assign and transfer unto said ASSIGNEE, the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all division, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNORS had this assignment, transfer and sale not been made. ASSIGNORS hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNORS agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding said letters patent, or for the purpose of protecting title to said invention or letters patent therefor.

> PATENT REEL: 011582 FRAME: 0087

IN TESTIMONY WHEREOF, I have hereunto set my hand this 19th day of
Telman, 2001.
Athur Zwiegincew Zwegin cm
STATE OF Washington
STATE OF Washington) ss.
On this 19 day of Turany, 2001, before me personally appeared Arthur
Zwiegincew to me known and known to me to be the person described in and who executed the foregoing
instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein
set forth EE LENG.
STATE OF TARY STATE OF THE STAT
[SEALS NOTALING
Notary Public (Notary Public
OF WASHILLE
IN TESTIMONY WHEREOF, I have hereunto set my hand this 21 day of buene, 2001.
IN TESTIMONY WHEREOF, I have hereunto set my hand this 21 day of
IN TESTIMONY WHEREOF, I have hereunto set my hand this 21 day of the control of t
IN TESTIMONY WHEREOF, I have hereunto set my hand this 21 day of James E. Walsh
STATE OF Washington)
(James E. Walsh
STATE OF Washington) SS. COUNTY OF King
STATE OF Washington) ss.
STATE OF Washington) ss. COUNTY OF Line (day of Cloudy 20 0), before me personally appeared James E.
STATE OF Washington) State of Washington) State of Washington State of Washington State of Washington State of Walsh State of
On this 2 day of 2001, before me personally appeared James E. Walsh to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.
On this 2 day of Louise 200, before me personally appeared James E. Walsh to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth. [SEAL]
On this 2 day of 2001, before me personally appeared James E. Walsh to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.
On this 2 day of Louise 200, before me personally appeared James E. Walsh to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth. [SEAL]

RECORDED: 02/27/2001