Patent and Trademark Office 03-26-2002 Docket No. 388682000600 102032048g..... accuments or copy thereof. To the Commissioner of Patents and Trac Name of conveying party(ies): 2. Name and address of receiving party(ies): (1) James WANG 3-12-02 (2) Anurag NIGAM Name: REDBACK NETWORKS, INC. (3) David R. STILES Internal Address: **⊠**Individual(s) ☐ Association Street Address: 250 Holger Way ☐ General Partnership ☐ Limited Partnership City: San Jose, State: CA ZIP: 95135 ☐ Corporation-State ☐ Other Additional name(s) of conveying party(ies) attached? □Yes ☒No Additional name(s) & address(es) attached? ☐ Yes ☒ No Nature of conveyance: ■ Assignment ☐ Merger ☐ Security Agreement ☐ Change of Name ☐ Other: Execution Date: (1) February 12, 2002; (2) February 16, 2002; (3) February 8, 2002. 4. Application number(s) or patent number(s):09/823,293 If this document is being filed together with a new application, the execution date of the application is:* Patent No.(s) Patent Application No.(s) 09/823.293 Additional numbers attached? *□ Yes ☑ No Total number of applications and patents involved: * Name and address of party to whom correspondence concerning 6. document should be mailed: Total fee (37 C.F.R. § 3.41): \$40.00 Richard C. Kim □ Enclosed Morrison & Foerster LLP 3811 Valley Centre Drive Suite 500 Attorney Docket 388682000600 San Diego, California 92130-2332 8. Deposit account number: 03-1952 The Commissioner is hereby authorized to charge any fees under 37 C.F.R. § 1.21 that may be required by this paper, or to credit any overpayment to Deposit Account No. 03-1952. 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 Richard C. Kim document. Name: Richard C. Kim Registration No: 40,046 Total number of pages comprising cover sheet, attachments and document: 7

Mail documents to be recorded with required cover sheet information to:

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03/25/2002 AAHMED1 00000178 031952 09823293 40.00 CH

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NUNC PRO TUNC ASSIGNMENT

THIS NUNC PRO TUNC ASSIGNMENT is effective the 6th day of July, 2001 by and between the below-identified Assignor and Assignee.

THIS ASSIGNMENT, by **JAMES WANG** (hereinafter referred to as the assignor), residing at Milipitas, California; witnesseth:

WHEREAS, said assignor has invented certain new and useful improvements in ONBOARD RAM BASED FIFO WITH POINTERS TO BUFFER OVERHEAD BYTES OF SYNCHRONOUS PAYLOAD ENVELOPES IN SYNCHRONOUS OPTICAL NETWORKS, set forth in an application for Letters Patent of the United States, bearing Serial No. 09/823,293 and filed on March 30, 2001; and

WHEREAS, effective July 6, 2001, REDBACK NETWORKS INC., (hereinafter "Assignee"), a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 300 Holger Way, San Jose, California 95134, is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, effective July 6, 2001, said assignor has sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, assignor's entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignor, had this sale and assignment not been made.

AND for the same consideration, effective July 6, 2001, said assignor hereby covenant and agrees to and with said assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignor is the sole and lawful owner of his entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignor have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, effective July 6, 2001, said assignor hereby covenant and agrees to and with said assignee, its successors, legal representatives and assigns, that said assignor will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignor hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

2/12/2002

ite JAMES WA

NUNC PRO TUNC ASSIGNMENT

THIS NUNC PRO TUNC ASSIGNMENT is effective the 2nd day of August, 2001 by and between the below-identified Assignor and Assignee.

THIS ASSIGNMENT, by **ANURAG NIGAM** (hereinafter referred to as the assignor), residing at San Francisco, California; witnesseth:

WHEREAS, said assignor has invented certain new and useful improvements in ONBOARD RAM BASED FIFO WITH POINTERS TO BUFFER OVERHEAD BYTES OF SYNCHRONOUS PAYLOAD ENVELOPES IN SYNCHRONOUS OPTICAL NETWORKS, set forth in an application for Letters Patent of the United States, bearing Serial No. 09/823,293 and filed on March 30, 2001; and

WHEREAS, effective August 2, 2001, REDBACK NETWORKS INC., (hereinafter "Assignee"), a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 300 Holger Way, San Jose, California 95134, is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, effective August 2, 2001, said assignor has sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, assignor's entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignor, had this sale and assignment not been made.

AND for the same consideration, effective August 2, 2001, said assignor hereby covenant and agrees to and with said assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignor is the sole and lawful owner of his entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignor have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, effective August 2, 2001, said assignor hereby covenant and agrees to and with said assignee, its successors, legal representatives and assigns, that said assignor will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignor hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns

Date ANURAG NIGAM

NUNC PRO TUNC ASSIGNMENT

THIS NUNC PRO TUNC ASSIGNMENT is effective the 22nd day of July, 2001 by and between the below-identified Assignor and Assignee.

THIS ASSIGNMENT, by **DAVID R. STILES** (hereinafter referred to as the assignor), residing at Los Gatos, California; witnesseth:

WHEREAS, said assignor has invented certain new and useful improvements in ONBOARD RAM BASED FIFO WITH POINTERS TO BUFFER OVERHEAD BYTES OF SYNCHRONOUS PAYLOAD ENVELOPES IN SYNCHRONOUS OPTICAL NETWORKS, set forth in an application for Letters Patent of the United States, bearing Serial No. 09/823,293 and filed on March 30, 2001; and

WHEREAS, effective July 22, 2001, REDBACK NETWORKS INC., (hereinafter "Assignee"), a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 300 Holger Way, San Jose, California 95134, is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, effective July 22, 2001, said assignor has sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, assignor's entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignor, had this sale and assignment not been made.

AND for the same consideration, effective July 22, 2001, said assignor hereby covenant and agrees to and with said assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignor is the sole and lawful owner of his entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignor have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, effective July 22, 2001, said assignor hereby covenant and agrees to and with said assignee, its successors, legal representatives and assigns, that said assignor will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignor hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

2/8/02

Date

on vid R. STILLS